UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
Form 10-K

(MARK ONE)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended November 1, 2020

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Broadcom Inc.

Delaware	1320 Ridder Park Drive San Jose, CA 95131-2313 (408) 433-8000	001-38449	35-2617337
(State or Other Jurisdiction of Incorporation or Organization)	(Exact Name of Registrant as Specified in Its Charter Address of Principal Executive Offices, Including Zip Code Registrant's Telephone Number, Including Area Code)	(Commission File Number)	(I.R.S. Employer Identification No.)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value	AVGO	The NASDAQ Global Select Market
8.00% Mandatory Convertible Preferred Stock, Series A, $0.001 par value	AVGOP	The NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

The aggregate market value of voting and non-voting common equity held by non-affiliates as of May 1, 2020, based upon the closing sale price of such shares on The Nasdaq Global Select Market on such date was approximately $101.8 billion.

As of November 27, 2020, there were 406,713,118 shares of our common stock outstanding.

Documents Incorporated by Reference

Information required in response to Part III of this Annual Report on Form 10-K is hereby incorporated by reference from the registrant's definitive Proxy Statement for its 2021 Annual Meeting of Stockholders. Except as expressly incorporated by reference, the registrant's Proxy Statement shall not be deemed to be a part of this Annual Report on Form 10-K. The registrant intends to file its definitive Proxy Statement within 120 days after its fiscal year ended November 1, 2020.

BROADCOM INC.
2020 ANNUAL REPORT ON FORM 10-K

TABLE OF CONTENTS

PART I

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws and particularly in Item 1: “Business,” Item 1A: “Risk Factors,” Item 3: “Legal Proceedings” and Item 7: “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Annual Report on Form 10-K. These statements are indicated by words or phrases such as “anticipate,” “expect,” “estimate,” “seek,” “plan,” “believe,” “could,” “intend,” “will,” and similar words or phrases. These forward-looking statements may include projections of financial information; statements about historical results that may suggest trends for our business; statements of the plans, strategies, and objectives of management for future operations; statements of expectation or belief regarding future events (including any acquisitions we may make), technology developments, our products, product sales, expenses, liquidity, cash flow and growth rates, or enforceability of our intellectual property rights; and the effects of seasonality on our business. Such statements are based on current expectations, estimates, forecasts and projections of our industry performance and macroeconomic conditions, based on management’s judgment, beliefs, current trends and market conditions, and involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. We derive most of our forward-looking statements from our operating budgets and forecasts, which are based upon many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. Accordingly, we caution you not to place undue reliance on these statements. Material factors that could cause actual results to differ materially from our expectations are summarized and disclosed under “Risk Factors” in Part I, Item 1A of this Annual Report on Form 10-K.

Financial information and results of operations presented relate to (1) Broadcom Inc. for the periods after April 4, 2018 and (2) Broadcom Limited, our predecessor, for the period prior to April 4, 2018. Similarly, unless stated otherwise or the context otherwise requires, references to “Broadcom,” “we,” “our” and “us” mean Broadcom Inc. and its consolidated subsidiaries after April 4, 2018 and, prior to that time, our predecessor. Our fiscal year ends on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. We refer to our fiscal years by the calendar year in which they end. For example, the fiscal year ended November 1, 2020 was a 52-week year.

ITEM 1. BUSINESS

Overview

Broadcom Inc. ("Broadcom") is the successor to Broadcom Pte. Ltd. (formerly Broadcom Limited), a Singapore company, as a result of our redomiciliation to the United States on April 4, 2018. We are a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Our over 50-year history of innovation dates back to our diverse origins from Hewlett-Packard Company, AT&T, LSI Corporation, Broadcom Corporation ("BRCM"), Brocade Communications Systems LLC ("Brocade"), CA, Inc. ("CA") and Symantec Enterprise Security. Over the years, we have assembled a large team of semiconductor and software design engineers around the world. We maintain design, product and software development engineering resources at locations in the U.S., Asia, Europe and Israel, providing us with engineering expertise worldwide. We strategically focus our research and development resources to address niche opportunities in our target markets and leverage our extensive portfolio of U.S. and other patents, and other intellectual property ("IP") to integrate multiple technologies and create system-on-chip ("SoC") component and software solutions that target growth opportunities. We design products and software that deliver high-performance and provide mission-critical functionality.

We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor ("CMOS") based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. We differentiate ourselves through our high performance design and integration capabilities and focus on developing products for target markets where we believe we can earn attractive margins.

Our infrastructure software solutions enable customers to plan, develop, automate, manage, and secure applications across mainframe, distributed, mobile, and cloud platforms. Many of the largest companies in the world, including most of the Fortune 500, and many government agencies rely on our software solutions to help manage and secure their on-premise and hybrid cloud environments. Our portfolio of mainframe and BizOps software solutions enables customers to leverage the benefits of agility, automation, insights and security in managing business processes and technology investments. Our Symantec cyber security solutions portfolio, include endpoint, network, information and identity security solutions. We also offer mission critical fibre channel storage area networking ("FC SAN") products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products.

Recent Developments

Acquisition of Symantec's Enterprise Security Business

On November 4, 2019, we completed the purchase of certain assets and assumed certain liabilities of the Symantec Corporation Enterprise Security business (the "Symantec Business") for $10.7 billion in cash, on a cash-free, debt-free basis. The addition of the Symantec Business significantly expanded our infrastructure software solutions as we continue to build one of the world's leading infrastructure technology companies.

Segment Reporting

We updated our organizational structure during the fiscal year ended November 1, 2020 ("fiscal year 2020"), resulting in two reportable segments: semiconductor solutions and infrastructure software. Each segment represents a component for which separate financial information is available that is utilized on a regular basis by the chief operating decision maker in determining how to allocate resources and evaluate performance. The reportable segments are determined based on several factors including, but not limited to, customer base, homogeneity of products, technology, delivery channels and similar economic characteristics.

Our semiconductor solutions segment includes all of our semiconductor solution product lines, as well as our IP licensing. Our infrastructure software segment includes our mainframe, BizOps and cyber security software solutions, and our FC SAN business.

See discussion in the "Results of Operations" section included in Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* and Note 13. "Segment Information" included in Part II, Item 8. *Financial Statements and Supplementary Data,* of this Annual Report on Form 10-K for additional segment information. For fiscal year 2020, net revenue included contributions from Symantec Business commencing on November 4, 2019, which are included in the infrastructure software segment. For fiscal year ended November 3, 2019 ("fiscal year 2019"), net revenue included contributions from CA commencing on November 5, 2018, which are included in the infrastructure software segment. For the fiscal year ended November 4, 2018 ("fiscal year 2018"), net revenue included contributions from Brocade commencing on November 17, 2017, which are primarily included in the infrastructure software segment.

Business Strategy

Our strategy is to combine best-of-breed technology leadership in semiconductor and infrastructure software solutions, with unmatched scale, on a common sales and administrative platform to deliver a comprehensive suite of infrastructure technology products to the world's leading business and government customers. We seek to achieve this through responsibly financed acquisitions of category-leading businesses and technologies, as well as investing extensively in research and development, to ensure our products retain their technology leadership. This strategy results in a robust business model designed to drive diversified and sustainable operating and financial results.

Products and Markets

Semiconductor Solutions

Semiconductors are made by imprinting a network of electronic components onto a semiconductor wafer. These devices are designed to perform various functions such as processing, amplifying and selectively filtering electronic signals, controlling electronic system functions and processing, and transmitting and storing data. Our digital and mixed signal products are based on silicon wafers with CMOS transistors offering fast switching speeds and low power consumption, which are both critical design factors for the markets we serve. We also offer analog products, which are based on III-V semiconductor materials that have higher electrical conductivity than silicon, and thus tend to have better performance characteristics in radio frequency ("RF"), and optoelectronic applications. III-V refers to elements from the 3rd and 5th groups in the periodic table of chemical elements. Examples of these materials used in our products are gallium arsenide ("GaAs") and indium phosphide ("InP").

We provide semiconductor solutions for managing the movement of data in data center, telecom, enterprise and embedded networking applications. We provide a broad variety of RF semiconductor devices, wireless connectivity solutions and custom touch controllers for the wireless market. We also provide semiconductor solutions for enabling the set-top box and broadband access applications and for enabling secure movement of digital data to and from host machines, such as servers, personal computers and storage systems, to the underlying storage devices, such as hard disk drives and solid-state drives.

Our product portfolio ranges from discrete devices to complex sub-systems that include multiple device types and may also incorporate firmware for interfacing between analog and digital systems. In some cases, our products include mechanical hardware that interfaces with optoelectronic or capacitive sensors. We focus on markets that require high quality and the technology leadership and integrated performance characteristic of our products. The table below presents our material semiconductor product families and their major end markets and applications during fiscal year 2020.

Major End Markets	Major Applications	Material Product Families
Broadband	• Set-top Box ("STB") and Broadband Access	• STB SoCs
		• Cable, digital subscriber line ("DSL") and passive optical networking ("PON") central office/consumer premise equipment ("CO/CPE") SoCs
		• Wireless local area network ("WLAN") access point SoCs
Networking	• Data center, Telecom, Enterprise and Embedded Networking	• Ethernet switching and routing merchant silicon
		• Embedded processors and controllers
		• Serializer/Deserializer ("SerDes"), application specific integrated circuits ("ASICs")
		• Optical and copper, physical layer ("PHYs")
		• Fiber optic transmitter and receiver components
Wireless	• Mobile handsets	• RF front end modules ("FEMs"), filters, power amplifiers
		• Wi-Fi, Bluetooth, global positioning system/global navigation satellite system ("GPS/GNSS") SoCs
		• Custom touch controllers
Storage	• Servers and storage systems	• Serial attached small computer system interface ("SAS") and redundant array of independent disks ("RAID") controllers and adapters
		• Peripheral component interconnect express ("PCIe") switches
		• Fibre channel host bus adapters ("HBA")
	• Hard disk drives ("HDD"); Solid-state drives ("SSD")	• Read channel based SoCs; Custom flash controllers
		• Preamplifiers
Industrial	• Power isolation, power conversion and renewable energy systems	• Optocouplers
	• Factory automation, in-car infotainment and renewable energy systems	• Industrial fiber optics
	• Motor controls and factory automation	• Motion control encoders and subsystems
	• Displays and lighting	• Light emitting diode ("LEDs")

Set-Top Box Solutions: We offer complete SoC platform solutions for cable, satellite, Internet Protocol television, over-the-top and terrestrial STBs. Our products enable global service providers to introduce new and enhanced technologies and services in STBs, including transcoding, digital video recording functionality, higher definition video processing, increased networking capabilities, and more tuners to enable faster channel change and more simultaneous recordings. We are also enabling service providers in deploying High Efficiency Video Coding ("HEVC"), a video compression format that is a successor to the H.264/MPEG-4 format. HEVC enables ultra-high definition ("Ultra HD"), services by effectively doubling the capacity of existing networks to deploy new or existing content. Our families of STB solutions support the complete range of resolutions, from standard definition, to high definition, and Ultra HD.

Broadband Access Solutions: We offer complete SoC platform solutions for DSL, cable, PON and WLAN for both CPE and CO deployments. Our CPE devices are used in broadband modems, residential gateways and Wi-Fi access points and routers. Our CO devices, including DSL Access Multiplexer, cable modem termination systems and PON optical line termination medium access controller, are empowering modern operator broadband infrastructure. Our products enable global service providers to continue to deploy next generation broadband access technologies across multiple standards, including G.Fast, data over cable service interface specification, PON and Wi-Fi to provide more bandwidth and faster speeds to consumers.

Ethernet Switching & Routing: Ethernet is a ubiquitous interconnection technology that enables high performance and cost effective networking infrastructure. We offer a broad set of Ethernet switching and routing products that are optimized for data center, service provider network, enterprise network, and embedded network applications. In the data center market, our high capacity, low latency, switching silicon supports advanced protocols around virtualization and multi-pathing. Our Ethernet switching fabric technologies provide the ability to build highly scalable flat networks supporting tens of thousands of servers. Our service provider switch portfolio enables carrier/service provider networks to support a large number of services in the wireless backhaul, access, aggregation and core of their networks. For enterprise networks and embedded Ethernet applications, we offer product families that combine multi-layer switching capabilities and support lower power modes that comply with industry standards around energy efficient Ethernet.

Embedded Processors & Controllers: Our embedded processors leverage our ARM central processing unit and Ethernet switching technology to deliver SoCs for high performance embedded applications in a wide range of communication products such as voice-over-internet-protocol, telephony, point-of-sale devices and enterprise and retail access points and gateways. We offer a range of knowledge-based processors to enable high-performance decision-making for packet processing in a variety of advanced devices in the enterprise, metro, access, edge and core networking spaces. We also offer a range of Ethernet controllers for servers and storage systems supporting multiple generations of Ethernet technology.

SerDes ASICs: For data center and enterprise networking, and high performance computing applications, we supply high speed SerDes technology integrated into ASICs. These ASICs are custom products built to individual customers specifications. Our ASICs are designed on advanced CMOS process technologies, focused primarily on leading edge geometries.

Physical Layer Devices: These devices, also referred to as PHYs, are transceivers that enable the reception and transmission of Ethernet data packets over a physical medium such as copper wire or optical fibers. Our high performance Ethernet transceivers are built upon a proprietary digital signal processing communication architecture optimized for high-speed network connections and support the latest standards and advanced features, such as energy efficient Ethernet, data encryption and time synchronization. We also offer a range of automotive Ethernet products to meet growing consumer demand for in-vehicle connectivity.

Fiber Optic Components: We supply a wide array of optical components to the Ethernet networking, storage, and access, metro- and long-haul telecommunication markets. Our optical components enable the high speed reception and transmission of data through optical fibers.

RF Semiconductor Devices: Our RF semiconductor devices selectively filter, as well as amplify, RF signals. Filters enable modern wireless communication systems to support a large number of subscribers simultaneously by ensuring that the multiple transmissions and receptions of voice and data streams do not interfere with each other. We were among the first to deliver commercial film bulk acoustic resonator ("FBAR") filters that offer technological advantages over competing filter technologies, to allow mobile handsets to function more efficiently in today's congested RF spectrum. FBAR technology has a significant market share within the cellular handset market. Our RF products include FEMs that incorporate multiple die into multi-function RF devices, duplexers and multiplexers, which are a combination of two or more transmit and receive filters in a single device, using our proprietary FBAR technology, discrete filters and discrete power amplifiers.

Our expertise in FBAR technology, amplifier design, and module integration enables us to offer industry-leading performance in cellular RF transceiver applications. Our proprietary GaAs wafer manufacturing processes are critical to the production of power amplifier and low noise amplifier products.

Connectivity Solutions: Our connectivity solutions include discrete and integrated Wi-Fi and Bluetooth solutions, and satellite-based GPS/GNSS mobile navigation receivers.

Wi-Fi allows devices on a local area network to communicate wirelessly, adding the convenience of mobility to the utility of high-speed data networks. We offer a family of high performance, low power Wi-Fi chipsets. Bluetooth is a low power technology that enables direct connectivity between devices. We offer a complete family of Bluetooth silicon and software solutions that enable manufacturers to easily and cost-effectively add Bluetooth functionality to virtually any device. These solutions include combination chips that offer integrated Wi-Fi and Bluetooth functionality, which provides significant performance advantages over discrete solutions.

We also offer a family of GPS, assisted-GPS and GNSS semiconductor products, software and data services. These products are part of a broader location platform that leverages a broad range of communications technologies, including Wi-Fi, Bluetooth and GPS, to provide more accurate location and navigation capabilities.

Custom Touch Controllers: Our touch controllers process signals from touch screens in mobile handsets and tablets.

SAS, RAID & PCIe Products: We provide SAS and RAID controller and adapter solutions to server and storage system original equipment manufacturers ("OEMs"). These solutions enable secure and high speed data transmission between a host computer, such as a server, and storage peripheral devices, such as HDD, SSD and optical disk drives and disk and tape-based storage systems. Some of these solutions are delivered as stand-alone semiconductors, typically as a controller. Other solutions are delivered as circuit boards, known as adapter products, which incorporate our semiconductors onto a circuit board with other features. RAID technology is a critical part of our server storage connectivity solutions as it provides protection against the loss of critical data resulting from HDD failures.

We also provide interconnect semiconductors that support the PCI and PCIe communication standards. PCIe is the primary interconnection mechanism inside computing systems today.

Fibre Channel Products: We provide Fibre Channel HBAs, which connect host computers such as servers to FC SANs.

HDD & SSD Products: We provide read channel-based SoCs and preamplifiers to HDD OEMs. These are the critical chips required to read, write and protect data. An HDD SoC is an integrated circuit that combines the functionality of a read channel, serial interface, memory and a hard disk controller in a small, high-performance, low-power and cost-effective package. Read channels convert analog signals that are generated by reading the stored data on the physical media into digital signals. In addition, we sell preamplifiers, which are used to amplify the initial signal to and from the drive disk heads so the signal can be processed by the read channel.

We also provide custom flash controllers to SSD OEMs. An SSD stores data in flash memory instead of on a hard disk, providing high speed access to the data. Flash controllers manage the underlying flash memory in SSDs, performing critical functions such as reading and writing data to and from the flash memory and performing error correction, wear leveling and bad block management.

Industrial End Markets: We also provide a broad variety of products for the general industrial and automotive markets. We offer optocouplers, which provide electrical insulation and signal isolation for signaling systems that are susceptible to electrical noise or interference. Optocouplers are used in a diverse set of applications, including industrial motors, automotive systems including those used in hybrid engines, power generation and distribution systems, switching power supplies, motion sensors, telecommunications equipment, computers and office equipment, plasma displays, and military electronics. We also provide industrial fiber optics, motion encoders and LED products.

Infrastructure Software

Our portfolio of mission critical software solutions enables customers to leverage the benefits of agility, automation, insights, resiliency and security in managing business processes and technology investments.

Broadcom mainframe software solutions, which consist of security and infrastructure management solutions, help enterprises embrace open tools and technologies, integrate their mainframe into their cloud infrastructures and speed software delivery with the next generation of cross-platform innovations. We combine advanced technology solutions with creative, value-add programs that help foster skills development, inform strategy and planning, and provide flexibility in licensing fees. This unique approach, rooted in a deep commitment to partnership with our customers, is designed to fuel our customers' productivity, boost operational efficiency, advance enterprise security, and support our customers' overall business success.

BizOps software solutions enable large global organizations to transform into digital businesses by providing an end-to-end digital infrastructure management platform that delivers speed, agility and the ability to optimize for risk across multi-cloud hybrid environments and workloads. More specifically, these products offer unique solutions that help with application development, testing and deployment, and operations and automation. We are able to leverage our core strengths and development efforts to create products and enterprise software solutions that bring new innovation to our mainframe software solutions and vice versa, spanning three strategic portfolios: ValueOps, DevOps and AIOps.

Our Symantec cyber security software solutions span endpoint, network, information and identity security, helping customers secure identities and information stored wherever the data resides, including on mobile devices, in the cloud and on-premises. Through our Symantec Integrated Cyber Defense platform, we provide a unified approach that allows customers to protect, defend and respond to sophisticated attacks across endpoints, identities, and infrastructure, whether on-premises, in the cloud, or hybrid.

We also offer mission critical FC SAN products designed to help customers reduce the cost and complexity of managing business information within a shared data storage environment, enabling high levels of availability of mission critical applications in the form of modules, switches and subsystems incorporating multiple semiconductor products. We deliver reliable and simplified management of these FC SAN products through our software-based management tools designed to maximize uptime, dramatically simplify storage area networking deployment and management, and provide high levels of visibility and insight into the storage network.

The table below presents our software portfolios and their material offerings during fiscal year 2020.

Software Portfolio	Portfolio Description	Major Portfolio Offerings
Mainframe Software	• Solutions for DevOps, AIOps and cyber security that accelerate enterprise innovation	• Operational Analytics & management
		• Automation
		• Database & Database Management
		• Application Development & Testing
		• Identity & Access Management
		• Compliance & Data Protection
		• Security Insights
BizOps	• Connects business operations and technology functions	• ValueOps
		• DevOps
		• AIOps
Symantec Cyber Security	• Comprehensive threat protection and compliance to secure users' identities and their information	• Endpoint Security
		• Network Security
		• Information Security
		• Identity Security
FC SAN Management	• Transforms current storage networks with autonomous SAN capabilities	• Fibre Channel switch
Payment Authentication	• Software designed to reduce Card Not Present and prevent e-commerce fraud, while improving user experience.	• Payment Security Suite

***Operational Analytics & Management**:* These solutions combine big data, machine learning and artificial intelligence ("AI") with mainframe expertise to deliver meaningful and actionable insights to augment and automate day-to-day operations and deliver exceptional customer experiences.

Automation*:* These solutions reduce manual effort by enabling customers to proactively optimize resources and orchestrate automation across enterprise applications and systems.

***Databases & Database Management**:* These high-performance databases and management tools store, organize, and manage mainframe data to ensure optimal performance, efficient administration, and reliability of critical systems.

***Application Development & Testing**:* These solutions enable customers to accelerate software delivery while increasing code quality through the use of our agile processes and tools, and DevOps solutions. Our open-first strategy helps customers modernize their mainframe environment through the use of open source and open application programming technologies across people, process, tooling and applications, resulting in greater synergy and alignment with their corporate IT.

Identity & Access Management*:* These solutions manage mainframe access and elevate it with modern practices such as multi-factor authentication, managing access for privileged users, and supporting all external security managers.

Compliance & Data Protection*:* These solutions locate and protect sensitive mainframe data to ensure compliance and identify risk, identify and proactively respond to potential risks and bad actors, and reduce risk and lighten security management load with automated identification and authorization cleanup.

Security Insights Platform*:* This solution helps ensure a trusted environment for customers and their employees by quickly interpreting and assessing mainframe security posture, identifying risks and developing remediation steps on an ongoing and ad hoc basis. This data is available for use with in-house tools for security information and event management.

ValueOps*:* This solution delivers capabilities that enable customers to optimize flow of value by aligning planned investments to scheduled development work and track deliverables from planning through execution, enabling improved development cycle times, reduced bottlenecks, and faster time to value.

DevOps: This solution offers capabilities that empower users of our agile processes and tools to track development progress and deploy releases confidently with assurance of feature completeness, high-quality and reduced risk. Key stakeholders have a single view of key insights into release progress, health, quality, and defect trends, and metrics that drive focus, gauge readiness, and help to ensure successful, quality releases.

AIOps: This solution combines application, infrastructure and network monitoring and correlation with intelligent recommendations and auto-remediation capabilities to help customers create more resilient production environments and improve customer experience.

Endpoint Security: Endpoints are the critical last line of defense against cyber attackers. Our Symantec endpoint security solutions prevent, detect and respond to emerging threats across all devices and operating systems including laptops, desktops, tablets, mobile phones, servers and cloud workloads through an intelligent AI driven security console and single agent.

Network Security: Email and web access are the lifeblood and essential communication means for every modern organization. We have a full array of network security solutions, as well as a shared set of advanced threat protection technologies to stop inbound and outbound threats targeting end users, information and key infrastructure.

Information Security: Information protection and compliance is critical to managing risk. We offer integrated information security solutions to help organizations protect users, applications and their most sensitive data everywhere it resides or moves - across endpoints, cloud services, private applications and on-premises.

Identity Security: User identities are under attack by cyber criminals hoping to exploit their access and privileges and do harm. We mitigate these attacks by enforcing granular security policies to stop unauthorized access to sensitive resources and data.

Fibre Channel Switch Products: Our Brocade Fibre Channel switch products provide interconnection, bandwidth and high-speed switching between servers and storage devices which are in a FC SAN. FC SANs are networks dedicated to mission critical storage traffic, and enable simultaneous high speed and secure connections among multiple host computers and multiple storage arrays.

Payment Security Suite: This is a software as a service ("SaaS")-based payment authentication service to help banks protect against fraud and ensure a hassle-free online shopping experience for their customers.

Research and Development

We are committed to continuous investment in product development and enhancement, with a focus on rapidly introducing new, proprietary products and releases. Many of our products have grown out of our own research and development efforts, and have given us competitive advantages in certain target markets due to performance differentiation. However, we opportunistically seek to enhance our capabilities through the acquisition of engineers with complementary research and development skills and complementary technologies and businesses. We focus our research and development efforts on the development of mission critical, innovative, sustainable and higher value product platforms and those that improve the quality and stability in our broadly deployed products. We leverage our design capabilities in markets where we believe our innovation and reputation will allow us to earn attractive margins by developing high value-add products.

We plan to continue investing in product development, both organically and through acquisitions, to drive growth in our business. We also invest in process development and improvements to product features and functions, as well as fabrication capabilities to optimize processes for devices that are manufactured internally. Our field application engineers, design engineers, and product and software development engineers are located in many places around the world, and in many cases near our top customers. This enhances our customer reach and our visibility into new product opportunities and, in the case of our semiconductor customers, enables us to support our customers in each stage of their product development cycle, from the early stages of production design to volume manufacturing and future growth. By collaborating with our customers, we have opportunities to develop high value-added, customized products for them that leverage our existing technologies. We anticipate that we will continue to make significant research and development expenditures in order to maintain our competitive position, and to ensure a continuous flow of innovative and sustainable product platforms.

Customers, Sales and Distribution

We sell our products through our direct sales force and a select network of distributors and channel partners globally. Distributors and OEMs, or their contract manufacturers, typically account for the substantial majority of our semiconductor sales. Historically, a relatively small number of customers have accounted for a significant portion of our net revenue. Sales to distributors accounted for 42% and 46% of our net revenue for fiscal years 2020 and 2019, respectively. We believe our aggregate sales to our top five end customers, through all channels, accounted for more than 30% of our net revenue for each of our fiscal years 2020 and 2019. We believe aggregate sales to Apple Inc., through all channels, accounted for approximately 15% and 20% of our net revenue for fiscal years 2020 and 2019, respectively. We expect to continue to experience significant customer concentration in future periods. The loss of, or significant decrease in demand from, any of our top five end customers could have a material adverse effect on our business, results of operations and financial condition.

Many of our semiconductor customers design products in North America or Europe that are then manufactured in Asia. To serve customers around the world, we have strategically developed relationships with large global electronic component distributors, complemented by a number of regional distributors with customer relationships based on their respective product ranges. We also sell our products to a wide variety of OEMs or their contract manufacturers. We have established strong relationships with leading OEM customers across multiple target markets. Our direct sales force focuses on supporting our large OEM customers, and has specialized product and service knowledge that enables us to sell specific offerings at key levels throughout a customer’s organization. Certain customers require us to contract with them directly and with specified intermediaries, such as contract manufacturers. Many of our major customer relationships have been in place for many years and are often the result of years of collaborative product development. This has enabled us to build our extensive IP portfolio and develop critical expertise regarding our customers’ requirements, including substantial system-level knowledge. This collaboration has provided us with key insights into our customers' businesses and has enabled us to be more efficient and productive and to better serve our target markets and customers. Many of our customers and their contract manufacturers often require time critical delivery of our products to multiple locations around the world. With sales offices located in various countries, our primary warehouse in Malaysia, and dedicated regional customer support call centers, where we address customer issues and handle logistics and other order fulfillment requirements, we believe we are well-positioned to support our customers throughout the design, technology transfer and manufacturing stages across all geographies.

Our software customers are in most major industries worldwide, including banks, insurance companies, other financial services providers, government agencies, global information technology (“IT”) service providers, telecommunication providers, transportation companies, manufacturers, technology companies, retailers, educational organizations and health care institutions. Our traditional software customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. We remain focused on strengthening relationships and increasing penetration within our existing core, mainframe-centric and Symantec endpoint customers and expanding the adoption of our enterprise software offerings with these customers. We believe our enterprise-wide license model will continue to offer our customers reduced complexity, more flexibility and an easier renewal process that will help drive revenue growth.

Manufacturing Operations

We focus on maintaining an efficient global supply chain and a variable, low-cost operating model. Accordingly, we outsource a majority of our manufacturing operations, utilizing third-party foundry and assembly and test capabilities, as well as some of our corporate infrastructure functions. The majority of our front-end wafer manufacturing operations is outsourced to external foundries, including Taiwan Semiconductor Manufacturing Company Limited ("TSMC"). We use third-party contract manufacturers for a significant majority of our assembly and test operations, including Advanced Semiconductor Engineering, Inc., Foxconn Technology Group, Amkor Technology, Inc. and Siliconware Precision Industries Co., Ltd. We use our internal fabrication facilities for products utilizing our innovative and proprietary processes, to protect our IP and to accelerate time to market for our products, while outsourcing commodity processes such as standard CMOS. Examples of internally fabricated semiconductors include our FBAR filters for wireless communications and our vertical-cavity surface emitting laser and side emitting lasers-based on GaAs and InP lasers for fiber optic communications. The majority of our internal III-V semiconductor wafer fabrication is done in the U.S. and Singapore. Many of our products are designed to be manufactured in a specific process, typically at one particular foundry, either our own or with a particular contract manufacturer, and in some instances, we may only qualify one contract manufacturer to manufacture certain of our products.

We also have a long history of operating in Asia, where approximately 35% of our employees are located and where we manufacture and source the majority of our products and materials. We store the majority of our product inventory in our warehouse in Malaysia and our presence in Asia places us in close proximity to many of our customers' manufacturing facilities and at the center of worldwide electronics manufacturing.

Manufacturing Materials and Suppliers

Our manufacturing operations employ a wide variety of semiconductors, electromechanical components and assemblies and raw materials. We purchase materials from hundreds of suppliers on a global basis. These supply relationships are generally conducted on a purchase order basis. While we have not experienced any significant difficulty in obtaining the materials used in the conduct of our business and we believe that no single supplier is material, some of the parts are not readily available from alternate suppliers due to their unique design or the length of time necessary for re-design or qualification. Our long-term relationships with our suppliers allow us to proactively manage our technology development and product discontinuance plans, and to monitor our suppliers' financial health. Some suppliers may, nonetheless, extend their lead times, limit supplies, increase prices or cease to produce necessary parts for our products. If these are unique or highly specialized components, we may not be able to find a substitute quickly, or at all. To address the potential disruption in our supply chain, we may use a number of techniques, including, in some cases, qualifying more than one source of supply, redesigning products for alternative components and incremental, or in some cases, "lifetime" purchases of affected parts for supply buffer.

Competition

The markets in which we participate are highly competitive. Our competitors range from large, international companies offering a wide range of products to smaller companies specializing in narrow markets. The competitive landscape is changing as a result of a trend toward consolidation within many industries, as some of our competitors have merged with or been acquired by other competitors, while others have begun collaborating with each other. We expect this consolidation trend to continue. We expect competition in the markets in which we participate to continue to increase as existing competitors improve or expand their product offerings and as new companies enter the market. Additionally, our ability to compete effectively depends on a number of factors, including: quality, technical performance, price, product features, product system compatibility, system-level design capability, engineering expertise, responsiveness to customers, new product innovation, product availability, delivery timing and reliability, and customer sales and technical support.

In the semiconductor market, we compete with integrated device manufacturers, fabless semiconductor companies, as well as the internal resources of large, integrated OEMs. Our primary competitors are Analog Devices, Inc., Cisco Systems, Inc., Cree, Inc., Finisar Corp., GlobalFoundries, Hamamatsu Photonics K.K., Heidenhain Corporation, HiSilicon Technologies Co. Ltd., Intel Corp., Lumentum Operations LLC, MACOM Technology Solutions Holdings, Inc., Marvell Technology Group, Ltd., Mediatek Inc., Mellanox Technologies, Inc., Microsemi Corp., Mitsubishi Electric Corporation, Murata Manufacturing Co., Ltd., NXP Semiconductors N.V., Qorvo, Inc., Qualcomm Inc., Quantenna Communications, Inc. (acquired by ON Semiconductor Corporation), ST Microelectronics N.V., Renesas Electronics Corporation, Skyworks Solutions, Inc., Sumitomo Corporation, TDK-EPC Corporation, Toshiba Corporation, and Texas Instruments, Inc. We compete based on the strength and expertise of our high speed proprietary design expertise, FBAR technology, amplifier design, module integration, proprietary materials processes, multiple storage protocols and mixed-signal design, our broad product portfolio, support of key industry standards, reputation for quality products, and our customer relationships.

In the infrastructure software market, we compete with large vendors of hardware and operating system software and cloud service providers, who continue to both expand their product and service offerings, and consolidate offerings into broad product lines. Our primary competitors are AppDynamics, Inc. (acquired by Cisco), Atlassian Corporation, Plc, BMC Software

Inc., BeyondTrust, Cisco Systems, Inc., Compuware Corporation, CrowdStrike Holdings, Inc., CyberArk Software, Ltd., International Business Machines Corporation, Micro Focus International Plc, Microsoft Corporation, MuleSoft, Inc. (acquired by Salesforce.com, Inc.), New Relic, Inc., Oracle Corporation, Proofpoint, Inc., SailPoint, Inc., ServiceNow, Inc., SolarWinds, Inc., Splunk, Inc., VMware, Inc. and Zscaler, Inc. We compete based on our breadth of portfolio of enterprise management tools, breadth and synergy of offerings, our platform and hardware independence, our global reach, and our deep customer relationships and industry experience.

Intellectual Property

Our success depends in part upon our ability to protect our IP. To accomplish this, we rely on a combination of IP rights, including patents, copyrights, trademarks, service marks, trade secrets and similar IP, as well as customary contractual protections with our customers, suppliers, employees and consultants, and through security measures to protect our trade secrets. We believe our current product expertise, key engineering talent and IP portfolio provide us with a strong platform from which to develop application specific products in key target markets.

As of November 1, 2020, we had 22,774 U.S. and other patents and 1,018 U.S. and other pending patent applications. The expiration dates of our patents range from 2020 to 2039, with a small number of patents expiring in the near future, none of which are expected to be material to our IP portfolio. We are not substantially dependent on any single patent or group of related patents.

We focus our patent application program to a greater extent on those inventions and improvements that we believe are likely to be incorporated into our products, as contrasted with more basic research. However, we do not know how many of our pending patent applications will result in the issuance of patents or the extent to which the examination process could require us to narrow our claims.

We and our predecessors have also entered into a variety of IP licensing and cross-licensing arrangements that have both benefited our business and enabled some of our competitors. A portion of our revenue comes from IP licensing royalty payments and from litigation settlements relating to such IP. We also license third-party technologies that are incorporated into some elements of our design activities, products and manufacturing processes. Historically, licenses of the third-party technologies used by us have generally been available to us on acceptable terms.

The industries in which we compete are characterized by the existence of a large number of patents, copyrights, trademarks and trade secrets and by the vigorous pursuit, protection and enforcement of IP rights, including by patent holding companies that do not make or sell products. Many of our customer agreements require us to indemnify our customers for third-party IP infringement claims arising from our products. Claims of this sort could harm our relationships with our customers and might deter future customers from doing business with us. With respect to any IP rights claims against us or our customers or distributors, we may be required to defend ourselves or our customers or distributors in litigation, cease manufacture the infringing products, pay damages, expend resources to develop non-infringing technology, seek a license which may not be available on commercially reasonable terms or at all, or relinquish patents or other IP rights.

With respect to our infrastructure software, the source code for our products is protected both as a trade secret and as copyrighted work. Except with respect to software components that are subject to open source licenses, our customers do not generally have access to the source code for our products. Rather, on-premise customers typically access only the executable code for our products, and SaaS customers access only the functionality of our SaaS offerings. Under certain contingent circumstances, some of our customers are beneficiaries of a source code escrow arrangement that enables them to obtain a limited right to access our source code.

Employees

Our future success depends on our ability to retain, attract and motivate qualified personnel. As the source of our technological and product innovations, our engineering and technical personnel are a significant asset. Competition for these employees is significant in many areas of the world in which we operate, particularly in Silicon Valley and Southeast Asia where qualified engineers are in high demand. We track and report internally on key talent metrics including the portion of our workforce in research and development and the voluntary attrition rate. During fiscal year 2020, our voluntary attrition rate was 7%, below the technology industry benchmark (AON, 2020 Salary Increase and Turnover Study — Second Edition, September 2020).

As of November 1, 2020, we had approximately 21,000 employees worldwide, with approximately 63% of them in research and development. By geography, approximately 53% of our employees are located in North America, 35% in Asia, and 12% in Europe, the Middle East and Africa and a significant majority of our research and development personnel are located in Czech Republic, India, Israel, Singapore and the U.S.

Governmental Regulation

Our semiconductor manufacturing operations and research and development involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health, safety and the environment. These regulations include limitations on discharge of pollutants to air, water, and soil; remediation requirements; product chemical content limitations; manufacturing chemical use and handling restrictions; pollution control requirements; waste minimization considerations; and treatment, transport, storage and disposal of solid and hazardous wastes. We are also subject to regulation by the U.S. Occupational Safety and Health Administration and similar health and safety laws in other jurisdictions.

We believe that our properties and operations at our facilities comply in all material respects with applicable environmental laws and worker health and safety laws. However, the risk of environmental liabilities cannot be completely eliminated and there can be no assurance that the application of environmental, health and safety laws to our business will not require us to incur significant expenditures.

We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements, including legislation enacted in the U.S., European Union and China, among a growing number of jurisdictions, which have placed greater restrictions on the use of lead, among other chemicals, in electronic products, which affects materials composition and semiconductor packaging. In addition, our business is subject to various import/export regulations, such as the U.S. Export Administration Regulations, and applicable executive orders, and rules of industrial standards bodies, like the International Standards Organization, as well as regulation by other agencies, such as the U.S. Federal Trade Commission ("FTC"). These laws, regulations and orders are complex, may change frequently and with limited notice, have generally become more stringent over time, and have intensified under the current U.S. administration, especially in light of ongoing trade tensions with China. We may incur significant expenditures in future periods as a result.

Backlog

Our semiconductor sales are generally made pursuant to short-term purchase orders. These purchase orders are made without deposits and may be rescheduled, cancelled or modified on relatively short notice, without substantial penalty. In addition, our software contracting model for the majority of our customers, which are for enterprise-wide licenses, provide for termination thereof by our customers at any time for any reason. As a result, we recognize revenue from these contracts ratably over time. Therefore, although we may have a large backlog from time to time, we believe that purchase orders or backlog are not necessarily a reliable indicator of future sales.

Seasonality

Historically, our net revenue has typically been higher in the second half of the fiscal year than in the first half, primarily due to seasonality in our wireless communications products. These products have historically experienced seasonality due to launches of new mobile handsets manufactured by our OEM customers. However, from time to time, typical seasonality and industry cyclicality are overshadowed by other factors such as wider macroeconomic effects, the timing of significant product transitions and launches by large OEMs, particularly with our wireless communications products. We have a diversified business portfolio and we believe that our overall revenue is less susceptible to seasonal variations as a result of this diversification.

Other Information

Our website is www.broadcom.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other reports (and amendments thereto) filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 with the Securities and Exchange Commission (the "SEC"), as well as proxy statements filed by Broadcom, free of charge at the "Investor Center - SEC Filings" section of our website at www.broadcom.com, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Such periodic reports, proxy statements and other information are also available at the SEC's website at http://www.sec.gov. The reference to our website address does not constitute incorporation by reference of the information contained on or accessible through our website.

ITEM 1A. RISK FACTORS

Our business, operations and financial results are subject to various risks and uncertainties, including those described below, that could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our common stock and preferred stock. Many of the following risks and uncertainties are, and will be, exacerbated by the COVID-19 pandemic and any worsening of the global business and economic environment as a result. The following material factors, among others, could cause our actual results to differ materially from historical results and those expressed in forward-looking statements made by us or on our behalf in filings with the SEC, press releases, communications with investors and oral statements.

Risk Factors Summary

The following is a summary of the principal risks that could adversely affect our business, operations and financial results.

Risks Related to Our Business

- The ongoing COVID-19 pandemic has, and will likely continue to, negatively impact the global economy and disrupt normal business activity.
- The majority of our sales come from a small number of customers and a reduction in demand or loss of one or more of our significant customers may adversely affect our business.
- Dependence on contract manufacturing and suppliers of critical components within our supply chain may adversely affect our ability to bring products to market.
- We purchase a significant amount of the materials used in our products from a limited number of suppliers.
- Adverse global economic conditions could have a negative effect on us.
- Global political and economic conditions and other factors related to our international operations could adversely affect us.
- Our business is subject to various governmental regulations and trade restrictions. Compliance with these regulations may cause us to incur significant expense and, if we fail to maintain compliance, we may be forced to cease manufacture and distribution of certain products or subjected to civil or criminal penalties.
- We are subject to risks associated with our distributors and other channel partners, including product inventory levels and product sell-through.
- Our dependence on senior management and if we are unable to attract and retain qualified personnel, we may not be able to execute our business strategy effectively.
- We may pursue acquisitions, investments, joint ventures and dispositions, which could adversely affect our results of operations.
- We may be involved in legal proceedings, including IP, anti-competition and securities litigation, employee-related claims and regulatory investigations.
- Our operating results are subject to substantial quarterly and annual fluctuations.
- Failure to adjust our manufacturing and supply chain to accurately meet customer demand could adversely affect our results of operations.
- We operate in the highly cyclical semiconductor industry, which is subject to significant downturns.
- Winning business in the semiconductor solutions industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.
- Competition in our industries could prevent us from growing our revenue.
- A prolonged disruption of our manufacturing facilities, research and development facilities, warehouses or other significant operations, or those of our suppliers, could have a material adverse effect on us.
- We may be unable to maintain appropriate manufacturing capacity or product yields at our own manufacturing facilities.
- Any failure of our IT systems or one or more of our corporate infrastructure vendors to provide necessary services could have a material adverse effect on our business.
- Our ability to maintain or improve gross margin.
- Our ability to protect the significant amount of IP in our business.
- Incompatibility of our software products with operating environments, platforms, or third-party products, demand for our products and services could decrease.
- Failure to enter into software license agreements on a satisfactory basis could adversely affect us.

- Licensed third party software used in our products may not be available to us in the future, which may delay product development and production or cause us to incur additional expense.
- Use of open source code sources, which, under certain circumstances could materially adversely affect us.
- We are subject to warranty claims, product recalls and product liability.
- The complexity of our products could result in unforeseen delays or expense or undetected defects or bugs.
- We make substantial investments in research and development and unsuccessful investments could materially adversely affect our business, financial condition and results of operations.
- We collect, use, store, or otherwise process personal information, which subjects us to privacy and data security laws and contractual commitments, and our actual or perceived failure to comply with such laws and commitments could harm our business.
- We are subject to environmental, health and safety laws, which could increase our costs, restrict our operations and require expenditures.
- Social and environmental responsibility regulations, policies and provisions, as well as customer demand, may make our supply chain more complex and may adversely affect our relationships with customers.
- The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future.
- A breach of our security systems may have a material adverse effect on our business.
- Fluctuations in foreign exchange rates could result in losses.

Risks Relating to Taxes

- Changes in tax legislation or policies could materially impact our financial position and results of operations.
- Our corporate income taxes could significantly increase if we are unable to maintain our tax concessions or if our assumptions and interpretations regarding tax laws and concessions prove to be incorrect.
- Our benefit from income taxes and overall cash tax costs are affected by a number of factors that could materially, adversely affect financial results.

Risks Relating to Our Indebtedness

- Our substantial indebtedness could adversely affect our financial health and our ability to execute our business strategy.
- The instruments governing our indebtedness impose certain restrictions on our business.
- Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flows from our business to pay our substantial debt.

Risks Relating to Owning Our Common Stock

- Volatility of our stock price could result in substantial losses for our investors as well as class action litigation against us and our management.
- A substantial amount of our stock is held by a small number of large investors.
- There can be no assurance that we will continue to declare cash dividends.

For a more complete discussion of the material risks facing our business, see below.

Risks Related to Our Business

The ongoing COVID-19 pandemic has, and will likely continue to, negatively impact the global economy and disrupt normal business activity, which may have an adverse effect on our results of operations.

The global spread of COVID-19 and the efforts to control it have slowed global economic activity and disrupted, and reduced the efficiency of, normal business activities in much of the world. The pandemic has resulted in authorities around the world implementing numerous unprecedented measures such as travel restrictions, quarantines, shelter in place orders, and factory and office shutdowns. These measures have impacted, and will likely continue to impact our workforce and operations, and those of our customers, contract manufacturers (“CMs”), suppliers and logistics providers, particularly in the event of a significant global resurgence of the illness.

We have been, and expect to continue, experiencing some disruption to parts of our global semiconductor supply chain, with suppliers increasing lead times or placing products on allocation, including procuring necessary components and inputs, such as wafers and substrates, in a timely fashion. In addition, our primary warehouse and a number of our key suppliers, particularly assembly and test service providers, are in Malaysia. While our Malaysia warehouse has remained fully operational, many of the facilities of our key suppliers and other service providers were shut down or operated at reduced capacity for extended periods. This resulted in significant logistical challenges and product delays, which could recur in the event of any future closures of, or periods of reduced operations at, our warehouse or the facilities of our suppliers and providers. Any similar disruption at our Fort Collins, Colorado manufacturing facility would severely impact our ability to manufacture our FBAR products and adversely affect our wireless business. In addition, disruptions to commercial transportation infrastructure have increased delivery times for materials and components to our facilities, transfers of our products to our key suppliers and, in some cases, our ability to timely ship our products to customers. As a result of these supply chain disruptions, we have increased customer order lead times and placed some products on allocation. We are also largely building semiconductor products to order, instead of based on customer forecasts, in light of the ongoing uncertainty. This may limit our ability to fulfill orders and we may be unable to satisfy all of the demand for our products, which may adversely affect our relationships with our customers.

In response to governmental directives and recommended safety measures, we modified our workplace practices globally, which has resulted in many of our employees working remotely for extended periods of time. While we have implemented a phased-in return of employees to many of our facilities, if the spread of COVID-19 worsens significantly, we may need to further limit onsite operations or otherwise modify our business practices in a manner that may adversely impact our business. Working remotely for extended periods may reduce our employees' efficiency and productivity, which may cause product development delays, hamper new product innovation and have other unforeseen adverse effects on our business. In addition, if a significant number of our employees, or employees and third parties performing key functions, including our CEO and members of our board of directors, become ill, our business may be further adversely impacted. While we have implemented personal safety measures at all of our facilities where our employees are working onsite, any actions we take may not be sufficient to mitigate the risk of infection and could result in a significant number of COVID-19-related claims. Changes to state workers' compensation laws, as have recently occurred in California, may increase our potential liability for such claims.

In the longer-term, the COVID-19 pandemic is likely to adversely affect the economies and financial markets of many countries, and could result in a global economic downturn and a recession. This would likely adversely affect demand for our products and those of our customers, particularly consumer products such as smartphones, which may, in turn negatively impact our results of operations. However, there is a significant degree of uncertainty and lack of visibility as to the extent and duration of any such downturn or recession. While we continue to see robust demand in our semiconductor segment, and have seen little impact to our software business from the COVID-19 pandemic, the environment remains uncertain and it may not be sustainable over the longer term. The degree to which the pandemic ultimately impacts our business and results of operations will depend on future developments beyond our control, including the severity of the pandemic, the extent of actions to contain the virus, availability of a vaccine or other treatment, how quickly and to what extent normal economic and operating conditions can resume, and the severity and duration of the global economic downturn that results from the pandemic.

The majority of our sales come from a small number of customers and a reduction in demand or loss of one or more of our significant customers may adversely affect our business.

We are dependent on a small number of end customers, OEMs, their respective CMs, and certain distributors for a majority of our business, revenue and results of operations. For fiscal year 2020, sales to distributors accounted for 42% of our net revenue. We believe aggregate sales, through all channels, to Apple and our top five end customers, accounted for approximately 15% and more than 30% of our net revenue for fiscal year 2020, respectively. This customer concentration increases the risk of quarterly fluctuations in our operating results and our sensitivity to any material, adverse developments experienced by our significant customers.

The terms and conditions under which we do business with most of our semiconductor customers generally do not include commitments by those customers to purchase any specific quantities of products from us. Even in those instances where we enter into an arrangement under which a customer agrees to source an agreed portion of its product needs from us (provided that we are able to meet specified development, supply and quality commitments), the arrangement often includes pricing schedules or methodologies that apply regardless of the volume of products purchased, and those customers may not purchase the amount of product we expect. As a result, we may not generate the amount of revenue or the level of profitability we expect under such arrangements. Moreover, our top customers' purchasing power has, in some cases, given them the ability to make greater demands on us with regard to pricing and contractual terms in general. We expect this trend to continue, which may adversely affect our gross margin on certain products and, should we fail to perform under these arrangements, we could also be liable for significant monetary damages.

The loss of, or any substantial reduction in sales to, any of our major customers could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Dependence on contract manufacturing and suppliers of critical components within our supply chain may adversely affect our ability to bring products to market, damage our reputation and adversely affect our results of operations.

We operate a primarily outsourced manufacturing business model that principally utilizes CMs, such as third-party wafer foundries and module assembly and test capabilities. Our semiconductor products require wafer manufacturers with state-of-the-art fabrication equipment and techniques, and most of our products are designed to be manufactured in a specific process, typically at one particular fab or foundry, either our own or with a particular CM.

We depend on our CMs to allocate sufficient manufacturing capacity to meet our needs, to produce products of acceptable quality at acceptable yields, and to deliver those products to us on a timely basis. We do not generally have long-term capacity commitments with our CMs and substantially all of our manufacturing services are on a purchase order basis with no obligation to provide us with any specified minimum quantities of product. Further, from time to time, our CMs will cease to, or will become unable to, manufacture a component for us. As the lead time needed to identify, qualify and establish reliable production at acceptable yields, with a new CM is typically lengthy, there is often no readily available alternative source and there may be other constraints on our ability to change CMs. In addition, qualifying such CMs is often expensive, and they may not produce products as cost-effectively as our current suppliers. In any such circumstances, we may be unable to meet our customer demand and may fail to meet our contractual obligations. This could result in the payment of significant damages by us to our customers, and our net revenue could decline, adversely affecting our business, financial condition and results of operations.

We utilize TSMC to produce the substantial majority of our semiconductor wafers. TSMC manufactured approximately 87% of the wafers manufactured by our CMs during fiscal year 2020. Our wafer requirements represent a significant portion of the total production capacity of TSMC. However, TSMC also fabricates wafers for other companies, including certain of our competitors, and could choose to prioritize capacity for other customers or reduce or eliminate deliveries to us on short notice, or raise their prices to us, all of which could harm our business, results of operations and gross margin. For example, Huawei Technologies Co. Ltd. (“Huawei”), as well as many of its suppliers, have significantly increased their wafer orders from TSMC due to certain U.S. export restrictions on sales to Huawei. This has caused, and may continue to cause, some dislocations in the semiconductor supply chain which may result in reduced or untimely wafer deliveries to us.

Any substantial disruption in TSMC’s supply of wafers to us, or in the other contract manufacturing services that we utilize, as a result of a natural disaster, political unrest, military conflict, geopolitical turmoil, trade tensions, medical epidemics, such as the COVID-19 pandemic, climate change, economic instability, equipment failure or other cause, could materially harm our business, customer relationships and results of operations.

We also depend on our CMs to timely develop new, advanced manufacturing processes, including, in the case of wafer fabrication, transitions to smaller geometry process technologies. If these new processes are not timely developed or we do not have sufficient access to them, we may be unable to maintain or increase our manufacturing efficiency to the same extent as our competitors or to deliver products to our customers, which could result in loss of revenue opportunities and damage our relationships with our customers.

We purchase a significant amount of the materials used in our products from a limited number of suppliers.

Our manufacturing processes and those of our CMs rely on many materials, including silicon, GaAs and InP wafers, copper lead frames, precious and rare earth metals, mold compound, ceramic packages and various chemicals and gases. We purchase a significant portion of our materials, components and finished goods used in our products from a few materials providers, some of which are single source suppliers. As certain materials are highly specialized, the lead time needed to identify and qualify a new supplier is typically lengthy and there is often no readily available alternative source. During fiscal year 2020, we purchased approximately two-thirds of the materials for our manufacturing processes from six materials providers. We do not generally have long-term contracts with our materials providers and substantially all of our purchases are on a purchase order basis. Suppliers may extend lead times, limit supplies, place products on allocation or increase prices due to commodity price increases, capacity constraints or other factors and could lead to interruption of supply or increased demand in the industry. For example, due to the COVID-19 pandemic, we have experienced some supply constraints, including with respect to wafers and substrates. Additionally, the supply of these materials may be negatively impacted by increased trade tensions between the U.S. and its trading partners, particularly China. In the event that we cannot timely obtain sufficient quantities of materials or at reasonable prices, the quality of the material deteriorates or we are not able to pass on higher materials or energy costs to our customers, our business, financial condition and results of operations could be adversely impacted.

Adverse global economic conditions could have a negative effect on our business, results of operations and financial condition and liquidity.

A general slowdown in the global economy or in a particular region or industry, an increase in trade tensions with U.S. trading partners or a tightening of the credit markets could negatively impact our business, financial condition and liquidity. Adverse global economic conditions have from time to time caused or exacerbated significant slowdowns in the industries and markets in which we operate, which have adversely affected our business and results of operations. In recent periods, investor and customer concerns about the global economic outlook, which have significantly increased as a result of the COVID-19 pandemic, have adversely affected market and business conditions in general. Macroeconomic weakness and uncertainty also make it more difficult for us to accurately forecast revenue, gross margin and expenses, and may make it more difficult to raise or refinance debt. An escalation of trade tensions between the U.S. and China has resulted in trade restrictions and increased tariffs that harm our ability to participate in Chinese markets or compete effectively with Chinese companies. Sustained uncertainty about, or worsening of, current global economic conditions and further escalation of trade tensions between the U.S. and its trading partners, especially China and possible decoupling of the U.S. and China economies, could result in a global economic slowdown and long-term changes to global trade. Such events may also (i) cause our customers and consumers to reduce, delay or forgo technology spending, (ii) result in customers sourcing products from other suppliers not subject to such restrictions or tariffs, (iii) lead to the insolvency or consolidation of key suppliers and customers, and (iv) intensify pricing pressures. Any or all of these factors could negatively affect demand for our products and our business, financial condition and results of operations.

Global political and economic conditions and other factors related to our international operations could adversely affect our business, financial condition and results of operations.

A majority of our products are produced, sourced and sold internationally and our international revenue represents a significant percentage of our overall revenue. In addition, as of November 1, 2020, approximately 49% of our employees were located outside the U.S. Multiple factors relating to our international operations and to particular countries in which we operate could have a material adverse effect on our business, financial condition and results of operations. These factors include:

- changes in political, regulatory, legal or economic conditions or geopolitical turmoil, including terrorism, war or political or military coups, or civil disturbances or political instability foreign and domestic;
- restrictive governmental actions, such as restrictions on the transfer or repatriation of funds and foreign investments, data privacy regulations and trade protection measures, including increasing protectionism, import/export restrictions, import/export duties and quotas, trade sanctions and customs duties and tariffs, all of which have increased under the current U.S. administration;
- difficulty in obtaining product distribution and support, and transportation delays;
- potential inability to localize software products for a significant number of international markets;
- difficulty in conducting due diligence with respect to business partners in certain international markets;
- public health or safety concerns, medical epidemics or pandemics, such as COVID-19, and other natural- or man-made disasters;
- nationalization of businesses and expropriation of assets; and
- changes in U.S. and foreign tax laws.

A significant legal risk associated with conducting business internationally is compliance with the various and differing laws and regulations of the many countries in which we do business. In addition, the laws in various countries are constantly evolving and may, in some cases, conflict with each other. Although our policies prohibit us, our employees and our agents from engaging in unethical business practices, there can be no assurance that all of our employees, distributors or other agents will refrain from acting in violation of our related anti-corruption or other policies and procedures. Any such violation could have a material adverse effect on our business.

Our business is subject to various governmental regulations, and compliance with these regulations may cause us to incur significant expense. If we fail to maintain compliance with applicable regulations, we may be forced to cease the manufacture and distribution of certain products, and we could be subject to civil or criminal penalties.

Our business is subject to various international laws and other legal requirements, including packaging, product content, labor and import/export regulations, such as the U.S. Export Administration Regulations, and applicable executive orders. These laws, regulations and orders are complex, may change frequently and with limited notice, have generally become more stringent over time and have intensified under the current U.S. administration, especially in light of ongoing trade tensions with China. We may be required to incur significant expense to comply with, or to remedy violations of, these regulations. In addition, if our customers fail to comply with these regulations, we may be required to suspend sales to these customers, which could damage our reputation and negatively impact our results of operations. For example, Huawei, one of our customers, is subject to certain U.S. export restrictions, which has required us to suspend sales to Huawei until we obtain licenses from the U.S. Department of Commerce, which we may be unable to do so in a timely manner or at all. The U.S. government may also add additional Chinese companies to its restricted entity list and/or technologies to its list of prohibited exports to China, all of which have and will adversely affect our ability to sell our products and our revenue. These restrictive governmental actions and any similar measures that may be imposed on U.S. companies by the Chinese or other governments will likely limit or prevent us from doing business with certain of our customers or suppliers and harm our ability to compete effectively or otherwise negatively affect our ability to sell our products, and adversely affect our business and results of operations.

In addition, the manufacture and distribution of our semiconductors must comply with various laws and adapt to changes in regulatory requirements as they occur. For example, if a country in which our products are manufactured or sold sets technical standards that are not widely shared, it may require us to stop distributing our products commercially until they comply with such new standards, lead certain of our customers to suspend imports of their products into that country, require manufacturers in that country to manufacture products with different technical standards and disrupt cross-border manufacturing relationships, any of which could have a material adverse effect on our business, financial condition and results of operations. If we fail to comply with these requirements, we could also be required to pay civil penalties or face criminal prosecution.

Our products and operations are also subject to the rules of industrial standards bodies, like the International Standards Organization, as well as regulation by other agencies, such as the FTC. If we fail to adequately address any of these rules or regulations, our business could be harmed.

We are subject to risks associated with our distributors and other channel partners, including product inventory levels and product sell-through.

We sell our products through a direct sales force and a select network of distributors and other channel partners globally. Sales to distributors accounted for 42% of our net revenue in the fiscal year ended November 1, 2020 and are subject to a number of risks, including:

- fluctuations in demand based on our distributors’ product inventory levels and end customer demand in a given quarter;
- our distributors and other channel partners are generally not subject to minimum sales requirements or any obligation to market our products to their customers;
- our distributors and other channel partners agreements are generally nonexclusive and may be terminated at any time without cause;
- our lack of control over the timing of delivery of our products to end customers; and
- our distributors and other channel partners may market and distribute competing products and may place greater emphasis on the sale of these products.

In addition, we are selling our semiconductor products through an increasingly limited number of distributors, which exposes us to additional customer concentration and related credit risks.

We do not always have a direct relationship with the end customers of our products. As a result, our semiconductor products may be used in applications for which they were not necessarily designed or tested, including, for example, medical devices, and they may not perform as anticipated in such applications. In such event, failure of even a small number of parts could result in significant liabilities to us, damage our reputation and harm our business and results of operations.

Our business would be adversely affected by the departure of existing members of our senior management team.

Our success depends, in large part, on the continued contributions of our senior management team, and in particular, the services of Mr. Hock E. Tan, our President and Chief Executive Officer. Effective succession planning is also important for our long-term success. Failure to ensure effective transfers of knowledge and smooth transitions involving senior management could hinder our strategic planning and execution. None of our senior management is bound by written employment contracts. In addition, we do not currently maintain key person life insurance covering our senior management. The loss of any of our senior management could harm our ability to implement our business strategy and respond to the rapidly changing market conditions in which we operate.

If we are unable to attract and retain qualified personnel, especially our engineering and technical personnel, we may not be able to execute our business strategy effectively.

Our future success depends on our ability to retain, attract and motivate qualified personnel. We also seek to acquire talented engineering and technical personnel (including cyber security experts), as well as effective sales professionals, through acquisitions we may make from time to time or otherwise. As the source of our technological and product innovations, our engineering and technical personnel are a significant asset. Competition for these employees is significant in many areas of the world in which we operate, particularly in Silicon Valley and Southeast Asia where qualified engineers are in high demand. In addition, current or future immigration laws may make it more difficult to hire or retain qualified engineers, further limiting the pool of available talent. Further, our employees may decide not to continue working for us and may leave with little or no notice. We grant equity awards to the substantial majority of our employees and we believe these awards provide a powerful long-term retention incentive to our employees; however, we may be incorrect in this assumption, particularly if there is a material and persistent decline in the price of our common stock. In addition, we may be unable to obtain required stockholder approvals of future equity compensation plans needed to continue with our current equity granting philosophy. As a result, we may be limited in our ability to grant equity-based incentives, which may impair our efforts to attract and retain necessary personnel. Any inability to retain, attract or motivate such personnel could have a material adverse effect on our business, financial condition and results of operations.

We may pursue acquisitions, investments, joint ventures and dispositions, which could adversely affect our results of operations.

Our growth strategy includes acquiring or investing in businesses that offer complementary products, services and technologies, or enhance our market coverage or technological capabilities.

Any acquisitions we may undertake and their integration involve risks and uncertainties, such as:

- unexpected delays, challenges and related expenses, and disruption of our business;
- diversion of management’s attention from daily operations and the pursuit of other opportunities;
- incurring significant restructuring charges and amortization expense, assuming liabilities (some of which may be unexpected) and ongoing or new lawsuits related to the transaction or otherwise, potential impairment of acquired goodwill and other intangible assets, and increasing our expenses and working capital requirements;
- the potential for deficiencies in internal controls at the acquired business, as well as implementing our own management information systems, operating systems and internal controls for the acquired operations;
- our due diligence process may fail to identify significant issues with the acquired company’s products, financial disclosures, accounting practices, legal, tax and other contingencies, compliance with local laws and regulations (and interpretations thereof) in the U.S. and multiple international jurisdictions;
- additional acquisition-related debt, which could increase our leverage and potentially negatively affect our credit ratings resulting in more restrictive borrowing terms or increased borrowing costs thereby limiting our ability to borrow;
- dilution of stock ownership of existing stockholders;
- difficulties integrating the acquired business or company and in managing and retaining acquired employees, vendors and customers; and
- inaccuracies in our original estimates and assumptions used to assess a transaction, which may result in us not realizing the expected financial or strategic benefits of any such transaction.

In addition, U.S. and foreign regulatory approvals required in connection with an acquisition may take longer than anticipated to obtain, may not be forthcoming or may contain burdensome conditions, which may jeopardize, delay or reduce the anticipated benefits of the transaction to us.

From time to time, we may also seek to divest or wind down portions of our business, either acquired or otherwise, or we may exit minority investments, any of which could materially affect our cash flows and results of operations. Such dispositions involve risks and uncertainties, including our ability to sell such businesses on terms acceptable to us, or at all, disruption to other parts of our business, potential loss of employees or customers, or exposure to unanticipated liabilities or ongoing obligations to us following any such dispositions. In addition, dispositions may include the transfer of technology and/or the licensing of certain IP rights to third-party purchasers, which could limit our ability to utilize such IP rights or assert these rights against such third-party purchasers or other third parties.

We may be involved in legal proceedings, including IP, anti-competition and securities litigation, employee-related claims and regulatory investigations, which could, among other things, divert efforts of management and result in significant expense and loss of our IP rights.

We are often involved in legal proceedings, including cases involving our IP rights and those of others, anti-competition and commercial matters, acquisition-related suits, securities class action suits, employee-related claims and other actions. From time to time, we may also be involved or required to participate in regulatory investigations or inquiries, such as the ongoing investigation by the FTC into certain of our contracting and business practices, which may evolve into legal or other administrative proceedings. Growing public concern over concentration of economic power in corporations is likely to result in increased anti-competition legislation, regulation and enforcement activity. Litigation or settlement of such actions, regardless of their merit, or involvement in regulatory investigations or inquiries, can be costly, lengthy, complex and time consuming, diverting the attention and energies of our management and technical personnel.

The industries in which we operate are characterized by companies holding large numbers of patents, copyrights, trademarks and trade secrets and by the vigorous pursuit, protection and enforcement of IP rights, including actions by patent-holding companies that do not make or sell products. From time to time, third parties assert against us and our customers and distributors their IP rights to technologies that are important to our business. For example, in August 2020 judgment was entered against Broadcom and Apple for infringement of certain patents pursuant to which California Institute of Technology was awarded past damages of $270.2 million from Broadcom and $837.8 million from Apple (plus, in each case, interest thereon from the date of the judgment), for which Apple is seeking indemnification from Broadcom. Although we are appealing this judgment, there are no assurances that we will be successful.

Many of our customer agreements, and in some cases our asset sale agreements, and/or the laws of certain jurisdictions may require us to indemnify our customers or purchasers for third-party IP infringement claims, including costs to defend those claims, and payment of damages in the case of adverse rulings. However, our CMs and suppliers may or may not be required to indemnify us should we or our customers be subject to such third-party claims. Claims of this sort could also harm our relationships with our customers and might deter future customers from doing business with us. If any pending or future proceedings result in an adverse outcome, we could be required to:

- cease the manufacture, use or sale of the infringing products, processes or technology and/or make changes to our processes or products;
- pay substantial damages for past, present and future use of the infringing technology, including up to treble damages if willful infringement is found;
- pay fines or disgorge profits or other payments, and/or cease certain conduct and/or modify our contracting or business practices, in connection with any unfavorable resolution of a governmental investigation;
- expend significant resources to develop non-infringing technology;
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- enter into cross-licenses with our competitors, which could weaken our overall IP portfolio and our ability to compete in particular product categories;
- pay substantial damages to our direct or end customers to discontinue use or replace infringing technology with non-infringing technology; or
- relinquish IP rights associated with one or more of our patent claims.

Any of the foregoing results could have a material adverse effect on our business, financial condition and results of operations.

In addition, we may be obligated to indemnify our current or former directors or employees, or former directors or employees of companies that we have acquired, in connection with litigation or regulatory investigations. These liabilities could be substantial and may include, among other things, the cost of defending lawsuits against these individuals, as well as stockholder derivative suits; the cost of government, law enforcement or regulatory investigations; civil or criminal fines and penalties; legal and other expenses; and expenses associated with the remedial measure, if any, which may be imposed.

Our operating results are subject to substantial quarterly and annual fluctuations.

Our operating results have fluctuated in the past and are likely to fluctuate in the future. These fluctuations may occur on a quarterly and annual basis and are due to a number of factors, many of which are beyond our control. In addition to many of the risks described elsewhere in this "Risk Factors" section, these factors include, among others:

- customer concentration and the gain or loss of significant customers;
- the timing of launches by our customers of new product in which our products are included and changes in end-user demand for our customers' the products;
- fluctuations in the levels of component or product inventories held by our customers;
- the shift to cloud-based IT solutions and services, such as hyperscale computing, which may adversely affect the timing and volume of sales of our products for use in traditional enterprise data centers;
- the timing of new software contracts and renewals, as well as the timing of any terminations of software contracts that require us to refund to customers any pre-paid amounts under the contract;
- our ability to timely develop, introduce and market new products and technologies;
- the timing and extent of our software license and subscription revenue, and other non-product revenue;
- new product announcements and introductions by us or our competitors;
- seasonality or other fluctuations in demand in our markets;
- timing and amount of research and development and related new product expenditures, and the timing of receipt of any research and development grant monies; and
- timing of any regulatory changes, particularly with respect to trade sanctions and customs duties and tariffs, and tax reform.

The foregoing factors are often difficult to predict, and these, as well as other factors, could materially adversely affect our quarterly or annual operating results. In addition, a significant amount of our operating expenses are relatively fixed in nature. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. As a result, we believe that quarter-to-quarter comparisons of our revenue and operating results may not be meaningful or a reliable indicator of our future performance. If our operating results in one or more future quarters fail to meet the expectations of securities analysts or investors, a significant decline in the trading price of our common stock may occur, which may happen immediately or over time.

Failure to adjust our manufacturing and supply chain to accurately meet customer demand could adversely affect our results of operations.

We make significant decisions, including determining the levels of business that we will seek and accept, production schedules, levels of reliance on contract manufacturing and outsourcing, internal fabrication utilization and other resource requirements, based on our estimates of customer requirements, which may not be accurate.

During the COVID-19 pandemic, we have moved largely to a build to order model and have extended customer lead times substantially in light of global economic uncertainty and supply chain challenges. More typically, however, to ensure the availability of our products we start manufacturing based on customer forecasts, which are not binding. As a result, we incur inventory and manufacturing costs in advance of anticipated sales that may be substantially lower than expected. If actual demand for our products is lower than forecast, we may also experience higher inventory carrying and operating costs and product obsolescence. Because certain of our sales, research and development, and internal manufacturing overhead expenses are relatively fixed, a reduction in customer demand may also decrease our gross margin and operating income.

Conversely, customers often require rapid increases in production on short notice. We may be unable to secure sufficient materials or contract manufacturing or test capacity to meet such increases in demand. This could damage our customer relationships, reduce revenue growth and margins, subject us to additional liabilities, harm our reputation, and prevent us from taking advantage of opportunities.

We operate in the highly cyclical semiconductor industry, which is subject to significant downturns.

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change and price erosion, evolving technical standards, frequent new product introductions, short product life cycles (for semiconductors and for many of the end products in which they are used) and wide fluctuations in product supply and demand. From time to time, these factors, together with changes in general economic conditions, cause significant upturns and downturns in the industry in general, and in our business in particular. Periods of industry downturns have been characterized by diminished demand for end-user products, high inventory levels and periods of inventory adjustment, under-utilization of manufacturing capacity, changes in revenue mix and accelerated erosion of average selling prices. We expect our business to continue to be subject to cyclical downturns even when overall economic conditions are relatively stable. If we cannot offset industry or market downturns, our net revenue may decline and our financial condition and results of operations may suffer.

Winning business in the semiconductor solutions industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.

Our semiconductor business is dependent on us winning competitive bid selection processes, known as "design wins". These selection processes are typically lengthy and can require us to dedicate significant development expenditures and scarce engineering resources in pursuit of a single customer opportunity. Failure to obtain a particular design win may prevent us from obtaining design wins in subsequent generations of a particular product. This can result in lost revenue and can weaken our position in future selection processes.

Winning a product design does not guarantee sales to a customer. A delay or cancellation of a customer's plans could materially and adversely affect our financial results, as we incur significant expense in the design process and may generate little or no revenue from it. In addition, the timing of design wins is unpredictable and implementing production for a major design win, or multiple design wins at the same time, may strain our resources and those of our CMs. In such event, we may be forced to dedicate significant additional resources and incur additional costs and expenses. Further, often customers will only purchase limited numbers of evaluation units until they qualify the products and/or the manufacturing line for those products. The qualification process can take significant time and resources. Delays in qualification or failure to qualify our products may cause a customer to discontinue use of our products and result in a significant loss of revenue. Finally, customers could choose at any time to stop using our products or could fail to successfully market and sell their products, which could reduce demand for our products, and cause us to hold excess inventory, materially adversely affecting our business, financial condition and results of operations. These risks are exacerbated by the fact that many of our products, and the end products into which our products are incorporated, often have very short life cycles.

Competition in our industries could prevent us from growing our revenue.

The industries in which we operate are highly competitive and characterized by rapid technological changes, evolving industry standards, changes in customer requirements, often aggressive pricing practices and, in some cases, new delivery methods. We expect competition in these industries to continue to increase as existing competitors improve or expand their product offerings or as new competitors enter our markets.

Some of our competitors have longer operating histories, greater name recognition, a larger installed customer base, larger technical staffs, more established relationships with vendors or suppliers, or greater manufacturing, distribution, financial, research and development, technical and marketing resources than us. We also face competition from numerous smaller companies that specialize in specific aspects of the highly fragmented software industry, open source authors who may provide software and IP for free, competitors who may offer their products through try-and-buy or freemium models, and customers who may develop competing products.

In addition, the trend toward consolidation is changing the competitive landscape. We expect this trend to continue, which may result in combined competitors having greater resources than us. Some of our competitors may also receive financial and other support from their home country government or may have a greater presence in key markets, a larger customer base, a more comprehensive IP portfolio or better patent protection than us.

The actions of our competitors, in the areas of pricing and product bundling in particular, could have a substantial adverse impact on us. Further, competitors may leverage their superior market position, as well as IP or other proprietary information, including interface, interoperability or technical information, in new and emerging technologies and platforms that may inhibit our ability to compete effectively. If we are unable to compete successfully, we may lose market share for our products or incur significant reduction in our gross margins, either of which could have a material adverse effect on our business and results of operations.

A prolonged disruption of our manufacturing facilities, research and development facilities, warehouses or other significant operations, or those of our suppliers, could have a material adverse effect on our business, financial condition and results of operations.

Although we operate a primarily outsourced manufacturing business model, we also rely on our own manufacturing facilities, in particular in Fort Collins, Colorado, Singapore, and Breinigsville, Pennsylvania. We use these internal fabrication facilities for products utilizing our innovative and proprietary processes. Our Fort Collins and Breinigsville facilities are the sole sources for the FBAR components used in many of our wireless devices and for the indium phosphide-based wafers used in our fibre optics products, respectively. Many of our facilities, and those of our CMs and suppliers, are located in California and the Pacific Rim region, which have above average seismic activity and severe weather activity. In addition, a significant majority of our research and development personnel are located the Czech Republic, India, Israel, Singapore and the U.S., with the expertise of the personnel at each such location tending to be focused on one or two specific areas, and our primary warehouse is in Malaysia.

A prolonged disruption at or shut-down of one or more of our manufacturing facilities or warehouses for any reason, especially our Colorado, Singapore, Malaysia and Pennsylvania facilities, or those of our CMs or suppliers, due to natural- or man-made disasters or other events outside of our control, such as equipment malfunction or widespread outbreaks of acute illness, including COVID-19, would limit our capacity to meet customer demands and delay new product development until a replacement facility and equipment, if necessary, were found. Any such event would likely disrupt our operations, delay production, shipments and revenue, result in us being unable to timely satisfy customer demand, expose us to claims by our customers, result in significant expense to repair or replace our affected facilities, and, in some instances, could significantly curtail our research and development efforts in a particular product area or target market. As a result, we could forgo revenue opportunities, potentially lose market share, damage our customer relationships and be subject to litigation and additional liabilities, all of which could materially and adversely affect our business. Although we purchase insurance to mitigate certain losses, such insurance often carries a high deductible amount and any uninsured losses could negatively affect our operating results. In addition, even if we were able to promptly resume production of our affected products, if our customers cannot timely resume their own manufacturing following such an event, they may cancel or scale back their orders from us and this may in turn adversely affect our results of operations. Such events could also result in increased fixed costs relative to the revenue we generate and adversely affect our results of operations.

We may be unable to maintain appropriate manufacturing capacity or product yields at our own manufacturing facilities, which could adversely affect our relationships with our customers, and our business, financial condition and results of operations.

We must maintain appropriate capacity and product yields at our own manufacturing facilities to meet anticipated customer demand. From time to time, this requires us to invest in expansion or improvements of those facilities, which often involves substantial cost and other risks. Such expanded manufacturing capacity may still be insufficient, or may not come online soon enough, to meet customer demand and we may have to put customers on product allocation, forgo sales or lose customers as a result. Conversely, if we overestimate customer demand, we would experience excess capacity and fixed costs at these facilities will not be fully absorbed, all of which could adversely affect our results of operations. Similarly, reduced product yields, due to design or manufacturing issues or otherwise, may involve significant time and cost to remedy and cause delays in our ability to supply product to our customers, all of which could cause us to forgo sales, incur liabilities or lose customers, and harm our results of operations.

In addition, future government restrictions imposed as a result of the COVID-19 pandemic that limit our manufacturing capabilities could severely impact our ability to manufacture our proprietary products, adversely affecting our wireless business.

Any failure of our IT systems or one or more of our corporate infrastructure vendors to provide necessary services could have a material adverse effect on our business.

Our business depends on various IT systems and outsourced IT services. We rely on third-party vendors to provide critical corporate infrastructure services and to adequately address cyber security threats to their own systems. Services provided by these third parties include services related to financial reporting, product orders and shipping, human resources, benefit plan administration, IT network development and network monitoring. While we may be entitled to damages if our vendors fail to perform under their agreements with us, any award may be insufficient to cover the actual costs incurred by us and, as a result of a vendor’s failure to perform, we may be unable to collect any damages.

Any failure of these internal or third-party systems and services to operate effectively could disrupt our operations and could have a material adverse effect on our business, financial condition and results of operations.

Our gross margin is dependent on a number of factors, including our product mix, price erosion, acquisitions we may make, level of capacity utilization and commodity prices.

Our gross margin is highly dependent on product mix, which is susceptible to seasonal and other fluctuations in our markets. A shift in sales mix away from our higher margin products, as well as the timing and amount of our software licensing and non-product revenue, could adversely affect our future gross margin percentages. In addition, increased competition and the existence of product alternatives, more complex engineering requirements, lower demand or reductions in our technological lead compared to our competitors, and other factors may lead to further price erosion, lower revenue and lower margin.

In addition, semiconductor manufacturing requires significant capital investment, leading to high fixed costs, including depreciation expense. If we are unable to utilize our owned manufacturing facilities at a high level, the fixed costs associated with these facilities will not be fully absorbed, resulting in higher average unit costs and a lower gross margin. Furthermore, fluctuations in commodity prices could negatively impact our margins. We do not hedge our exposure to commodity prices, some of which are very volatile, and sudden or prolonged increases in commodities prices may adversely affect our gross margin.

Our gross margin may also be adversely affected if businesses or companies that we acquire have different gross margin profiles and by expenses related to such acquisitions.

We utilize a significant amount of IP in our business. If we are unable or fail to protect our IP, our business could be adversely affected.

Our success depends in part upon protecting our IP. To accomplish this, we rely on a combination of IP rights, including patents, copyrights, trademarks and trade secrets, as well as customary contractual protections with our customers, suppliers, employees and consultants. We may be required to spend significant resources to monitor and protect our IP rights, including unauthorized use of our products, the usage rates of the software seat licenses and subscriptions that we sell, and even with significant expenditures, we may not be able to protect the IP rights that are valuable to our business. We are unable to predict or assure that:

- our IP rights will not lapse or be invalidated, circumvented, challenged, or, in the case of third-party IP rights licensed to us, be licensed to others;
- our IP rights will provide competitive advantages to us;
- rights previously granted by third parties to IP licensed or assigned to us, including portfolio cross-licenses, will not hamper our ability to assert our IP rights or hinder the settlement of currently pending or future disputes;
- any of our pending or future patent, trademark or copyright applications will be issued or have the coverage originally sought;
- our IP rights will be enforced in certain jurisdictions where competition may be intense or where legal protection may be weak; or
- we have sufficient IP rights to protect our products or our business.

Effective IP protection may be unavailable or more limited in other jurisdictions, relative to those protections available in the U.S., and may not be applied for or may be abandoned in one or more relevant jurisdictions. In addition, when patents expire, we lose the protection and competitive advantages they provided to us.

We also generate revenue from licensing royalty payments and from technology claim settlements relating to certain of our IP. Licensing of our IP rights, particularly exclusive licenses, may limit our ability to assert those IP rights against third parties, including the licensee of those rights. In addition, we may acquire companies with IP that is subject to licensing obligations to other third parties. These licensing obligations may extend to our own IP following any such acquisition and may limit our ability to assert our IP rights. From time to time, we pursue litigation to assert our IP rights, including, in some cases, against our customers and suppliers. Claims of this sort could also harm our relationships with our customers and might deter future customers from doing business with us. Conversely, third parties may pursue IP litigation against us, including as a result of our IP licensing business. An adverse decision in such types of legal action could limit our ability to assert our IP rights and limit the value of our technology, including the loss of opportunities to sell or license our technology to others or to collect royalty payments, which could otherwise negatively impact our business, financial condition and results of operations.

From time to time, we may need to obtain additional IP licenses or renew existing license agreements. We are unable to predict whether these license agreements can be obtained or renewed on acceptable terms or at all.

If our software products do not remain compatible with ever-changing operating environments, platforms, or third-party products, demand for our products and services could decrease, which could materially adversely affect our business.

We may be required to make substantial modification of our products to maintain compatibility with operating systems, systems software and computer hardware used by our customers or to provide our customers with desired features or capabilities. We must also continually address the challenges of dynamic and accelerating market trends and competitive developments, such as the emergence of advanced persistent threats in the security space to compete effectively. There can be no assurance that we will be able to adapt our products in response to these developments.

Further, our software solutions interact with a variety of software and hardware developed by third parties. If we lose access to third-party code and specifications for the development of code, this could negatively impact our ability to develop compatible software. In addition, if software providers and hardware manufacturers, including some of our largest vendors, adopt new policies restricting the use or availability of their code or technical documentation for their operating systems, applications, or hardware, or otherwise impose unfavorable terms and conditions for such access, this could result in higher research and development costs for the enhancement and modification of our existing products or development of new products. Any additional restrictions could materially adversely affect our business, financial condition and operating results and cash flow.

Failure to enter into software license agreements on a satisfactory basis could materially adversely affect our business.

Many of our existing customers have multi-year enterprise software license agreements, some of which involve substantial aggregate fee amounts. Customer renewal rates may decline or fluctuate as a result of a number of factors, including the level of customer satisfaction with our solutions or customer support, customer budgets and the pricing of our solutions as compared with the solutions offered by our competitors, any of which may cause our revenue to grow more slowly than expected, if at all. The failure to renew customer agreements of similar scope, on terms that are commercially attractive to us, could materially adversely affect our business, financial condition and operating results and cash flow.

Certain software that we use in our products is licensed from third parties and may not be available to us in the future, which may delay product development and production or cause us to incur additional expense.

Some of our solutions contain software licensed from third parties, some of which may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future products or the enhancement of existing products.

Certain software we use is from open source code sources, which, under certain circumstances could materially adversely affect our business, financial condition, operating results and cash flow.

Some of our products contain software from open source code sources, the use of which may subject us to certain conditions, including the obligation to offer such products for no cost or to make the proprietary source code of those products publicly available. Further, although some open source vendors provide warranty and support agreements, it is common for such software to be available “as-is” with no warranty, indemnity or support. Although we monitor our use of such open source code to avoid subjecting our products to unintended conditions, such use, under certain circumstances, could materially adversely affect our business, financial condition and operating results and cash flow, including if we are required to take remedial action that may divert resources away from our development efforts.

We are subject to warranty claims, product recalls and product liability.

From time to time, we may be subject to warranty or product liability claims that may lead to significant expense. Our customer contracts typically contain warranty and indemnification provisions, and in certain cases may also contain liquidated damages provisions, relating to product quality issues. The potential liabilities associated with such provisions are significant, and in some cases, including in agreements with some of our largest customers, are potentially unlimited. Any such liabilities may greatly exceed any revenue we receive from the relevant products. Costs, payments or damages incurred or paid by us in connection with warranty and product liability claims and product recalls could materially adversely affect our financial condition and results of operations. We may also be exposed to such claims as a result of any acquisition we may undertake in the future.

Product liability insurance is subject to significant deductibles and there is no guarantee that such insurance will be available or adequate to protect against all such claims, or we may elect to self-insure with respect to certain matters. For example, it is possible for one of our customers to recall a product containing one of our semiconductor devices. In such an event, we may incur significant costs and expenses, including among others, replacement costs, contract damage claims from our customers and reputational harm. Although we maintain reserves for reasonably estimable liabilities and purchase product liability insurance, our reserves may be inadequate to cover the uninsured portion of such claims. Conversely, in some cases, amounts we reserve may ultimately exceed our actual liability for particular claims and may need to be reversed.

The complexity of our products could result in unforeseen delays or expense or undetected defects or bugs, which could adversely affect the market acceptance of new products, damage our reputation with current or prospective customers, and materially and adversely affect our operating costs.

Highly complex products, such as those we offer, may contain defects and bugs when they are first introduced or as new versions, software documentation or enhancements are released, or their release may be delayed due to unforeseen difficulties during product development. If any of our products or third-party components used in our products, contain defects or bugs, or have reliability, quality or compatibility problems, we may not be able to successfully design workarounds. Furthermore, if any of these problems are not discovered until after we have commenced commercial production or deployment of a new product, we may be required to incur additional development costs and product recall, repair or replacement costs. Significant technical challenges also arise with our software products because our customers license and deploy our products across a variety of computer platforms and integrate them with a number of third party software applications and databases. As a result, if there is system-wide failure or an actual or perceived breach of information integrity, security or availability occurs in one of our end-user customer’s system, it may be difficult to determine which product is at fault and we could ultimately be harmed by the failure of another supplier’s product. Consequently, our reputation may be damaged and customers may be reluctant to buy our products, which could materially and adversely affect our ability to retain existing customers and attract new customers. To resolve these problems, we may have to invest significant capital and other resources and we would likely lose, or experience a delay in, market acceptance of the affected product or products. These problems may also result in claims against us by our customers or others. For example, if a delay in the manufacture and delivery of our products causes the delay of a customer’s end-product delivery, we may be required, under the terms of our agreement with that customer, to compensate the customer for the adverse effects of such delays. As a result, our financial results could be materially adversely affected.

We make substantial investments in research and development and unsuccessful investments could materially adversely affect our business, financial condition and results of operations.

The industries in which we compete are characterized by rapid technological change, changes in customer requirements, frequent new product introductions and enhancements, short product cycles and evolving industry standards, and new delivery methods. In addition, semiconductor products transition over time to increasingly smaller line width geometries and failure to successfully transition to smaller geometry process technologies could impair our competitive position. In order to remain competitive, we have made, and expect to continue to make, significant investments in research and development. If we fail to develop new and enhanced products and technologies, if we focus on technologies that do not become widely adopted, or if new competitive technologies that we do not support become widely accepted, demand for our products may be reduced. Increased investments in research and development or unsuccessful research and development efforts could cause our cost structure to fall out of alignment with demand for our products, which would have a negative impact on our financial results.

We collect, use, store, or otherwise process personal information, which subjects us to privacy and data security laws and contractual commitments, and our actual or perceived failure to comply with such laws and commitments could harm our business.

We collect, use and store (collectively, “process”) a high volume, variety and velocity of certain personal information in connection with the operation of our business. This creates various levels of privacy risks across different parts of our business, depending on the type of personal information, the jurisdiction in question and the purpose of their processing. The personal information we process is subject to an increasing number of federal, state, local, and foreign laws and regulations regarding privacy and data security, as well as contractual commitments. Privacy legislation and other data protection regulations, enforcement and policy activity in this area are expanding rapidly in many jurisdictions and creating a complex regulatory compliance environment. The cost of complying with and implementing these privacy-related and data governance measures could be significant as they may create additional burdensome security, business process, business record or data localization requirements. Concerns about government interference, sovereignty, expanding privacy, cyber security and data governance legislation could adversely affect our customers and our products and services, particularly in cloud computing, artificial intelligence and our own data management practices. The theft, loss or misuse of personal data collected, used, stored or transferred by us to run our business could result in significantly increased business and security costs or costs related to defending legal claims. Any inadvertent failure or perceived failure by us to comply with privacy, data governance or cyber security obligations may result in governmental enforcement actions, litigation, substantial fines and damages, and could cause our customers to lose trust in us, which could have an adverse effect on our reputation and business.

We are subject to environmental, health and safety laws, which could increase our costs, restrict our operations and require expenditures that could have a material adverse effect on our results of operations and financial condition.

We are subject to a variety of international laws and regulations relating to the use, disposal, clean-up of and human exposure to hazardous materials. Compliance with environmental, health and safety requirements could, among other things, require us to modify our manufacturing processes, restrict our ability to expand our facilities, or require us to acquire pollution control equipment, all of which can be very costly. Any failure by us to comply with such requirements could result in the limitation or suspension of the manufacture of our products and could result in litigation against us and the payment of significant fines and damages by us in the event of a significant adverse judgment. In addition, complying with any cleanup or remediation obligations for which we are or become responsible could be costly and have a material adverse effect on our business, financial condition and results of operations.

Changing requirements relating to the materials composition of our semiconductor products, including the restrictions on lead and certain other substances in electronic products sold in various countries, including the U.S., China and Japan, and in the European Union, increase the complexity and costs of our product design and procurement operations and may require us to re-engineer our products. Such re-engineering may result in excess inventory or other additional costs and could have a material adverse effect on our results of operations. We may also experience claims from employees from time to time with regard to exposure to hazardous materials or other workplace related environmental claims.

Social and environmental responsibility regulations, policies and provisions, as well as customer demand, may make our supply chain more complex and may adversely affect our relationships with customers.

There is an increasing focus on corporate social and environmental responsibility in the semiconductor industry, particularly with OEMs that manufacture consumer electronics. A number of our customers have adopted, or may adopt, procurement policies that include social and environmental responsibility provisions that their suppliers should comply with, or they may seek to include such provisions in their procurement terms and conditions. An increasing number of participants in the semiconductor industry are also joining voluntary social responsibility initiatives such as the U.N. Global Compact, a voluntary initiative for businesses to develop, implement and disclose sustainability policies and practices. These social and environmental responsibility provisions and initiatives are subject to change, can be unpredictable, and may be difficult and expensive for us to comply with, given the complexity of our supply chain and our significant outsourced manufacturing. If we are unable to comply, or are unable to cause our suppliers or CMs to comply, with such policies or provisions, a customer may stop purchasing products from us, and may take legal action against us, which could harm our reputation, revenue and results of operations.

In addition, as part of their corporate social and environmental responsibility programs, an increasing number of OEMs are seeking to source products that do not contain minerals sourced from areas where proceeds from the sale of such minerals are likely to be used to fund armed conflicts, such as in the Democratic Republic of Congo. This could adversely affect the sourcing, availability and pricing of minerals used in the manufacture of semiconductor devices, including our products. As a result, we may face difficulties in satisfying these customers' demands, which may harm our sales and operating results.

The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future, which could harm our revenue and gross profit.

The semiconductor products we develop and sell are used for high volume applications. As a result, the prices of those products have often decreased rapidly. Gross profit on our products may be negatively affected by, among other things, pricing pressures from our customers. In the past, we have reduced the average selling prices of our products in anticipation of future competitive pricing pressures, new product introductions by us or our competitors and other factors. In addition, some of our customer agreements provide for volume-based pricing and product pricing roadmaps, which can also reduce the average selling prices of our products over time. Our margins and financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing manufacturing costs, or developing new and higher value-added products on a timely basis.

A breach of our security systems may have a material adverse effect on our business.

Our security systems are designed to maintain the physical security of our facilities and protect our customers', suppliers' and employees' confidential information, as well as our own proprietary information. However, we are also dependent on a number of third-party cloud-based and other service providers of critical corporate infrastructure services relating to, among other things, human resources, electronic communication services and certain finance functions, and we are, out of necessity, dependent on the security systems of these providers. In addition, all software, including the security technologies produced by us have had occasionally in the past and may have in the future vulnerabilities that if left unmanaged could reduce the overall level of security.

Accidental or willful security breaches or other unauthorized access of our facilities, our information systems or the systems of our service providers, or the existence of computer viruses or malware in our or their data or software could expose us to a risk of information loss and misappropriation of proprietary and confidential information, including information relating to our products or customers and the personal information of our employees. We have, from time to time, also been subject to, or attempts of, unauthorized network intrusions and malware on our own IT networks. As a result of the COVID-19 pandemic, remote access to our networks and systems has increased substantially. While we have taken steps to secure our networks and systems, we may be more vulnerable to a successful cyber-attack or information security incident while our workforce works remotely.

Certain of our software products are intended to manage and secure IT infrastructures and environments, and as a result, we expect these products to be ongoing targets of cyber security attacks. Open source code or other third-party software used in these products could also be targeted. Additionally, we use third-party data centers, which may also be subject to hacking or accidental incidents. Although we continually seek to improve our countermeasures to prevent such incidents, we may be unable to anticipate every scenario and it is possible that certain cyber threats or vulnerabilities will be undetected or unmitigated in time to prevent an attack or an accidental incident on us and our customers. Cyber security attacks could require significant expenditures of our capital and diversion of our resources. Additionally, efforts by malicious cyber actors or others could cause interruptions, delays or cessation of our product licensing, or modification of our software, which could cause us to lose existing or potential customers. A successful cyber security attack involving our products and IT infrastructure could also negatively impact the market perception of their effectiveness and adversely affect our reputation, relationship with our customers and our financial results.

Any theft, accidental loss or misuse of confidential, personally identifiable or proprietary information could disrupt our business and result in, among other things, unfavorable publicity, damage to our reputation, loss of our trade secrets and other competitive information, difficulty in marketing our products, allegations by our customers that we have not performed our contractual obligations, litigation by affected parties and possible financial obligations for liabilities and damages related to the theft or misuse of such information, as well as fines and other sanctions resulting from any related breaches of data privacy regulations (such as the General Data Protection Regulation), any of which could have a material adverse effect on our business, profitability and financial condition. Interruptions in our operations and services or disruptions to the functionality provided by our software, including the operation of our global civilian cyber intelligence threat network, could adversely impact our revenues or cause customers to cease doing business with us. In addition, our business would be harmed if any of the events of this nature caused our customers and potential customers to believe our services are unreliable. Our operations are dependent upon our ability to protect our technology infrastructure against damage from business continuity events that could have a significant disruptive effect on our operations. Since the techniques used to obtain unauthorized access to systems or to otherwise sabotage them, change frequently and are often not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures.

Fluctuations in foreign exchange rates could result in losses.

We operate global businesses and our consolidated financial results are reported in U.S. dollars. However, some of the revenue and expenses of our foreign subsidiaries are denominated in local currencies. Fluctuations in foreign exchange rates against the U.S. dollar could result in substantial changes in reported revenues and operating results due to the foreign exchange impact of translating these transactions into U.S. dollars.

In the normal course of business, we employ various hedging strategies to partially mitigate these risks, including the use of derivative instruments. These strategies may not be effective in protecting us against the effects of fluctuations in foreign exchange rates. As a result, fluctuations in foreign exchange rates could result in financial losses.

Risks Related to Our Taxes

Changes in tax legislation or policies could materially impact our financial position and results of operations.

Corporate tax reform, anti-base-erosion rules and tax transparency continue to be high priorities in many jurisdictions. As a result, policies regarding corporate income and other taxes in numerous jurisdictions are under heightened scrutiny and tax reform legislation has been, and will likely continue to be, proposed or enacted in a number of jurisdictions in which we operate.

After enactment of the U.S. Tax Cuts and Jobs Act (the “2017 Tax Reform Act”), most of our income is taxable in the U.S. with a significant portion taxable under the Global Intangible Low-Taxed Income (“GILTI”) regime. Beginning in fiscal year 2027, the deduction allowable under the GILTI regime will decrease from 50% to 37.5%, which will increase the effective tax rate imposed on our income. Further, if the U.S. tax rate increases or the deduction allowable under the GILTI regime is further reduced or eliminated, our provision for income taxes, net income, and cash flows would be adversely impacted

In addition, many countries are implementing legislation and other guidance to align their international tax rules with the Organisation for Economic Co-operation and Development’s (“OECD”) Base Erosion and Profit Shifting recommendations and action plan that aim to standardize and modernize global corporate tax policy, including changes to cross-border tax, transfer pricing documentation rules, and nexus-based tax incentive practices. The OECD is also continuing discussions surrounding fundamental changes in allocation of profits among tax jurisdictions in which companies do business, as well as the implementation of a global minimum tax (namely the “Pillar One” and “Pillar Two” proposals). As a result of this heightened scrutiny, prior decisions by tax authorities regarding treatments and positions of corporate income taxes could be subject to enforcement activities, and legislative investigation and inquiry, which could also result in changes in tax policies or prior tax rulings. Any such changes may also result in the taxes we previously paid being subject to change. Further, many jurisdictions have passed, and may pass additional legislation, intended to alleviate the economic burdens of COVID-19 and to fund economic recovery and growth, including various temporary tax incentives or relief and restricted tax measures, which could result in future tax increases. We cannot predict the extent to which the COVID-19 pandemic will impact our tax liabilities and are continuing to evaluate the impact of the new legislation to our financial statements.

Any substantial changes in domestic or international corporate tax policies, regulations or guidance, enforcement activities or legislative initiatives may materially adversely affect our business, the amount of taxes we are required to pay and our financial condition and results of operations generally.

If the tax incentives or tax holiday arrangements we have negotiated change or cease to be in effect or applicable for any reason, or if our assumptions and interpretations regarding tax laws and incentives or holiday arrangements prove to be incorrect, our corporate income taxes could significantly increase.

Our operations are currently structured to benefit from the various tax incentives extended to us in various jurisdictions to encourage investment or employment. For example, absent our principal tax incentives from the Singapore Economic Development Board, which is scheduled to expire in 2025, the corporate income tax rate that would otherwise apply to our Singapore taxable income would be 17%. We also have a tax holiday on our qualifying income in Malaysia, which is scheduled to expire in fiscal year 2028. Each tax incentive and tax holiday is subject to our compliance with various operating and other conditions and may, in some instances, be amended or terminated prior to their scheduled termination date by the relevant governmental authority. If we cannot, or elect not to, comply with the operating conditions included in any particular tax incentive or tax holiday, we could, in some instances, be required to refund previously realized material tax benefits, or if such tax incentive or tax holiday is terminated prior to its expiration absent a new incentive applying, we will lose the related tax benefits earlier than scheduled. In addition, we may be required, or elect, to modify our operational structure and tax strategy in order to keep an incentive, which could result in a decrease in the benefits of the incentive. Our tax incentives and tax holiday, before taking into consideration the effects of the 2017 Tax Reform Act and other indirect tax provisions, increased the benefit from income taxes by approximately $833 million in the aggregate and increased diluted net income per share by $1.98 for fiscal year 2020.

Our interpretations and conclusions regarding the tax incentives are not binding on any taxing authority, and if our assumptions about tax and other laws are incorrect or if these tax incentives are substantially modified or rescinded, we could suffer material adverse tax and other financial consequences, which would increase our expenses, reduce our profitability and adversely affect our cash flows.

Our benefit from income taxes and overall cash tax costs are affected by a number of factors that could materially, adversely affect financial results.

Significant judgment is required in determining our worldwide benefit from income taxes. In the ordinary course of our business, there are many transactions where the ultimate tax determination is uncertain. Additionally, our calculations of income taxes payable currently and on a deferred basis are based on our interpretations of applicable tax laws in the jurisdictions in which we are required to file tax returns. Although we believe our tax estimates are reasonable, there is no assurance that the final determination of our income tax liability will not be materially different than what is reflected in our income tax provisions and accruals.

Our benefit from income taxes is subject to volatility and could be adversely affected by numerous factors including:

- reorganization or restructuring of our businesses, tangible and intangible assets, outstanding indebtedness and corporate structure;
- jurisdictional mix of our income and assets;
- changes in the allocation of income and expenses, including adjustments related to changes in our corporate structure, acquisitions or tax law;
- changes in U.S and foreign tax laws and regulations, changes to the taxation of earnings of foreign subsidiaries, taxation of U.S. income generated from foreign sources, the deductibility of expenses attributable to income and foreign tax credit rules;
- tax effects of increases in non-deductible employee compensation; and
- changes in tax accounting rules or principles and in the valuation of deferred tax assets and liabilities.

We have adopted transfer pricing policies that call for the provision of services, the sale of products, the arrangement of financing and the grant of licenses from one affiliate to another at prices that we believe are negotiated on an arm’s length basis. Our taxable income is dependent upon acceptance by local authorities that our operational practices and intercompany transfer pricing are on an arm’s length basis. Due to inconsistencies in application of the arm’s length standard among taxing authorities, as well as lack of comprehensive treaty-based protection, transfer pricing challenges by tax authorities could, if successful, result in adjustments for prior or future years. The effects of any such changes could subject us to higher taxes and our earnings, results of operations and cash flow would be adversely affected.

In addition, we are subject to, and are under, tax audit in various jurisdictions, and such jurisdictions may assess additional income tax against us. Although we believe our tax positions are reasonable, the final determination of tax audits could be materially different from our income tax provisions and accruals. The ultimate result of an audit could have a material adverse effect on our results of operations and cash flows in the period or periods for which that determination is made.

The Internal Revenue Service may not agree that prior to our redomiciliation into the U.S., our predecessor, Broadcom Limited should have been treated as a foreign corporation for U.S. federal income tax purposes.

Although Broadcom Limited, our predecessor, was a Singapore entity, the Internal Revenue Service (“IRS”) may assert that following our acquisition of BRCM, Broadcom Limited should have been treated as a U.S. corporation for U.S. federal income tax purposes pursuant to Section 7874 of the Internal Revenue Code of 1986, as amended (the “Code”). If the IRS were to determine that under Section 7874 of the Code, the former shareholders of BRCM held at least 60% of the vote or value of the ordinary shares of Broadcom Limited immediately after our acquisition of BRCM, such percentage referred to as the "Section 7874 Percentage", Broadcom Limited would be treated as a "surrogate foreign corporation" and several limitations could then apply to BRCM. For example, BRCM would be prohibited from using its net operating losses, foreign tax credits or other tax attributes to offset the income or gain recognized by reason of the transfer of property to a foreign related person during the 10-year period following our acquisition of BRCM or any income received or accrued during such period by reason of a license of any property by BRCM to a foreign related person. Moreover, in such case, Section 4985 of the Code and rules related thereto would impose an excise tax on the value of certain stock compensation held directly or indirectly by certain BRCM "disqualified individuals" (including former officers and directors of BRCM) at a rate equal to 15%, but only if a gain is otherwise recognized by BRCM former shareholders as a result of our acquisition of BRCM. If the IRS were to determine the Section 7874 Percentage was 80% or more, then Broadcom Limited would be treated as a U.S. corporation for U.S. federal income tax purposes.

While we believe the Section 7874 Percentage was significantly less than 60%, determining the Section 7874 Percentage is complex and is subject to factual and legal uncertainties. There can be no assurance that the IRS will agree with our position.

Risks Related to Our Indebtedness

Our substantial indebtedness could adversely affect our financial health and our ability to execute our business strategy.

As of November 1, 2020, the aggregate indebtedness under our senior notes and term loans was $35,610 million and $5,888 million, respectively. We expect to maintain significant levels of indebtedness going forward.

Our substantial indebtedness could have important consequences including:

- increasing our vulnerability to adverse general economic and industry conditions;
- exposing us to interest rate risk due to our variable rate term facilities, which we do not typically hedge against;
- limiting our flexibility in planning for, or reacting to, changes in the economy and the semiconductor industry;
- placing us at a competitive disadvantage compared to our competitors with less indebtedness;
- making it more difficult to borrow additional funds in the future to fund growth, acquisitions, working capital, capital expenditures and other purposes; and
- potentially requiring us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund our other business needs.

In addition, our variable rate indebtedness use LIBOR as a benchmark for establishing the effective interest rate. LIBOR is being phased out and the consequences of changing to alternative reference rates could increase the cost of our variable rate indebtedness.

We receive debt ratings from the major credit rating agencies in the U.S. Factors that may impact our credit ratings include debt levels, planned asset purchases or sales and near-term and long-term production growth opportunities. Liquidity, asset quality, cost structure, reserve mix and commodity pricing levels could also be considered by the rating agencies. While we are focused on maintaining investment grade ratings from these agencies, we may be unable to do so. Any downgrade in our credit rating or the ratings of our indebtedness, or adverse conditions in the debt capital markets, could:

- adversely affect the trading price of, or market for, our debt securities;
- increase interest expense under our term facilities;
- increase the cost of, and adversely affect our ability to refinance, our existing debt; and
- adversely affect our ability to raise additional debt.

The instruments governing our indebtedness impose certain restrictions on our business.

The instruments governing our indebtedness contain certain covenants imposing restrictions on our business. These restrictions may affect our ability to operate our business, to plan for, or react to, changes in the market conditions or our capital needs and may limit our ability to take advantage of potential business opportunities as they arise. The restrictions placed on us include maintenance of an interest coverage ratio and limitations on our ability to incur certain secured debt, enter into certain sale and lease-back transactions and consolidate, merge, sell or otherwise dispose of all or substantially all of our assets. In addition, the instruments contain customary events of default upon the occurrence of which, after any applicable grace period, the indebtedness could be declared immediately due and payable. In such event, we may not have sufficient available cash to repay such debt at the time it becomes due, or be able to refinance such debt on acceptable terms or at all. Any of the foregoing could materially adversely affect our business, financial condition and results of operations.

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.

Our ability to make scheduled payments of the principal of, to pay interest on, and to refinance our debt, depends on our future performance, which is subject to economic, financial, competitive and other factors. Our business may not continue to generate cash flow from operations in the future sufficient to satisfy our obligations under our current indebtedness and any future indebtedness we may incur and to make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as reducing or delaying investments or capital expenditures, selling assets, refinancing or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our outstanding indebtedness or future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms when needed, which could result in a default on our indebtedness.

Risks Related to Owning Our Common Stock

At times, our stock price has been volatile and it may fluctuate substantially in the future, which could result in substantial losses for our investors as well as class action litigation against us and our management which could cause us to incur substantial costs and divert our management's attention and resources.

The trading price of our common stock has, at times, fluctuated significantly and could be subject to wide fluctuations in response to any of the risk factors listed in this "Risk Factors" section, and others, including:

- issuance of new or updated research or other reports by securities analysts;
- fluctuations in the valuation and results of operations of our significant customers as well as companies perceived by investors to be comparable to us;
- announcements of proposed acquisitions by us or our competitors;
- announcements of, or expectations of, additional debt or equity financing transactions;
- stock price and volume fluctuations attributable to inconsistent trading volume levels of our common stock;
- issuance, and subsequent sale, of common stock upon conversion of our 8.00% Mandatory Convertible Preferred Stock, Series A ("Mandatory Convertible Preferred Stock");
- hedging or arbitrage trading activity involving our Mandatory Convertible Preferred Stock or common stock; and
- unsubstantiated news reports or other inaccurate publicity regarding us or our business.

These fluctuations are often unrelated or disproportionate to our operating performance. Broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or currency fluctuations, may negatively impact the market price of our common stock. You may not realize any return on your investment in us and may lose some or all of your investment. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. We are also the subject of a number of lawsuits stemming from our acquisitions. Securities litigation against us, including the lawsuits related to such transactions, could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

A substantial amount of our stock is held by a small number of large investors and significant sales of our common stock by one or more of these holders could cause our stock price to fall.

As of September 30, 2020, we believe 11 of our 20 largest holders of common stock were active institutional investors who held approximately 33% of our outstanding shares of common stock in the aggregate, with Capital World Investors being our largest stockholder with approximately 10% of our outstanding shares of common stock. These investors may sell their shares at any time for a variety of reasons and such sales could depress the market price of our common stock. In addition, any such sales of our common stock by these entities could also impair our ability to raise capital through the sale of additional equity securities.

There can be no assurance that we will continue to declare cash dividends.

Our Board of Directors has adopted a dividend policy pursuant to which we currently pay a cash dividend on our common stock on a quarterly basis. The declaration and payment of any dividend is subject to the approval of our Board of Directors and our dividend may be discontinued or reduced at any time. Because we are a holding company, our ability to pay cash dividends is also limited by restrictions or limitations on our ability to obtain sufficient funds through dividends from subsidiaries. In addition, any payment of dividends on our common stock is subject to and conditioned upon our payment of quarterly dividends on our Mandatory Convertible Preferred Stock. There can be no assurance that we will declare cash dividends in the future in any particular amounts, or at all.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We are headquartered in San Jose, California. We conduct our administration, manufacturing, research and development, sales and marketing in both owned and leased facilities. We believe that our owned and leased facilities are adequate for our present operations. We do not identify or allocate assets by operating segment.

As of November 1, 2020, our owned and leased facilities in excess of 100,000 square feet consisted of:

(Square Feet)	United States	Other Countries	Total
Owned facilities [1]	2,477,165	928,888	3,406,053
Leased facilities [2]	1,679,198	1,111,330	2,790,528
Total facilities	4,156,363	2,040,218	6,196,581

[1] Includes 318,000 square feet and 153,000 square feet of property owned in Malaysia subject to a 60-year land lease with the state authority expiring in May 2051 and March 2077, respectively, subject to renewal at our option.

[2] Building leases expire on varying dates through March 2038 and generally include renewals at our option.

ITEM 3. LEGAL PROCEEDINGS

The information set forth under Note 14. “Commitments and Contingencies” included in Part II, Item 8. of this Annual Report on Form 10-K, is incorporated herein by reference. For an additional discussion of certain risks associated with legal proceedings, see “Risk Factors” above.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

ITEM 5. MARKET FOR THE REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER SALE AND PURCHASES OF EQUITY SECURITIES

Market Information

Broadcom common stock is listed on The Nasdaq Global Select Market under the symbol “AVGO”.

Holders

As of November 27, 2020, there were 891 holders of record of our common stock. A substantially greater number of stockholders are “street name” or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

Dividends

On December 8, 2020, our Board of Directors declared a quarterly cash dividend of $3.60 per share, payable on December 31, 2020 to common stockholders of record on December 21, 2020. Broadcom paid aggregate cash dividends of $5,235 million and $4,235 million to common stockholders in fiscal years 2020 and 2019, respectively. The declaration and payment of any future cash dividends are at the discretion and approval of our Board of Directors and subject to our Board of Directors’ continuing determination that they are in our best interests.

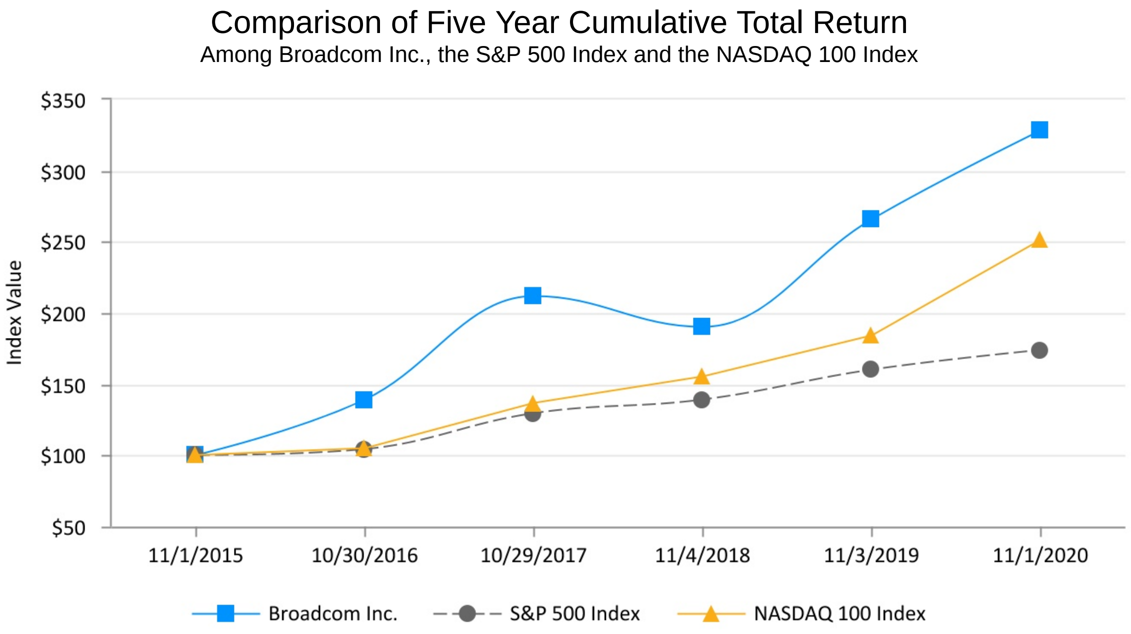
Issuer Purchases of Equity Securities

During the fiscal quarter ended November 1, 2020, we paid approximately $185 million in employee withholding taxes due upon the vesting of net settled equity awards. We withheld approximately 1 million shares of common stock from employees in connection with such net share settlement at an average price of $360.62 per share. These shares may be deemed to be “issuer purchases” of shares.

Stock Performance Graph

The following graph shows a comparison of cumulative total return for our common stock, the Standard & Poor’s 500 Stock Index (the “S&P 500 Index”) and the NASDAQ 100 Index for the five fiscal years ended November 1, 2020. The total return graph and table assume that $100 was invested on October 30, 2015 (the last trading day of our fiscal year 2015) in each of Broadcom Inc. common stock, the S&P 500 Index and the NASDAQ 100 Index and assume that all dividends are reinvested. Indexes are calculated on a month-end basis.

The comparisons in the graph below are based on historical data and are not indicative of, or intended to forecast, the possible future performance of our common stock.



	November 1, 2015	October 30, 2016	October 29, 2017	November 4, 2018	November 3, 2019	November 1, 2020
Broadcom Inc.	$ 100.00	$ 139.26	$ 211.88	$ 190.15	$ 265.48	$ 327.95
S&P 500 Index	$ 100.00	$ 104.52	$ 129.48	$ 139.29	$ 160.12	$ 173.97
NASDAQ 100 Index	$ 100.00	$ 104.71	$ 136.97	$ 155.18	$ 183.88	$ 251.37

The graph and the table above shall not be deemed “filed” with the SEC for the purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing made by us with the SEC, regardless of any general incorporation language in such filing.

Securities Authorized for Issuance Under Equity Compensation Plans

The information required by this item regarding securities authorized for issuance under equity compensation plans is incorporated herein by reference to the definitive Proxy Statement for our 2021 annual meeting of stockholders to be filed with the SEC within 120 days after the end of fiscal year 2020.

ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth the selected consolidated financial data as of and for the last five fiscal years of Broadcom and should be read in conjunction with our annual consolidated financial statements and related notes and information included under the headings “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included elsewhere in this Annual Report on Form 10-K.

On November 4, 2019, we acquired the Symantec Business for total consideration of $10.7 billion. On November 5, 2018, we acquired CA for total consideration of $18.8 billion. On November 17, 2017, we acquired Brocade for total consideration of $6.0 billion. On February 1, 2016, we acquired BRCM for total consideration of $35.7 billion. Our financial statements included the results of operations of the acquired companies and estimated fair value of assets acquired and liabilities assumed commencing as of their respective acquisition dates.

	Fiscal Year Ended (1)				
	November 1, 2020	November 3, 2019	November 4, 2018	October 29, 2017	October 30, 2016
	(In millions, except per share data)				
Total net revenue (2)	$ 23,888	$ 22,597	$ 20,848	$ 17,636	$ 13,240
Income (loss) from continuing operations (3) (4)	$ 2,961	$ 2,736	$ 12,629	$ 1,790	$ (1,749)
Income (loss) per common share from continuing operations - basic (3) (4)	$ 6.62	$ 6.80	$ 29.37	$ 4.19	$ (4.46)
Income (loss) per common share from continuing operations - diluted (3) (4)	$ 6.33	$ 6.46	$ 28.48	$ 4.03	$ (4.57)
Cash dividends declared and paid per common share	$ 13.00	$ 10.60	$ 7.00	$ 4.08	$ 1.94
Cash and cash equivalents	$ 7,618	$ 5,055	$ 4,292	$ 11,204	$ 3,097
Total assets	$ 75,933	$ 67,493	$ 50,124	$ 54,418	$ 49,966
Debt and finance lease obligations	$ 41,062	$ 32,798	$ 17,493	$ 17,569	$ 13,642

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(1) Our fiscal year ends on the Sunday closest to October 31 in a 52-week year and on the first Sunday in November in a 53-week year. Our fiscal year ended November 4, 2018 was a 53-week fiscal year. All other fiscal years presented included 52 weeks.

(2) During fiscal year 2019, we adopted ASU 2014-09, Revenue from Contracts with Customers (“Topic 606”). Periods prior to fiscal year 2019 were presented in accordance with Accounting Standards Codification 605, Revenue Recognition.

(3) In connection with our acquisitions of the Symantec Business and CA in fiscal years 2020 and 2019, amortization of acquisition-related intangible assets increased $1,008 million and $1,667 million, respectively. In connection with our acquisition of BRCM in the fiscal year ended October 30, 2016, our results included $1,185 million of purchase accounting effect on inventory.

(4) Our income from continuing operations and income per share from continuing operations in fiscal year 2018 were significantly impacted by the benefit from income taxes as a result of the enactment of the 2017 Tax Reform Act and our redomiciliation to the United States in fiscal year 2018.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with "Selected Financial Data" and our consolidated financial statements and notes thereto which appear elsewhere in this Annual Report on Form 10-K. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under the caption "Risk Factors" or in other parts of this Annual Report on Form 10-K.

Overview

We are a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. Our infrastructure software solutions enable customers to plan, develop, automate, manage and secure applications across mainframe, distributed, mobile and cloud platforms. We offer a cyber security solutions portfolio, including endpoint, network, information and identity security solutions. We also offer mission critical fibre channel storage area networking ("FC SAN") products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products.

During the first quarter of our fiscal year ended November 1, 2020 ("fiscal year 2020"), we changed our organizational structure, resulting in two reportable segments: semiconductor solutions and infrastructure software. In addition, during the fourth quarter of our fiscal year 2020, we refined our allocation methodology for certain selling, general and administrative expenses to more closely align these costs with the segment benefiting from the shared expenses. Prior period segment results have been recast to conform to the current presentation.

Our strategy is to combine best-of-breed technology leadership in semiconductor and infrastructure software solutions, with unmatched scale, on a common sales and administrative platform to deliver a comprehensive suite of infrastructure technology products to the world's leading business and government customers. We seek to achieve this through responsibly financed acquisitions of category-leading businesses and technologies, as well as investing extensively in research and development, to ensure our products retain their technology leadership. This strategy results in a robust business model designed to drive diversified and sustainable operating and financial results.

The demand for our products has been affected in the past, and is likely to continue to be affected in the future, by various factors, including the following:

- gain or loss of significant customers;
- general economic and market conditions in the industries and markets in which we compete;
- our distributors' product inventory and end customer demand;
- the rate at which our present and future customers and end-users adopt our products and technologies in our target markets, and the rate at which our customers' products that include our technology are accepted in their markets;
- the shift to cloud-based IT solutions and services, such as hyperscale computing, which may adversely affect the timing and volume of sales of our products for use in traditional enterprise data centers; and
- the timing, rescheduling or cancellation of expected customer orders.

Our fiscal year 2020 and our fiscal year ended November 3, 2019 ("fiscal year 2019") were 52-week fiscal years compared to our fiscal year ended November 4, 2018 ("fiscal year 2018"), which was a 53-week fiscal year.

COVID-19 Update

In response to the ongoing COVID-19 pandemic and the various resulting government directives, we have taken extensive measures to protect the health and safety of our employees and contractors at our facilities. We modified our workplace practices globally, which resulted in most of our employees working remotely for an extended periods of time. While we have implemented a phased-in return of employees to many of our facilities, if the spread of COVID-19 worsens significantly, we may need to further limit onsite operations or otherwise modify our business practices. We continue to monitor the implications of the COVID-19 pandemic on our business, as well as our customers' and suppliers' businesses.

The demand environment for our semiconductor products was consistent with our expectations for our fourth quarter of fiscal year 2020, with continued demand for products and infrastructure to support a dramatic increase around the world in remote or tele-work and learning due to COVID-19. While we continue to see robust demand in this area, the macroeconomic environment remains uncertain and it may not be sustainable over the longer term. To date, the impact of COVID-19 on the demand environment for our software products has been limited. On the product supply side, we continue to experience various constraints in our supply chain due to the pandemic, including with respect to wafers and substrates. As a result, supply lead times are still extended and we continue to have difficulties in obtaining some necessary components and inputs in a timely manner. However, the disruptions in our outsourced assembly and test capacity that we experienced previously, as a result of COVID-19 related shutdowns, have now largely resolved.

We have also taken various actions to de-risk our business in light of the ongoing uncertainty. For example, we are largely building semiconductor products to order, instead of based on customer forecasts. In addition, during the fourth fiscal quarter, we continued to strengthen our balance sheet, including closely managing working capital and reducing our total debt outstanding.

Overall, in light of the changing nature and continuing uncertainty around the COVID-19 pandemic, our ability to predict the impact of COVID-19 on our business in future periods remains limited. The effects of the pandemic on our business are unlikely to be fully realized, or reflected in our financial results, until future periods.

Fiscal Year Highlights

Highlights during fiscal year 2020 include the following:

- We acquired the Symantec Corporation Enterprise Security business (the “Symantec Business”).
- We generated $12,061 million of cash from operations.
- We paid $5,534 million in cash dividends.

Acquisitions and Divestitures

The discussion and analysis in this section and the accompanying consolidated financial statements include the results of operations of acquired companies commencing on their respective acquisition dates.

Acquisition of Symantec Corporation’s Enterprise Security Business

On November 4, 2019, we completed the purchase and assumption of certain assets and certain liabilities, respectively, of the Symantec Business for $10.7 billion in cash (the “Symantec Asset Purchase”). We financed this acquisition with the net proceeds from the borrowings under the November 2019 Term Loans, as defined in Note 10. “Borrowings” included in Part II, Item 8 of this Annual Report on Form 10-K.

Acquisition of CA, Inc.

On November 5, 2018, we acquired CA, Inc. (“CA”) for $18.8 billion in aggregate cash purchase consideration and assumed $2.25 billion of outstanding unsecured bonds (the “CA Merger”). We financed the CA Merger with $18 billion of term loans, as well as cash on hand of the combined companies. We also assumed all eligible unvested CA equity awards in the transaction. On December 31, 2018, we sold Veracode, Inc. (“Veracode”), a subsidiary of CA and provider of application security testing solutions, to Thoma Bravo, LLC for cash consideration of $950 million, before working capital adjustments.

Acquisition of Brocade Communications Systems, Inc.

On November 17, 2017, we acquired Brocade Communications Systems, Inc. (“Brocade”) for $6.0 billion in cash, including retirement of their term loan debt, which we financed using the net proceeds from the issuance of our senior unsecured notes, issued in October 2017, as well as cash on hand. We also assumed all eligible unvested Brocade equity awards in the transaction. On December 1, 2017, we sold certain Brocade business for an aggregate of $800 million in cash.

Net Revenue

A majority of our net revenue is derived from sales of a broad range of semiconductor devices that are incorporated into electronic products, as well as from modules, switches and subsystems. Net revenue is also generated from the sale of software solutions that enable our customers to plan, develop, automate, manage, and secure applications across mainframe, distributed, mobile, and cloud platforms.

Our overall net revenue, as well as the percentage of total net revenue generated by sales in our semiconductor solutions and infrastructure software segments, has varied from quarter to quarter, due largely to fluctuations in end-market demand, including the effects of seasonality, which are discussed in detail in Part I, Item 1. *Business* under “Seasonality” of this Annual Report on Form 10-K.

Original equipment manufacturers (“OEMs”), or their contract manufacturers, and distributors typically account for the substantial majority of our semiconductor sales. To serve customers around the world, we have strategically developed relationships with large global electronic component distributors, complemented by a number of regional distributors with customer relationships based on their respective product ranges. We also sell our products to a wide variety of OEMs or their contract manufacturers. We have established strong relationships with leading OEM customers across multiple target markets. Our direct sales force focuses on supporting our large OEM customers and has specialized product and service knowledge that enables us to sell specific offerings at key levels throughout a customer’s organization. Certain customers require us to contract with them directly and with specified intermediaries, such as contract manufacturers. Many of our major customer relationships have been in place for many years and are often the result of years of collaborative product development. This has enabled us to build our extensive intellectual property (“IP”) portfolio and develop critical expertise regarding our customers’ requirements, including substantial system-level knowledge. This collaboration has provided us with key insights into our customers' businesses and has enabled us to be more efficient and productive and to better serve our target markets and customers. We recognize revenue upon delivery of product to the distributors, which can cause our quarterly net revenue to fluctuate significantly. Such revenue is reduced for estimated returns and distributor allowances.

Our traditional software customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. We believe our enterprise-wide license model will continue to offer our customers reduced complexity, more flexibility and an easier renewal process that will help drive revenue growth.

Costs and Expenses

Cost of products sold. Cost of products sold consists primarily of the costs for semiconductor wafers and other materials, as well as the costs of assembling and testing those products and materials. Such costs include personnel and overhead related to our manufacturing operations, which include stock-based compensation expense; related occupancy; computer services; equipment costs; manufacturing quality; order fulfillment; warranty adjustments; inventory adjustments, including write-downs for inventory obsolescence; and acquisition costs, which include direct transaction costs and acquisition-related costs.

Although we outsource a significant portion of our manufacturing activities, we do have some proprietary semiconductor fabrication facilities. If we are unable to utilize our owned fabrication facilities at a desired level, the fixed costs associated with these facilities will not be fully absorbed, resulting in higher average unit costs and lower gross margins.

Cost of subscriptions and services. Cost of subscriptions and services consists of personnel, project costs associated with professional services or support of our subscriptions and services revenue, and allocated facilities costs and other corporate expenses. Personnel costs include stock-based compensation expense.

Total cost of revenue also includes the purchase accounting effect on inventory, amortization of acquisition-related intangible assets and restructuring charges.

Research and development. Research and development expense consists primarily of personnel costs for our engineers engaged in the design and development of our products and technologies, including stock-based compensation expense. These expenses also include project material costs, third-party fees paid to consultants, prototype development expense, allocated facilities costs and other corporate expenses and computer services costs related to supporting computer tools used in the engineering and design process.

Selling, *general and administrative.* Selling expense consists primarily of compensation and associated costs for sales and marketing personnel, including stock-based compensation expense, sales commissions paid to our independent sales representatives, advertising costs, trade shows, corporate marketing, promotion, travel related to our sales and marketing operations, related occupancy and equipment costs, and other marketing costs. General and administrative expense consists primarily of compensation and associated costs for executive management, finance, human resources and other administrative personnel, including stock-based compensation expense, outside professional fees, allocated facilities costs, acquisition-related costs and other corporate expenses.

Amortization of acquisition-related intangible assets. In connection with our acquisitions, we recognize intangible assets that are being amortized over their estimated useful lives. We also recognize goodwill, which is not amortized, and in-process research and development (“IPR&D”), which is initially capitalized as an indefinite-lived intangible asset, in connection with the acquisitions. Upon completion of each underlying project, IPR&D assets are reclassified as amortizable purchased intangible assets and amortized over their estimated useful lives.

Restructuring, impairment and disposal charges. Restructuring, impairment and disposal charges consist primarily of compensation costs associated with employee exit programs, alignment of our global manufacturing operations, rationalizing product development program costs, facility and lease abandonments, fixed asset impairment, IPR&D impairment, and other exit costs, including curtailment of service or supply agreements.

Interest expense. Interest expense includes coupon interest, commitment fees, accretion of original issue discount, amortization of debt premiums and debt issuance costs, and expenses related to debt modifications or extinguishments.

Other income, net. Other income, net includes interest income, gains or losses on investments, foreign currency remeasurement, and other miscellaneous items.

Provision for (benefit from) income taxes. We have structured our operations to maximize the benefit from tax incentives extended to us in various jurisdictions to encourage investment or employment. Our tax incentives from the Singapore Economic Development Board provide that any qualifying income earned in Singapore is subject to tax incentives or reduced rates of Singapore income tax. Subject to our compliance with the conditions specified in these incentives and legislative developments, these Singapore tax incentives are presently expected to expire in November 2025. The corporate income tax rate in Singapore that would otherwise apply to us would be 17%. We also have a tax holiday on our qualifying income in Malaysia, which is scheduled to expire in fiscal year 2028.

Each tax incentive and tax holiday is also subject to our compliance with various operating and other conditions. If we cannot, or elect not to, comply with any such operating conditions specified, we could, in some instances, be required to refund previously realized material tax benefits, or if such tax incentive or tax holiday is terminated prior to its expiration absent a new incentive applying, we will lose the related tax benefits earlier than scheduled. We may elect to modify our operational structure and tax strategy, which may not be as beneficial to us as the benefits provided under the present tax concession arrangements. Before taking into consideration the effects of the U.S. Tax Cuts and Jobs Act ("2017 Tax Reform Act") and other indirect tax impacts, the effect of these tax incentives and tax holiday was to increase the benefit from income taxes by approximately $833 million, $923 million and $590 million for fiscal years 2020, 2019 and 2018, respectively.

Our interpretations and conclusions regarding the tax incentives are not binding on any taxing authority, and if our assumptions about tax and other laws are incorrect or if these tax incentives are substantially modified or rescinded we could suffer material adverse tax and other financial consequences, which would increase our expenses, reduce our profitability and adversely affect our cash flows. In addition, taxable income in any jurisdiction is dependent upon acceptance of our operational practices and intercompany transfer pricing by local tax authorities as being on an arm's length basis. Due to inconsistencies in application of the arm's length standard among taxing authorities, as well as lack of adequate treaty-based protection, transfer pricing challenges by tax authorities could, if successful, substantially increase our income tax expense.

The 2017 Tax Reform Act made significant changes to the U.S. Internal Revenue Code, including (1) a decrease in the U.S. corporate tax rate from 35% to 21% effective for tax years beginning after December 31, 2017, (2) the accrual of U.S. income tax on foreign earnings when earned, allowing certain foreign dividends to then be tax-exempt, rather than deferring such income tax payments until the foreign earnings are repatriated into the U.S., and (3) the transition tax on the mandatory deemed repatriation of accumulated non-U.S. earnings of U.S. controlled foreign corporations (the "Transition Tax"). Following the enactment of the 2017 Tax Reform Act, the Securities and Exchange Commission ("SEC"), issued guidance for situations when there is insufficient information to complete the accounting for certain income tax effects of the 2017 Tax Reform Act. Based on our interpretation of the 2017 Tax Reform Act and the SEC's guidance, we recognized an income tax benefit of $7,278 million during fiscal year 2018. During fiscal year 2019 we recorded an income tax provision of $113 million from a change in estimate of our fiscal year 2018 benefit as a result of proposed U.S. Treasury regulations issued in fiscal year 2019 related to the 2017 Tax Reform Act. We also recognized an income tax benefit of $1,162 million in fiscal year 2018 primarily as a result of our redomiciliation to the United States in April 2018.

Critical Accounting Estimates

The preparation of financial statements in accordance with generally accepted accounting principles in the United States ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. We base our estimates and assumptions on current facts, historical experience and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities and the accrual of costs and expenses that are not readily apparent from other sources. Our actual financial results may differ materially and adversely from our estimates. Our critical accounting policies are those that affect our historical financial statements materially and involve difficult, subjective or complex judgments by management. Those policies include revenue recognition, business combinations, valuation of long-lived assets, intangible assets and goodwill, inventory valuation, income taxes, retirement and post-retirement benefit plan assumptions, stock-based compensation and employee bonus programs. See Note 2. "Summary of Significant Accounting Policies" included in Part II, Item 8. of this Annual Report on Form 10-K for further information on our critical accounting policies and estimates.

Revenue recognition. We account for a contract with a customer when both parties have approved the contract and are committed to perform their respective obligations, each party's rights can be identified, payment terms can be identified, the contract has commercial substance, and it is probable we will collect substantially all of the consideration we are entitled to. Revenue is recognized when, or as, performance obligations are satisfied by transferring control of a promised product or service to a customer. Our products and services can be broadly categorized as sales of products and subscriptions and services.

We recognize products revenue from sales to direct customers and distributors when control transfers to the customer. An allowance for distributor credits covering price adjustments is made based on our estimate of historical experience rates as well as considering economic conditions and contractual terms. To date, actual distributor claims activity has been materially consistent with the provisions we have made based on our historical estimates. However, because of the inherent nature of estimates, there is always a risk that there could be significant differences between actual amounts and our estimates. Different judgments or estimates could result in variances that might be significant to reported operating results. We also record reductions of revenue for rebates in the same period that the related revenue is recorded. We accrue 100% of potential rebates at the time of sale. We reverse the accrual of unclaimed rebate amounts as specific rebate programs contractually end and when we believe unclaimed rebates are no longer subject to payment and will not be paid. Thus, the reversal of unclaimed rebates may have a positive impact on our net revenue and net income in subsequent periods.

Our contracts may contain more than one of our products and services, each of which is separately accounted for as a distinct performance obligation. When available, we use directly observable transactions to determine the standalone selling prices for performance obligations. Our estimates of standalone selling price for each performance obligation require judgment that considers multiple factors, including, but not limited to, historical discounting trends for products and services and pricing practices through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, technology lifecycles and market conditions.

We also estimate the standalone selling price of our material rights. Our estimate of the value of the customer's option to purchase or receive additional products or services at a discounted price includes estimating the incremental discount the customer would obtain when exercising the option and the likelihood that the option would be exercised.

Certain contracts contain a right of return that allows the customer to cancel all or a portion of the product or service and receive a credit. We estimate returns based on historical returns data which is constrained to an amount for which a material revenue reversal is not probable. We do not recognize revenue for products or services that are expected to be returned.

Business combinations. Accounting for business combinations requires management to make significant estimates and assumptions, especially at the acquisition date, for intangible assets, contractual obligations assumed, restructuring liabilities, pre-acquisition contingencies, and contingent consideration, where applicable. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, they are based, in part, on historical experience and information obtained from management of the acquired companies and are inherently uncertain. Critical estimates in valuing certain of the intangible assets we have acquired include, but are not limited to, future expected cash flows from product sales, customer contracts and acquired technologies, revenue growth rate, customer ramp-up period, technology obsolescence rates, expected costs to develop IPR&D into commercially viable products, estimated cash flows from the projects when completed, and discount rates. The discount rates used to discount expected future cash flows to present value are typically derived from a weighted-average cost of capital analysis and adjusted to reflect inherent risks. Unanticipated events and circumstances may occur that could affect either the accuracy or validity of such assumptions, estimates or actual results.

Valuation of goodwill and long-lived assets. We perform an annual impairment review of our goodwill during the fourth fiscal quarter of each year, and more frequently if we believe indicators of impairment exist. The process of evaluating the potential impairment of goodwill is highly subjective and requires significant judgment. To review for impairment, we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount. Our qualitative assessment of the recoverability of goodwill, whether performed annually or based on specific events or circumstances, considers various macroeconomic, industry-specific and company-specific factors. These factors include: (i) severe adverse industry or economic trends; (ii) significant company-specific actions, including exiting an activity in conjunction with restructuring of operations; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. After assessing the totality of events and circumstances, if we determine that it is not more likely than not that the fair value of any of our reporting units is less than its carrying amount, no further assessment is performed. If we determine that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount, we calculate the fair value of that reporting unit and compare the fair value to the reporting unit's net book value.

Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. Our goodwill impairment test uses both the income approach and the market approach to estimate a reporting unit's fair value. The income approach is based on the discounted cash flow method that uses the reporting unit estimates for forecasted future financial performance including revenues, operating expenses, and taxes, as well as working capital and capital asset requirements. These estimates are developed as part of our long-term planning process based on assumed market segment growth rates and our assumed market segment share, estimated costs based on historical data and various internal estimates. Projected cash flows are then discounted to a present value employing a discount rate that properly accounts for the estimated market weighted-average cost of capital, as well as any risk unique to the subject cash flows. The market approach is based on weighting financial multiples of comparable companies and applies a control premium. A reporting unit's carrying value represents the assignment of various assets and liabilities, excluding certain corporate assets and liabilities, such as cash and debt.

We assess the impairment of long-lived assets including purchased IPR&D, property, plant and equipment, and intangible assets, whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Factors we consider important which could trigger an impairment review include (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, or (iii) significant negative industry or economic trends. The process of evaluating the potential impairment of long-lived assets under the accounting guidance on property, plant and equipment and other intangible assets is also highly subjective and requires significant judgment. In order to estimate the fair value of long-lived assets, we typically make various assumptions about the future prospects of our business or the part of our business that the long-lived asset relates to. We also consider market factors specific to the business and estimate future cash flows to be generated by the business, which requires significant judgment as it is based on assumptions about market demand for our products over a number of future years. Based on these assumptions and estimates, we determine whether we need to take an impairment charge to reduce the value of the long-lived asset stated on our consolidated balance sheets to reflect its estimated fair value. Assumptions and estimates about future values and remaining useful lives are complex and often subjective. They can be affected by a variety of factors, including external factors, such as the real estate market, industry and economic trends, and internal factors, such as changes in our business strategy and our internal forecasts. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, changes in assumptions and estimates could materially impact our reported financial results.

Inventory valuation. We regularly review inventory quantities on hand and record a provision for excess and obsolete inventory based primarily on our forecast of product demand and production requirements. Demand for our products can fluctuate significantly from period to period. A significant decrease in demand could result in an increase in the amount of excess inventory quantities on hand. In addition, our industry is characterized by rapid technological change, frequent new product development and rapid product obsolescence that could result in an increase in the amount of obsolete inventory quantities on hand. Additionally, our estimates of future product demand may prove to be inaccurate, which may cause us to understate or overstate both the provision required for excess and obsolete inventory and cost of products sold. Therefore, although we make every effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand or technological developments could have a significant impact on the value of our inventory and our results of operations.

Income taxes. Significant management judgment is required in developing our provision for or benefit from income taxes, including the determination of deferred tax assets and liabilities and any valuation allowances that might be required against the deferred tax assets. We have considered projected future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for valuation allowances. If we determine that a valuation allowance is required, such adjustment to the deferred tax assets would increase our tax expense in the period in which such determination is made. Conversely, if we determine that a valuation allowance exceeds our requirement, such adjustment to the deferred tax assets would decrease tax expense in the period in which such determination is made. In evaluating the exposure associated with various tax filing positions, we accrue an income tax liability when such positions do not meet the more likely than not threshold for recognition.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax law and regulations in a multitude of jurisdictions. We recognize potential liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional taxes, interest, and penalties will be due. If our estimate of income tax liabilities proves to be less than the actual amount ultimately assessed, a further charge to tax expense would be required. If the payment of these amounts ultimately proves to be unnecessary, the reversal of the accrued liabilities would result in tax benefits being recognized in the period when we determine the liabilities no longer exist.

Retirement and post-retirement benefit plan assumptions. Retirement and post-retirement benefit plan costs represent obligations that will ultimately be settled sometime in the future and therefore, are subject to estimation. Pension accounting is intended to reflect the recognition of future retirement and post-retirement benefit plan costs over the employees' average expected future service to us, based on the terms of the plans and investment and funding decisions. To estimate the impact of these future payments and our decisions concerning funding of these obligations, we are required to make assumptions using actuarial concepts within the framework of GAAP. One assumption is the discount rate used to calculate the estimated costs. Other assumptions include the expected long-term return on plan assets, expected future salary increases, the health care cost trend rate, expected future increases to benefit payments, expected retirement dates, employee turnover, retiree mortality rates, and portfolio composition. We evaluate these assumptions at least annually.

For our U.S. and non-U.S. plans, we use October 31, the month end closest to our fiscal year end, as the annual discount rate measurement date to determine the present value of future benefit payments. The U.S. discount rates are based on the results of matching expected plan benefit payments with cash flows from a hypothetical yield curve constructed with high-quality corporate bond yields. The discount rate for non-U.S. plans was based either on published rates for government bonds or use of a hypothetical yield curve constructed with high-quality corporate bond yields, depending on the availability of sufficient quantities of quality corporate bonds. Lower discount rates increase present values of the pension liabilities and subsequent year pension expense; higher discount rates decrease present values of the pension liabilities and subsequent year pension expense.

The U. S. expected rate of return on plan assets is set equal to the discount rate due to the implementation of our fully-matched, liability-driven investment strategy.

Actuarial assumptions are based on our best estimates and judgment. Material changes may occur in retirement benefit costs in the future if these assumptions differ from actual events or experiences. We performed a sensitivity analysis on the discount rate, which is the key assumption in calculating the U.S. pension and post-retirement benefit obligations. Each change of 25 basis points in the discount rate assumption would have had an estimated $40 million impact on the benefit obligations as of the fiscal year 2020 measurement date. Each change of 25 basis points in the discount rate assumption or expected rate of return assumption would not have a material impact on annual net retirement benefit costs for the fiscal year ending October 31, 2021 (“fiscal year 2021”).

Stock-based compensation expense. Stock-based compensation expense consists of expense for restricted stock units (“RSUs”) and stock options granted to employees and non-employees or assumed from acquisitions as well as expense associated with Broadcom employee stock purchase plan (“ESPP”). We recognize compensation expense for time-based stock options and ESPP rights based on the estimated grant-date fair value method required under the authoritative guidance using the Black-Scholes valuation model.

Certain equity awards include both time-based and market-based conditions and are accounted for as market-based awards. The fair value of these market-based awards is estimated on the date of grant using a Monte Carlo simulation model.

Employee Bonus Programs. Our employee bonus programs, which are overseen by our Compensation Committee, or our Board, in the case of our Chief Executive Officer, provide for variable compensation based on the attainment of overall corporate annual targets and functional performance metrics. In the first fiscal quarter of the year, if management determines that it is probable that the targets and metrics will be achieved and the amounts can be reasonably estimated, a variable, proportional compensation accrual is recognized based on an assumed 100% achievement of the targets and metrics. The bonus payout levels can be greater if attainment of metrics and targets is greater than 100% and a portion of the payouts may not occur if a minimum floor of performance is not achieved. In subsequent quarters, we monitor and accrue for variable compensation expense based on our actual progress toward the achievement of the annual targets and metrics. The actual achievement of target metrics at the end of the fiscal year, which is subject to approval by our Compensation Committee, may result in the actual variable compensation amounts being significantly higher or lower than the relevant estimated amounts accrued in earlier quarters, which would result in a corresponding adjustment in the fourth fiscal quarter.

Fiscal Year Presentation

We operate on a 52- or 53-week fiscal year ending on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. Our fiscal years 2020 and 2019 consisted of 52 weeks. Fiscal year 2018 consisted of 53 weeks.

The financial statements included in Part II, Item 8. of this Annual Report on Form 10-K are presented in accordance with GAAP and expressed in U.S. dollars.

Results of Operations

Fiscal Year 2020 Compared to Fiscal Year 2019

The following table sets forth our results of operations for the periods presented:

	Fiscal Year Ended			
	November 1, 2020	November 3, 2019	November 1, 2020	November 3, 2019
	(In millions)		(As a percentage of net revenue)	
Statements of Operations Data:				
Net revenue:				
Products	$ 17,435	$ 18,117	73 %	80 %
Subscriptions and services	6,453	4,480	27	20
Total net revenue	23,888	22,597	100	100
Cost of revenue:				
Cost of products sold	5,892	6,208	25	28
Cost of subscriptions and services	626	515	2	2
Amortization of acquisition-related intangible assets	3,819	3,314	16	15
Restructuring charges	35	77	—	—
Total cost of revenue	10,372	10,114	43	45
Gross margin	13,516	12,483	57	55
Research and development	4,968	4,696	21	21
Selling, general and administrative	1,935	1,709	8	8
Amortization of acquisition-related intangible assets	2,401	1,898	10	8
Restructuring, impairment and disposal charges	198	736	1	3
Total operating expenses	9,502	9,039	40	40
Operating income	$ 4,014	$ 3,444	17 %	15 %

Net Revenue

Historically, a relatively small number of customers has accounted for a significant portion of our net revenue. Sales of products to distributors accounted for 42% and 46% of our net revenue for fiscal years 2020 and 2019, respectively. Direct sales to WT Microelectronics, a distributor, accounted for 13% and 17% of our net revenue for fiscal years 2020 and 2019, respectively. We believe our aggregate sales to our top five end customers through all channels accounted for more than 30% of our net revenue for each of our fiscal years 2020 and 2019. We believe aggregate sales to Apple Inc., through all channels, accounted for approximately 15% and 20% of our net revenue for fiscal years 2020 and 2019, respectively. We expect to continue to experience significant customer concentration in future periods. The loss of, or significant decrease in demand from, any of our top five end customers could have a material adverse effect on our business, results of operations and financial condition.

From time to time, some of our key semiconductor customers place large orders or delay orders, causing our quarterly net revenue to fluctuate significantly. This is particularly true of our wireless products as fluctuations may be magnified by the timing of launches, and seasonal variations in sales, of mobile handsets. In addition, the ongoing COVID-19 pandemic and related challenges and uncertainties may also cause our net revenue to fluctuate significantly and adversely affect our results of operations, as discussed above. Additionally, if export restrictions on one of our larger customers continue, revenue in future periods may continue to be adversely impacted.

Although we recognize revenue for the majority of our products when title and control transfer in Penang, Malaysia, we disclose net revenue by country based on the geographic shipment or delivery location specified by distributors, OEMs, contract manufacturers, channel partners, or software customers. In each of fiscal years 2020 and 2019, approximately 35% of our net revenue came from shipments or deliveries to China (including Hong Kong), compared to approximately 50% for fiscal year 2018. However, the end customers for either our products or for the end products into which our products are incorporated, are frequently located in countries other than China (including Hong Kong). As a result, we believe that a substantially smaller percentage of our net revenue is ultimately dependent on sales of either our product or our customers' product incorporating our product, to end customers located in China (including Hong Kong).

The following tables set forth net revenue by segment for the periods presented:

Net Revenue by Segment	Fiscal Year Ended November 1, 2020	Fiscal Year Ended November 3, 2019	$ Change	% Change
	(In millions, except for percentages)			
Semiconductor solutions	$ 17,267	$ 17,441	$ (174)	(1)%
Infrastructure software	6,621	5,156	1,465	28 %
Total net revenue	$ 23,888	$ 22,597	$ 1,291	6 %

Net Revenue by Segment	Fiscal Year Ended November 1, 2020	Fiscal Year Ended November 3, 2019
	(As a percentage of net revenue)	
Semiconductor solutions	72 %	77 %
Infrastructure software	28	23
Total net revenue	100 %	100 %

Our total net revenue increased primarily due to contributions from the Symantec enterprise security solutions in fiscal year 2020 compared to the prior fiscal year. Net revenue from our semiconductor solutions segment decreased primarily due to delays in the production ramp of a new mobile handset by a major customer that resulted in lower than expected shipments in the year, partially offset by higher demand for our networking and storage products. Net revenue from our infrastructure software segment increased primarily due to contributions from our Symantec enterprise security solutions.

Gross Margin

Gross margin was $13,516 million, or 57% of net revenue, for fiscal year 2020, compared to $12,483 million, or 55% of our net revenue, for fiscal year 2019. The increase was primarily due to contributions from our Symantec enterprise security solutions, as well as favorable product mix within our semiconductor solutions segment, compared to the corresponding prior fiscal year.

Research and Development Expense

Research and development expense increased $272 million, or 6%, in fiscal year 2020, compared to the prior fiscal year. The increase was primarily due to our acquisition of the Symantec Business, partially offset by a decrease in stock-based compensation expense resulting from restructuring actions.

Selling, General and Administrative Expense

Selling, general and administrative expense increased $226 million, or 13%, in fiscal year 2020, compared to the prior fiscal year. The increase was primarily due to our acquisition of the Symantec Business and associated acquisition-related costs, partially offset by a decrease in compensation expense, including stock-based compensation, resulting from restructuring actions.

Amortization of Acquisition-Related Intangible Assets

Amortization of acquisition-related intangible assets recognized in operating expenses increased $503 million, or 27%, in fiscal year 2020, compared to the prior fiscal year. The increase was primarily due to the addition of amortization of intangible assets as a result of our acquisition of the Symantec Business.

Restructuring, Impairment and Disposal Charges

Restructuring, impairment and disposal charges included in operating expenses decreased $538 million, or 73%, in fiscal year 2020, compared to the prior fiscal year. The decrease was primarily due to higher employee termination costs, as well as lease and other exit costs resulting from the CA Merger, in the prior fiscal year.

Segment Operating Results

Operating Income (Loss)	Fiscal Year Ended November 1, 2020	Fiscal Year Ended November 3, 2019	$ Change	% Change
	(In millions, except for percentages)			
Semiconductor solutions	$ 8,576	$ 8,538	$ 38	— %
Infrastructure software	4,363	3,391	972	29 %
Unallocated expenses	(8,925)	(8,485)	(440)	5 %
Total operating income	$ 4,014	$ 3,444	$ 570	17 %

Operating income from our semiconductor solutions segment increased slightly, primarily due to higher demand for storage products, largely offset by delays in the production ramp of a new mobile handset by a major customer, which resulted in lower than expected shipments in the year. Operating income from our infrastructure software segment increased primarily due to contributions from our Symantec enterprise security solutions.

Unallocated expenses include amortization of acquisition-related intangible assets; stock-based compensation expense; acquisition-related costs; restructuring, impairment and disposal charges; and other costs that are not used in evaluating the results of, or in allocating resources to, our segments. Unallocated expenses increased 5% in fiscal year 2020, compared to the prior year fiscal period, primarily due to higher amortization of acquisition-related intangible assets and acquisition-related costs, partially offset by lower restructuring, impairment and disposal charges and stock-based compensation expense.

Non-Operating Income and Expenses

Interest expense. Interest expense was $1,777 million and $1,444 million for fiscal years 2020 and 2019, respectively. The increase was primarily due to the increase in debt associated with the financing of our acquisition of the Symantec Business, as well as losses on extinguishment of debt related to refinancing activities during fiscal year 2020.

Other income, net. Other income, net, which includes interest income, gains or losses on investments, foreign currency remeasurement and other miscellaneous items, was $206 million and $226 million for fiscal years 2020 and 2019, respectively. The decrease was primarily due to lower gains on investments, partially offset by a $116 million one-time gain from the lapse of a tax indemnification arrangement.

Benefit from income taxes. Benefit from income taxes was $518 million and $510 million for fiscal years 2020 and 2019, respectively. The benefit from income taxes in fiscal year 2020 was primarily due to the jurisdictional mix of income and expense, the recognition of gross uncertain tax benefits as a result of lapses of statues of limitations, the remeasurement of certain foreign deferred tax assets and liabilities, and excess benefit from stock-based awards. The benefit from income taxes in fiscal year 2019 was primarily due to excess tax benefits from stock-based awards, the recognition of gross uncertain tax benefits as a result of audit settlements and lapses of statutes of limitations, deferred tax remeasurement in state and foreign jurisdictions, internal reorganizations, and the partial release of our valuation allowance as a result of the CA Merger. This was partially offset by a change in estimate of our fiscal year 2018 provision resulting from regulations issued related to the 2017 Tax Reform Act.

Fiscal Year 2019 Compared to Fiscal Year 2018

The following table sets forth our results of operations for the periods presented:

Statements of Operations Data:	Fiscal Year Ended			
	November 3, 2019	November 4, 2018	November 3, 2019	November 4, 2018
	(In millions)		(As a percentage of net revenue)	
Net revenue:				
Products	$ 18,117	$ 19,754	80 %	95 %
Subscriptions and services	4,480	1,094	20	5
Total net revenue	22,597	20,848	100	100
Cost of revenue:				
Cost of products sold	6,208	6,924	28	33
Cost of subscriptions and services	515	97	2	1
Purchase accounting effect on inventory	—	70	—	—
Amortization of acquisition-related intangible assets	3,314	3,004	15	14
Restructuring charges	77	20	—	—
Total cost of revenue	10,114	10,115	45	48
Gross margin	12,483	10,733	55	52
Research and development	4,696	3,768	21	18
Selling, general and administrative	1,709	1,056	8	5
Amortization of acquisition-related intangible assets	1,898	541	8	3
Restructuring, impairment and disposal charges	736	219	3	1
Litigation settlements	—	14	—	—
Total operating expenses	9,039	5,598	40	27
Operating income	$ 3,444	$ 5,135	15 %	25 %

The following tables set forth net revenue by segment for the periods presented:

Net Revenue

Net Revenue by Segment	Fiscal Year Ended			
	November 3, 2019	November 4, 2018	$ Change	% Change
	(In millions, except for percentages)			
Semiconductor solutions	$ 17,441	$ 19,068	$ (1,627)	(9)%
Infrastructure software	5,156	1,780	3,376	190 %
Total net revenue	$ 22,597	$ 20,848	$ 1,749	8 %

Net Revenue by Segment	Fiscal Year Ended	
	November 3, 2019	November 4, 2018
	(As a percentage of net revenue)	
Semiconductor solutions	77 %	92 %
Infrastructure software	23	8
Total net revenue	100 %	100 %

Our total net revenue increased primarily due to the CA Merger in fiscal year 2019. Net revenue from our semiconductor solutions segment decreased due to lower demand for our wireless content in mobile handsets, as well as lower demand for our broadband, optocoupler, set-top box and server storage connectivity products. Fiscal year 2018 semiconductor solutions revenue benefited from a later than typical new mobile handset ramp with a major customer in the first quarter, which resulted in higher shipments in that quarter, as well as an extra week in the fiscal year as compared to fiscal year 2019. Net revenue from our infrastructure software segment increased primarily due to contributions from our mainframe and enterprise software solutions.

Gross Margin

Gross margin was $12,483 million, or 55% of net revenue, for fiscal year 2019 compared to $10,733 million, or 52% of net revenue, for fiscal year 2018. The increase in gross margin was primarily due to contributions from our mainframe and enterprise software solutions and favorable product mix within our semiconductor solutions segment, compared to the prior fiscal year, partially offset by higher amortization of acquisition-related intangible assets and restructuring charges as a result of the CA Merger and higher stock-based compensation expense.

Research and Development Expense

Research and development expense increased $928 million, or 25%, in fiscal year 2019, compared to the prior fiscal year. Research and development expense as a percentage of net revenue was 21% and 18% for fiscal years 2019 and 2018, respectively. The increase was primarily due to the CA Merger and higher stock-based compensation expense, offset by lower variable employee compensation expense. Stock-based compensation expense increased primarily due to the issuance of the multi-year equity grants of time- and market-based RSUs (the “Multi-Year Equity Awards”) in the first quarter of fiscal year 2019, the impact of the change from annual to quarterly vesting of equity awards and the assumed CA equity awards. Our stock-based compensation expense for fiscal year 2019 included employee equity awards granted at higher grant-date fair values than those granted in prior years, which also contributed to the increase.

Selling, General and Administrative Expense

Selling, general and administrative expense increased $653 million, or 62%, in fiscal year 2019, compared to the prior fiscal year. Selling, general and administrative expense as a percentage of net revenue was 8% and 5% for fiscal years 2019 and 2018, respectively. The increase was primarily due to the CA Merger and higher stock-based compensation expense. Stock-based compensation expense increased primarily due to the issuance of the Multi-Year Equity Awards, the impact of the change from annual to quarterly vesting of equity awards and the assumed CA equity awards.

Amortization of Acquisition-Related Intangible Assets

Amortization of acquisition-related intangible assets recognized in operating expenses increased $1,357 million, or 251%, in fiscal year 2019, compared to the prior fiscal year. The increase was primarily due to the addition of amortization of intangible assets acquired in the CA Merger.

Restructuring, Impairment and Disposal Charges

Restructuring, impairment and disposal charges included in operating expenses increased $517 million, or 236%, in fiscal year 2019, compared to the prior fiscal year. The increase was primarily due to employee termination costs, as well as lease and other exit costs resulting from the CA Merger.

Segment Operating Results

	Fiscal Year Ended			
Operating Income by Segment	**November 3, 2019**	**November 4, 2018**	**$ Change**	**% Change**
		(In millions, except for percentages)		
Semiconductor solutions	$ 8,538	$ 9,253	$ (715)	(8)%
Infrastructure software	3,391	1,157	2,234	193 %
Unallocated expenses	(8,485)	(5,275)	(3,210)	61 %
Total operating income	$ 3,444	$ 5,135	$ (1,691)	(33)%

Operating income from our semiconductor solutions segment decreased primarily due to lower demand for our wireless content in mobile handsets, as well as lower demand for our optocoupler, broadband, server storage connectivity and set-top box products. Fiscal year 2018 semiconductor solutions operating income benefited from a later than typical new mobile handset ramp with a major customer in the first quarter, which resulted in higher shipments in that quarter, as well as an extra week in the fiscal year as compared to fiscal year 2019. Operating income from our infrastructure software segment increased primarily due to contributions from our mainframe and enterprise software solutions.

Unallocated expenses include amortization of acquisition-related intangible assets; stock-based compensation expense; acquisition-related costs; restructuring, impairment and disposal charges; and other costs that are not used in evaluating the results of, or in allocating resources to, our segments. Unallocated expenses increased 61% in fiscal year 2019, compared to the prior fiscal year, primarily due to higher amortization of acquisition-related intangible assets, stock-based compensation expense, and restructuring, impairment and disposal charges primarily related to the CA Merger.

Non-Operating Income and Expenses

Interest expense. Interest expense was $1,444 million and $628 million for fiscal years 2019 and 2018, respectively. Interest expense was higher in fiscal year 2019 primarily due to interest on the debt we incurred to finance the CA Merger in the first quarter of fiscal year 2019.

Other income, net. Other income, net was $226 million and $144 million in fiscal years 2019 and 2018, respectively. The increase was primarily due to an increase in unrealized gains on investments partially offset by losses on foreign currency remeasurement.

Benefit from income taxes. Benefit from income taxes was $510 million and $8,084 million for fiscal years 2019 and 2018, respectively. The benefit from income taxes in fiscal year 2019 was primarily due to excess benefit from stock-based awards, the recognition of gross unrecognized tax benefits as a result of audit settlements and lapses of statutes of limitations net of increases in balances related to tax positions taken during the current year, benefit from deferred tax measurement in state and foreign jurisdictions, benefit related to internal reorganizations, and benefit from the partial release of our valuation allowance as a result of the CA Merger, partially offset from a change in estimate of our fiscal year 2018 provision resulting from regulations issued related to the 2017 Tax Reform Act. The benefit from income taxes in fiscal year 2018 was primarily due to income tax benefits recognized from the enactment of the 2017 Tax Reform Act and as a result of our redomiciliation to the United States on April 4, 2018.

Liquidity and Capital Resources

The following section discusses our principal liquidity and capital resources as well as our primary liquidity requirements and uses of cash. Our cash and cash equivalents are maintained in highly liquid investments with remaining maturities of 90 days or less at the time of purchase. We believe our cash equivalents are liquid and accessible.

Our primary sources of liquidity as of November 1, 2020 consisted of: (i) $7,618 million in cash and cash equivalents, (ii) cash we expect to generate from operations and (iii) available capacity under our $5 billion unsecured revolving credit facility (the “Revolving Facility”). In addition, we may also generate cash from the sale of assets and debt or equity financing from time to time.

Our short-term and long-term liquidity requirements primarily arise from: (i) business acquisitions and investments we may make from time to time, (ii) working capital requirements, (iii) research and development and capital expenditure needs, (iv) cash dividend payments (if and when declared by our Board of Directors), (v) interest and principal payments related to our outstanding indebtedness and (vi) payment of income taxes. Our ability to fund these requirements will depend, in part, on our future cash flows, which are determined by our future operating performance and, therefore, subject to prevailing global macroeconomic conditions and financial, business and other factors, some of which are beyond our control.

We believe that our cash and cash equivalents on hand, cash flows from operations, and the Revolving Facility will provide sufficient liquidity to operate our business and fund our current and assumed obligations for at least the next 12 months. We expect a slight increase in capital expenditures in fiscal year 2021 as compared to fiscal year 2020.

From time to time, we engage in discussions with third parties regarding potential acquisitions of, or investments in, businesses, technologies and product lines. Any such transaction, or evaluation of potential transactions, could require significant use of our cash and cash equivalents, or require us to increase our borrowings to fund such transactions. If we do not have sufficient cash to fund our operations or finance growth opportunities, including acquisitions, or unanticipated capital expenditures, our business and financial condition could suffer. In such circumstances, we may seek to obtain new debt or equity financing. However, we cannot assure you that such additional financing will be available on terms acceptable to us or at all. Our ability to service our senior unsecured notes, outstanding term loans and any other indebtedness we may incur will depend on our ability to generate cash in the future. We may also elect to sell additional debt or equity securities for reasons other than those specified above.

In addition, we may, at any time and from time to time, seek to retire or purchase our outstanding debt through cash tenders and/or exchanges for equity or debt, in open-market purchases, privately negotiated transactions or otherwise. Such tenders, exchanges or purchases, if any, will be upon such terms and at such prices as we may determine, and will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Working Capital

Working capital increased to $5,524 million at November 1, 2020 from $3,018 million at November 3, 2019. The increase was attributable to the following:

- Cash and cash equivalents increased to $7,618 million at November 1, 2020 from $5,055 million at November 3, 2019, primarily due to $27,802 million in proceeds from long-term borrowings, $12,061 million in net cash provided by operating activities, and $218 million in proceeds from the sales of businesses, partially offset by $20,099 million of debt repayments, $10,700 million paid for the Symantec Asset Purchase, $5,534 million of dividend payments and $765 million in payments of employee withholding taxes related to net share settled equity awards. See the “Cash Flows” section below for further details.
- Current portion of long-term debt decreased $1,960 million primarily due to repayment of certain debt, partially offset by additional amounts coming due within twelve months.
- Other current assets increased to $977 million at November 1, 2020 from $729 million at November 3, 2019, primarily due to increases in prepaid taxes and short-term investments.
- Inventory increased to $1,003 million at November 1, 2020 from $874 million at November 3, 2019, primarily due to timing of customer product ramps.

These increases in working capital were offset in part by the following:

- Other current liabilities increased to $3,831 million at November 1, 2020 from $2,616 million at November 3, 2019, primarily due to increases in contract liabilities, interest payable, taxes payable, and lease liabilities resulting from the adoption of Accounting Standard Codification Topic 842 (“Topic 842”), partially offset by repayments of notional pooling liabilities.
- Accounts receivable decreased to $2,297 million at November 1, 2020 from $3,259 million at November 3, 2019, primarily due to revenue linearity and additional receivables sold through factoring arrangements.
- Employee compensation and benefits increased to $877 million at November 1, 2020 from $641 million at November 3, 2019, primarily due to the employee bonus plan.

Working capital decreased to $3,018 million at November 3, 2019 from $6,769 million at November 4, 2018. The decrease was attributable to the following:

- Accounts receivable decreased to $3,259 million at November 3, 2019 from $3,325 million at November 4, 2018, primarily due to a higher volume of trade accounts receivable factoring, partially offset by higher revenue.
- Inventory decreased to $874 million at November 3, 2019 from $1,124 million at November 4, 2018, primarily due to our continued focus on inventory management.
- Current portion of long-term debt increased $2,787 million primarily due to certain unsecured senior notes becoming due within the next twelve months.
- Other current liabilities increased to $2,616 million at November 3, 2019 from $812 million at November 4, 2018, primarily due to the CA Merger and increases in contract liabilities from the adoption of Topic 606, notional pooling liabilities, restructuring reserves, taxes payable and interest payable.

These decreases in working capital were offset in part by the following:

- Cash and cash equivalents increased to $5,055 million at November 3, 2019 from $4,292 million at November 4, 2018 primarily due to $30,034 million in proceeds from long-term borrowings, $9,697 million in net cash provided by operating activities, $3,679 million of Mandatory Convertible Preferred Stock issuance proceeds and $957 million in proceeds from sale of Veracode, partially offset by $16,800 million of debt repayments, $16,027 million paid for the CA Merger, $5,435 million of common stock repurchases, $4,235 million of dividend payments, and $972 million in payments of employee withholding taxes related to net share settled equity awards. See the “Cash Flows” section below for further details.
- Other current assets increased to $729 million at November 3, 2019 from $366 million at November 4, 2018, primarily due to assets acquired in the CA Merger and increases in contract assets from adoption of Topic 606 and prepaid taxes.

Capital Returns

Cash Dividends and Distributions Declared and Paid	Fiscal Year Ended November 1, 2020	November 3, 2019	November 4, 2018
	(In millions, except per share/unit data)		
Dividends per share to common stockholders	$ 13.00	$ 10.60	$ 7.00
Dividends to common stockholders	$ 5,235	$ 4,235	$ 2,921
Dividends per share to preferred stockholders	$ 80.00	$ —	$ —
Dividends to preferred stockholders	$ 299	$ —	$ —
Distributions per unit to limited partners	$ —	$ —	$ 3.50
Distributions to limited partners	$ —	$ —	$ 77
Stock repurchases	$ —	$ 5,435	$ 7,258

During fiscal years 2020, 2019 and 2018, we paid approximately $765 million, $972 million and $56 million, respectively, in employee withholding taxes due upon the vesting of net settled equity awards. We withheld approximately 3 million, 4 million and 0.2 million shares of common stock from employees in connection with such net share settlements in fiscal years 2020, 2019 and 2018, respectively.

Pursuant to an $18 billion stock repurchase program previously authorized by our Board of Directors, we repurchased and retired approximately 21 million and 32 million shares of our common stock at a weighted average price of $258.52 and $227.60 during fiscal years 2019 and 2018, respectively. This authorization ended on November 3, 2019.

Cash Flows

	Fiscal Year Ended November 1, 2020	November 3, 2019	November 4, 2018
	(In millions)		
Net cash provided by operating activities	$ 12,061	$ 9,697	$ 8,880
Net cash used in investing activities	(11,109)	(15,422)	(4,674)
Net cash provided by (used in) financing activities	1,611	6,488	(11,118)
Net change in cash and cash equivalents	$ 2,563	$ 763	$ (6,912)

Operating Activities

Cash provided by operating activities consisted of net income adjusted for certain non-cash and other items and changes in assets and liabilities. The $2,364 million increase in cash provided by operations during fiscal year 2020 compared to fiscal year 2019 was due to higher cash flows from net income adjusted for non-cash items and changes in the operating assets and liabilities.

The $817 million increase in cash provided by operations during fiscal year 2019 compared to fiscal year 2018 was primarily due to changes in operating assets and liabilities. Cash flows from net income adjusted for non-cash items were relatively flat as higher net income in fiscal year 2018 reflected a significant non-cash income tax benefit, principally resulting from the enactment of the 2017 Tax Reform Act and the impact from our redomiciliation to the United States in fiscal year 2018.

Investing Activities

Cash flows from investing activities primarily consisted of cash used for acquisitions, capital expenditures and investments, and proceeds from sales of businesses and assets. The $4,313 million decrease in cash used in investing activities for fiscal year 2020 compared to fiscal year 2019 was primarily related to a $5,161 million decrease in cash paid for acquisitions, partially offset by $739 million less in proceeds received from sales of businesses.

The $10,748 million increase in cash used in investing activities for fiscal year 2019 compared to fiscal year 2018 was primarily related to $16,027 million paid for the CA Merger in fiscal year 2019, partially offset by proceeds from sales of businesses as well as lower capital expenditures.

Financing Activities

Cash flows from financing activities primarily consisted of net proceeds and payments related to our long-term borrowings, dividend and distribution payments, stock repurchases and the issuances of stock. The $4,877 million decrease in cash provided by financing activities for fiscal year 2020 compared to fiscal year 2019 was primarily due to a $5,531 million decrease in net proceeds from borrowings as a result of debt repayments, the absence of preferred stock issuance which generated $3,679 million net proceeds in fiscal year 2019 and a $1,299 million increase in dividend payments, partially offset by the absence of repurchases of common stock under our repurchase program, which ended in fiscal year 2019, as compared to $5,435 million of repurchases in fiscal year 2019.

The $17,606 million increase in cash related to financing activities for fiscal year 2019 compared to fiscal year 2018 was primarily due to a $14,207 million increase in net proceeds from borrowings, net proceeds of $3,679 million from issuance of preferred stock and a $1,823 million decrease in common stock repurchases under our repurchase program, partially offset by a $1,237 million increase in dividend and distribution payments and a $916 million increase in employee withholding tax payments related to net settled equity awards.

Indebtedness

See Note 10. "Borrowings" included in Part II, Item 8. of this Annual Report on Form 10-K.

Summarized Obligor Group Financial Information

Pursuant to the indentures dated May 21, 2020, May 8, 2020, April 9, 2020, and April 5, 2019 (collectively, the "2020 and 2019 Indentures"), Broadcom issued $3,917 million, $8,000 million, $4,500 million, and $11,000 million aggregate principal amount of notes, respectively (collectively, the "2020 and 2019 Senior Notes"). Substantially all of the 2020 and 2019 Senior Notes have been registered with the SEC in connection with an exchange offer that completed on August 10, 2020.

We may redeem all or a portion of our 2020 and 2019 Senior Notes at any time prior to their maturity, subject to a specified make-whole premium as set forth in the indentures governing the respective notes. In the event of a change of control triggering event, holders of our 2020 and 2019 Senior Notes will have the right to require us to purchase for cash, all or a portion of their respective notes at a redemption price of 101% of the aggregate principal amount plus accrued and unpaid interest. The 2020 and 2019 Indentures also contain covenants that restrict, among other things, the ability of Broadcom and its subsidiaries to incur certain secured debt and to consummate certain sale and leaseback transactions and restrict the ability of the Obligor Group, as defined below, to merge, consolidate or sell all or substantially all of their assets.

Broadcom Corporation ("BRCM") and Broadcom Technologies Inc. ("BTI"), 100%-owned subsidiaries of Broadcom (Broadcom, BRCM and BTI collectively, the "Obligor Group"), fully and unconditionally guarantee, jointly and severally, on an unsecured, unsubordinated basis, the 2020 and 2019 Senior Notes. The guarantee by BRCM and BTI will be automatically and unconditionally released upon the sale, exchange, disposition or other transfer of all or substantially all of the assets of such guarantor if any of these events occurs in compliance with the respective indentures. The guarantee by BRCM and BTI will also be automatically and unconditionally released if at any time the aggregate principal amount of indebtedness issued, borrowed or guaranteed by BRCM and BTI constitutes no more than 20% of the aggregate principal amount of indebtedness for borrowed money of Broadcom and its subsidiaries on a consolidated basis.

Pursuant to indentures dated January 19, 2017 and October 17, 2017 (collectively, the "2017 Indentures"), Broadcom Cayman Finance Limited (subsequently merged into BTI during fiscal year 2019 with BTI remaining as the surviving entity) and BRCM (BRCM and BTI collectively, the "2017 Senior Notes Co-Issuers") issued $13,550 million and $4,000 million aggregate principal amount of notes, respectively (collectively, the "2017 Senior Notes"). Substantially all of the 2017 Senior Notes have been registered with the SEC.

We may redeem all or a portion of our 2017 Senior Notes at any time prior to their maturity, subject to a specified make-whole premium as set forth in the 2017 Indentures. In the event of a change of control triggering event, holders of our 2017 Senior Notes will have the right to require us to purchase for cash, all or a portion of their 2017 Senior Notes at a redemption price of 101% of the aggregate principal amount plus accrued and unpaid interest. The 2017 Indentures also contain covenants that restrict, among other things, the ability of Broadcom and its subsidiaries to incur certain secured debt and to consummate certain sale and leaseback transactions and restrict the ability of Broadcom and the 2017 Senior Notes Co-Issuers to merge, consolidate or sell all or substantially all of their assets.

Broadcom and BTI fully and unconditionally guarantee, jointly and severally, on an unsecured, unsubordinated basis, the 2017 Senior Notes. Because the guarantees are not secured, they are effectively subordinated to any existing and future secured indebtedness of the guarantors to the extent of the value of the collateral securing that indebtedness. The guarantee by Broadcom and BTI will be automatically and unconditionally released upon the sale, exchange, disposition or other transfer of all or substantially all of the assets of such guarantor if any of these events occurs in compliance with the 2017 Indentures. The guarantee by Broadcom (1) will also be automatically and unconditionally released at such time as: (A) the 2017 Senior

Notes Co-Issuers, in their sole discretion, determine that such guarantee is no longer required by Rule 3-10(a), as applicable, of Regulation S-X to except the 2017 Senior Notes Co-Issuers' financial statements from being required to be filed pursuant to Rule 3-10(a) of Regulation S-X or otherwise facilitate a reduction in its financial reporting obligations or (B) either of the 2017 Senior Notes Co-Issuers becomes subject to Section 13 or 15(d) of the Exchange Act and (2) may, at the election of the 2017 Senior Notes Co-Issuers, be unconditionally released at such time as Broadcom is eligible to suspend its reporting obligation under the Exchange Act.

The following tables set forth the summarized financial information of the Obligor Group on a combined basis. This summarized financial information excludes any subsidiaries that are not issuers or guarantors (the "Non-Obligor Group"). Intercompany balances and transactions between members of the Obligor Group have been eliminated.

Summarized Balance Sheets	**November 1, 2020**
	(In millions)
ASSETS	
Current assets:	
Amount due from Non-Obligor Group	$ 1,889
Other current assets	4,091
Total current assets	$ 5,980
Long-term assets:	
Amount due from Non-Obligor Group, long-term	$ 8,220
Goodwill	1,360
Other long-term assets	1,318
Total long-term assets	$ 10,898
LIABILITIES	
Current liabilities:	
Amount due to Non-Obligor Group	$ 7,147
Current portion of long-term debt	807
Other current liabilities	601
Total current liabilities	$ 8,555
Long-term liabilities:	
Amount due to Non-Obligor Group, long-term	$ —
Long-term debt	39,311
Other long-term liabilities	2,477
Total long-term liabilities	$ 41,788

Summarized Statement of Operations	**Fiscal Year Ended November 1, 2020**
	(In millions)
Intercompany revenue with Non-Obligor Group	$ 1,683
Gross margin	$ 1,524
Loss from continuing operations [(a)]	$ (1,985)
Net loss	$ (1,985)

(a) Included $706 million of net income from the Non-Obligor Group related to intercompany transactions.

Contractual Commitments

	Total	Payments Due by Period Less than 1 year	1-3 years	3-5 years	More than 5 years
			(In millions)		
Debt principal, interest and fees	$ 51,307	$ 2,286	$ 7,708	$ 13,122	$ 28,191
Purchase commitments	966	894	72	—	—
Other contractual commitments	1,137	248	430	220	239
Operating lease and finance lease obligations	845	141	212	136	356
Total	$ 54,255	$ 3,569	$ 8,422	$ 13,478	$ 28,786

Debt Principal, Interest and Fees. Represents principal, estimated interest and fees on our borrowings. For borrowings subject to a floating interest rate, the estimated interest was based on the rate in effect during the last month of the fiscal year ended November 1, 2020.

Purchase Commitments. Represents unconditional purchase obligations that include agreements to purchase goods or services, primarily inventory, that are enforceable and legally binding on us and that specify all significant terms, including fixed or minimum quantities to be purchased, fixed, minimum or variable price provisions, and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancelable without penalty. Cancellation for outstanding purchase orders for capital expenditures in connection with construction of our new campuses is generally allowed but requires payment of all costs incurred through the date of cancellation and, therefore, cancelable purchase orders for these capital expenditures are included in the table above.

Other Contractual Commitments. Represents amounts payable pursuant to agreements related to information technology, human resources, and other service agreements.

Operating Lease and Finance Lease Obligations. Represents real property and equipment leased from third parties under non-cancelable leasing arrangements.

Due to the inherent uncertainty with respect to the timing of future cash outflows associated with our unrecognized tax benefits at November 1, 2020, we are unable to reliably estimate the timing of cash settlement with the respective taxing authority. Therefore, $3,185 million of unrecognized tax benefits and accrued interest classified within other long-term liabilities on our consolidated balance sheet as of November 1, 2020 have been excluded from the contractual obligations table above.

Off-Balance Sheet Arrangements

We had no material off-balance sheet arrangements at November 1, 2020 as defined in Item 303(a)(4)(ii) of Regulation S-K under the Exchange Act.

Indemnifications

See Note 14. “Commitments and Contingencies” in Part II, Item 8 of this Form 10-K.

Accounting Changes and Recent Accounting Standards

For a description of accounting changes and recent accounting standards, including the expected dates of adoption and estimated effects, if any, in our consolidated financial statements, see Note 2. “Summary of Significant Accounting Policies” included in Part II, Item 8. of this Annual Report on Form 10-K.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Derivative Instruments

From time to time, we use foreign exchange forward contracts to hedge a portion of our exposures to changes in currency exchange rates, which result from our global operating and financing activities. Gains and losses from foreign currency transactions, as well as derivative instruments, were not significant for any period presented in the consolidated financial statements included in this Form 10-K. As of November 1, 2020, we did not have any outstanding foreign exchange forward contracts.

European Debt Exposures

We actively monitor our exposure to the European financial markets, including the impact of sovereign debt issues. We also seek to mitigate our risk by investing in fixed deposits with various financial institutions and we limit the amount we hold with any one institution. We do not have any direct investments in the sovereign debt of European countries. From time to time, we may have deposits with major European financial institutions. We also seek to mitigate collection risks from our customers by performing regular credit evaluations of our customers' financial condition. As of November 1, 2020, we do not believe that we have any material direct or indirect exposure to the European financial markets.

Interest Rate Risk

As of November 1, 2020, we had $5.9 billion of outstanding term loans, which are subject to floating interest rates. A 1% change in the interest rate would affect interest expense on our term loans by approximately $59 million over the next 12 months.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

BROADCOM INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Broadcom Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Broadcom Inc. and its subsidiaries (the "Company") as of November 1, 2020 and November 3, 2019, and the related consolidated statements of operations, of comprehensive income, of equity and of cash flows for each of the three years in the period ended November 1, 2020, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of November 1, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of November 1, 2020 and November 3, 2019, and the results of its operations and its cash flows for each of the three years in the period ended November 1, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of November 1, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in fiscal 2020.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and
expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Developed Technology and Customer Contracts and Related Relationships Intangible Assets Acquired - Symantec Corporation Enterprise Security Business

As described in Notes 2 and 4 to the consolidated financial statements, the Company completed the purchase of certain assets and assumption of certain liabilities of the Symantec Corporation Enterprise Security business on November 4, 2019 for $10.7 billion in cash, of which $2.9 billion of finite-lived developed technology and $2.4 billion of finite-lived customer contracts and related relationships intangible assets were recorded.

Management valued the developed technology using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the developed technology less charges representing the contribution of other assets to those cash flows. Management valued the customer contracts and related relationships using the with-and-without-method under the income approach. In this method, the fair value was measured by the difference between the present values of the cash flows with and without the existing customers in place over the period of time necessary to reacquire the customers. Significant estimates and assumptions in estimating the fair value of the developed technology and the customer contracts and related relationships include future expected cash flows from product sales, customer contracts and acquired technologies, revenue growth rate, customer ramp-up period, technology obsolescence rates, and discount rates.

The principal considerations for our determination that performing procedures relating to the valuation of the developed technology and the customer contracts and related relationships intangible assets acquired in the Symantec Corporation Enterprise Security business acquisition is a critical audit matter are (i) a high degree of auditor judgment and subjectivity in performing procedures relating to the fair value measurement of the developed technology and the customer contracts and related relationships due to the significant judgment by management when developing these estimates, (ii) the significant audit effort in evaluating the significant assumptions relating to the valuation of the developed technology and the customer contracts and related relationships related to the revenue growth rate, the customer ramp-up period, the technology obsolescence rates, and the discount rates, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the acquisition accounting, including controls over management's valuation of the developed technology and the customer contracts and related relationships and controls over development of the assumptions related to the revenue growth rate, the customer ramp-up period, the technology obsolescence rates, and the discount rates. These procedures also included, among others, reading the purchase agreement and testing management's process for determining the fair value of these intangible assets, including evaluating the appropriateness of the valuation methods, testing the completeness and accuracy of data used in the methods, and evaluating the reasonableness of the significant assumptions related to the revenue growth rate, the customer ramp-up period, the technology obsolescence rates, and the discount rates. Evaluating the reasonableness of the revenue growth rate and the customer ramp-up period involved considering the past performance of the acquired business and industry data. Evaluating the reasonableness of the technology obsolescence rates involved considering the past performance of the acquired business and benchmarking of peer companies. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of valuation methods and the reasonableness of the customer ramp-up period, the technology obsolescence rates, and the discount rates.

/s/ PricewaterhouseCoopers LLP

San Jose, California
December 18, 2020

We have served as the Company's auditor since 2006.

BROADCOM INC.

CONSOLIDATED BALANCE SHEETS

	November 1, 2020	November 3, 2019
	(In millions, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 7,618	$ 5,055
Trade accounts receivable, net	2,297	3,259
Inventory	1,003	874
Other current assets	977	729
Total current assets	11,895	9,917
Long-term assets:		
Property, plant and equipment, net	2,509	2,565
Goodwill	43,447	36,714
Intangible assets, net	16,782	17,554
Other long-term assets	1,300	743
Total assets	$ 75,933	$ 67,493
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 836	$ 855
Employee compensation and benefits	877	641
Current portion of long-term debt	827	2,787
Other current liabilities	3,831	2,616
Total current liabilities	6,371	6,899
Long-term liabilities:		
Long-term debt	40,235	30,011
Other long-term liabilities	5,426	5,613
Total liabilities	52,032	42,523
Commitments and contingencies (Note 14)		
Preferred stock dividend obligation	27	29
Stockholders' equity:		
Preferred stock, $0.001 par value; 100 shares authorized; 8.00% Mandatory Convertible Preferred Stock, Series A, 4 shares issued and outstanding; aggregate liquidation value of $3,738 as of November 1, 2020 and November 3, 2019	—	—
Common stock, $0.001 par value; 2,900 shares authorized; 407 and 398 shares issued and outstanding as of November 1, 2020 and November 3, 2019, respectively	—	—
Additional paid-in capital	23,982	25,081
Retained earnings	—	—
Accumulated other comprehensive loss	(108)	(140)
Total stockholders' equity	23,874	24,941
Total liabilities and equity	$ 75,933	$ 67,493

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Fiscal Year Ended		
	November 1, 2020	November 3, 2019	November 4, 2018
	(In millions, except per share data)		
Net revenue:			
Products	$ 17,435	$ 18,117	$ 19,754
Subscriptions and services	6,453	4,480	1,094
Total net revenue	23,888	22,597	20,848
Cost of revenue:			
Cost of products sold	5,892	6,208	6,924
Cost of subscriptions and services	626	515	97
Purchase accounting effect on inventory	—	—	70
Amortization of acquisition-related intangible assets	3,819	3,314	3,004
Restructuring charges	35	77	20
Total cost of revenue	10,372	10,114	10,115
Gross margin	13,516	12,483	10,733
Research and development	4,968	4,696	3,768
Selling, general and administrative	1,935	1,709	1,056
Amortization of acquisition-related intangible assets	2,401	1,898	541
Restructuring, impairment and disposal charges	198	736	219
Litigation settlements	—	—	14
Total operating expenses	9,502	9,039	5,598
Operating income	4,014	3,444	5,135
Interest expense	(1,777)	(1,444)	(628)
Impairment on investment	—	—	(106)
Other income, net	206	226	144
Income from continuing operations before income taxes	2,443	2,226	4,545
Benefit from income taxes	(518)	(510)	(8,084)
Income from continuing operations	2,961	2,736	12,629
Loss from discontinued operations, net of income taxes	(1)	(12)	(19)
Net income	2,960	2,724	12,610
Dividends on preferred stock	(297)	(29)	—
Net income attributable to noncontrolling interest	—	—	(351)
Net income attributable to common stock	$ 2,663	$ 2,695	$ 12,259
Basic income per share attributable to common stock:			
Income per share from continuing operations	$ 6.62	$ 6.80	$ 29.37
Loss per share from discontinued operations	—	(0.03)	(0.04)
Net income per share	$ 6.62	$ 6.77	$ 29.33
Diluted income per share attributable to common stock:			
Income per share from continuing operations	$ 6.33	$ 6.46	$ 28.48
Loss per share from discontinued operations	—	(0.03)	(0.04)
Net income per share	$ 6.33	$ 6.43	$ 28.44
Weighted-average shares used in per share calculations:			
Basic	402	398	418
Diluted	421	419	431

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Fiscal Year Ended		
	November 1, 2020	November 3, 2019	November 4, 2018
		(In millions)	
Net income	$ 2,960	$ 2,724	$ 12,610
Other comprehensive income (loss), net of tax:			
Change in actuarial loss and prior service costs associated with defined benefit pension plans and post-retirement benefit plans	24	(24)	(8)
Other comprehensive income (loss), net of tax	24	(24)	(8)
Comprehensive income	2,984	2,700	12,602
Comprehensive income attributable to noncontrolling interest	—	—	351
Comprehensive income attributable to Broadcom Inc. stockholders	$ 2,984	$ 2,700	$ 12,251

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Fiscal Year Ended		
	November 1, 2020	November 3, 2019	November 4, 2018
		(In millions)	
Cash flows from operating activities:			
Net income	$ 2,960	$ 2,724	$ 12,610
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of intangible and right-of-use assets	6,335	5,239	3,566
Depreciation	570	569	515
Stock-based compensation	1,976	2,185	1,227
Deferred taxes and other non-cash taxes	(1,142)	(934)	(8,270)
Impairment on investment	—	—	106
Loss on debt extinguishment	169	28	—
Non-cash restructuring, impairment and disposal charges	44	133	21
Non-cash interest expense	108	69	24
Other	(52)	(132)	37
Changes in assets and liabilities, net of acquisitions and disposals:			
Trade accounts receivable, net	981	486	(652)
Inventory	(31)	250	417
Accounts payable	(3)	(42)	(325)
Employee compensation and benefits	217	(294)	6
Contributions to defined benefit pension plans	—	—	(130)
Other current assets and current liabilities	331	(283)	369
Other long-term assets and long-term liabilities	(402)	(301)	(641)
Net cash provided by operating activities	12,061	9,697	8,880
Cash flows from investing activities:			
Acquisitions of businesses, net of cash acquired	(10,872)	(16,033)	(4,800)
Proceeds from sales of businesses	218	957	773
Purchases of property, plant and equipment	(463)	(432)	(635)
Proceeds from disposals of property, plant and equipment	12	88	239
Purchases of investments	—	(5)	(249)
Other	(4)	3	(2)
Net cash used in investing activities	(11,109)	(15,422)	(4,674)
Cash flows from financing activities:			
Proceeds from long-term borrowings	27,802	28,793	—
Repayment of debt	(18,814)	(16,800)	(973)
Other borrowings, net	(1,285)	1,241	—
Payment of dividends and distributions	(5,534)	(4,235)	(2,998)
Repurchases of common stock - repurchase program	—	(5,435)	(7,258)
Shares repurchased for tax withholdings on vesting of equity awards	(765)	(972)	(56)
Issuance of preferred stock, net	—	3,679	—
Issuance of common stock	276	253	212
Other	(69)	(36)	(45)
Net cash provided by (used in) financing activities	1,611	6,488	(11,118)
Net change in cash and cash equivalents	2,563	763	(6,912)
Cash and cash equivalents at beginning of period	5,055	4,292	11,204
Cash and cash equivalents at end of period	$ 7,618	$ 5,055	$ 4,292
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 1,408	$ 1,287	$ 547
Cash paid for income taxes	$ 501	$ 741	$ 512

The accompanying notes are an integral part of these consolidated financial statements.

Table of Contents

BROADCOM INC.

CONSOLIDATED STATEMENTS OF EQUITY

	Special Preference Preferred Stock		8.00% Mandatory Convertible Preferred Stock		Common Stock							
	Shares	Amount	Shares	Par Value	Shares	Par Value	Additional Paid-in Capital	Retained Earnings/(Accumulated Deficit)	Accumulated Other Comprehensive Loss	Total Broadcom Inc. Stockholders' Equity	Noncontrolling Interest	Total Equity
								(In millions)				
Balance as of October 29, 2017	22	$ —	—	$ —	409	$ —	$20,505	$ (129)	$ (91)	$ 20,285	$ 2,901	$23,186
Net income	—	—	—	—	—	—	—	12,259	—	12,259	351	12,610
Other comprehensive loss	—	—	—	—	—	—	—	—	(8)	(8)	—	(8)
Cumulative effect of accounting change	—	—	—	—	—	—	—	(237)	(16)	(253)	(13)	(266)
Fair value of partially vested equity awards assumed in connection with the acquisition of Brocade Communications Systems, Inc.	—	—	—	—	—	—	8	—	—	8	—	8
Dividends to common stockholders	—	—	—	—	—	—	—	(2,921)	—	(2,921)	—	(2,921)
Distributions by Broadcom Cayman L.P. on exchangeable limited partnership units	—	—	—	—	—	—	—	—	—	—	(77)	(77)
Exchange of exchangeable limited partnership units for common stock and redemption of preferred stock due to the Redomiciliation Transaction	(22)	—	—	—	22	—	3,162	—	—	3,162	(3,162)	—
Common stock issued	—	—	—	—	9	—	212	—	—	212	—	212
Stock-based compensation	—	—	—	—	—	—	1,227	—	—	1,227	—	1,227
Repurchases of common stock	—	—	—	—	(32)	—	(1,773)	(5,485)	—	(7,258)	—	(7,258)
Shares repurchased for tax withholdings on vesting of equity awards	—	—	—	—	—	—	(56)	—	—	(56)	—	(56)
Balance as of November 4, 2018	—	—	—	—	408	—	23,285	3,487	(115)	26,657	—	26,657
Net income	—	—	—	—	—	—	—	2,724	—	2,724	—	2,724
Other comprehensive loss	—	—	—	—	—	—	—	—	(24)	(24)	—	(24)
Cumulative effect of accounting change	—	—	—	—	—	—	—	8	(1)	7	—	7
Fair value of partially vested equity awards assumed in connection with the acquisition of CA, Inc.	—	—	—	—	—	—	67	—	—	67	—	67
Dividends to common stockholders	—	—	—	—	—	—	(880)	(3,355)	—	(4,235)	—	(4,235)
Dividends to preferred stockholders	—	—	—	—	—	—	(29)	—	—	(29)	—	(29)
Common stock issued	—	—	—	—	15	—	253	—	—	253	—	253
Preferred stock issued, net	—	—	4	—	—	—	3,679	—	—	3,679	—	3,679
Stock-based												

compensation	—	—	—	—	—	—	2,260	—	—	2,260	—	2,260
Repurchases of common stock	—	—	—	—	(21)	—	(2,571)	(2,864)	—	(5,435)	—	(5,435)
Shares repurchased for tax withholdings on vesting of equity awards	—	—	—	—	(4)	—	(983)	—	—	(983)	—	(983)
Balance as of November 3, 2019	—	—	4	—	398	—	25,081	—	(140)	24,941	—	24,941
Net income	—	—	—	—	—	—	—	2,960	—	2,960	—	2,960
Other comprehensive income	—	—	—	—	—	—	—	—	24	24	—	24
Cumulative effect of accounting change	—	—	—	—	—	—	—	(10)	8	(2)	—	(2)
Fair value of partially vested equity awards assumed in connection with an acquisition	—	—	—	—	—	—	1	—	—	1	—	1
Dividends to common stockholders	—	—	—	—	—	—	(2,582)	(2,653)	—	(5,235)	—	(5,235)
Dividends to preferred stockholders	—	—	—	—	—	—	—	(297)	—	(297)	—	(297)
Common stock issued	—	—	—	—	12	—	276	—	—	276	—	276
Stock-based compensation	—	—	—	—	—	—	1,976	—	—	1,976	—	1,976
Shares repurchased for tax withholdings on vesting of equity awards	—	—	—	—	(3)	—	(770)	—	—	(770)	—	(770)
Balance as of November 1, 2020	—	$ —	4	$ —	407	$ —	$23,982	$ —	$ (108)	$ 23,874	$ —	$23,874

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Overview and Basis of Presentation

Overview

Broadcom Inc. (“Broadcom”), a Delaware corporation, is the successor to Broadcom Limited (now Broadcom Pte. Ltd.), a Singapore company (“Broadcom-Singapore”). On April 4, 2018, all Broadcom-Singapore outstanding ordinary shares were exchanged for newly issued shares of Broadcom common stock (the “Redomiciliation Transaction”). As a result, Broadcom-Singapore became a wholly-owned subsidiary of Broadcom. In addition, all outstanding exchangeable limited partnership units (“LP Units”) of Broadcom Cayman L.P. (the “Partnership”) were mandatorily exchanged (the “Mandatory Exchange”) for newly issued shares of Broadcom common stock and all limited partners of the Partnership became common stockholders of Broadcom. Also, all related outstanding special preference shares of Broadcom-Singapore were automatically redeemed upon the Mandatory Exchange. The limited partners no longer hold a noncontrolling interest and we deregistered the Partnership.

The Redomiciliation Transaction was accounted for as an exchange of equity interests among entities under common control and the historical basis of accounting was retained as if the entities had always been combined for financial reporting purposes.

The financial statements relate to Broadcom-Singapore for periods prior to April 4, 2018, the effective date of the Redomiciliation Transaction, and relate to Broadcom for periods after April 4, 2018. Unless stated otherwise or the context otherwise requires, references to “Broadcom,” “we,” “our” and “us” mean Broadcom and its consolidated subsidiaries from and after the effective time of the Redomiciliation Transaction and, prior to that time, to our predecessor, Broadcom-Singapore.

We are a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. Our infrastructure software solutions enable customers to plan, develop, automate, manage and secure applications across mainframe, distributed, mobile and cloud platforms. We offer a cyber security solutions portfolio, including endpoint, network, information and identity security solutions. We also offer mission critical fibre channel storage area networking (“FC SAN”) products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products.

Basis of Presentation

We operate on a 52- or 53-week fiscal year ending on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. Our fiscal year ended November 1, 2020 (“fiscal year 2020”) was a 52-week fiscal year. The first quarter of our fiscal year 2020 ended on February 2, 2020, the second quarter ended on May 3, 2020 and the third quarter ended on August 2, 2020. Our fiscal year ended November 3, 2019 (“fiscal year 2019”) was a 52-week fiscal year. Our fiscal year ended November 4, 2018 (“fiscal year 2018”) was a 53-week fiscal year, with the first fiscal quarter containing 14 weeks.

On November 4, 2019, we completed the purchase of certain assets and assumption of certain liabilities of the Symantec Corporation Enterprise Security business (the “Symantec Business”). On November 5, 2018, we acquired CA, Inc. (“CA”). On November 17, 2017, we acquired Brocade Communications Systems, Inc. (“Brocade”). The accompanying consolidated financial statements include the results of operations of Symantec Business, CA and Brocade commencing as of their respective acquisition dates. See Note 4. “Acquisitions” for additional information.

Certain reclassifications have been made to the consolidated statement of cash flows for fiscal year 2019. These reclassifications have no impact on previously reported operating, investing or financing cash flows. During the first quarter of fiscal year 2020, we changed our organizational structure, resulting in two reportable segments: semiconductor solutions and infrastructure software. Reclassifications have also been made to segment operating income. Segment results from prior years have been recast to conform to the current presentation. See Note 13. “Segment Information” for additional information. These reclassifications have no impact on previously reported consolidated operating income.

The accompanying consolidated financial statements include the accounts of Broadcom and its subsidiaries and have been prepared in accordance with generally accepted principles in the United States (“GAAP”). All intercompany balances and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Foreign currency remeasurement. We operate in a U.S. dollar functional currency environment. As such, foreign currency assets and liabilities are remeasured into U.S. dollars at current exchange rates except for non-monetary items such as inventory and property, plant and equipment, which are remeasured at historical exchange rates. The effects of foreign currency remeasurement were not material for any period presented.

Use of estimates. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The inputs into certain of these estimates and assumptions include the consideration of the economic impact of the COVID-19 pandemic. Actual results could differ materially from these estimates, and such differences could affect the results of operations reported in future periods. As the impact of the COVID-19 pandemic continues to develop, many of these estimates could require increased judgment and carry a higher degree of variability and volatility, and may change materially in future periods.

Cash and cash equivalents. We consider all highly liquid investment securities with original or remaining maturities of three months or less at the date of purchase to be cash equivalents. We determine the appropriate classification of our cash and cash equivalents at the time of purchase.

Trade accounts receivable, net. Trade accounts receivable are recognized at the invoiced amount and do not bear interest. Accounts receivable are reduced by an allowance for doubtful accounts, which is our best estimate of the amount of probable credit losses in our existing accounts receivable. We determine the allowance based on customer-specific experience and the aging of such receivables, among other factors. Allowances for doubtful accounts were not material as of November 1, 2020 or November 3, 2019. Accounts receivable are also recognized net of sales returns and distributor credit allowances. These amounts are recognized when it is both probable and estimable that discounts will be granted or products will be returned. Allowances for sales returns and distributor credit allowances as of November 1, 2020 and November 3, 2019 were $174 million and $178 million, respectively.

Concentrations of credit risk and significant customers. Our cash, cash equivalents and accounts receivable are potentially subject to concentration of credit risk. Cash and cash equivalents may be redeemable upon demand and are maintained with several financial institutions that management believes are of high credit quality and therefore bear minimal credit risk. We seek to mitigate our credit risks by spreading such risks across multiple counterparties and monitoring the risk profile of these counterparties. Our accounts receivable are derived from revenue earned from customers located both within and outside the U.S. We mitigate collection risks from our customers by performing regular credit evaluations of our customers' financial conditions, and require collateral, such as letters of credit and bank guarantees, in certain circumstances.

Concentration of other risks. We operate in markets that are highly competitive and rapidly changing. Significant technological changes, shifting customer needs, the emergence of competitive products with new capabilities, general economic conditions worldwide, the ability to safeguard patents and other intellectual property in a rapidly evolving market and reliance on assembly and test subcontractors, third-party wafer fabricators and independent distributors and other factors could affect our financial results.

Inventory. We value our inventory at the lower of actual cost or net realizable value of the inventory, with cost being determined under the first-in, first-out method. We record a provision for excess and obsolete inventory based primarily on our forecast of product demand and production requirements. The excess and obsolete balance determined by this analysis becomes the basis for our excess and obsolete inventory charge and the written-down value of the inventory becomes its new cost basis.

Retirement benefits. For defined benefit pension plans, we consider various factors in determining our respective pension liabilities and net periodic benefit costs, including the number of employees that we expect to receive benefits, their salary levels and years of service, the expected return on plan assets, the discount rate, the timing of the payment of benefits, and other actuarial assumptions. If the actual results and events of the retirement benefit plans differ from our current assumptions, the benefit obligations may be over- or under-valued.

Post-retirement benefit plan assets and liabilities are estimates of benefits that we expect to pay to eligible retirees. We consider various factors in determining the value of our post-retirement benefit plan assets and liabilities, including the number of employees that we expect to receive benefits and other actuarial assumptions.

The key benefit plan assumptions are the discount rate and the expected rate of return on plan assets. The U.S. discount rates are based on the results of matching expected plan benefit payments with cash flows from a hypothetical yield curve constructed with high-quality corporate bond yields. The U.S. expected rate of return on plan assets is set equal to the discount rate due to the implementation of our fully-matched, liability-driven investment strategy. For the non-U.S. plans, we set assumptions specific to each country. We have elected to measure defined benefit pension plan and post-retirement benefit plan assets and liabilities as of October 31, which is the month end that is closest to our fiscal year end.

Derivative instruments. We use derivative financial instruments, primarily foreign exchange forward contracts, to manage exposure to foreign exchange risk. Our forward contracts generally mature within three months. We do not use derivative financial instruments for speculative or trading purposes.

Outstanding derivatives are recognized as either assets or liabilities at their fair values based on Level 2 inputs as defined in the fair value hierarchy. The accounting for gains and losses resulting from changes in fair value depends on the use of the derivative and its hedging designation. For derivative instruments designated as fair value hedges, the changes in fair value are recognized in other income, net in the periods of change, and are offset by the changes in fair value of the hedged items. For derivative instruments designated as cash flow hedges, the changes in fair value of the effective portion are initially recognized in other comprehensive income (loss), net of tax in the period of change, and are subsequently reclassified and recognized in other income, net when either the hedged transactions affect earnings or it becomes probable that the hedged transactions will not occur. The changes in the fair value of the ineffective portion of the derivative instruments are recognized in other income, net in the period of change, which have not been material to date. For derivative instruments not designated as hedges, the changes in fair value are recognized in other income, net in the period of change. We did not have any outstanding derivative instruments as of November 1, 2020 or November 3, 2019.

Property, plant and equipment. Property, plant and equipment are stated at cost less accumulated depreciation and amortization. Additions, improvements and major renewals are capitalized, and maintenance, repairs and minor renewals are expensed as incurred. Assets are held in construction in progress until placed in service, upon which date, we begin to depreciate these assets. When assets are retired or disposed of, the assets and related accumulated depreciation and amortization are removed from our property, plant and equipment balances and the resulting gain or loss is reflected in the consolidated statements of operations. Buildings and leasehold improvements are generally depreciated over 15 to 40 years, or over the lease period, whichever is shorter, and machinery and equipment are generally depreciated over three to ten years. We use the straight-line method of depreciation for all property, plant and equipment.

Leases. We determine if an arrangement is a lease, or contains a lease, at the inception of the arrangement and evaluate whether the lease is an operating lease or a finance lease at the commencement date. We recognize right-of-use ("ROU") assets and lease liabilities for operating and finance leases with terms greater than 12 months. ROU assets represent our right to use an asset for the lease term, while lease liabilities represent our obligation to make lease payments. Operating and finance lease ROU assets and liabilities are recognized based on the present value of lease payments over the lease term at the lease commencement date. We use the implicit interest rate or, if not readily determinable, our incremental borrowing rate as of the lease commencement date to determine the present value of lease payments. The incremental borrowing rate is based on our unsecured borrowing rate, adjusted for the effects of collateral. Operating and finance lease ROU assets are recognized net of any lease prepayments and incentives. Lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Operating lease expense is recognized on a straight-line basis over the lease term. Finance lease expense is recognized based on the effective-interest method over the lease term.

Fair value measurement. Fair value is defined as the price that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A three level hierarchy is applied to prioritize the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The three levels of the fair value hierarchy under the guidance for fair value measurements are described below:

Level 1 — Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Our Level 1 assets include cash equivalents, banker's acceptances, trading securities investments and investment funds. We measure trading securities investments and investment funds at quoted market prices as they are traded in active markets with sufficient volume and frequency of transactions.

Level 2 — Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified contractual term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 — Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date. Level 3 assets and liabilities include investment in equity securities without readily determinable fair values, goodwill, intangible assets, and property, plant and equipment, which are measured at fair value using a discounted cash flow approach when they are impaired. Quantitative information for Level 3 assets and liabilities reviewed at each reporting period includes indicators of significant deterioration in the earnings performance, credit rating, asset quality, business prospects of the investee, and financial indicators of the investee's ability to continue as a going concern.

Business combinations. We account for business combinations under the acquisition method of accounting, which requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recognized in our consolidated statements of operations. Accounting for business combinations requires our management to make significant estimates and assumptions, especially at the acquisition date including our estimates for intangible assets, contractual obligations assumed, restructuring liabilities, pre-acquisition contingencies, and contingent consideration, where applicable. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, they are based, in part, on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Critical estimates in valuing certain acquired intangible assets under the income approach include growth in future expected cash flows from product sales, customer contracts and acquired technologies, revenue growth rate, customer ramp-up period, technology obsolescence rates, expected costs to develop in-process research and development ("IPR&D") into commercially viable products, estimated cash flows from the projects when completed and discount rates. Unanticipated events and circumstances may occur that may affect the accuracy or validity of such assumptions, estimates or actual results.

Goodwill. Goodwill represents the excess of purchase price and related costs over the value assigned to the net tangible and identifiable intangible assets of businesses acquired. Goodwill is not amortized but is reviewed annually (or more frequently if impairment indicators arise) for impairment. To review for impairment we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount. Our qualitative assessment of the recoverability of goodwill, whether performed annually or based on specific events or circumstances, considers various macroeconomic, industry-specific and company-specific factors. Those factors include: (i) severe adverse industry or economic trends; (ii) significant company-specific actions, including exiting an activity in conjunction with restructuring of operations; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. After assessing the totality of events and circumstances, if we determine that it is not more likely than not that the fair value of any of our reporting units is less than its carrying amount, no further assessment is performed. If we determine that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount, we calculate the fair value of that reporting unit and compare the fair value to the reporting unit's net book value. If the fair value of the reporting unit is greater than its net book value, there is no impairment. Otherwise, we calculate the implied fair value of goodwill by deducting the fair value of all tangible and intangible assets, excluding goodwill, of the reporting unit from the fair value of the reporting unit. The implied fair value of goodwill is compared to the carrying value of goodwill. If the implied fair value of goodwill is less than the carrying value of goodwill, an impairment loss is recognized equal to the difference. Determining the fair value of a reporting unit involves the use of significant estimates and assumptions.

Long-lived assets. Purchased finite-lived intangible assets are carried at cost less accumulated amortization. Amortization is recognized over the periods during which the intangible assets are expected to contribute to our cash flows. Purchased IPR&D projects are capitalized at fair value as an indefinite-lived intangible asset and assessed for impairment thereafter. Upon completion of each underlying project, IPR&D assets are reclassified as amortizable purchased intangible assets and amortized over their estimated useful lives. If an IPR&D project is abandoned, we recognize the carrying value of the related intangible asset in our consolidated statements of operations in the period it is abandoned. On a quarterly basis, we monitor factors and changes in circumstances that could indicate carrying amounts of long-lived assets, including purchased intangible assets and property, plant and equipment, may not be recoverable. Factors we consider important which could trigger an impairment review include (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, and (iii) significant negative industry or economic trends. An impairment loss must be measured if the sum of the expected future cash flows (undiscounted and before interest) from the use and eventual disposition of the asset (or asset group) is less than the net book value of the asset (or asset group). The amount of the impairment loss will generally be measured as the difference between the net book value of the asset (or asset group) and the estimated fair value.

Warranty. We accrue for the estimated costs of product warranties at the time revenue is recognized. Product warranty costs are estimated based upon our historical experience and specific identification of the product requirements, which may fluctuate based on product mix. Additionally, we accrue for warranty costs associated with occasional or unanticipated product quality issues if a loss is probable and can be reasonably estimated.

Revenue recognition. We account for a contract with a customer when both parties have approved the contract and are committed to perform their respective obligations, each party's rights can be identified, payment terms can be identified, the contract has commercial substance, and it is probable we will collect substantially all of the consideration we are entitled to. Revenue is recognized when, or as, performance obligations are satisfied by transferring control of a promised product or service to a customer.

Nature of Products and Services

Our products and services can be broadly categorized as sales of products and subscriptions and services. The following is a description of the principal activities from which we generate revenue.

Products. We recognize revenue from sales to direct customers and distributors when control transfers to the customer. Rebates and incentives offered to distributors, which are earned when sales to end customers are completed, are estimated at the point of revenue recognition. We have elected to exclude from the transaction price any taxes collected from a customer and to account for shipping and handling activities performed after a customer obtains control of the product as activities to fulfill the promise to transfer the product.

Subscriptions and services. Our subscriptions and services revenue consists of sales and royalties from software arrangements, support services, professional services, transfer of intellectual property ("IP"), and non-recurring engineering ("NRE") arrangements.

Revenue from software arrangements primarily consists of fees, which may be paid either at contract inception or in installments over the contract term, that provide customers with a right to use the software, access general support and maintenance, and utilize our professional services.

Our software licenses have standalone functionality from which customers derive benefit, and the customer obtains control of the software when it is delivered or made available for download. We believe that for the majority of software arrangements, customers derive significant benefit from the ongoing support we provide. The majority of our subscriptions and services arrangements permit our customers to unilaterally terminate or cancel these arrangements at any time at the customer's convenience, referred to as termination for convenience provisions, without substantive termination penalty and receive a pro-rata refund of any prepaid fees. Accordingly, we account for arrangements with these termination for convenience provisions as a series of daily contracts, resulting in ratable revenue recognition of software revenue over the contractual period.

Support services consist primarily of telephone support and the provision of unspecified updates and upgrades on a when-and-if-available basis. Support services represent stand-ready obligations for which revenue is recognized ratably over the term of the arrangement.

Professional services consist of implementation, consulting, customer education and customer training services. The obligation to provide professional services is generally satisfied over time, with the customer simultaneously receiving and consuming the benefits as we satisfy our performance obligations.

Rights to our IP are either sold or licensed to a customer. IP revenue recognition is dependent on the nature and terms of each agreement. We recognize IP revenue upon delivery of the IP if there are no substantive future obligations to perform under the arrangement. Sales-based or usage-based royalties from the license of IP are recognized at the later of the period the sales or usages occur or the satisfaction of the performance obligation to which some or all of the sales-based or usage-based royalties have been allocated.

There are two main categories of NRE contracts that we enter into with our customers: (a) NRE contracts in which we develop a custom chip and (b) NRE contracts in which we accelerate our development of a new chip upon the customer's request. The majority of our NRE contract revenues meet the over time criteria. As such, revenue is recognized over the development period with the measure of progress using the input method based on costs incurred to total cost ("cost-to-cost") as the services are provided. For NRE contracts that do not meet the over time criteria, revenue is recognized at a point in time when the NRE services are complete.

Material rights. Contracts with customers may also include material rights that are also performance obligations. These include the right to renew or receive products or services at a discounted price in the future. Revenue allocated to material rights is recognized when the customer exercises the right or the right expires.

Arrangements with Multiple Performance Obligations

Our contracts may contain more than one of the products and services listed above, each of which is separately accounted for as a distinct performance obligation.

Allocation of consideration. We allocate total contract consideration to each distinct performance obligation in a bundled arrangement on a relative standalone selling price basis. The standalone selling price reflects the price we would charge for a specific product or service if it were sold separately in similar circumstances and to similar customers.

Standalone selling price. When available, we use directly observable transactions to determine the standalone selling prices for performance obligations. Our estimates of standalone selling price for each performance obligation require judgment that considers multiple factors, including, but not limited to, historical discounting trends for products and services and pricing practices through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, technology lifecycles and market conditions.

We separately determine the standalone selling prices by product or service type. Additionally, we segment the standalone selling prices for products where the pricing strategies differ, and where there are differences in customers and circumstances that warrant segmentation.

We also estimate the standalone selling price of our material rights. Lastly, we estimate the value of the customer's option to purchase or receive additional products or services at a discounted price by estimating the incremental discount the customer would obtain when exercising the option and the likelihood that the option would be exercised.

Other Policies and Judgments

Contract modifications. We may modify contracts to offer customers additional products or services. Each of the additional products and services is generally considered distinct from those products or services transferred to the customer before the modification. We evaluate whether the contract price for the additional products and services reflects the standalone selling price as adjusted for facts and circumstances applicable to that contract. In these cases, we account for the additional products or services as a separate contract. In other cases where the pricing in the modification does not reflect the standalone selling price as adjusted for facts and circumstances applicable to that contract, we account for the additional products or services as part of the existing contract on a prospective basis, on a cumulative catch-up basis, or a combination of both based on the nature of the modification. In instances where the pricing in the modification offers the customer a credit for a prior arrangement, we adjust our variable consideration reserves for returns and other concessions.

Right of return. Certain contracts contain a right of return that allows the customer to cancel all or a portion of the product or service and receive a credit. We estimate returns based on historical returns data which is constrained to an amount for which a material revenue reversal is not probable. We do not recognize revenue for products or services that are expected to be returned.

Transition practical expedient elected. We do not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed. For contracts that were modified before the beginning of the earliest reporting period presented, we have not retrospectively restated the contract for those modifications. We have disclosed the aggregate effect of all modifications when identifying the satisfied and unsatisfied performance obligations for purposes of determining the transaction price and allocating the transaction price at transition.

Research and development. Research and development expense consists primarily of personnel costs for our engineers and third parties engaged in the design and development of our products, software and technologies, including salary, bonus and stock-based compensation expense, project material costs, services and depreciation. Such costs are charged to research and development expense as they are incurred.

Stock-based compensation expense. We recognize compensation expense for time-based restricted stock units ("RSUs") using the straight-line amortization method based on the fair value of RSUs on the date of grant. The fair value of RSUs is the closing market price of Broadcom common stock on the date of grant, reduced by the present value of dividends expected to be paid on Broadcom common stock prior to vesting. We recognize compensation expense for time-based stock options and employee stock purchase plan rights under the Broadcom Inc. Employee Stock Purchase Plan, as amended ("ESPP") based on the estimated grant-date fair value determined using the Black-Scholes valuation model with a straight-line amortization method.

Certain equity awards include both service and market conditions. The fair value of market-based awards is estimated on the date of grant using the Monte Carlo simulation technique. Compensation expense for market-based awards is amortized based upon a graded vesting method over the service period.

We estimate forfeitures expected to occur and recognize stock-based compensation expense for such awards expected to vest. Changes in the estimated forfeiture rates can have a significant effect on stock-based compensation expense since the effect of adjusting the rate is recognized in the period the forfeiture estimate is changed.

Shipping and handling costs. Our shipping and handling costs charged to customers are included in net revenue and the associated expense is included in cost of revenue for all periods presented.

Litigation and settlement cost. We are involved in legal actions and other matters arising in our recent business acquisitions and in the normal course of business. We recognize an estimated loss contingency when the outcome is probable prior to issuance of the consolidated financial statements and we are able to reasonably estimate the amount or range of any possible loss.

Taxes on income. We account for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the consolidated financial statements and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

We recognize net deferred tax assets to the extent we believe these assets will more likely than not be realized. In making such determination, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies and recent financial operations. If we determine that we are able to realize our deferred income tax assets in the future in excess of their net carrying values, we adjust the valuation allowance and reduce the provision for income taxes or increase the benefit from income taxes. Likewise, if we determine that we are not able to realize all or part of our net deferred tax assets, we increase the provision for income taxes or decrease the benefit from income taxes in the period such determination is made.

We account for uncertainty in income taxes in accordance with the applicable accounting guidance on income taxes. This guidance provides that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits.

Net income per share. Basic net income per share is computed by dividing net income attributable to common stock by the weighted-average number of shares of common stock outstanding during the period. Diluted net income per share is computed by dividing net income attributable to common stock by the weighted-average number of shares of common stock and potentially dilutive shares of common stock outstanding during the period. Diluted shares outstanding include the dilutive effect of unvested RSUs, in-the-money stock options, and ESPP rights (together referred to as “equity awards”), as well as convertible preferred stock and LP Units. Potentially dilutive shares whose effect would have been antidilutive are excluded from the computation of diluted net income per share.

The dilutive effect of equity awards is calculated based on the average stock price for each fiscal period, using the treasury stock method. Under the treasury stock method, the amount the employee must pay for exercising stock options and purchasing shares under the ESPP and the amount of compensation cost for future service that we have not yet recognized are collectively assumed to be used to repurchase shares. The dilutive effect of convertible preferred stock and LP Units is calculated using the if-converted method. The if-converted method assumes that these securities were converted at the beginning of the reporting period to the extent that the effect is dilutive.

Recent Accounting Guidance

In February 2016, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) 2016-02, *Leases* (“Topic 842”), which requires a lessee to recognize lease assets and lease liabilities on the balance sheet for operating leases. At the beginning of fiscal year 2020, we adopted Topic 842 using the optional adoption method, whereby no adjustment to the financial statements of comparative periods is required. We elected practical expedients which allowed us to account for the lease and non-lease components as a single component. In addition, we elected not to reassess whether any expired or existing contracts contain leases and the corresponding lease classification and initial direct costs. The practical expedients were applied across our lease portfolios. Upon adoption, we recorded net ROU assets of $545 million and lease liabilities of $591 million and there were no cumulative effect adjustments as of November 4, 2019. The net ROU assets included the effect of reclassifying deferred rent and a portion of facilities-related restructuring reserves as an offset in accordance with the transition guidance. The standard did not materially affect the consolidated statement of operations and the consolidated statement of cash flows. See Note 6. “Leases” for further information.

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform*. This guidance provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions, subject to meeting certain criteria, that reference the London Interbank Offered Rate (“LIBOR”) or another reference rate expected to be discontinued because of reference rate reform. The amendments in this ASU were effective upon issuance and may be applied through December 31, 2022. This guidance had no impact on our contracts, hedging relationships and other transactions as of November 1, 2020.

3. Revenue from Contracts with Customers

Disaggregation

We have considered (1) information that is regularly reviewed by our Chief Executive Officer, who has been identified as the Chief Operating Decision Maker (the "CODM") as defined by the authoritative guidance on segment reporting, in evaluating financial performance and (2) disclosures presented outside of our financial statements in our earnings releases and used in investor presentations to disaggregate revenues. The principal category we use to disaggregate revenues is the nature of our products and subscriptions and services, as presented in our consolidated statements of operations. In addition, revenues by reportable segment are presented in Note 13. "Segment Information".

The following tables present revenue disaggregated by type of revenue and by region for the periods presented:

	Fiscal Year Ended November 1, 2020			
	Americas	Asia Pacific	Europe, the Middle East and Africa	Total
	(In millions)			
Products	$ 1,775	$ 14,442	$ 1,218	$ 17,435
Subscriptions and services[a]	4,059	881	1,513	6,453
Total	$ 5,834	$ 15,323	$ 2,731	$ 23,888

	Fiscal Year Ended November 3, 2019			
	Americas	Asia Pacific	Europe, the Middle East and Africa	Total
	(In millions)			
Products	$ 2,023	$ 14,857	$ 1,237	$ 18,117
Subscriptions and services[a]	3,126	374	980	4,480
Total	$ 5,149	$ 15,231	$ 2,217	$ 22,597

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(a) Subscriptions and services predominantly includes software licenses with termination for convenience clauses.

Although we recognize revenue for the majority of our products when title and control transfer in Penang, Malaysia, we disclose net revenue by region based on the geographic shipment or delivery location specified by our distributors, original equipment manufacturer ("OEM") customers, contract manufacturers, channel partners, or software customers.

Contract Balances

Contract assets and contract liabilities balances were as follows:

	Contract Assets	Contract Liabilities
	(In millions)	
Opening balance November 3, 2019	$ 259	$ 1,808
Closing balance November 1, 2020 [a]	$ 158	$ 3,443

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(a) Contract liabilities associated with the Symantec Business were included in the balance as of November 1, 2020.

Changes in our contract assets and contract liabilities primarily result from the timing difference between our performance and the customer's payment. We fulfill our obligations under a contract with a customer by transferring products and services in exchange for consideration from the customer. We recognize a contract asset when we transfer products or services to a customer and the right to consideration is conditional on something other than the passage of time. Accounts receivable are recorded when the customer has been billed or the right to consideration is unconditional. We recognize contract liabilities when we have received consideration or an amount of consideration is due from the customer and we have a future obligation to transfer products or services. Contract liabilities include amounts billed or collected and advanced payments on contracts or arrangements which may include termination for convenience provisions. The amount of revenue recognized during fiscal year 2020 that was included in the contract liabilities balance as of November 3, 2019 was $1,450 million. The amount of revenue recognized during fiscal year 2019 that was included in the contract liabilities balance as of November 5, 2018, the beginning of our fiscal year 2019, was $200 million.

Remaining Performance Obligations

Revenue allocated to remaining performance obligations represents the transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied. It includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods and does not include contracts for subscriptions and services where the customer is not committed. The customer is not considered committed when termination for convenience without payment of a substantive penalty exists, either contractually or through customary business practice. The majority of our customer software contracts include termination for convenience clauses without a substantive penalty and are accordingly deemed to not be committed. Additionally, as a practical expedient, we have not included contracts that have an original duration of one year or less nor have we included contracts with sales-based and usage-based royalties promised in exchange for a license of IP.

Because the substantial majority of our customer software contracts allow our customers to terminate for convenience without a substantive penalty or have an original duration of one year or less, the total amount of the transaction price allocated to remaining performance obligations as of November 1, 2020 was not material. Since the majority of our software contracts are not deemed to be committed, although our customers generally do not exercise their termination for convenience rights, and the majority of the contracts we execute for products, as well as subscriptions and services, have a duration of one year or less, our remaining performance obligations are not indicative of revenue for future periods.

4. Acquisitions

Acquisition of the Symantec Corporation Enterprise Security Business

On November 4, 2019 (the "Symantec Acquisition Date"), we completed the purchase of the Symantec Business, which was an established leader in cyber security, for $10.7 billion in cash (the "Symantec Asset Purchase"). We acquired the Symantec Business to expand our footprint of mission critical infrastructure software with our existing customer base. The Symantec Business includes a deep and broad mix of products, services and solutions, unifying cloud and on-premises security to provide advanced threat protection and information protection across endpoints, network, email and cloud applications. We financed this acquisition with the net proceeds from borrowings under the November 2019 Term Loans, as defined in Note 10. "Borrowings".

The following table presents our allocation of the total purchase price:

	Fair Value (In millions)
Current assets	$ 273
Goodwill	6,638
Intangible assets	5,411
Other long-term assets	92
Total assets acquired	12,414
Current liabilities	(1,127)
Other long-term liabilities	(587)
Total liabilities assumed	(1,714)
Fair value of net assets acquired	$ 10,700

Goodwill is primarily attributable to the assembled workforce and anticipated synergies and economies of scale expected from the integration of the Symantec Business. The synergies include certain cost savings, operating efficiencies, and other strategic benefits projected to be achieved as a result of the Symantec Asset Purchase. Substantially all goodwill is deductible for tax purposes.

Current assets and current liabilities included amounts held-for-sale related to the acquired Symantec Cyber Security Services ("CSS") business. The CSS business was not aligned with our acquisition-date strategic objectives and was sold on April 30, 2020. We do not have any material continuing involvement with this business and have presented its results in discontinued operations.

Our results of continuing operations for fiscal year 2020 included $1,610 million of net revenue attributable to the Symantec Business. It was impracticable to determine the effect on net income attributable to the Symantec Business as we had integrated the Symantec Business into our ongoing operations during the year. The results of operations of the Symantec Business were included in our infrastructure software segment. Transaction costs related to the Symantec Asset Purchase of $110 million were included in selling, general and administrative expense for fiscal year 2020.

Intangible Assets

	Fair Value	Weighted-Average Amortization Periods
	(In millions)	(In years)
Developed technology	$ 2,900	5
Customer contracts and related relationships	2,410	5
Trade name	90	6
Order backlog	11	3
Total identified finite-lived intangible assets	$ 5,411	

Developed technology relates to products used for cyber security solutions, including data loss prevention, endpoint protection, and web, email and cloud security solutions. We valued the developed technology using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the developed technology less charges representing the contribution of other assets to those cash flows. The economic useful life was determined based on the technology cycle related to each developed technology, as well as the cash flows over the forecast period.

Customer contracts and related relationships represent the fair value of future projected revenue that will be derived from sales of products to existing customers of the Symantec Business. Customer contracts and related relationships were valued using the with-and-without-method under the income approach. In the with-and-without method, the fair value was measured by the difference between the present values of the cash flows with and without the existing customers in place over the period of time necessary to reacquire the customers. The economic useful life was determined by evaluating many factors, including the useful life of other intangible assets, the length of time remaining on the acquired contracts and the historical customer turnover rates.

Trade name relates to the "Symantec" trade name. The fair value was determined by applying the relief-from-royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue under the trade name. The economic useful life was determined based on the expected life of the trade name and the cash flows anticipated over the forecast period.

Order backlog represents business under existing contractual obligations. The fair value of backlog was determined using the multi-period excess earnings method under the income approach based on expected operating cash flows from future contractual revenue. The economic useful life was determined based on the expected life of the backlog and the cash flows over the forecast period.

We believe the amounts of purchased intangible assets recorded above represent the fair values of, and approximate the amounts a market participant would pay for, these intangible assets as of the Symantec Acquisition Date.

Unaudited Pro Forma Information

The following unaudited pro forma financial information presents combined results of operations for the periods presented, as if we had completed the Symantec Asset Purchase as of the beginning of fiscal year 2019. The unaudited pro forma information includes adjustments to amortization and depreciation for intangible assets and property, plant and equipment acquired, adjustments to interest expense for the additional indebtedness incurred to complete the acquisition, restructuring charges related to the acquisition and transaction costs. For the fiscal year 2019, non-recurring pro forma adjustments directly attributable to the Symantec Asset Purchase included transaction costs of $136 million. The unaudited pro forma information presented below is for informational purposes only and is not necessarily indicative of our consolidated results of operations of the combined business had the acquisition actually occurred at the beginning of fiscal year 2019 or of the results of our future operations of the combined business.

	Fiscal Year	
	2020	2019
	(In millions)	
Pro forma net revenue	$ 23,264	$ 24,227
Pro forma net income attributable to common stock	$ 2,368	$ 1,265

Other Acquisitions

During the fiscal year ended November 1, 2020, we also completed three other acquisitions qualifying as business combinations for total consideration of $201 million, of which $109 million was allocated to goodwill and $46 million was allocated to intangible assets.

Acquisition of CA, Inc.

On November 5, 2018 (the “CA Acquisition Date”), we completed our acquisition of CA (the “CA Merger”), which was a leading provider of information technology (“IT”) management software and solutions. We acquired CA to enhance our infrastructure software capabilities. We financed the CA Merger with the net proceeds from $18 billion of term loans, as well as with cash on hand of the combined companies.

Purchase Consideration

	(In millions)
Cash paid for outstanding CA common stock	$ 18,402
Cash paid by Broadcom to retire CA’s term loan	274
Cash paid for vested CA equity awards	101
Fair value of partially vested assumed equity awards	67
Total purchase consideration	18,844
Less: cash acquired	(2,750)
Total purchase consideration, net of cash acquired	$ 16,094

All vested in-the-money CA stock options, after giving effect to any acceleration, and all outstanding deferred stock units were cashed out upon the completion of the CA Merger. We assumed all unvested CA equity awards held by continuing employees. The portion of the fair value of partially vested equity awards associated with prior service of CA employees represents a component of the total consideration as presented above and was valued based on our share price as of the CA Acquisition Date.

The following table presents our allocation of the total purchase price, net of cash acquired:

	Fair Value (In millions)
Current assets	$ 1,665
Goodwill	9,796
Intangible assets	12,045
Other long-term assets	240
Total assets acquired	23,746
Current liabilities	(1,966)
Long-term debt	(2,255)
Other long-term liabilities	(3,431)
Total liabilities assumed	(7,652)
Fair value of net assets acquired	$ 16,094

Goodwill is primarily attributable to the assembled workforce and anticipated synergies and economies of scale expected from the integration of the CA business. The synergies include certain cost savings, operating efficiencies, and other strategic benefits projected to be achieved as a result of the CA Merger. Goodwill is not deductible for tax purposes.

Current assets included assets held-for-sale related to CA's Veracode business, which was not aligned with our strategic objectives. On December 31, 2018, we sold this business to Thoma Bravo, LLC for cash consideration of $950 million, before working capital adjustments. We do not have any material continuing involvement with this business and have presented its results in discontinued operations. Current assets also included $80 million of real properties held-for-sale. During fiscal year 2019, we sold a portion of these real properties for $62 million and recognized a loss of $8 million.

Our results of continuing operations for fiscal year 2019 included $3,377 million of net revenue attributable to CA. It was impracticable to determine the effect on net income attributable to CA as we had integrated a substantial portion of CA into our ongoing operations during the year. The results of operations of CA were included in our infrastructure software segment. Transaction costs related to the CA Merger of $73 million were included in selling, general and administrative expense for fiscal year 2019.

Intangible Assets

	Fair Value (In millions)	Weighted-Average Amortization Periods (In years)
Developed technology	$ 4,957	6
Customer contracts and related relationships	4,190	6
Order backlog	2,569	3
Trade name and other	137	5
Total identified finite-lived intangible assets	11,853	
IPR&D	192	N/A
Total identified intangible assets	$ 12,045	

Developed technology relates to products used for mission critical business tools for processes and applications, as well as products used for cloud-based planning, development, management and security tools. We valued the developed technology using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the developed technology less charges representing the contribution of other assets to those cash flows. The economic useful life was determined based on the technology cycle related to each developed technology, as well as the cash flows over the forecast period.

Customer contracts and related relationships represent the fair value of future projected revenue that will be derived from sales of products to existing customers of CA. Customer contracts and related relationships were valued using the with-and-without-method under the income approach. In the with-and-without method, the fair value was measured by the difference between the present values of the cash flows with and without the existing customers in place over the period of time necessary to reacquire the customers. The economic useful life was determined by evaluating many factors, including the useful life of other intangible assets, the length of time remaining on the acquired contracts and the historical customer turnover rates.

Order backlog represents business under existing contractual obligations. The fair value of backlog was determined using the multi-period excess earnings method under the income approach based on expected operating cash flows from future contractual revenue. The economic useful life was determined based on the expected life of the backlog and the cash flows over the forecast period.

Trade name relates to the “CA” trade name. The fair value was determined by applying the relief-from-royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue under the trade name. The economic useful life was determined based on the expected life of the trade name and the cash flows anticipated over the forecast period.

The fair value of IPR&D was determined using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the IPR&D, less charges representing the contribution of other assets to those cash flows.

We believe the amounts of purchased intangible assets recorded above represent the fair values of, and approximate the amounts a market participant would pay for, these intangible assets as of the CA Acquisition Date.

The following table summarizes the details of IPR&D by category as of the CA Acquisition Date:

Description	IPR&D	Percentage of Completion	Estimated Cost to Complete	Expected Completion Date (By Fiscal Year)
		(Dollars in millions)		
Mainframe	$ 178	67 %	$ 138	2019
Enterprise Solutions	$ 14	63 %	$ 12	2019

Discount rates of 12% and 14% were applied to the projected cash flows to reflect the risk related to these mainframe and enterprise solutions IPR&D projects, respectively.

During fiscal year 2020, these IPR&D projects were completed and placed in service.

Unaudited Pro Forma Information

The following unaudited pro forma financial information presents combined results of operations for each of the periods presented, as if CA had been acquired as of the beginning of fiscal year 2018. The unaudited pro forma information includes adjustments to amortization and depreciation for intangible assets and property, plant and equipment acquired, adjustments to stock-based compensation expense, interest expense for the additional indebtedness incurred to complete the acquisition, restructuring charges related to the acquisition and transaction costs. For fiscal year 2018, non-recurring pro forma adjustments directly attributable to the CA Merger included transaction costs of $180 million. The unaudited pro forma information presented below is for informational purposes only and is not necessarily indicative of our consolidated results of operations of the combined business had the acquisition actually occurred at the beginning of fiscal year 2018 or of the results of our future operations of the combined business.

	Fiscal Year	
	2019	2018
	(In millions)	
Pro forma net revenue*	$ 21,697	$ 24,451
Pro forma net income attributable to common stock	$ 2,535	$ 9,783

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***** Pro forma net revenue was presented under ASU 2014-09, Revenue from Contracts with Customers, for fiscal year 2019 and under Accounting Standards Codification 605, Revenue Recognition (“Topic 605”), for fiscal year 2018.

Acquisition of Brocade

On November 17, 2017 (the "Brocade Acquisition Date"), we acquired Brocade (the "Brocade Merger"). Brocade was a supplier of networking hardware, software and services, including FC SAN products and Internet Protocol Networking ("IP Networking") solutions. We acquired Brocade to enhance our position as a provider of enterprise storage connectivity solutions, broaden our portfolio for enterprise storage, and to increase our ability to address the evolving needs of our OEM customers. We financed the Brocade Merger with a portion of the net proceeds from the issuance of the 2017 Senior Notes, as defined in Note 10. "Borrowings" as well as with cash on hand.

Purchase Consideration

		(In millions)
Cash paid for outstanding Brocade common stock	$	5,298
Cash paid by Broadcom to retire Brocade's term loan		701
Cash paid for Brocade equity awards		31
Fair value of partially vested assumed equity awards		8
Total purchase consideration		6,038
Less: cash acquired		(1,250)
Total purchase consideration, net of cash acquired	$	4,788

We assumed all unvested Brocade stock options, RSUs and performance stock units ("PSUs") held by continuing employees. The portion of the fair value of partially vested equity awards associated with prior service of Brocade employees represents a component of the total consideration as presented above. All vested in-the-money Brocade stock options, after giving effect to any acceleration, were cashed out upon the completion of the Brocade Merger. RSUs and PSUs were valued based on our share price as of the Brocade Acquisition Date.

The following table presents our allocation of the total purchase price, net of cash acquired:

		Fair Value (In millions)
Current assets	$	1,297
Goodwill		2,187
Intangible assets		3,396
Other long-term assets		82
Total assets acquired		6,962
Current portion of long-term debt		(856)
Other current liabilities		(374)
Long-term debt		(38)
Other long-term liabilities		(906)
Total liabilities assumed		(2,174)
Fair value of net assets acquired	$	4,788

Goodwill is primarily attributable to the assembled workforce and anticipated synergies and economies of scale expected from the integration of the Brocade business. The synergies include certain cost savings, operating efficiencies, and other strategic benefits projected to be achieved as a result of the Brocade Merger. Goodwill is not deductible for tax purposes.

Current assets included assets held-for-sale related to Brocade's IP Networking business, which was not aligned with our strategic objectives. On December 1, 2017, we sold this business to ARRIS International plc ("ARRIS") for cash consideration of $800 million, before contractual working capital adjustments. In connection with this sale, we indemnified ARRIS for $116 million of potential income tax liabilities. We provided transitional services as short-term assistance to ARRIS in assuming the operations of the purchased business. We do not have any material continuing involvement with this business and have presented its results in discontinued operations.

Current assets also included assets held-for-sale for Brocade's headquarters, which was sold for $224 million during fiscal year 2018, for no gain or loss.

Our results of continuing operations for fiscal year 2018 included $1,780 million of net revenue attributable to Brocade. It was impracticable to determine the effect on net income attributable to Brocade as we had integrated a substantial portion of Brocade into our ongoing operations. The results of operations of Brocade were primarily included in our infrastructure software segment. Transaction costs of $29 million related to the Brocade Merger were included in selling, general and administrative expense for fiscal year 2018.

Intangible Assets

	Fair Value	Weighted-Average Amortization Periods
	(In millions)	(In years)
Developed technology	$ 2,925	10
Customer contracts and related relationships	255	11
Trade name and other	61	6
Total identified finite-lived intangible assets	3,241	
IPR&D	155	N/A
Total identified intangible assets	$ 3,396	

Developed technology relates to products for FC SAN applications. We valued the developed technology using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the developed technology less charges representing the contribution of other assets to those cash flows. The economic useful life was determined based on the technology cycle related to each developed technology, as well as the cash flows over the forecast period.

Customer contracts and related relationships represent the fair value of future projected revenue that will be derived from sales of products to existing customers of Brocade. Customer contracts and related relationships were valued using the distributor method and the with-and-without-method under the income approach. The distributor method determines the fair value by measuring the economic profits generated by an intermediary, which in our case represented OEM customers. In the with-and-without method, the fair value was measured by the difference between the present values of the cash flows with and without the existing customers in place over the period of time necessary to reacquire the customers. In both instances, the economic useful life was determined based on historical customer turnover rates.

Trade name relates to the “Brocade” trade name. The fair value was determined by applying the relief-from-royalty method under the income approach. This method is based on the application of a royalty rate to forecasted revenue under the trade name. The economic useful life was determined based on the expected life of the trade name and the cash flows anticipated over the forecast period.

The fair value of IPR&D was determined using the multi-period excess earnings method under the income approach. This method reflects the present value of the projected cash flows that are expected to be generated by the IPR&D, less charges representing the contribution of other assets to those cash flows.

We believe the amounts of purchased intangible assets recorded above represent the fair values of, and approximate the amounts a market participant would pay for, these intangible assets as of the Brocade Acquisition Date.

The following table summarizes the details of IPR&D by category at the Brocade Acquisition Date:

Description	IPR&D	Percentage of Completion	Estimated Cost to Complete	Expected Completion Date (By Fiscal Year)
		(Dollars in millions)		
Directors	$ 64	72 %	$ 45	2019
Switches	$ 50	81 %	$ 21	2018
Embedded	$ 31	74 %	$ 22	2019
Networking software	$ 10	73 %	$ 27	2018

A discount rate of 11% was applied to the projected cash flows to reflect the risk related to these IPR&D projects. The discount rate represented a premium of 1% over the weighted-average cost of capital to reflect the higher risk and uncertainty of the cash flows for IPR&D relative to the overall businesses.

During fiscal year 2020, these IPR&D projects were completed and placed in service.

Unaudited Pro Forma Information

The following unaudited pro forma financial information presents combined results of operations for the period presented, as if Brocade had been acquired as of the beginning of fiscal year 2017. The unaudited pro forma information includes adjustments to amortization and depreciation for intangible assets and property, plant and equipment acquired, adjustments to stock-based compensation expense, the purchase accounting effect on inventory acquired, restructuring charges related to the acquisition and transaction costs. The unaudited pro forma information presented below is for informational purposes only and is not necessarily indicative of our consolidated results of operations of the combined business had the acquisition actually occurred at the beginning of fiscal year 2017 or of the results of our future operations of the combined business.

	Fiscal Year 2018
	(In millions)
Pro forma net revenue*	$ 20,978
Pro forma net income attributable to common stock	$ 12,408

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* Pro forma net revenue was presented under Topic 605 for fiscal year 2018.

5. Supplemental Financial Information

Cash Equivalents

Cash equivalents included $2,471 million and $850 million of time deposits and $790 million and $649 million of money-market funds as of November 1, 2020 and November 3, 2019, respectively. For time deposits, carrying value approximates fair value due to the short-term nature of the instruments. The fair value of money-market funds, which was consistent with their carrying value, was determined using unadjusted prices in active, accessible markets for identical assets, and as such they were classified as Level 1 assets in the fair value hierarchy.

Accounts Receivable Factoring

We sell certain of our trade accounts receivable on a non-recourse basis to third-party financial institutions pursuant to factoring arrangements. We account for these transactions as sales of receivables and present cash proceeds as cash provided by operating activities in the consolidated statements of cash flows. Total trade accounts receivable sold under the factoring arrangements were $3,723 million, $1,151 million and $362 million during fiscal years 2020, 2019 and 2018, respectively. Factoring fees for the sales of receivables were recorded in other income, net and were not material for any period presented.

Inventory

	November 1, 2020	November 3, 2019
	(In millions)	
Finished goods	$ 323	$ 339
Work-in-process	558	414
Raw materials	122	121
Total inventory	$ 1,003	$ 874

Property, Plant and Equipment, Net

	November 1, 2020	November 3, 2019
	(In millions)	
Land	$ 194	$ 189
Construction in progress	113	85
Buildings and leasehold improvements	1,133	1,078
Machinery and equipment	3,891	3,544
Total property, plant and equipment	5,331	4,896
Accumulated depreciation and amortization	(2,822)	(2,331)
Total property, plant and equipment, net	$ 2,509	$ 2,565

Depreciation expense was $570 million, $569 million and $515 million for fiscal years 2020, 2019, and 2018, respectively.

As of November 1, 2020 and November 3, 2019, $27 million and $35 million, respectively, of unpaid purchases of property, plant and equipment were included in accounts payable. Amounts reported as unpaid purchases are presented as cash outflows from investing activities for purchases of property, plant and equipment in the consolidated statements of cash flows in the period in which they are paid.

Other Current Assets

	November 1, 2020	November 3, 2019
	(In millions)	
Prepaid expenses	$ 387	$ 302
Other (miscellaneous)	590	427
Total other current assets	$ 977	$ 729

Other Current Liabilities

	November 1, 2020	November 3, 2019
	(In millions)	
Contract liabilities	$ 2,620	$ 1,501
Tax liabilities	440	229
Other (miscellaneous)	771	886
Total other current liabilities	$ 3,831	$ 2,616

Other Long-Term Liabilities

	November 1, 2020	November 3, 2019
	(In millions)	
Unrecognized tax benefits	$ 3,185	$ 3,269
Contract liabilities	823	307
Other (miscellaneous)	1,418	2,037
Total other long-term liabilities	$ 5,426	$ 5,613

Other Income, Net

	Fiscal Year		
	2020	2019	2018
	(In millions)		
Gain from lapse of indemnification	$ 116	$ —	$ —
Other income	56	18	27
Interest income	53	98	114
Gains on investments	31	145	3
Other expense	(50)	(35)	—
Other income, net	$ 206	$ 226	$ 144

Other income includes gains on sales of businesses and other miscellaneous items.

6. Leases

We have entered into operating and finance leases for our facilities, data centers and certain equipment. Operating lease expense was $106 million, $244 million and $233 million for fiscal years 2020, 2019 and 2018, respectively. Finance lease expense was $14 million for fiscal year 2020.

Other information related to leases was as follows:

	Fiscal Year Ended November 1, 2020
	(In millions)
Cash paid for operating leases included in operating cash flows	$ 125
ROU assets obtained in exchange for operating lease liabilities	$ 682
ROU assets obtained in exchange for finance lease liabilities	$ 74

	November 1, 2020
Weighted-average remaining lease term – operating leases (In years)	10
Weighted-average remaining lease term – finance leases (In years)	4
Weighted-average discount rate – operating leases	3.80 %
Weighted-average discount rate – finance leases	3.33 %

Supplemental balance sheet information related to leases was as follows:

	Classification on the Consolidated Balance Sheet	November 1, 2020
		(In millions)
ROU assets - operating leases	Other long-term assets	$ 589
ROU assets - finance leases	Property, plant and equipment, net	$ 62
Short-term lease liabilities - operating leases	Other current liabilities	$ 100
Long-term lease liabilities - operating leases	Other long-term liabilities	$ 527
Short-term lease liabilities - finance leases	Current portion of long-term debt	$ 20
Long-term lease liabilities - finance leases	Long-term debt	$ 48

The maturities of lease liabilities were as follows:

	November 1, 2020	
	Operating Leases	Finance Leases
	(In millions)	
2021	$ 120	$ 21
2022	94	17
2023	84	17
2024	65	17
2025	54	—
Thereafter	356	—
Total undiscounted liabilities	773	72
Less: interest	(146)	(4)
Present value of lease liabilities	$ 627	$ 68

As of November 3, 2019, future minimum lease payments under non-cancelable lease liabilities prior to our adoption of Topic 842 were as follows:

	November 3, 2019
	(In millions)
2020	$ 115
2021	99
2022	80
2023	69
2024	47
Thereafter	390
Total minimum lease payments	$ 800

7. Goodwill and Intangible Assets

Goodwill

	Wired Infrastructure	Wireless Communications	Enterprise Storage	Industrial & Other	Semiconductor Solutions	Infrastructure Software	IP Licensing	Total
	(In millions)							
Balance as of November 4, 2018	$ 17,705	$ 5,945	$ 3,112	$ 151	$ —	$ —	$ —	$ 26,913
Reallocation due to change in segments	(17,705)	(5,945)	(3,112)	(151)	25,924	980	9	—
Acquisitions	—	—	—	—	5	9,796	—	9,801
Balance as of November 3, 2019	—	—	—	—	25,929	10,776	9	36,714
Reallocation due to change in segments	—	—	—	—	9	—	(9)	—
Acquisitions	—	—	—	—	35	6,712	—	6,747
Sale of business	—	—	—	—	(14)	—	—	(14)
Balance as of November 1, 2020	$ —	$ —	$ —	$ —	$ 25,959	$ 17,488	$ —	$ 43,447

In fiscal years 2020 and 2019, we reassigned goodwill balances among our reportable segments to reflect changes in our segment structure. The fair value of each segment, generally determined using a combination of the income approach and the market approach, is compared to our total fair value immediately prior to the reorganization to reassign goodwill.

During the fourth quarter of fiscal years 2020, 2019, and 2018, we completed our annual impairment assessments and concluded that goodwill was not impaired in any of these years.

Intangible Assets

	Gross Carrying Amount	Accumulated Amortization	Net Book Value
		(In millions)	
As of November 1, 2020:			
Purchased technology	$ 24,119	$ (13,925)	$ 10,194
Customer contracts and related relationships	8,389	(3,179)	5,210
Order backlog	2,579	(1,836)	743
Trade names	797	(322)	475
Other	252	(117)	135
Intangible assets subject to amortization	36,136	(19,379)	16,757
IPR&D	25	—	25
Total	$ 36,161	$ (19,379)	$ 16,782
As of November 3, 2019:			
Purchased technology	$ 20,935	$ (10,113)	$ 10,822
Customer contracts and related relationships	5,978	(1,787)	4,191
Order backlog	2,569	(908)	1,661
Trade names	712	(247)	465
Other	241	(89)	152
Intangible assets subject to amortization	30,435	(13,144)	17,291
IPR&D	263	—	263
Total	$ 30,698	$ (13,144)	$ 17,554

Based on the amount of intangible assets subject to amortization at November 1, 2020, the expected amortization expense for each of the next five fiscal years and thereafter was as follows:

Fiscal Year:	Expected Amortization Expense
	(In millions)
2021	$ 5,418
2022	4,366
2023	3,236
2024	2,365
2025	654
Thereafter	718
Total	$ 16,757

The weighted-average amortization periods remaining by intangible asset category were as follows:

Amortizable intangible assets:	November 1, 2020	November 3, 2019
	(In years)	
Purchased technology	5	5
Customer contracts and related relationships	4	5
Order backlog	2	3
Trade names	9	10
Other	10	10

8. Net Income Per Share

	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018
	(In millions, except per share data)		
Numerator:			
Income from continuing operations	$ 2,961	$ 2,736	$ 12,629
Dividends on preferred stock	(297)	(29)	—
Income from continuing operations attributable to noncontrolling interest	—	—	(352)
Income from continuing operations attributable to common stock	2,664	2,707	12,277
Loss from discontinued operations, net of income taxes, attributable to common stock (a)	(1)	(12)	(18)
Net income attributable to common stock	$ 2,663	$ 2,695	$ 12,259
Denominator:			
Weighted-average shares outstanding - basic	402	398	418
Dilutive effect of equity awards	19	21	13
Weighted-average shares outstanding - diluted	421	419	431
Basic income per share attributable to common stock:			
Income per share from continuing operations	$ 6.62	$ 6.80	$ 29.37
Loss per share from discontinued operations	—	(0.03)	(0.04)
Net income per share	$ 6.62	$ 6.77	$ 29.33
Diluted income per share attributable to common stock:			
Income per share from continuing operations	$ 6.33	$ 6.46	$ 28.48
Loss per share from discontinued operations	—	(0.03)	(0.04)
Net income per share	$ 6.33	$ 6.43	$ 28.44
Potentially dilutive shares excluded from the calculation of diluted income per share because their effect would have been antidilutive:			
Preferred Stock (b)	12	1	—
LP Units (c)	—	—	9

(a) Fiscal year 2018 excludes $1 million of loss from discontinued operations, net of income taxes, attributable to noncontrolling interest.

(b) Represents common stock shares issuable upon the conversion of Mandatory Convertible Preferred Stock, as defined in Note 11. “Stockholders’ Equity.”

(c) Represents common stock shares issuable upon the exchange of LP Units prior to the effective time of the Mandatory Exchange (refer to Note 11. “Stockholders’ Equity” for additional information).

9. Retirement Plans and Post-Retirement Benefits

Pension and Post-Retirement Benefit Plans

Defined Benefit Pension Plans. The U.S. defined benefit pension plans primarily consist of a qualified pension plan. Benefits of the qualified pension plan are provided under an adjusted career-average-pay program, a cash-balance program or a dollar-per-month program. Benefit accruals under this plan were frozen in 2009. Participants in the adjusted career-average-pay program no longer earn service accruals. Participants in the cash-balance program no longer earn service accruals, but continue to earn 4% interest per year on their cash-balance accounts. There are no active participants under the dollar-per-month program. We also have a non-qualified supplemental pension plan in the United States that principally provides benefits based on compensation in excess of amounts that can be considered under the qualified pension plan.

We also have defined benefit pension plans for certain employees in Austria, France, Germany, India, Israel, Italy, Japan and Taiwan. Eligibility is generally determined based on the terms of our plans and local statutory requirements.

Post-Retirement Benefit Plans. Certain of our U.S. employees who meet the retirement eligibility requirements as of their termination dates, may receive post-retirement medical benefits under our retiree medical account program. Majority of the eligible employees receive a medical benefit spending account of $55,000 upon retirement to pay premiums for medical coverage through the maximum age of 75 as a retiree.

Our group life insurance plan offers post-retirement life insurance coverage for certain U.S. employees.

Net Periodic Benefit (Income) Cost

	Pension Benefits			Post-Retirement Benefits		
	Fiscal Year			Fiscal Year		
	2020	2019	2018	2020	2019	2018
	(In millions)					
Service cost	$ 12	$ 10	$ 4	$ —	$ —	$ —
Interest cost	45	58	51	3	3	3
Expected return on plan assets	(46)	(59)	(51)	(3)	(3)	(4)
Other	(3)	1	1	1	(1)	—
Net periodic benefit (income) cost	$ 8	$ 10	$ 5	$ 1	$ (1)	$ (1)
Net actuarial (gain) loss	$ (28)	$ 13	$ 14	$ —	$ 11	$ (3)

The components of net periodic benefit (income) cost other than the service cost are included in other income, net.

Funded Status

	Pension Benefits		Post-Retirement Benefits	
	November 1, 2020	November 3, 2019	November 1, 2020	November 3, 2019
	(In millions)			
Change in plan assets:				
Fair value of plan assets — beginning of period	$ 1,539	$ 1,394	$ 85	$ 81
Actual return on plan assets	129	232	5	6
Employer contributions	13	15	1	1
Payments from plan assets	(96)	(94)	(3)	(3)
Foreign currency impact	8	(8)	—	—
Fair value of plan assets — end of period	1,593	1,539	88	85
Change in benefit obligations:				
Benefit obligations — beginning of period	1,553	1,364	93	74
Service cost	12	10	—	—
Interest cost	45	58	3	3
Actuarial loss	61	186	2	14
Benefit payments	(96)	(94)	(3)	(3)
Curtailments	(6)	—	—	—
Benefit obligations assumed in an acquisition	10	37	—	5
Foreign currency impact	9	(8)	—	—
Benefit obligations — end of period	1,588	1,553	95	93
Overfunded (underfunded) status of benefit obligations [(a)]	$ 5	$ (14)	$ (7)	$ (8)
Actuarial losses and prior service costs recognized in accumulated other comprehensive loss, net of taxes	$ (94)	$ (125)	$ (14)	$ (15)

(a) Substantially all amounts recognized in the consolidated balance sheets were recorded in other long-term assets and other long-term liabilities for all periods presented.

Plans with benefit obligations in excess of plan assets:

	Pension Benefits		Post-Retirement Benefits	
	November 1, 2020	November 3, 2019	November 1, 2020	November 3, 2019
	(In millions)			
Projected benefit obligations	$ 82	$ 92	$ —	$ —
Accumulated benefit obligations	$ 68	$ 80	$ 15	$ 16
Fair value of plan assets	$ 11	$ 32	$ —	$ —

Plans with benefit obligations less than plan assets:

	Pension Benefits		Post-Retirement Benefits	
	November 1, 2020	November 3, 2019	November 1, 2020	November 3, 2019
	(In millions)			
Projected benefit obligations	$ 1,506	$ 1,461	$ —	$ —
Accumulated benefit obligations	$ 1,505	$ 1,460	$ 80	$ 77
Fair value of plan assets	$ 1,582	$ 1,507	$ 88	$ 85

The fair value of pension plan assets as of November 1, 2020 and November 3, 2019 included $160 million and $151 million, respectively, of assets for our non-U.S. pension plans.

The projected benefit obligations as of November 1, 2020 and November 3, 2019 included $206 million and $184 million, respectively, of obligations related to our non-U.S. pension plans. The accumulated benefit obligations as of November 1, 2020 and November 3, 2019 included $190 million and $171 million, respectively, of obligations related to our non-U.S. pension plans.

Expected Future Benefit Payments

Fiscal Years:	Pension Benefits	Post-Retirement Benefits
	(In millions)	
2021	$ 94	$ 8
2022	$ 93	$ 4
2023	$ 93	$ 4
2024	$ 93	$ 4
2025	$ 93	$ 4
2026-2030	$ 451	$ 23

Defined Benefit Pension Plan Investment Policy

Plan assets of the funded defined benefit pension plans are generally invested in funds held by third-party fund managers. Our benefit plan investment committee has set the investment strategy to fully match the liability. We direct the overall portfolio allocation and use a third-party investment consultant that has the discretion to structure portfolios and select the investment managers within those allocation parameters. Multiple investment managers are utilized, including both active and passive management approaches. The plan assets are invested using the liability-driven investment strategy intended to minimize market and interest rate risks, and those assets are periodically rebalanced toward asset allocation targets.

Substantially all of the plan assets are for the U.S. qualified pension plan. The target asset allocation for this plan reflects a risk/return profile that we believe is appropriate relative to the liability structure and return goals for the plan. We periodically review the allocation of plan assets relative to alternative allocation models to evaluate the need for adjustments based on forecasted liabilities and plan liquidity needs. For both fiscal years 2020 and 2019, 100% of the U. S. qualified pension plan assets were allocated to fixed income, in line with the target allocation. The fixed income allocation is primarily directed toward long-term core bond investments, with smaller allocations to Treasury Inflation-Protected Securities and high-yield bonds.

Fair Value Measurement of Defined Benefit Pension Plan Assets

	November 1, 2020			
	Fair Value Measurements at Reporting Date Using			
	Level 1	Level 2	Level 3	Total
	(In millions)			
Cash equivalents	$ 42 (a)	$ —	$ —	$ 42
Equity securities:				
Non-U.S. equity securities	26 (b)	—	—	26
Fixed-income securities:				
U.S. treasuries	—	158 (c)	—	158
Corporate bonds	—	1,307 (c)	—	1,307
Municipal bonds	—	22 (c)	—	22
Government bonds	—	36 (c)	—	36
Asset-backed securities	—	2 (c)	—	2
Total plan assets	$ 68	$ 1,525	$ —	$ 1,593

	November 3, 2019			
	Fair Value Measurements at Reporting Date Using			
	Level 1	Level 2	Level 3	Total
	(In millions)			
Cash equivalents	$ 34 (a)	$ —	$ —	$ 34
Equity securities:				
Non-U.S. equity securities	21 (b)	—	—	21
Fixed-income securities:				
U.S. treasuries	—	82 (c)	—	82
Corporate bonds	—	1,372 (c)	—	1,372
Municipal bonds	—	19 (c)	—	19
Government bonds	—	10 (c)	—	10
Asset-backed securities	—	1 (c)	—	1
Total plan assets	$ 55	$ 1,484	$ —	$ 1,539

(a) Cash equivalents primarily included short-term investment funds which consisted of short-term money market instruments that were valued based on quoted prices in active markets.

(b) These equity securities were valued based on quoted prices in active markets.

(c) These amounts consisted of investments that were traded less frequently than Level 1 securities and were valued using inputs that included quoted prices for similar assets in active markets and inputs other than quoted prices that were observable for the assets, such as interest rates, yield curves, prepayment speeds, collateral performance, broker/dealer quotes and indices that were observable at commonly quoted intervals.

Post-Retirement Benefit Plan Investment Policy

Our overall investment strategy for the group life insurance plan is to allocate assets in a manner that seeks to both maximize the safety of promised benefits and minimize the cost of funding those benefits. The target asset allocation for plan assets reflects a risk/return profile that we believe is appropriate relative to the liability structure and return goals for the plan. We periodically review the allocation of plan assets relative to alternative allocation models to evaluate the need for adjustments based on forecasted liabilities and plan liquidity needs. We set the overall portfolio allocation and use an investment manager that directs the investment of funds consistent with that allocation. The investment manager invests the plan assets in index funds that it manages. For both fiscal years 2020 and 2019, 100% of plan assets were allocated to commingled funds that invested in fixed income, in line with the target allocation. The fair value of the commingled funds are measured using net asset value per share as a practical expedient.

Assumptions

The assumptions used to determine the benefit obligations and net periodic benefit (income) cost from our defined benefit pension plans and post-retirement benefit plans are presented in the tables below. The expected long-term return on assets shown in the tables below represents an estimate of long-term returns on investment portfolios primarily consisting of combinations of debt, equity and other investments, depending on the plan. The long-term rates of return are then weighted based on the asset classes (both historical and forecasted) in which we expect the pension and post-retirement funds to be invested. Discount rates reflect the current rate at which defined benefit pension and post-retirement benefit obligations could be settled based on the measurement dates of the plans, which is October 31, the month end closest to our fiscal year end. The range of assumptions that are used for defined benefit pension plans reflects the different economic environments within various countries.

	Assumptions for Benefit Obligations as of		Assumptions for Net Periodic Benefit (Income) Cost Fiscal Year		
	November 1, 2020	November 3, 2019	2020	2019	2018
Defined benefit pension plans:					
Discount rate	0.61%-6.54%	0.47%-7.00%	0.47%-7.00%	0.50%-8.00%	0.50%-7.00%
Average increase in compensation levels	2.00%-10.00%	2.00%-10.00%	2.00%-10.00%	1.80%-10.00%	2.00%-11.00%
Expected long-term return on assets	N/A	N/A	1.50%-7.80%	1.50%-7.75%	1.50%-7.50%

	Assumptions for Benefit Obligations as of		Assumptions for Net Periodic Benefit (Income) Cost Fiscal Year		
	November 1, 2020	November 3, 2019	2020	2019	2018
Post-retirement benefit plans:					
Discount rate	2.10%-2.90%	2.80%-3.20%	2.80%-3.20%	4.12%-4.60%	3.40%-3.80%
Average increase in compensation levels	3.00%	3.00%	3.00%	3.00%	3.00%
Expected long-term return on assets	N/A	N/A	3.20%	4.80%	4.80%

	Assumed Health Care Cost Trend Rate Used to Measure the Expected Cost of Benefits as of	
	November 1, 2020	November 3, 2019
Health care cost trend rate assumed for next year	7.25%	4.50%-7.40%
Rate to which the health care cost trend rate is assumed to decline (ultimate health care cost trend rate)	4.50%	3.50%-4.50%
Year that the rate reaches the ultimate health care cost trend rate	2029	2031

A one percentage point increase or decrease in the assumed health care cost trend rates would not have had a material effect on the accumulated post-retirement benefit obligations or service and interest cost components of the net periodic benefit cost for any periods presented.

Defined Contribution Plans

Our eligible U.S. employees participate in a company-sponsored 401(k) plan. Under the plan, we provide matching contributions to employees up to 6% of their eligible earnings. All matching contributions vest immediately. During fiscal years 2020, 2019 and 2018, we made contributions of $99 million, $89 million and $73 million, respectively, to the 401(k) plan.

In addition, other eligible employees outside of the U.S. receive retirement benefits under various defined contribution retirement plans.

Table of Contents

10. Borrowings

	November 1, 2020		November 3, 2019	
	Effective Interest Rate	Aggregate Principal Amount	Effective Interest Rate	Aggregate Principal Amount
		(In millions)		
June 2020 Senior Notes - fixed rate				
3.459% notes due September 2026	4.19 %	$ 1,695		$ —
4.110% notes due September 2028	5.02 %	2,222		—
May 2020 Senior Notes- fixed rate				
2.250% notes due November 2023	2.40 %	1,000		—
3.150% notes due November 2025	3.29 %	2,250		—
4.150% notes due November 2030	4.27 %	2,750		—
4.300% notes due November 2032	4.39 %	2,000		—
April 2020 Senior Notes - fixed rate				
4.700% notes due April 2025	4.88 %	2,250		—
5.000% notes due April 2030	5.18 %	2,250		—
November 2019 Term Loans - floating rate				
LIBOR plus 1.125% term loan due November 2022	1.54 %	1,819		—
LIBOR plus 1.250% term loan due November 2024	1.56 %	4,069		—
May 2019 Term Loans - floating rate				
LIBOR plus 1.250% term loan due May 2024		—	3.36 %	800
LIBOR plus 1.375% term loan due May 2026		—	3.45 %	800
April 2019 Senior Notes - fixed rate				
3.125% notes due April 2021	3.61 %	525	3.61 %	2,000
3.125% notes due October 2022	3.53 %	693	3.53 %	1,500
3.625% notes due October 2024	3.98 %	1,044	3.98 %	2,000
4.250% notes due April 2026	4.54 %	2,500	4.54 %	2,500
4.750% notes due April 2029	4.95 %	3,000	4.95 %	3,000
2017 Senior Notes - fixed rate				
2.375% notes due January 2020		—	2.62 %	2,750
2.200% notes due January 2021	2.41 %	282	2.41 %	750
3.000% notes due January 2022	3.21 %	842	3.21 %	3,500
2.650% notes due January 2023	2.78 %	1,000	2.78 %	1,000
3.625% notes due January 2024	3.74 %	1,352	3.74 %	2,500
3.125% notes due January 2025	3.23 %	1,000	3.23 %	1,000
3.875% notes due January 2027	4.02 %	4,800	4.02 %	4,800
3.500% notes due January 2028	3.60 %	1,250	3.60 %	1,250
Assumed CA Senior Notes - fixed rate				
5.375% notes due December 2019		—	3.43 %	750
3.600% notes due August 2022	4.07 %	283	4.07 %	500
4.500% notes due August 2023	4.10 %	250	4.10 %	250
4.700% notes due March 2027	5.15 %	350	5.15 %	350

	November 1, 2020		November 3, 2019	
	Effective Interest Rate	Aggregate Principal Amount	Effective Interest Rate	Aggregate Principal Amount
		(In millions)		
Other borrowings				
Commercial paper		—	2.55 % (a)	1,000
1.375% convertible notes due January 2020		—	0.63 %	37
2.500%- 4.500% senior notes due August 2022 - August 2034	2.59%- 4.55%	22	2.59%- 4.55%	22
Total principal amount outstanding		41,498		33,059
Less: unamortized discount and issuance costs		(504)		(261)
Total debt		$ 40,994		$ 32,798

(a) Represents the weighted average interest rate on outstanding commercial paper.

As of November 1, 2020, $20 million of short-term and $48 million of long-term finance lease liabilities were included in the current portion of long-term debt and long-term debt, respectively.

June 2020 Senior Notes

On June 4, 2020, we completed the settlement of our private offers to exchange $3,742 million of certain series of our outstanding notes maturing between 2021 and 2024, for $1,695 million of new senior notes due 2026 and $2,222 million of new senior notes due 2028 (collectively, the "June 2020 Senior Notes"). As a result of this exchange, we incurred premiums of $177 million. The June 2020 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by Broadcom Corporation ("BRCM") and Broadcom Technologies Inc. ("BTI"). We may redeem or purchase, in whole or in part, any of the June 2020 Senior Notes prior to their respective maturities, subject to a specified make-whole premium determined in accordance with the indenture governing the June 2020 Senior Notes, plus accrued and unpaid interest. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest. The June 2020 Senior Notes are recorded as long-term debt, net of discount and issuance costs, which are amortized to interest expense over the respective terms of these borrowings.

May 2020 Senior Notes

On May 8, 2020, we issued $8 billion of senior unsecured notes (the "May 2020 Senior Notes"). The May 2020 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by BRCM and BTI. We may redeem or purchase, in whole or in part, any of the May 2020 Senior Notes prior to their respective maturities, subject to a specified make-whole premium determined in accordance with the indenture governing the May 2020 Senior Notes, plus accrued and unpaid interest. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest. The May 2020 Senior Notes are recorded as long-term debt, net of discount and issuance costs, which are amortized to interest expense over the respective terms of these borrowings.

The net proceeds from this issuance, together with the remaining net proceeds from the issuance of the April 2020 Senior Notes, as defined below, were used to repay an aggregate of $5,424 million of term loans outstanding under the November 2019 Credit Agreement, as defined below, consisting of repayments of $2,712 million of each of our unsecured term A-3 and A-5 facilities and $3 billion of borrowings outstanding under the Revolving Facility, as defined below.

April 2020 Senior Notes

In April 2020, we issued $4.5 billion of senior unsecured notes (the "April 2020 Senior Notes"). The April 2020 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by BRCM and BTI. We may redeem or purchase, in whole or in part, any of the April 2020 Senior Notes prior to their respective maturities, subject to a specified make-whole premium determined in accordance with the indenture governing the April 2020 Senior Notes, plus accrued and unpaid interest. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest. The April 2020 Senior Notes are recorded as long-term debt, net of discount and issuance costs, which are amortized to interest expense over the respective terms of these borrowings.

Pursuant to a cash tender offer that we completed on April 23, 2020, we repurchased $2,361 million of our 3.000% notes due January 2022, $1,274 million of our 3.125% notes due April 2021 and $351 million of our 2.200% notes due January 2021 with the net proceeds from the April 2020 Senior Notes. As a result of these repurchases, we incurred premiums of $78 million and wrote off $15 million of unamortized discount and issuance costs, both of which were included in interest expense.

November 2019 Term Loans

On November 4, 2019, in connection with the Symantec Asset Purchase, we entered into a credit agreement (the “November 2019 Credit Agreement”), which provides for a $7,750 million unsecured term A-3 facility and a $7,750 million unsecured term A-5 facility (collectively, the “November 2019 Term Loans”). Interest on our November 2019 Term Loans is based on a floating rate. We used net proceeds from the November 2019 Term Loans to fund the $10.7 billion Symantec Asset Purchase and to repay $750 million principal amount of 5.375% notes due December 2019 and $2,750 million principal amount of 2.375% notes due January 2020, on their respective maturity dates. Our obligations under the November 2019 Credit Agreement are guaranteed on an unsecured basis by BRCM and BTI. During the fiscal year ended November 1, 2020, we repaid an aggregate of $9,612 million of our November 2019 Term Loans, consisting of repayments of $5,931 million and $3,681 million of our unsecured term A-3 and A-5 facilities, respectively, and wrote off $60 million of unamortized discount and issuance costs. As a result of these repayments, all remaining principal payments are due more than one year after November 1, 2020 and were included in long-term debt.

May 2019 Term Loans

In May 2019, we entered into a credit agreement (the “May 2019 Credit Agreement”), which provided for a $2 billion unsecured term A-3 facility, a $2 billion unsecured term A-5 facility and a $2 billion unsecured term A-7 facility (collectively, the “May 2019 Term Loans”). Interest on our May 2019 Term Loans is based on a floating rate. Our obligations under the May 2019 Credit Agreement are guaranteed on an unsecured basis by BRCM, BTI and Broadcom Cayman Finance Limited (“Cayman Finance”), which subsequently merged into BTI during fiscal year 2019 with BTI remaining as the surviving entity.

During fiscal year 2019, we fully repaid our unsecured term A-3 facility of $2 billion and repaid $1.2 billion of each of our unsecured term A-5 and A-7 facilities under the May 2019 Credit Agreement. As a result, we wrote off $22 million of discount and issuance costs, which is included in interest expense. During fiscal year 2020, we repaid an aggregate of $1.6 billion of the May 2019 Term Loans, representing the outstanding balance of the May 2019 Term Loans.

The May 2019 Credit Agreement also provided for a five-year $5 billion unsecured revolving credit facility (the “Revolving Facility”), of which $500 million was available for the issuance of multi-currency letters of credit. The issuance of letters of credit and certain other instruments would reduce the aggregate amount otherwise available under the Revolving Facility for revolving loans. Subject to the terms of the May 2019 Credit Agreement, we are permitted to borrow, repay and reborrow revolving loans at any time prior to the earlier of (a) May 2024 or (b) the date of termination in whole of the revolving lenders’ commitments under the May 2019 Credit Agreement in accordance with the terms thereof. As of November 1, 2020 and November 3, 2019, we had no borrowings outstanding under the Revolving Facility.

April 2019 Senior Notes

In April 2019, we issued $11 billion of senior unsecured notes (“April 2019 Senior Notes”). The April 2019 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by BRCM and BTI. We may redeem or purchase, in whole or in part, any of the April 2019 Senior Notes prior to their respective maturities, subject to a make-whole premium determined in accordance with the indenture governing the April 2019 Senior Notes, plus accrued and unpaid interest. The April 2019 Senior Notes are recorded as long-term debt, net of discount and issuance costs, which are amortized to interest expense over the respective terms of these borrowings.

Exchange Offer

In connection with the issuance of the June 2020 Senior Notes, May 2020 Senior Notes, April 2020 Senior Notes (collectively, the “2020 Senior Notes”) and the April 2019 Senior Notes, we entered into registration rights agreements, pursuant to which we were obligated to use commercially reasonable efforts to file with the SEC, and cause to be declared effective, a registration statement with respect to an offer to exchange (the “Exchange Offer”) each series of the 2020 Senior Notes and April 2019 Senior Notes for notes that are registered with the U.S. Securities and Exchange Commission (the “SEC”) (the “Registered Notes”), with substantially identical terms. On July 6, 2020, we launched the Exchange Offer, which completed on August 10, 2020. Substantially all of our 2020 Senior Notes and April 2019 Senior Notes were tendered and exchanged for the corresponding Registered Notes in the Exchange Offer.

Commercial Paper

In February 2019, we established a commercial paper program pursuant to which we may issue unsecured commercial paper notes (“Commercial Paper”) in an aggregate principal amount of up to $2 billion outstanding at any time with maturities of up to 397 days from the date of issue. Commercial Paper is sold under customary terms in the commercial paper market and may be issued at a discount from par or, alternatively, may be sold at par and bear interest at rates dictated by market conditions at the time of their issuance. The Revolving Facility supports our commercial paper program. Outstanding Commercial Paper borrowings reduce the amount that would otherwise be available to borrow for general corporate purposes under the Revolving Facility. We intend to continuously replace our Commercial Paper upon maturity with newly issued commercial paper. In addition, we have the ability to finance the Commercial Paper borrowings on a long-term basis as they are supported by the Revolving Facility. We have recorded Commercial Paper, net of discount, as long-term debt. The discount associated with the Commercial Paper is amortized to interest expense over its term. As of November 1, 2020, we had no Commercial Paper outstanding. We had $1 billion of Commercial Paper outstanding as of November 3, 2019 with maturities generally less than sixty days.

2017 Senior Notes

During the fiscal year ended October 29, 2017, BRCM and Cayman Finance issued $17,550 million of senior unsecured notes (the “2017 Senior Notes”). Our 2017 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by Broadcom and BTI. We may redeem or purchase, in whole or in part, any of the 2017 Senior Notes prior to their respective maturities, subject to a make-whole premium determined in accordance with the indenture governing the 2017 Senior Notes, plus accrued and unpaid interest. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest.

During fiscal year 2018, substantially all of the 2017 Senior Notes were tendered and exchanged for notes registered with the SEC, with substantially identical terms.

Assumed CA Senior Notes

In connection with our acquisition of CA, we assumed $2,250 million in aggregate principal amount of CA’s outstanding senior unsecured notes (the “Assumed CA Senior Notes”). CA remains the sole obligor under the Assumed CA Senior Notes. We may redeem all or a portion of the Assumed CA Senior Notes at any time, subject to a specified make-whole premium as set forth with the indenture governing the Assumed CA Senior Notes. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes plus accrued and unpaid interest. During fiscal year 2019, we fully repaid $400 million of our 3.600% notes due August 2020.

Assumed Brocade Convertible Notes

As a result of our acquisition of Brocade, we assumed $575 million in aggregate principal amount of Brocade’s 1.375% convertible senior unsecured notes (the “Assumed Brocade Convertible Notes”). During fiscal year 2018, we repurchased $537 million in aggregate principal amount for $548 million at a conversion rate of $1,018 for each $1,000 of principal surrendered for conversion. We fully repaid the remaining $37 million of the Assumed Brocade Convertible Notes during fiscal year 2020.

Fair Value of Debt

As of November 1, 2020, the estimated aggregate fair value of our debt was $45,274 million. The fair value of our senior notes was determined using quoted prices from less active markets. The estimated fair value of our November 2019 Term Loans approximated the carrying value due to their floating interest rates and consistency in our credit ratings. All of our debt obligations are categorized as Level 2 instruments.

Future Principal Payments of Debt

The future scheduled principal payments of debt as of November 1, 2020 were as follows:

Fiscal Year:	**Future Scheduled Principal Payments**
	(In millions)
2021	$ 807
2022	1,827
2023	3,069
2024	3,403
2025	7,319
Thereafter	25,073
Total	$ 41,498

As of November 1, 2020 and November 3, 2019, we accrued interest payable of $304 million and $214 million, respectively, and were in compliance with all debt covenants.

11. Stockholders' Equity

Mandatory Convertible Preferred Stock Offering

On September 30, 2019, we completed an offering of approximately 4 million shares of 8.00% Mandatory Convertible Preferred Stock, Series A, $0.001 par value per share ("Mandatory Convertible Preferred Stock"), which generated net proceeds of approximately $3,679 million.

The holders of Mandatory Convertible Preferred Stock are entitled to receive, when, as and if declared by our Board of Directors, or an authorized committee thereof, out of funds legally available for payment, cumulative dividends at the annual rate of 8.00% of the liquidation preference of $1,000 per share (equivalent to $80 annually per share), payable in cash or, subject to certain limitations, by delivery of shares of our common stock or any combination of cash and shares of our common stock, at our election; provided, however, that any undeclared and unpaid dividends will continue to accumulate.

Subject to limited exceptions, no dividends may be declared or paid on shares of our common stock, unless all accumulated dividends have been paid or set aside for payment on all outstanding shares of our Mandatory Convertible Preferred Stock for all past completed dividend periods. In the event of our voluntary or involuntary liquidation, dissolution or winding-up, no distribution of our assets may be made to holders of our common stock until we have paid to holders of our Mandatory Convertible Preferred Stock a liquidation preference equal to $1,000 per share plus accumulated and unpaid dividends.

On September 30, 2022, unless earlier converted, each outstanding share of Mandatory Convertible Preferred Stock will automatically convert into shares of our common stock at a rate between the then minimum and maximum conversion rates. At any time prior to September 30, 2022, holders may elect to convert each share of Mandatory Convertible Preferred Stock into shares of our common stock at the then minimum conversion rate. The conversion rates are subject to anti-dilution adjustments. As of November 1, 2020, the minimum conversion rate was 3.0567 and the maximum conversion rate was 3.5729.

We recognized $27 million and $29 million of accrued preferred stock dividends, which were presented as temporary equity in our consolidated balance sheets as of November 1, 2020 and November 3, 2019, respectively.

Redomiciliation Transaction

For the period prior to the Redomiciliation Transaction, our stockholders' equity reflected Broadcom-Singapore's outstanding ordinary shares. On April 4, 2018, all Broadcom-Singapore outstanding ordinary shares were exchanged on a one-for-one basis for newly issued shares of Broadcom common stock and Broadcom-Singapore became a wholly-owned subsidiary of Broadcom.

In conjunction with the Redomiciliation Transaction and pursuant to the Mandatory Exchange, all outstanding LP Units held by the limited partners were mandatorily exchanged for approximately 22 million newly issued shares of Broadcom common stock on a one-for-one basis. As a result, all limited partners of the Partnership became common stockholders of Broadcom. In addition, all related outstanding special preference shares of Broadcom-Singapore were automatically redeemed upon the Mandatory Exchange.

Noncontrolling Interest

Immediately prior to the Redomiciliation Transaction, the limited partners held a noncontrolling interest of approximately 5% in the Partnership through their ownership of LP Units. Accordingly, net income attributable to our common stock in our consolidated statement of operations for fiscal year 2018 excluded the noncontrolling interest's proportionate share of our results prior to the Redomiciliation Transaction. In addition, we presented the proportionate share of equity attributable to the noncontrolling interest as a separate component of total equity within our consolidated statements of equity for the period prior to the Redomiciliation Transaction.

Cash Dividends and Distributions Declared and Paid

	Fiscal Year		
	2020	2019	2018
	(In millions, except per share/unit data)		
Dividends per share to common stockholders	$ 13.00	$ 10.60	$ 7.00
Dividends to common stockholders	$ 5,235	$ 4,235	$ 2,921
Dividends per share to preferred stockholders	$ 80.00	$ —	$ —
Dividends to preferred stockholders	$ 299	$ —	$ —
Distributions per unit to limited partners	$ —	$ —	$ 3.50
Distributions to limited partners	$ —	$ —	$ 77

Stock Repurchase Program

Pursuant to an $18 billion stock repurchase program previously authorized by our Board of Directors, we repurchased and retired approximately 21 million and 32 million shares of our common stock for $5,435 million and $7,258 million during fiscal years 2019 and 2018, respectively. This authorization ended on November 3, 2019.

Equity Incentive Award Plans

Stock-based incentive awards are provided to employees and directors under the terms of various Broadcom equity incentive plans.

2009 Plan

In July 2009, our Board of Directors adopted, and our stockholders approved, the Avago Technologies Limited 2009 Equity Incentive Award Plan (the “2009 Plan”) to authorize the grant of options, stock appreciation rights, RSUs, dividend equivalents, performance awards, and other stock-based awards. A total of 20 million shares of common stock were initially reserved for issuance under the 2009 Plan, subject to annual increases starting in fiscal year 2012. The amount of the annual increase was equal to the least of (a) 6 million shares, (b) 3% of the common stock outstanding on the last day of the immediately preceding fiscal year and (c) such smaller number of common stock as determined by our Board. However, no more than 90 million shares of common stock may be issued upon the exercise of equity awards issued under the 2009 Plan. The 2009 Plan became effective on July 27, 2009.

Options issued to employees under the 2009 Plan prior to March 2011 generally expire ten years following the date of grant. Since March 2011, options issued to employees under the 2009 Plan generally expire seven years after the date of grant. Options awarded to non-employees under this plan generally expire after five years. Options issued to both employees and non-employees under the 2009 Plan generally vested over a period of four years from the date of grant and were granted with an exercise price equal to the fair market value on the date of grant. Any stock options cancelled or forfeited after July 27, 2009 under the equity incentive plans adopted prior to the 2009 Plan became available for issuance under the 2009 Plan. RSU awards granted to employees under the 2009 Plan generally vest annually over four years.

The 2009 Plan expired in July 2019.

2003 Plan

In connection with the acquisition of LSI Corporation (“LSI”), we assumed the LSI 2003 Equity Incentive Plan (the “2003 Plan”) and outstanding unvested stock options and RSUs originally granted by LSI under the 2003 Plan that were held by continuing employees. Under the 2003 Plan, we may grant to former employees of LSI and other employees who were not employees of Broadcom at the time of the acquisition restricted stock awards, RSUs, stock options and stock appreciation rights with an exercise price that is no less than the fair market value on the date of grant. No participant may be granted stock options covering more than 4 million shares or more than an aggregate of 1 million shares of restricted stock and RSUs in any fiscal year. Equity awards granted under the 2003 Plan following the LSI acquisition are on similar terms and consistent with similar grants made pursuant to the 2009 Plan. As of November 1, 2020, 3 million shares remained available for issuance under the 2003 Plan.

2012 Plan

In connection with the acquisition of BRCM, we assumed the BRCM 2012 Stock Incentive Plan (the “2012 Plan”) and outstanding unvested RSUs originally granted by BRCM under the 2012 Plan that were held by continuing employees. Under the 2012 Plan, we may grant to former employees of BRCM and other employees who were not employees of Broadcom at the time of the acquisition restricted stock awards, RSUs, stock options and stock appreciation rights with an exercise price that is no less than the fair market value on the date of grant. No participant may be granted stock options, restricted stock or

RSUs, covering more than an aggregate of 4 million shares in any fiscal year. Equity awards granted under the 2012 Plan following the acquisition of BRCM are on similar terms and consistent with similar grants made pursuant to the 2009 Plan. As of November 1, 2020, 95 million shares remained available for issuance under the 2012 Plan. The number of shares available for issuance under the 2012 Plan is subject to an annual increase of 12 million shares.

We also grant market-based RSUs with both a service condition and a market condition as part of our equity compensation programs. The market-based RSUs generally vest over four years, subject to satisfaction of market conditions. During fiscal years 2020, 2019 and 2018, we granted market-based RSUs under which grantees may receive the number of shares ranging from 0% to 200% of the original grant at vesting based upon the total stockholder return ("TSR") on our common stock as compared to the TSR of an index group of companies.

Amendment to the RSU Vesting Schedule

During fiscal year 2019, the Compensation Committee of our Board of Directors approved an amendment to the vesting of time-based RSUs (other than those assumed in an acquisition), held by approximately 16,500 employees below the vice president level, from an annual vesting cycle to a quarterly vesting cycle.

Employee Stock Purchase Plan

The ESPP provides eligible employees with the opportunity to acquire an ownership interest in us through periodic payroll deductions, based on a 6-month look-back period, at a price equal to the lesser of 85% of the fair market value of our common stock at either the beginning or the end of the relevant offering period. The ESPP is structured as a qualified employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986. However, the ESPP is not intended to be a qualified pension, profit sharing or stock bonus plan under Section 401(a) of the Internal Revenue Code of 1986 and is not subject to the provisions of the Employee Retirement Income Security Act of 1974.

Stock-Based Compensation Expense

	Fiscal Year		
	2020	2019	2018
	(In millions)		
Cost of products sold	$ 109	$ 120	$ 77
Cost of subscriptions and services	50	43	9
Research and development	1,419	1,532	855
Selling, general and administrative	398	490	286
Total stock-based compensation expense [(a)]	$ 1,976	$ 2,185	$ 1,227
Estimated income tax benefits for stock-based compensation	$ 345	$ 400	$ 195
Income tax benefits for stock-based awards exercised or released	$ 147	$ 232	$ 181

(a) Fiscal year 2019 stock-based compensation expense does not include $75 million restructuring charges for accelerated vesting of assumed equity awards held by employees terminated in connection with the CA Merger.

We have assumed an annualized forfeiture rate for RSUs of 5%. We will recognize additional expense if actual forfeitures are lower than we estimated, and will recognize a benefit if actual forfeitures are higher than we estimated.

During the first quarter of fiscal year 2019, the Compensation Committee of our Board of Directors approved a broad-based program of multi-year equity grants of time- and market-based RSUs (the "Multi-Year Equity Awards") in lieu of our annual employee equity awards historically granted on March 15 of each year. Each Multi-Year Equity Award vests on the same basis as four annual grants made March 15 of each year, beginning in fiscal year 2019, with successive four-year vesting periods. Stock-based compensation expense related to the Multi-Year Equity Awards was $902 million and $890 million for fiscal years 2020 and 2019, respectively.

In connection with the amendment to the vesting of certain time-based RSUs from an annual cycle to a quarterly cycle, we recognized approximately $140 million in incremental compensation cost during fiscal year 2019.

As of November 1, 2020, the total unrecognized compensation cost related to unvested stock-based awards was $4,021 million, which is expected to be recognized over the remaining weighted-average service period of 3.4 years.

The following table summarizes the weighted-average assumptions utilized to calculate the fair value of market-based awards granted in the periods presented:

	Market-Based Awards		
	Fiscal Year		
	2020	2019	2018
Risk-free interest rate	1.2 %	2.7 %	2.4 %
Dividend yield	4.7 %	4.4 %	2.6 %
Volatility	31.2 %	33.0 %	32.5 %
Expected term (in years)	4.0	4.0	4.0

The risk-free interest rate was derived from the average U.S. Treasury Strips rate, which approximated the rate in effect appropriate for the term at the time of grant.

The dividend yield was based on the historical and expected dividend payouts as of the respective award grant dates.

The volatility was based on our own historical stock price volatility over the period commensurate with the expected life of the awards and the implied volatility of a 180-day call option on our own common stock measured at a specific date.

The expected term was commensurate with the awards' contractual terms.

Restricted Stock Unit Awards

A summary of time- and market-based RSU activity is as follows:

	Number of RSUs Outstanding	Weighted-Average Grant Date Fair Value Per Share
	(In millions, except per share data)	
Balance as of October 29, 2017	18	$ 163.42
Granted	7	$ 239.48
Vested	(6)	$ 155.78
Forfeited	(1)	$ 175.46
Balance as of November 4, 2018	18	$ 195.50
Assumed in CA Merger	1	$ 206.14
Granted	33	$ 183.64
Vested	(10)	$ 192.28
Forfeited	(2)	$ 182.80
Balance as of November 3, 2019	40	$ 188.52
Granted	3	$ 252.36
Vested	(8)	$ 210.84
Forfeited	(3)	$ 198.17
Balance as of November 1, 2020	32	$ 188.35

The aggregate fair value of time- and market-based RSUs that vested in fiscal years 2020, 2019 and 2018 was $2,254 million, $2,958 million and $1,516 million, respectively, which represents the market value of our common stock on the date that the RSUs vested. The number of RSUs vested included shares of common stock that we withheld for settlement of employees' tax obligations due upon the vesting of RSUs.

Stock Option Awards

A summary of time- and market-based stock option activity is as follows:

	Number of Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (In years)	Aggregate Intrinsic Value
	(In millions, except years and per share data)			
Balance as of October 29, 2017	10	$ 49.54		
Exercised	(2)	$ 47.41		$ 534
Cancelled	— *	$ 72.37		
Balance as of November 4, 2018	8	$ 50.14		
Exercised	(4)	$ 47.88		$ 761
Cancelled	— *	$ 49.00		
Balance as of November 3, 2019	4	$ 51.83		
Exercised	(3)	$ 49.05		$ 917
Balance as of November 1, 2020	1	$ 62.35	0.4	$ 266
Fully vested as of November 1, 2020	1	$ 62.39	0.4	$ 264
Fully vested and expected to vest as of November 1, 2020	1	$ 62.35	0.4	$ 266

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* Represents fewer than 0.5 million shares.

12. Income Taxes

Components of Income from Continuing Operations Before Income Taxes

The following table presents the components of income from continuing operations before income taxes for financial reporting purposes:

	Fiscal Year		
	2020	2019	2018
	(In millions)		
Domestic loss	$ (4,221)	$ (4,116)	$ (705)
Foreign income	6,664	6,342	5,250
Income from continuing operations before income taxes	$ 2,443	$ 2,226	$ 4,545

Components of Benefit from Income Taxes

The benefit from income taxes in fiscal year 2020 was primarily due to jurisdictional mix of income and expense, the recognition of gross uncertain tax benefits as a result of lapses of statutes of limitations, the remeasurement of certain foreign deferred tax assets and liabilities, and excess tax benefits from stock-based awards.

The benefit from income taxes in fiscal year 2019 was primarily due to excess tax benefits from stock-based awards, the recognition of gross unrecognized tax benefits as a result of audit settlements and lapses of statutes of limitations net of increases in balances related to tax positions taken during the year, deferred tax remeasurement in state and foreign jurisdictions, internal reorganizations, and the partial release of our valuation allowance as a result of the CA Merger, partly offset by a change in estimate of our fiscal year 2018 provision resulting from regulations issued related to the U.S. Tax Cuts and Jobs Act ("2017 Tax Reform Act").

The benefit from income taxes in the fiscal year 2018 was primarily due to income tax benefits recognized from the enactment of the 2017 Tax Reform Act and as a result of our redomiciliation to the United States on April 4, 2018.

We have obtained several tax incentives from the Singapore Economic Development Board which provide that qualifying income earned in Singapore is subject to tax incentives or reduced rates of Singapore income tax. Each tax incentive is separate and distinct from the others and may be granted, withheld, extended, modified, truncated, complied with, or terminated independently without any effect on the other incentives. Subject to our compliance with the conditions specified in these incentives and legislative developments, the Singapore tax incentive is scheduled to expire in November 2025.

We have also obtained a tax holiday on our qualifying income in Malaysia, which is scheduled to expire in fiscal year 2028. The tax holiday that we negotiated in Malaysia is also subject to our compliance with various operating and other conditions. If we cannot, or elect not to, comply with any such conditions specified, we will lose the related tax benefits and we could be required to refund previously realized material tax benefits.

Before taking into consideration the effects of the 2017 Tax Reform Act and other indirect tax impacts, the effect of these tax incentives and tax holiday was to increase the benefit from income taxes by approximately $833 million, $923 million and $590 million for fiscal years 2020, 2019 and 2018, respectively.

Significant components of benefit from income taxes are as follows:

	Fiscal Year		
	2020	2019	2018
		(In millions)	
Current tax expense (benefit from):			
Federal	$ 7	$ (49)	$ 255
State	51	(16)	38
Foreign	506	342	171
	564	277	464
Deferred tax expense (benefit from):			
Federal	(627)	(497)	(8,666)
State	(161)	(113)	(103)
Foreign	(294)	(177)	221
	(1,082)	(787)	(8,548)
Total benefit from income taxes	$ (518)	$ (510)	$ (8,084)

Rate Reconciliation

	Fiscal Year		
	2020	2019	2018
Statutory tax rate	21.0 %	21.0 %	21.0 %
State, net of federal benefit	(3.6)	(4.6)	(1.1)
2017 Tax Reform Act	—	5.1	(159.0)
Redomiciliation transaction withholding tax remeasurement	—	—	(25.6)
Foreign income taxed at different rates	(48.6)	(52.5)	(16.3)
Deemed inclusion of foreign earnings	21.8	25.9	4.7
Deferred taxes on unremitted foreign earnings	(1.1)	1.9	0.4
Excess tax benefits from stock-based compensation	(6.0)	(10.4)	(4.0)
Research and development credit	(4.3)	(7.6)	(2.9)
Other, net	(0.4)	(1.7)	4.9
Effective tax rate on income before income taxes	(21.2)%	(22.9)%	(177.9)%

Summary of Deferred Income Taxes

	November 1, 2020	November 3, 2019
	(In millions)	
Deferred income tax assets:		
Net operating loss, credit and other carryforwards	$ 1,773	$ 1,733
Deferred revenue	529	316
Employee stock awards	273	218
Other deferred income tax assets	392	313
Gross deferred income tax assets	2,967	2,580
Less: valuation allowance	(1,707)	(1,563)
Deferred income tax assets	1,260	1,017
Deferred income tax liabilities:		
Depreciation and amortization	1,477	2,360
Foreign earnings not indefinitely reinvested	112	138
Deferred income tax liabilities	1,589	2,498
Net deferred income tax liabilities	$ (329)	$ (1,481)

Deferred income taxes reflect the net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and their basis for income tax purposes and the tax effects of net operating losses and tax credit carryforwards. The decrease in net deferred income tax liabilities was primarily a result of the amortization of acquisition-related intangible assets included in the consolidated statement of operations.

In connection with the Symantec Asset Purchase in November 2019, we established $28 million of net deferred tax assets primarily as a result of the difference in book basis and tax basis related to acquired assets. In connection with the CA Merger in November 2018, we established $2,434 million of net deferred tax liabilities on the excess of the book basis over the tax basis of acquired identified intangible assets and investments in certain foreign subsidiaries that had not been indefinitely reinvested, partially offset by acquired tax attributes.

We continue to indefinitely reinvest $2,677 million of certain accumulated foreign earnings. The unrecognized deferred income tax liability related to these earnings is estimated to be $281 million. All other current and future earnings of all our foreign subsidiaries are not considered permanently reinvested.

The following table presents net deferred income tax assets (liabilities) as reflected on the consolidated balance sheets:

	November 1, 2020	November 3, 2019
	(In millions)	
Other long-term assets	$ 240	$ 50
Other long-term liabilities	(569)	(1,531)
Net long-term income tax liabilities	$ (329)	$ (1,481)

The increase in the valuation allowance to $1,707 million in fiscal year 2020 from $1,563 million in fiscal year 2019 was primarily due to federal and state deferred tax assets arising from credits and net operating loss carryforwards not expected to be realized.

As of November 1, 2020, we had U.S. federal net operating loss carryforwards of $67 million, U.S. state net operating loss carryforwards of $2,951 million and other foreign net operating loss carryforwards of $1,126 million. U.S. federal and state net operating loss carryforwards begin to expire in our fiscal year ending October 31, 2021 ("fiscal year 2021"). The other foreign net operating losses expire in various fiscal years beginning 2021. As of November 1, 2020, we had $301 million and $1,759 million of U.S. federal and state research and development tax credits, respectively, which if not utilized, begin to expire in fiscal year 2021.

The U.S. Tax Reform Act of 1986 limits the use of net operating loss and tax credit carryforwards in the case of an "ownership change" of a corporation or separate return loss year limitations. Any ownership changes, as defined, may restrict the utilization of carryforwards. As of November 1, 2020, we had approximately $67 million of federal net operating loss carryforwards in the U.S. subject to an annual limitation. We do not expect these limitations to result in any permanent loss of our tax benefits.

Uncertain Tax Positions

Gross unrecognized tax benefits increased by $326 million during fiscal year 2020, resulting in gross unrecognized tax benefits of $4,748 million as of November 1, 2020.

Gross unrecognized tax benefits increased by $392 million during fiscal year 2019, resulting in gross unrecognized tax benefits of $4,422 million as of November 3, 2019.

Gross unrecognized tax benefits increased by $1,774 million during fiscal year 2018, resulting in gross unrecognized tax benefits of $4,030 million as of November 4, 2018. The increase in gross unrecognized tax benefits was primarily due to the recognition of unrecognized tax positions of $1,112 million related to the transition tax on the mandatory deemed repatriation of accumulated non-U.S. earnings of U.S. controlled foreign corporations, offset by a reduction of our federal deferred income tax liabilities on accumulated non-U.S. earnings. The increase in gross unrecognized tax benefits was also as a result of our redomiciliation to the United States on April 4, 2018, and to a lesser extent, the Brocade Merger.

We recognize interest and penalties related to unrecognized tax benefits within the benefit from income taxes. Accrued interest and penalties were included within other long-term liabilities. During fiscal years 2020 and 2018, we recognized interest and penalties of $37 million and $59 million, respectively, within the benefit from income taxes. There was no amount recognized during fiscal year 2019. As of November 1, 2020 and November 3, 2019, the combined amount of cumulative accrued interest and penalties was approximately $340 million and $303 million, respectively.

The following table reconciles the beginning and ending balance of gross unrecognized tax benefits:

	Fiscal Year		
	2020	2019	2018
	(In millions)		
Beginning balance	$ 4,422	$ 4,030	$ 2,256
Lapses of statutes of limitations	(95)	(36)	(20)
Increases in balances related to tax positions taken during prior periods (including those related to acquisitions made during the year)	98	467	361
Decreases in balances related to tax positions taken during prior periods	(14)	(270)	(289)
Increases in balances related to tax positions taken during current period	379	460	1,726
Decreases in balances related to settlements with taxing authorities	(42)	(229)	(4)
Ending balance	$ 4,748	$ 4,422	$ 4,030

A portion of our unrecognized tax benefits will affect our effective tax rate if they are recognized upon favorable resolution of the uncertain tax positions. As of November 1, 2020 and November 3, 2019, approximately $5,088 million and $4,725 million of the unrecognized tax benefits and accrued interest and penalties would affect our effective tax rate, respectively.

We are subject to U.S. income tax examination for fiscal years 2013 and later. Certain of our acquired companies are subject to tax examinations in major jurisdictions outside of the U.S. for fiscal years 2008 and later. It is possible that our existing unrecognized tax benefits may change up to $261 million as a result of lapses of the statute of limitations for certain audit periods and/or audit examinations expected to be completed within the next 12 months.

13. Segment Information

Reportable Segments

During the first quarter of fiscal year 2020, we updated our organizational structure resulting in two reportable segments: semiconductor solutions and infrastructure software. Each segment represents a component for which separate financial information is available that is utilized on a regular basis by the CODM in determining how to allocate resources and evaluate performance. The reportable segments are determined based on several factors including, but not limited to, customer base, homogeneity of products, technology, delivery channels and similar economic characteristics.

Semiconductor solutions. We provide semiconductor solutions for managing the movement of data in data center, telecom, enterprise and embedded networking applications. We provide a broad variety of radio frequency semiconductor devices, wireless connectivity solutions and custom touch controllers for mobile applications. We also provide semiconductor solutions for enabling the set-top box and broadband access markets and for enabling secure movement of digital data to and from host machines, such as servers, personal computers and storage systems, to the underlying storage devices, such as hard disk drives and solid state drives. We also provide a broad variety of products for the general industrial and automotive markets. Our semiconductor solutions segment also includes our IP licensing.

Infrastructure software. We provide a portfolio of mainframe, enterprise and storage area networking solutions, which enables customers to leverage the benefits of agility, automation, insights, resiliency and security in managing business processes and technology investments, and to reduce the cost and complexity of managing business information within a shared storage environment. We also offer a cyber security solutions portfolio, including data loss prevention, endpoint protection, and web, email and cloud security solutions.

Our CODM assesses the performance of each segment and allocates resources to each segment based on net revenue and operating results and does not evaluate each segment using discrete asset information. Operating results by segment include items that are directly attributable to each segment and also include shared expenses such as global operations, including manufacturing support, logistics and quality control, expenses associated with selling, general and administrative activities, facilities and information technology expenses. Shared expenses are primarily allocated based on revenue and headcount.

During the fourth quarter of our fiscal year 2020, we refined our allocation methodology for certain selling, general and administrative expenses to more closely align these costs with the segment benefiting from the shared expenses. Prior period segment results have been recast to conform to the current presentation.

Unallocated Expenses

Unallocated expenses include amortization of acquisition-related intangible assets, stock-based compensation expense, restructuring, impairment and disposal charges, acquisition-related costs, charges related to inventory step-up to fair value, and other costs, which are not used in evaluating the results of, or in allocating resources to, our segments. Acquisition-related costs also include transaction costs and any costs directly related to the acquisition and integration of acquired businesses.

Depreciation expense directly attributable to each reportable segment is included in operating results for each segment. However, the CODM does not evaluate depreciation expense by operating segment and, therefore, it is not separately presented. There was no inter-segment revenue for any of the periods presented. The accounting policies of the segments are the same as those described in the summary of significant accounting policies.

	Fiscal Year		
	2020	2019	2018
		(In millions)	
Net revenue:			
Semiconductor solutions	$ 17,267	$ 17,441	$ 19,068
Infrastructure software	6,621	5,156	1,780
Total net revenue	$ 23,888	$ 22,597	$ 20,848
Operating income:			
Semiconductor solutions	$ 8,576	$ 8,538	$ 9,253
Infrastructure software	4,363	3,391	1,157
Unallocated expenses	(8,925)	(8,485)	(5,275)
Total operating income	$ 4,014	$ 3,444	$ 5,135

Geographic Information

Net revenue by country is based on the geographic shipment or delivery location as specified by the distributors, OEMs, contract manufacturers, channel partners, or software customers who purchased our products or services. For the majority of our products, title and control transfer to our customers in Penang, Malaysia. The products are then transported to the customer specific locations. Net revenue from the United States for fiscal years 2020, 2019 and 2018 was $4,778 million, $4,235 million and $2,697 million, respectively. Net revenue from China (including Hong Kong) for fiscal years 2020, 2019 and 2018 was $7,808 million, $8,056 million and $10,305 million, respectively. Net revenue from Singapore for fiscal year 2019 was $2,507 million (amounts were less than 10% for fiscal years 2020 and 2018). Net revenue from other foreign countries for fiscal years 2020, 2019 and 2018 was $11,302 million, $7,799 million and $7,846 million, respectively. These geographic delivery locations are not necessarily indicative of the geographic location of our end customers or the country in which our end customers sell devices containing our products. For example, we believe a substantial portion of our products shipped or delivered to China (including Hong Kong) is included in devices sold by our end customers in the United States and Europe.

Long-lived assets include property, plant and equipment and are based on the physical location of the assets.

	November 1, 2020	November 3, 2019
	(In millions)	
Long-lived assets:		
United States	$ 1,659	$ 1,763
Taiwan	285	258
Other	565	544
Total long-lived assets	$ 2,509	$ 2,565

Significant Customer Information

We sell our products through our direct sales force and a select network of distributors and channel partners globally. No customer accounted for 10% or more of our net accounts receivable balance at November 1, 2020 compared with one customer which accounted for 24% of our net accounts receivable balance at November 3, 2019. During fiscal years 2020 and 2019, one customer accounted for 13% and 17% of our net revenue, respectively. Revenue from this customer was included in our semiconductor solutions segment. During fiscal year 2018, no customer accounted for 10% or more of our net revenue.

14. Commitments and Contingencies

Commitments

The following table summarizes contractual obligations and commitments as of November 1, 2020:

Fiscal Year:	Purchase Commitments	Other Contractual Commitments
	(In millions)	
2021	$ 894	$ 248
2022	72	221
2023	—	209
2024	—	157
2025	—	63
Thereafter	—	239
Total	$ 966	$ 1,137

Purchase Commitments. Represents unconditional purchase obligations that include agreements to purchase goods or services, primarily inventory, that are enforceable and legally binding on us and that specify all significant terms, including fixed or minimum quantities to be purchased, fixed, minimum or variable price provisions, and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancelable without penalty. Cancellation for outstanding purchase orders for capital expenditures in connection with construction of our new campuses is generally allowed but requires payment of all costs incurred through the date of cancellation and, therefore, cancelable purchase orders for these capital expenditures are included in the table above.

Other Contractual Commitments. Represents amounts payable pursuant to agreements related to IT, human resources, and other service agreements.

Due to the inherent uncertainty with respect to the timing of future cash outflows associated with our unrecognized tax benefits at November 1, 2020, we are unable to reliably estimate the timing of cash settlement with the respective taxing authorities. Therefore, $3,185 million of unrecognized tax benefits and accrued interest classified within other long-term liabilities as of November 1, 2020 have been excluded from the contractual obligations table above.

Standby Letters of Credit

As of November 1, 2020 and November 3, 2019, we had standby letters of credit of $65 million and $62 million, respectively. Standby letters of credit are financial guarantees provided by third parties for leases, customs, taxes and certain self-insured risks. If the guarantees are called, we must reimburse the provider of the guarantees.

Contingencies

From time to time, we are involved in litigation that we believe is of the type common to companies engaged in our lines of business, including commercial disputes, employment issues, tax disputes and disputes involving claims by third parties that our activities infringe their patent, copyright, trademark or other IP rights, as well regulatory investigations or inquiries. Legal proceedings and regulatory investigations or inquiries are often complex, may require the expenditure of significant funds and other resources, and the outcome of such proceedings is inherently uncertain, with material adverse outcomes possible. IP property claims generally involve the demand by a third-party that we cease the manufacture, use or sale of the allegedly infringing products, processes or technologies and/or pay substantial damages or royalties for past, present and future use of the allegedly infringing IP. Claims that our products or processes infringe or misappropriate any third-party IP rights (including claims arising through our contractual indemnification of our customers) often involve highly complex, technical issues, the outcome of which is inherently uncertain. Moreover, from time to time, we pursue litigation to assert our IP rights. Regardless of the merit or resolution of any such litigation, complex IP litigation is generally costly and diverts the efforts and attention of our management and technical personnel.

Lawsuits Relating to California Institute of Technology

California Institute of Technology ("Caltech") filed a complaint against Broadcom and Apple Inc. on May 26, 2016 in the United States District Court for the Central District of California (the "U.S. Central District Court"), and an amended complaint adding Cypress Semiconductor Corporation as a defendant on August 15, 2016. The amended complaint alleged that chips that support certain error correction codes as specified in IEEE Standards 802.11n and 802.11ac willfully infringed four patents related to error correction coding: U.S. Patent Nos. 7,116,710; 7,421,032; 7,916,781; and 8,284,833 ("'833 patent"). Prior to trial, Caltech dismissed its claims against Cypress and withdrew its infringement allegations as to '833 patent. The complaint sought a preliminary and permanent injunction, damages, pre- and post-judgment interest, as well as attorneys' fees, costs, and expenses. The trial was held in January 2020, and on January 29, 2020, the jury issued its verdict finding infringement and awarding Caltech past damages of $270.2 million from Broadcom and $837.8 million from Apple, for which Apple is seeking indemnification from Broadcom. On August 3, 2020, the U.S. Central District Court issued its judgment, awarding Caltech past damages in the amounts awarded by the jury, as well as pre- and post-judgment interest. Additionally, the U.S. Central District Court awarded Caltech an unspecified amount of ongoing royalties to be determined after the anticipated appeals process is resolved. Neither the jury nor the U.S. Central District Court found willful infringement, which if it had, could have resulted in enhanced damages up to three times the amount awarded. Broadcom and Apple have appealed to the United States Court of Appeals for the Federal Circuit.

We believe that the evidence and the law do not support the U.S. Central District Court's findings of infringement or the award of damages, including ongoing royalties, and do not believe a material loss is probable at this time. We believe that there are strong grounds for appeal, and we intend to vigorously challenge the U.S. Central District Court's judgment and rulings. As a result, we have not recorded a reserve with respect to this litigation, in accordance with the applicable accounting standards. We believe the low end of the possible range of loss is zero, but we cannot reasonably estimate the ultimate outcome, as a number of factors (including the appeal by Broadcom and Apple) could significantly change the assessment of damages.

Lawsuits Relating to the Acquisition of Emulex Corporation

On April 8, 2015, a putative class action complaint was filed in the U.S. Central District Court, entitled Gary Varjabedian, et al. v. Emulex Corporation, et al., No. 8:15-cv-554-CJC-JCG. The complaint names as defendants Emulex Corporation ("Emulex"), its directors, Avago Technologies Wireless (U.S.A.) Manufacturing ("AT Wireless") and Emerald Merger Sub, and purported to assert claims under Sections 14(d), 14(e) and 20(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The complaint alleged, among other things, that the board of directors of Emulex failed to provide material information and/or omitted material information from the Solicitation/Recommendation Statement on Schedule 14D-9 filed with the SEC on April 7, 2015 by Emulex, together with the exhibits and annexes thereto. The complaint sought to enjoin the tender offer to purchase all of the outstanding shares of Emulex common stock, as well as certain other equitable relief and attorneys' fees and costs. On July 28, 2015, the U.S. Central District Court issued an order appointing the lead plaintiff and approving lead counsel for the putative class. On September 9, 2015, plaintiff filed a first amended complaint seeking rescission of the merger, unspecified money damages, other equitable relief and attorneys' fees and costs. On October 13, 2015, defendants moved to dismiss the first amended complaint, which the U.S. Central District Court granted with prejudice on January 13, 2016. Plaintiff filed a notice of appeal to the United States Court of Appeals for the Ninth Circuit (the "Ninth Circuit Court") on January 15, 2016. The appeal is captioned Gary Varjabedian, et al. v. Emulex Corporation, et al., No. 16-55088. On June 27, 2016, the Plaintiff-Appellant filed his opening brief, on August 17 and August 22, 2016, the Defendants-Appellees filed their answering briefs, and on October 5, 2016 Plaintiff-Appellant filed his reply brief. The Ninth Circuit Court heard oral arguments on October 5, 2017. On April 20, 2018, the Ninth Circuit Court issued an opinion affirming in part and reversing in part the decision of the U.S. Central District Court and remanding Plaintiff-Appellant's claims under Sections 14(e) and 20(a) of the Exchange Act to the U.S. Central District Court for reconsideration. On May 4, 2018, the Defendants-Appellees filed a Petition for Rehearing En Banc with the Ninth Circuit Court. On July 13, 2018, Plaintiff-Appellant filed an Opposition to the Petition for Rehearing En Banc. On September 6, 2018, the Ninth Circuit Court issued an order denying the Petition for Rehearing En Banc. On October 11, 2018, Defendants-Appellees filed a Petition for a Writ of Certiorari to the United States Supreme Court (the "U.S. Supreme Court"), which was granted on January 4, 2019. On April 23, 2019, the U.S. Supreme Court dismissed the writ of certiorari as having been improvidently granted. On May 28, 2019, the Ninth Circuit

Court remanded the case back to the U.S. Central District Court. On October 6, 2019, Plaintiff voluntarily dismissed AT Wireless from this action and the remaining defendants, Emulex and its directors, filed motions to dismiss the complaint on October 7, 2019. On February 26, 2020, the U.S. Central District Court dismissed Plaintiff's complaint with prejudice.

Other Matters

In addition to the matters discussed above, we are currently engaged in a number of legal actions in the ordinary course of our business.

Contingency Assessment

We do not believe, based on currently available facts and circumstances, that the final outcome of any pending legal proceedings or ongoing regulatory investigations, taken individually or as a whole, will have a material adverse effect on our consolidated financial statements. However, lawsuits may involve complex questions of fact and law and may require the expenditure of significant funds and other resources to defend. The results of litigation or regulatory investigations are inherently uncertain, and material adverse outcomes are possible. From time to time, we may enter into confidential discussions regarding the potential settlement of such lawsuits. Any settlement of pending litigation could require us to incur substantial costs and other ongoing expenses, such as future royalty payments in the case of an IP dispute.

During the periods presented, no material amounts have been accrued or disclosed in the accompanying consolidated financial statements with respect to loss contingencies associated with any other legal proceedings or regulatory investigations, as potential losses for such matters are not considered probable and ranges of losses are not reasonably estimable. These matters are subject to many uncertainties and the ultimate outcomes are not predictable. There can be no assurances that the actual amounts required to satisfy any liabilities arising from the matters described above will not have a material adverse effect on our consolidated financial statements.

Other Indemnifications

As is customary in our industry and as provided for in local law in the U.S. and other jurisdictions, many of our standard contracts provide remedies to our customers and others with whom we enter into contracts, such as defense, settlement, or payment of judgment for IP claims related to the use of our products. From time to time, we indemnify customers, as well as our suppliers, contractors, lessors, lessees, companies that purchase our businesses or assets and others with whom we enter into contracts, against combinations of loss, expense, or liability arising from various triggering events related to the sale and the use of our products, the use of their goods and services, the use of facilities and state of our owned facilities, the state of the assets and businesses that we sell and other matters covered by such contracts, usually up to a specified maximum amount. In addition, from time to time we also provide protection to these parties against claims related to undiscovered liabilities, additional product liabilities or environmental obligations. In our experience, claims made under such indemnifications are rare and the associated estimated fair value of the liability is not material.

15. Restructuring, Impairment and Disposal Charges

Restructuring Charges

The following is a summary of significant restructuring expense recognized primarily in operating expenses:

- During fiscal year 2020, we initiated cost reduction activities associated with the Symantec Asset Purchase. As a result, we recognized $174 million of restructuring expense primarily related to employee termination costs. We have substantially completed the restructuring activities related to the Symantec Asset Purchase.
- During fiscal year 2019, we initiated cost reduction activities associated with the CA Merger. As a result, we recognized $28 million and $740 million of restructuring expense primarily related to employee termination and lease and other exit costs during fiscal year 2020 and fiscal year 2019, respectively. We have substantially completed the restructuring activities related to the CA Merger.

The following table summarizes the significant activities within, and components of, the restructuring liabilities:

	Employee Termination Costs	Lease and Other Exit Costs	Total
		(In millions)	
Balance as of October 29, 2017	$ 28	$ 17	$ 45
Restructuring charges[(a)]	153	75	228
Utilization	(165)	(86)	(251)
Balance as of November 4, 2018	16	6	22
Liabilities assumed from CA	29	38	67
Restructuring charges	586	160	746
Utilization	(562)	(165)	(727)
Balance as of November 3, 2019	69	39	108
Restructuring charges[(a)]	186	47	233
Utilization	(221)	(50)	(271)
Effect of adoption of Topic 842[(b)]	—	(36)	(36)
Balance as of November 1, 2020[(c)]	$ 34	$ —	$ 34

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(a) Included $19 million and $2 million of restructuring expense related to discontinued operations recognized during fiscal years 2020 and 2018, respectively, which was included in loss from discontinued operations.

(b) Upon adoption of Topic 842, certain restructuring lease liabilities were required to be recognized as a reduction to the corresponding ROU assets.

(c) The majority of the employee termination costs balance is expected to be paid within the first half of fiscal year 2021.

Impairment and Disposal Charges

During fiscal years 2020 and 2018, impairment and disposal charges of $19 million and $13 million, respectively, primarily related to leasehold improvements. During fiscal year 2019, impairment and disposal charges of $67 million primarily related to property, plant and equipment.

16. Subsequent Events

Preferred Stock Cash Dividends Declared

On December 8, 2020, our Board of Directors declared a quarterly cash dividend of $20.00 per share on our Mandatory Convertible Preferred Stock, payable on December 31, 2020 to stockholders of record on December 15, 2020.

Common Stock Cash Dividends Declared

On December 8, 2020, our Board of Directors declared a quarterly cash dividend of $3.60 per share on our common stock, payable on December 31, 2020 to stockholders of record on December 21, 2020.

Supplementary Financial Data — Quarterly Data (Unaudited)

	Fiscal Quarter Ended							
	November 1, 2020 (1)	August 2, 2020 (2)	May 3, 2020 (3)	February 2, 2020 (4)	November 3, 2019 (5)	August 4, 2019 (6)	May 5, 2019 (7)	February 3, 2019 (8)
	(In millions, except per share data)							
Total net revenue	$ 6,467	$ 5,821	$ 5,742	$ 5,858	$ 5,776	$ 5,515	$ 5,517	$ 5,789
Gross margin	3,747	3,316	3,189	3,264	3,152	3,034	3,089	3,208
Operating income	1,526	1,008	766	714	1,054	865	970	555
Income from continuing operations	1,324	689	568	380	847	715	693	481
Income (loss) from discontinued operations, net of income taxes	—	(1)	(5)	5	—	—	(2)	(10)
Net income	1,324	688	563	385	847	715	691	471
Dividends on preferred stock(9)	(74)	(74)	(75)	(74)	(29)	—	—	—
Net income attributable to common stock	$ 1,250	$ 614	$ 488	$ 311	$ 818	$ 715	$ 691	$ 471
Diluted income per share attributable to common stock(10):								
Income per share from continuing operations	$ 2.93	$ 1.46	$ 1.18	$ 0.73	$ 1.97	$ 1.71	$ 1.64	$ 1.15
Income (loss) per share from discontinued operations	—	(0.01)	(0.01)	0.01	—	—	—	(0.03)
Net income per share	$ 2.93	$ 1.45	$ 1.17	$ 0.74	$ 1.97	$ 1.71	$ 1.64	$ 1.12
Dividends declared and paid per share to common stockholders	$ 3.25	$ 3.25	$ 3.25	$ 3.25	$ 2.65	$ 2.65	$ 2.65	$ 2.65
Dividends declared and paid per share to common stockholders -full year	$ 13.00				$ 10.60			

(1) Included amortization of acquisition-related intangible assets of $1,561 million.
(2) Included amortization of acquisition-related intangible assets of $1,553 million.
(3) Included amortization of acquisition-related intangible assets of $1,553 million.
(4) Included the results of Symantec Business beginning with the fiscal quarter ended February 2, 2020 in connection with the Symantec Asset Purchase on November 4, 2019. Also included amortization of acquisition-related intangible assets of $1,553 million.
(5) Included amortization of acquisition-related intangible assets of $1,301 million.
(6) Included amortization of acquisition-related intangible assets of $1,303 million.
(7) Included amortization of acquisition-related intangible assets of $1,299 million.
(8) Included amortization of acquisition-related intangible assets of $1,309 million and restructuring, impairment and disposal charges of $629 million.
(9) Beginning with the fiscal quarter ended November 3, 2019, net income attributable to common stock excluded dividends on Mandatory Convertible Preferred Stock issued during the fiscal quarter ended November 3, 2019.
(10) The sum of quarterly per share information may not equal annual earnings per share as quarterly earnings per share were computed independently for each period presented.

Schedule II — Valuation and Qualifying Accounts

	Balance at Beginning of Period	Additions to Allowances	Charges Utilized/ Write-offs	Balance at End of Period
	(In millions)			
Accounts receivable allowances:				
Distributor credit allowances [1]				
Fiscal year ended November 1, 2020	$ 153	$ 696	$ (700)	$ 149
Fiscal year ended November 3, 2019	$ 151	$ 705	$ (703)	$ 153
Fiscal year ended November 4, 2018	$ 177	$ 882	$ (908)	$ 151
Other accounts receivable allowances [2]				
Fiscal year ended November 1, 2020	$ 38	$ 84	$ (94)	$ 28
Fiscal year ended November 3, 2019	$ 12	$ 99	$ (73)	$ 38
Fiscal year ended November 4, 2018	$ 31	$ 116	$ (135)	$ 12
Income tax valuation allowances:				
Fiscal year ended November 1, 2020	$ 1,563	$ 149	$ (5)	$ 1,707
Fiscal year ended November 3, 2019	$ 1,347	$ 284	$ (68)	$ 1,563
Fiscal year ended November 4, 2018	$ 1,447	$ 314	$ (414)	$ 1,347

(1) Distributor credit allowances relate to price adjustments and other allowances.

(2) Other accounts receivable allowances primarily include sales returns and allowance for doubtful accounts.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), evaluated the effectiveness of our disclosure controls and procedures as of November 1, 2020. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of November 1, 2020, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by the Board, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of us are being made only in accordance with authorizations of management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of November 1, 2020. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework* (2013). Based on this assessment, our management concluded that, as of November 1, 2020, our internal control over financial reporting is effective based on those criteria.

The effectiveness of our internal control over financial reporting, as of November 1, 2020 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in Part II, Item 8. of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fourth quarter ended November 1, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Although we have modified our workplace practices globally due to the COVID-19 pandemic, resulting in most of our employees working remotely, this has not meaningfully affected our internal controls over financial reporting. We are continually monitoring and assessing the COVID-19 situation on our internal controls to minimize the impact on their design and operating effectiveness.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information regarding our directors and executive officers, set forth in the sections entitled “Proposal 1 — Election of Directors,” “Executive Officers” and “Corporate Governance,” in our definitive Proxy Statement for our 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of our 2020 fiscal year pursuant to General Instruction G(3) to Form 10-K is hereby incorporated by reference in this section.

We have adopted a written Code of Ethics and Business Conduct that applies to all of our employees and directors, including our principal executive officer, principal financial officer and principal accounting officer, or persons performing similar functions and have posted it in the “Investors Center — Governance” section of our website, which is located at www.broadcom.com. We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding any amendments to, or waivers from, our Code of Ethics and Business Conduct by posting such information on our website at the internet address and location above.

ITEM 11. EXECUTIVE COMPENSATION

The information regarding executive compensation required by this Item 11 set forth in the sections entitled “Director Compensation”, “Compensation Discussion and Analysis,” “Executive Compensation,” “Compensation Committee Report” and “Corporate Governance — Compensation Committee Interlocks and Insider Participation" in our definitive Proxy Statement for our 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of our 2020 fiscal year pursuant to General Instruction G(3) to Form 10-K is hereby incorporated by reference in this section. However, the Compensation Committee Report included in such definitive Proxy Statement shall not be deemed “filed” with the SEC for the purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing made by us with the SEC, regardless of any general incorporation language in such filing.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information regarding security ownership of certain beneficial owners and management and related stockholder matters required by this Item 12 set forth in the section entitled “Stockholder Information — Security Ownership of Certain Beneficial Owners, Directors and Executive Officers” and “Equity Compensation Plan Information” in our definitive Proxy Statement for our 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of our 2020 fiscal year pursuant to General Instruction G(3) to Form 10-K is hereby incorporated by reference in this section.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information regarding certain relationships, related transactions and director independence required by this Item 13 set forth in the sections entitled “Corporate Governance” and “Certain Relationships and Related Party Transactions” in our definitive Proxy Statement for our 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of our 2020 fiscal year pursuant to General Instruction G(3) to Form 10-K is hereby incorporated by reference in this section.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information regarding principal accounting fees and services required by this Item 14 set forth in the proposal relating to the re-appointment of our independent registered public accounting firm in our definitive Proxy Statement for our 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the end of our 2020 fiscal year pursuant to General Instruction G(3) to Form 10-K is hereby incorporated by reference in this section.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following are filed as part of this Annual Report on Form 10-K:

1. Financial Statements

The following consolidated financial statements are included in Item 8 of this Annual Report on Form 10-K:

2. Financial Statement Schedules

The financial statement schedule of the Registrant and its subsidiaries for fiscal years 2020, 2019 and 2018 required by Item 15(a) (Schedule II, Valuation and Qualifying Accounts) is included in Item 8 of this Annual Report on Form 10-K:

Schedules not filed have been omitted because they are not applicable, are not required or the information required to be set forth therein is included in the financial statements or notes thereto.

3. Exhibits

The documents set forth below are filed herewith or incorporated by reference to the location indicated.

Exhibit No.	Description	Incorporated by Referenced Herein: Form	Incorporated by Referenced Herein: Filing Date	Filed Herewith
2.1#	Agreement and Plan of Merger, dated as of July 11, 2018, by and among Broadcom, Inc., Collie Acquisition Corp. and CA, Inc.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	July 12, 2018	
2.2#	Asset Purchase Agreement, dated as of August 8, 2019, by and between Broadcom Inc. and Symantec Corporation.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	August 9, 2019	
2.3#	APA Letter Agreement, dated as of October 1, 2020, by and between Broadcom Inc. and NortonLifeLock Inc.			X
3.1	Amended and Restated Certificate of Incorporation.	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
3.2	Certificate of Designation of the 8.00% Mandatory Convertible Preferred Stock, Series A.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	September 30, 2019	
3.3	Amended and Restated Bylaws.	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	

Exhibit No.	Description	Incorporated by Referenced Herein — Form	Incorporated by Referenced Herein — Filing Date	Filed Herewith
4.1	Form of Common Stock Certificate.	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 14, 2018	
4.2	Form of Certificate of the 8.00% Mandatory Convertible Preferred Stock, Series A (included in Exhibit 3.2).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	September 30, 2019	
4.3	Description of Common Stock.	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 20, 2019	
4.4	Description of 8.00% Mandatory Convertible Preferred Stock, Series A.	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 20, 2019	
4.5	Indenture, dated as of January 19, 2017, by and among the Broadcom Corporation and Broadcom Cayman Finance Limited ("Co-Issuers"), the guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	January 20, 2017	
4.6	Supplement Indenture to the January 2017 Indenture, dated as of April 9, 2018.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-34889)	April 9, 2018	
4.7	Second Supplement Indenture to the January 2017 Indenture, dated as of January 25, 2019.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	January 25, 2019	
4.8	Form of 2.375% Senior Note due 2020 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	January 20, 2017	
4.9	Form of 3.000% Senior Note due 2022 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	January 20, 2017	
4.10	Form of 3.625% Senior Note due 2024 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	January 20, 2017	
4.11	Form of 3.875% Senior Note due 2027 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	January 20, 2017	
4.12	Indenture, dated as of October 17, 2017, by and among the Co-Issuers, the guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	October 17, 2017	
4.13	Supplement Indenture to October 2017 Indenture, dated as of April 9, 2018.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 9, 2018	
4.14	Second Supplement Indenture to October 2017 Indenture, dated as of January 25, 2019.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	January 25, 2019	
4.15	Form of 2.200% Senior Note due 2021 (included in Exhibit 4.12).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	October 17, 2017	
4.16	Form of 2.650% Senior Note due 2023 (included in Exhibit 4.12).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	October 17, 2017	
4.17	Form of 3.125% Senior Note due 2025 (included in Exhibit 4.12).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	October 17, 2017	

Exhibit No.	Description	Incorporated by Referenced Herein Form	Filing Date	Filed Herewith
4.18	Form of 3.500% Senior Note due 2028 (included in Exhibit 4.12).	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	October 17, 2017	
4.19	Indenture, dated as of April 5, 2019, by and among the Company, as Issuer, Broadcom Technologies Inc., Broadcom Corporation and Broadcom Cayman Finance Limited (the "2019 Guarantors"), and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.20	Form of 3.125% Senior Note due 2021 (included in Exhibit 4.19).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.21	Form of 3.125% Senior Note due 2022 (included in Exhibit 4.19).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.22	Form of 3.625% Senior Note due 2024 (included in Exhibit 4.19).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.23	Form of 4.250% Senior Note due 2026 (included in Exhibit 4.19).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.24	Form of 4.750% Senior Note due 2029 (included in Exhibit 4.19).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.25	Registration Rights Agreement, dated as of April 5, 2019, by and among the Company, the 2019 Guarantors and Merrill Lynch, Pierce, Fenner & Smith Incorporated and J.P. Morgan Securities LLC, as representatives of the several initial purchasers of the April 2019 Notes.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 5, 2019	
4.26	Indenture, dated as of April 9, 2020, by and among the Company, as Issuer, Broadcom Technologies Inc. and Broadcom Corporation (the "2020 Guarantors"), and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 9, 2020	
4.27	Form of 4.700% Senior Notes due 2025 (included in Exhibit 4.26).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 9, 2020	
4.28	Form of 5.000% Senior Notes due 2030 (included in Exhibit 4.26).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 9, 2020	
4.29	Registration Rights Agreement, dated as of April 9, 2020, by and among the Company, the 2020 Guarantors and J.P. Morgan Securities LLC, as representative of the several initial purchasers of the April 2020 Senior Notes.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	April 9, 2020	
4.30	Indenture, dated as of May 8, 2020, by and among the Company, as Issuer, the 2020 Guarantors, and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	
4.31	Form of 2.250% Senior Notes due 2023 (included in Exhibit 4.30).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	
4.32	Form of 3.150% Senior Notes due 2025 (included in Exhibit 4.30).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
4.33	Form of 4.150% Senior Notes due 2030 (included in Exhibit 4.30).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	
4.34	Form of 4.300% Senior Notes due 2032 (included in Exhibit 4.30).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	
4.35	Registration Rights Agreement, dated as of May 8, 2020, by and among the Company, the 2020 Guarantors and Citigroup Global Markets Inc., HSBC Securities (USA) Inc., J.P. Morgan Securities LLC and Wells Fargo Securities, LLC, as representatives of the several initial purchasers of the May 2020 Senior Notes.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 8, 2020	
4.36	Indenture, dated as of May 21, 2020, by and among the Company, the 2020 Guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 21, 2020	
4.37	Form of 3.459% Senior Notes due 2026 (included in Exhibit 4.36).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 21, 2020	
4.38	Form of 4.110% Senior Notes due 2028 (included in Exhibit 4.36).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 21, 2020	
4.39	Registration Rights Agreement, dated as of May 21, 2020, by and among the Company, the 2020 Guarantors and Barclays Capital Inc. and Credit Suisse Securities (USA) LLC, as dealer-managers in connection with the Exchange Offers.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 21, 2020	
10.1	Form of Indemnification and Advancement Agreement (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
10.2	Form of Indemnification Agreement (Directors) (effective June 1, 2016).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	June 9, 2016	
10.3	Form of Indemnification Agreement (Officers) (effective June 1, 2016).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	June 9, 2016	
10.4	Form of Indemnification Agreement (Directors) (effective February 1, 2016).	Broadcom Limited Current Report on Form 8-K12B (Commission File No. 001-37690)	February 2, 2016	
10.5	Form of Indemnification Agreement (Directors) (effective prior to February 1, 2016).	Avago Technologies Limited Quarterly Report on Form 10-Q (Commission File No. 001-34428)	September 13, 2013	
10.6	Form of Indemnification Agreement (Officers) (effective prior to February 1, 2016).	Avago Technologies Finance Pte. Ltd. Amendment No. 1 to Annual Report on Form 20-F/A (Commission File No. 333-137664)	February 27, 2008	
10.7	Credit Agreement, dated as of May 7, 2019, among Broadcom Inc., the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	May 7, 2019	
10.8	Credit Agreement, dated as of November 4, 2019, among Broadcom Inc., the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	November 4, 2019	

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
10.9	Sublease Agreement, dated June 5, 2009, between Agilent Technologies Singapore Pte. Ltd. and Avago Technologies Manufacturing (Singapore) Pte. Ltd., relating to Avago's facility at 1 Yishun Avenue 7, Singapore 768923.	Avago Technologies Limited Registration Annual Report on Form 10-K (Commission File No. 001-33428)	December 15, 2010	
10.10	Amendments of Sublease Agreement between Agilent Technologies Singapore Pte. Ltd. and Avago Technologies Manufacturing (Singapore) Pte. Ltd., relating to Avago's facility at 1 Yishun Avenue 7 Singapore 768923.	Avago Technologies Limited Registration Annual Report on Form 10-K (Commission File No. 001-33428)	December 17, 2015	
10.11	Amendment No. 3 of Sublease Agreement between Agilent Technologies Singapore Pte. Ltd. and Avago Technologies Manufacturing (Singapore) Pte. Ltd., relating to Avago's facility at 1 Yishun Avenue 7 Singapore 768923.	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 10, 2016	
10.12	Letter of Offer for Sublease Premises located at 1 Yishun Avenue 7, Singapore 768923.			X
10.13	Lease No. I/33183P issued by Singapore Housing and Development Board to Compaq Asia Pte Ltd in respect of the land and structures comprised in Lot 1935X of Mukim 19, dated September 26, 2000, and includes the Variation of Lease I/49501Q registered January 15, 2002, relating to Avago's facility at 1 Yishun Avenue 7, Singapore 768923.	Avago Technologies Finance Pte. Ltd. Registration Statement on Form F-4 (Commission File No. 333-137664)	November 15, 2006	
10.14	Lease No. I/31607P issued by Singapore Housing and Development Board to Compaq Asia Pte Ltd in respect of the land and structures comprised in Lot 1937C of Mukim 19, dated September 26, 2000, and includes the Variation of Lease I/49499Q registered January 15, 2002, relating to Avago's facility at 1 Yishun Avenue 7, Singapore 768923.	Avago Technologies Finance Pte. Ltd. Registration Statement on Form F-4 (Commission File No. 333-137664)	November 15, 2006	
10.15	Lease No. I/33182P issued by Singapore Housing and Development Board to Compaq Asia Pte Ltd in respect of the land and structures comprised in Lot 2134N of Mukim 19, dated September 26, 2000, and includes the Variation of Lease I/49500Q registered January 15, 2002, relating to Avago's facility at 1 Yishun Avenue 7, Singapore 768923.	Avago Technologies Finance Pte. Ltd. Registration Statement on Form F-4 (Commission File No. 333-137664)	November 15, 2006	
10.16	Lease No. I/33160P issued by Singapore Housing and Development Board to Compaq Asia Pte Ltd in respect of the land and structures comprised in Lot 1975P of Mukim 19, dated September 26, 2000, and includes the Variation of Lease I/49502Q registered January 15, 2002, relating to Avago's facility at 1 Yishun Avenue 7, Singapore 768923.	Avago Technologies Finance Pte. Ltd. Registration Statement on Form F-4 (Commission File No. 333-137664)	November 15, 2006	
10.17	Lease Agreement dated August 10, 2017 between Five Point Office Venture I, LLC and Broadcom Corporation.	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 21, 2017	
10.18	First Amendment to Lease Agreement by and between Five Point Office Venture 1, LLC and Broadcom Corporation.			X
10.19*	Settlement and Patent License and Non-Assert Agreement by and between Qualcomm Incorporated and Broadcom Corporation.	Broadcom Corporation Current Report on Form 8-K/A (Commission File No. 000-23993)	July 23, 2009	

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
10.20+	Avago Technologies Limited 2009 Equity Incentive Award Plan.	Avago Technologies Limited Registration Statement on Form S-1 (Commission File No. 333-153127)	July 27, 2009	
10.21+	Second Amended and Restated Employee Stock Purchase Plan.	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	February 2, 2016	
10.22+	Amendment to Broadcom Limited Second Amended and Restated Employee Stock Purchase Plan.	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
10.23+	LSI Corporation 2003 Equity Incentive Plan, as amended.	Avago Technologies Limited Registration Statement on Form S-8 (Commission File No. 333-195741)	May 6, 2014	
10.24+	Amendment to the LSI Corporation 2003 Equity Incentive Plan (effective February 1, 2016).	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 23, 2016	
10.25+	Amendment to the LSI Corporation 2003 Equity Incentive Plan (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
10.26+	Broadcom Corporation 2012 Stock Incentive Plan.	Broadcom Corporation Annual Report on Form 10-K (Commission File No. 000-23993)	January 29, 2015	
10.27+	Amendment to the Broadcom Corporation 2012 Stock Incentive Plan (effective February 1, 2016).	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 23, 2016	
10.28+	Amendment to the Broadcom Corporation 2012 Stock Incentive Plan (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
10.29+	Brocade Communications Systems, Inc. Amended and Restated Inducement Award Plan, effective as of May 24, 2016.	Brocade Communication Systems, Inc. Post-Effective Amendment No. 1 to Form S-4 on Form S-8 Registration Statement (Commission File No. 333-211823)	June 3, 2016	
10.30+	Amendment to the Brocade Communication Systems, Inc. Amended and Restated Inducement Award Plan (effective November 17, 2017).	Broadcom Limited Registration Statement on Form S-8 (Commission File No. 333-221654)	November 11, 2017	
10.31+	Amendment to the Brocade Communication Systems, Inc. Amended and Restated Inducement Award Plan (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B (Commission File No. 001-38449)	April 4, 2018	
10.32+	CA, Inc. 2011 Incentive Plan, as amended and restated as of November 5, 2018.	Broadcom Inc. Registration Statement on Form S-8 (Commission File No. 333-228175	November 5, 2018	
10.33+	Bay Dynamics, Inc. 2016 Equity Incentive Plan.	Broadcom Inc. Registration Statement on Form S-8 (Commission File No. 333-235753)	December 30, 2019	
10.34+	Form of Annual Bonus Plan for Executive Employees.	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 23, 2016	
10.35+	Form of Option Agreement under Avago Technologies Limited 2009 Equity Incentive Plan.	Amendment No. 5 to Avago Technologies Limited Registration Statement on Form S-1 (Commission File No. 333-153127)	July 27, 2009	

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
10.36+	Form of Restricted Stock Unit Agreement (Sell to Cover) Under Avago Technologies Limited 2009 Equity Incentive Award Plan (effective February 1, 2016).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 10, 2016	
10.37+	Form of Restricted Stock Unit Agreement (Sell to Cover) Under Avago Technologies Limited 2009 Equity Incentive Award Plan (effective December 5, 2017).	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 21, 2017	
10.38+	Form of Restricted Stock Unit Award Agreement under Avago Technologies Limited 2009 Equity Incentive Plan (effective April 4, 2018).	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.39+	Form of Restricted Stock Unit Award Agreement under Avago Technologies Limited 2009 Equity Incentive Plan (effective December 5, 2018).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 21, 2018	
10.40+	Form of Agreement for Multi-Year Equity Award of Restricted Stock Unit Award under the Avago Technologies Limited 2009 Equity Incentive Award Plan).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 6, 2018	
10.41+	Form of Performance Stock Unit Agreement (Relative TSR) under Avago Technologies Limited 2009 Equity Incentive Award Plan.	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 9, 2017	
10.42+	Form of Performance Share Unit Agreement (Relative TSR) under Avago Technologies Limited 2009 Equity Incentive Plan (effective March 13, 2018).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 15, 2018	
10.43+	Form of Performance Share Unit Agreement (Relative TSR) under Avago Technologies Limited 2009 Equity Incentive Plan (effective April 4, 2018).	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.44+	Form of Performance Stock Unit Agreement (Relative TSR) under Avago Technologies Limited 2009 Equity Incentive Plan (effective December 5, 2018).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 21, 2018	
10.45+	Form of Agreement for Multi-Year Equity Award of Performance Stock Units under the Avago Technologies Limited 2009 Equity Incentive Award Plan).	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 6, 2018	
10.46+	Form of Option Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended.	Avago Technologies Limited Registration Statement on Form S-8 (Commission File No. 333-196438)	June 2, 2014	
10.47+	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective February 1, 2016).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 10, 2016	
10.48+	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 5, 2017).	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 21, 2017	
10.49+	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective April 4 2018).	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.50+	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 5, 2018).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 21, 2018	
10.51+	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 8, 2020).			X

Exhibit No.	Description	Incorporated by Referenced Herein: Form	Incorporated by Referenced Herein: Filing Date	Filed Herewith
10.52+	Form of Performance Stock Unit Agreement (Relative TSR) under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 8, 2020).			X
10.53+	Broadcom Corporation Amended and Restated Restricted Stock Units Incentive Award Program.	Broadcom Corporation Quarterly Report on Form 10-Q (Commission File No. 000-23993)	April 24, 2014	
10.54+	Amendment to Broadcom Corporation Amended and Restated Restricted Stock Units Incentive Award Program.	Broadcom Corporation Quarterly Report on Form 10-Q (Commission File No. 000-23993)	July 30, 2015	
10.55+	Form of Award Letter under the Broadcom Corporation Amended and Restated Restricted Stock Units Incentive Award Program.	Broadcom Corporation Quarterly Report on Form 10-Q (Commission File No. 000-23993)	April 24, 2014	
10.56+	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan (effective February 1, 2016).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 10, 2016	
10.57+	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan (effective December 5, 2017).	Broadcom Limited Annual Report on Form 10-K (Commission File No. 001-37690)	December 21, 2017	
10.58+	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan, as amended (effective April 4, 2018).	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.59+	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan, as amended (effective December 5, 2018).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 21, 2018	
10.60+	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan, as amended (effective December 6, 2019).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 20, 2019	
10.61+	Form of Agreement for Multi-Year Equity Award of Restricted Stock Units under the Broadcom Corporation 2012 Stock Incentive Plan.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 6, 2018	
10.62+	Form of Performance Stock Unit Agreement (Relative TSR) under Broadcom Corporation 2012 Stock Incentive Plan.	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 9, 2017	
10.63+	Form of Performance Share Unit Agreement (Relative TSR) under Broadcom Corporation 2012 Stock Incentive Plan (effective March 15, 2018).	Broadcom Limited Quarterly Report on Form 10-Q (Commission File No. 001-37690)	March 15, 2018	
10.64+	Form of Performance Share Unit Agreement (Relative TSR) under Broadcom Corporation 2012 Stock Incentive Plan (effective April 4, 2018).	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.65+	Form of Performance Stock Unit Agreement (Relative TSR) under Broadcom Corporation 2012 Stock Incentive Plan (effective December 5, 2018).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 21, 2018	
10.66+	Form of Agreement for Multi-Year Equity Award of Performance Stock Units under the Broadcom Corporation 2012 Stock Incentive Plan.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 6, 2018	
10.67+	Form of Performance Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan, as amended (effective December 6, 2019).	Broadcom Inc. Annual Report on Form 10-K (Commission File No. 001-38449)	December 20, 2019	

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
10.68+	Performance Stock Unit Award Agreement, dated June 15, 2017, between Broadcom Limited and Hock E. Tan.	Broadcom Limited Current Report on Form 8-K (Commission File No. 001-37690)	June 19, 2017	
10.69+	Policy on Acceleration of Executive Staff Equity Awards in the Event of Permanent Disability.	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	March 15, 2019	
10.70+	Policy on Acceleration of Equity Awards in the Event of Death.	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	March 15, 2019	
10.71+	Amended and Restated Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Hock E. Tan.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 10, 2020	
10.72+	Amended and Restated Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Thomas H. Krause, Jr.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 10, 2020	
10.73+	Amended and Restated Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Charlie B. Kawwas.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 10, 2020	
10.74+	Severance Benefits Agreement, dated September 26, 2017, between Broadcom Limited and Mark Brazeal.	Broadcom Inc. Quarterly Report on Form 10-Q (Commission File No. 001-38449)	June 16, 2018	
10.75+	Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Kirsten M. Spears.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 10, 2020	
10.76+	Letter Agreement dated December 8, 2020, between Broadcom Inc. and Kirsten M. Spears.	Broadcom Inc. Current Report on Form 8-K (Commission File No. 001-38449)	December 10, 2020	
21.1	List of Subsidiaries.			X
23.1	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.			X
24.1	Power of Attorney (see signature page to this Form 10-K).			X
31.1	Certification of Principal Executive Officer of Broadcom Inc. Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			X
31.2	Certification of Principal Financial Officer of Broadcom Inc. Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			X
32.1	Certification of Principal Executive Officer of Broadcom Inc. Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			X
32.2	Certification of Principal Financial Officer of Broadcom Inc. Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			X
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.			X
101.SCH	XBRL Schema Document			X
101.CAL	XBRL Calculation Linkbase Document			X

Exhibit No.	Description	Incorporated by Referenced Herein		Filed Herewith
		Form	Filing Date	
101.DEF	XBRL Definition Linkbase Document			X
101.LAB	XBRL Labels Linkbase Document			X
101.PRE	XBRL Presentation Linkbase Document			X
104	Cover Page Interactive Data File - the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.			X

Notes:

+ Indicates a management contract or compensatory plan or arrangement.

Schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Broadcom Inc. hereby undertakes to furnish supplementally copies of any omitted schedules upon request by the SEC.

* Certain information omitted pursuant to a request for confidential treatment filed with the SEC.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BROADCOM INC.

By: **/s/ Hock E. Tan**
Name: Hock E. Tan
Title: President and Chief Executive Officer

Date: December 18, 2020

POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Hock E. Tan, Kirsten M. Spears and Mark D. Brazeal, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the Registrant in the capacities indicated and on the dates indicated.

Signature	Title	Date
/s/ Hock E. Tan Hock E. Tan	President and Chief Executive Officer and Director (Principal Executive Officer)	December 18, 2020
/s/ Kirsten M. Spears Kirsten M. Spears	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	December 18, 2020
/s/ Henry Samueli Henry Samueli	Chairman of the Board of Directors	December 18, 2020
/s/ Eddy W. Hartenstein Eddy W. Hartenstein	Lead Independent Director	December 18, 2020
/s/ Diane M. Bryant Diane M. Bryant	Director	December 18, 2020
/s/ Gayla J. Delly Gayla J. Delly	Director	December 18, 2020
/s/ Raul F. Fernandez Raul F. Fernandez	Director	December 18, 2020
/s/ Check Kian Low Check Kian Low	Director	December 18, 2020
/s/ Justine F. Page Justine F. Page	Director	December 18, 2020
/s/ Harry L. You Harry L. You	Director	December 18, 2020

Exhibit 2.3

APA LETTER AGREEMENT

THIS APA LETTER AGREEMENT (this "Agreement"), dated as of October 1, 2020 ("Effective Date"), is made and entered into by and between Broadcom Inc., a Delaware corporation ("Purchaser") and NortonLifeLock Inc. f/k/a Symantec Corporation ("Seller", and together with Purchaser, the "Parties"). Capitalized terms used but not otherwise defined herein have the meanings set forth in the APA (as defined below).

WHEREAS, Seller and Purchaser are parties to that certain Asset Purchase Agreement, dated as of August 8, 2019, by and between Seller and Purchaser (as it may be amended, modified or supplemented, the "APA"); and

WHEREAS, Seller and Purchaser desire to amend certain terms and conditions of the APA, as set forth herein.

NOW, THEREFORE, in consideration of the covenants and agreements set forth in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I.

DEFINITIONS

Section 1.1 Definitions. Unless otherwise specifically defined herein, each term used herein shall have the meaning assigned to such term in the APA.

ARTICLE II.

AMENDMENTS TO ASSET PURCHASE AGREEMENT

Section 2.1 Acquisitions.

(a) The first sentence of Section 5.16(c) of the APA shall be amended and restated in its entirety to read as follows:

"For a period of five (5) years from the Closing Date, except as permitted by Section 5.16(d), neither Seller nor any of its Subsidiaries or other controlled affiliates shall (and Seller shall cause its Subsidiaries and other controlled affiliates not to), directly or indirectly (including through any licenses, reorganizations, sales, transfers or grants of assets or rights or other transactions), (A) operate, engage or participate in, carry on in any manner, or have an ownership interest in any other Person engaged in, any business activities that are included within the definition of the Business, or that otherwise compete in enterprise markets with the Business, in each case in the jurisdictions in which any of Seller or any of its Subsidiaries conducted any part of the Business prior to the Closing (the "Covered Business") or (B) have an ownership interest in, or operate, any Person or business, and their respective successors, assigns and affiliates, set forth on Schedule IV (such Person or business, and their respective successors, assigns and affiliates (for this purpose, affiliates shall not include the portfolio companies (other than such Person or business (or their respective successors or assigns), its Subsidiaries and other controlled affiliates) of any shareholders of such Person or business), a "Designated Enterprise Competitor"); *provided that*, if a Designated Enterprise Competitor (for the avoidance of doubt, all or substantially all of the equity interests or assets of such Designated Enterprise Competitor) is acquired (without any direct or indirect involvement, encouragement or participation by Seller or its affiliates) after the date hereof by a company (that is not a Designated Enterprise Competitor and is not an affiliate of Seller) that, together with its Subsidiaries, predominately operates a consumer business and such Designated Enterprise Competitor's revenue for the 12 months prior to the acquisition is less than 25% of the consolidated revenues of the combined company's total revenue for the same period, the combined company shall not be deemed a Designated Enterprise Competitor."

(b) Annex A to this Agreement is hereby added as Schedule IV to the APA.

(c) Section 5.16(d) of the APA shall be amended and restated in its entirety to read as follows:

"Section 5.16(c) shall not preclude, prohibit or restrict Seller or any of its Subsidiaries or other controlled affiliates from (i) owning five percent (5%) or less of the outstanding securities and voting power of any Person (other than any Designated Enterprise Competitor) engaged in the Covered Business, so long as neither Seller nor any of its Subsidiaries or other controlled affiliates or its or their respective directors, officers or employees exercise management or control functions with respect to such Person, (ii) exercising its rights or performing or complying with its obligations under or as expressly contemplated by this Agreement or any of the Transaction Documents, and (iii) acquiring any company or business or assets after October 1, 2020 (in each case other than all or any portion of a Designated Enterprise Competitor) (a "Permitted Person"), and investing in and operating, and expanding the operations, products or Technology-related or other services that are similar in purpose or function to products (e.g., not services such as operating a customer hotline or general and administrative service) (such services, "Service Offerings") of, such Permitted Person and developing the Intellectual Property Rights or other Technology of such Permitted Person (including as permitted in clause (ii) of the second sentence of Section 5.16(c)); *provided* that the exception in the foregoing clause (iii) of this sentence will not apply to any of the products, Service Offerings, Technology or Intellectual Property Rights of such Permitted Person or any of its controlled affiliates to the extent that such products, Service Offerings, Technology or Intellectual Property Rights are integrated or bundled with, use or incorporate any Intellectual Property Rights, Technology, products or Service Offerings (1) of Seller or its controlled affiliates other than that of another Permitted Person or (2) licensed or otherwise obtained from Purchaser or its controlled affiliates. Seller or its controlled affiliates may brand any products or Service Offerings of any Permitted Person (other than any products or Service Offerings for enterprise customers with respect to which there has been any integration or use described in subclauses (1) or (2) of the immediately preceding sentence) with the "NortonLifeLock" or any similar brand of Seller and such branding (including usage of any Licensed Mark as defined in the Trademark License Agreement) will not be deemed a violation of Section 5.16(c) or the Trademark License Agreement.

ARTICLE III.

MISCELLANEOUS

Section 3.1 Miscellaneous.

(a.) Sections 10.1(a), 10.3, 10.4, 10.5, 10.7, 10.8, 10.9 and 10.10 of the APA are incorporated herein, *mutatis mutandis*, as though set forth in this Agreement.

(b.) Except as expressly set forth herein, this Agreement shall not amend or alter the terms of the APA or any other Transaction Document.

(c.) In the event of any conflict between the terms of this Agreement and the terms of the APA, the terms of this Agreement shall govern and control.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed and delivered as of the date hereof.

BROADCOM INC.

By: /s/ Hock E. Tan
Name: Hock E. Tan
Title: Chief Executive Officer

NORTONLIFELOCK INC.

By: /s/ Vincent Pilette
Name: Vincent Pilette
Title: Chief Executive Officer

Date : 30 Sep 2020

Avago Technologies International Sales Pte. Limited

1 Yishun Avenue 7

Singapore 768923

Attention: Mr. Jim Pobanz

Dear Sir,

LETTER OF OFFER FOR SUBLEASE PREMISES LOCATED ON 1ST, 2ND AND 3RD FLOORS AT 1 YISHUN AVENUE 7 SINGAPORE 768923

We refer to the Sublease Agreement between Agilent Technologies Singapore Pte Ltd (Co. Reg. No. 199903281G) (the "Landlord") and Avago Technologies Manufacturing (Singapore) Pte Ltd (Co. Reg. No. 20051201OZ) dated 12 November 2009 as amended and varied by a Supplemental Agreement No. 1 dated 8 February 201O, a Supplemental Agreement No. 2 dated 12 November 2012 and a Renewal Sublease Agreement dated 25 November 2015 (collectively, the "Lease Agreement ") for the Premises located on 1st, 2nd and 3rd floors at 1 Yishun Avenue 7, Singapore 768923, which Lease Agreement was novated to Avago Technologies International Sales Pte. Limited (Co. Reg. No. 200512231E) under a Novation Agreement dated 21 August 2018 entered into by Avago Technologies Manufacturing
(Singapore) Pte Ltd, the Tenant and the Landlord.

We noted that you wish to renew the Sublease Term for the Premises (demarcated on the floor plan attached as Appendix A) for a further term of five years.

Subject to JTC's subletting approval, we hereby confirm that the Sublease Term for the Premises shall be renewed with effect from 1 December 2020 on the same terms, conditions, stipulations, obligations and agreements as are contained in the Lease Agreement, mutatis mutandis, except for amended terms and conditions set out in the Sublease Summary below:

1.	Tenant:	Either Broadcom International Pte Ltd or Broadcom Asia Distribution Pte Ltd, to be discussed and confirmed prior to signing of a Renewal Sublease Agreement.
2.	Recitals:	A. The Jurong Town Corporation ("JTC") is the lessor under the Head Leases ("Head Leases"), which is more particularly defined in Clause 1.14 herein, and the Landlord is the lessee under the Head Leases of a large development project ("the Project"), as more particularly described in the Head Leases. **B.** Upon the request of the Tenant, the Landlord has agreed to grant to the Tenant a sublease of the Premises (which is more particularly defined in the Sublease Summary) subject to the written approval of JTC and all relevant authorities. The Premises is part of the Project.
3.	Definitions	1.14 "JTC" means the Jurong Town Corporation, the lessor under the Head Lease. 1.15 "Head Lease" means, collectively, the following leases:

		(i) Lease No.l/33183P issued by JTC to Compaq Asia Pte Ltd in respect of the land and structure(s) comprised in Lot 1935X of Mukim 19, which Lease was transferred to Landlord as Transferee/Lessee vide Transfer 1136944P registered on 6 December 2000, and includes the Variation of Lease l/49501Q registered 15 January 2002. (ii) Lease No.l/31607P issued by JTC to Compaq Asia Pte Ltd in respect of the land and structure(s) comprised in Lot 1937C of Mukim 19, which Lease was transferred to Landlord as Transferee/Lessee vide Transfer l/36944P registered on 6 December 2000, and includes the Variation of Lease l/49499Q registered 16 January 2002. (iii) Lease No.l/33182P issued by JTC to Compaq Asia Pte Ltd in respect of the land and structure(s) comprised in Lot 2134N of Mukim 19, which Lease was transferred to Landlord as Transferee/Lessee vide Transfer 1136944P registered on 6 December 2000, and includes the Variation of Lease l/49500Q registered 15 January 2002. (iv) Lease No.l/33160P issued by JTC to Compaq Asia Pte Ltd in respect of the land and structure(s) comprised in Lot 1975P of Mukim 19, which Lease was transferred to Landlord as Transferee/Lessee vide Transfer 1136944P registered on 6 December 2000, and includes the Variation of Lease l/49502Q registered 16 January 2002.
4.	Premises:	Those certain premises (deemed to contain 101,444.89 net lettable square feet) located on 1st, 2nd and 3rd floors of the Building located as 1 Yishun Avenue 7 Singapore 768923, as more particularly described in the attached floor plans in Appendix A
5.	Lease Area:	**101,444.89** net lettable square foot located on 1st, 2 nd and 3 rd floors of the Building located at 1 Yishun Avenue 7 Singapore 768923 (Collectively, the "Lease Area") Location of the Lease Area is demarcated in the attached floor plans in Appendix A
6.	Sublease Term:	Five (5) years from 1 December 2020 to 30 November 2025 ("Renewal Term")
7.	Monthly Base Rent:	The sum of **S$190,716.39** per month calculated at the rate of **S$1.88** per square foot per month, fixed for the Renewal Term.
8.	Tenant’s Contributions:	The sum of **S$60,866.93** per month calculated at the rate of **S$0.60** per square foot per month, fixed for the Renewal Term.
9.	Option Term:	Five (5) years at the then prevailing market rent, subject to a rental increase cap of 20%.
10.	Rent-free Period:	1.0 month rent free in Year 1 0.5 month rent free in Year 2 Total 1.5 month during the Renewal Term
11.	Cafeteria Fee:	The sum of **S$5,072.24** per month calculated at the rate of **S$0.05** per square foot per month for the provision of coffee

		and tea for the Tenant's employees during morning and afternoon tea breaks. Any increase during the lease term will be applied to all tenants with 3 months' advance notice
12.	Utilities	Tenant shall pay for all charges (including any taxes) in respect of the supply of water, gas, electricity and telecommunication to the Premises.
13.	Air-conditioning Charge:	The current air-conditioning charge is **S$0.000648** per square foot per hour and is subject to revision from time to time and subject to provisions in the Lease Agreement
14.	Outdoor Space Provision:	Tenant shall be allowed to use outdoor space for Nitrogen tank and evaporator, roof top "doghouse" space for exhausts, antenna installation at roof top (for RF test equipment), all building circulation areas, lobby, loading bay and shared mail room at no charge.
15.	Car & Motobike Parking Provision:	Tenant shall be allocated 86 car parking lots (including 2 reserved car parking lots at a location to be determined by the Landlord) at no charge based on a ratio of 1 lot per 110 sqm. Tenant shall be entitled to secure and use additional 158 car parking lots at $90/month + GST per lot. Total: 244 car parking lots Current usage: 219 car parking lots In addition and without prejudice to the above, the Tenant shall be entitled to secure and use additional car parking lots, currently chargeable at $S90 per month, by notifying the Landlord in writing. Subject to availability, such car parking lots shall be allocated on a half-yearly basis Tenant shall be entitled to use motorbike parking at no charge.
16.	Right of First Refusal:	Tenant shall be given right of first refusal on all vacant units within the building during the Renewal Term. Terms of lease shall be in line with the existing lease, except for the monthly gross rental rate which is subject to a mutually agreeable rate.
17.	Security Deposit:	An amount of **S$754,749.98** equivalent to three (3) months' Base Rent and Tenant's Contribution in the form of a Banker's Guarantee shall be furnished to the Landlord upon the execution of this Sublease Agreement as security for the due observance and performance of the terms and conditions herein and in the Lease Agreement
18.	Stamp Duty / JTC Subletting Fee:	Stamp Duty to be borne by Tenant. JTC Sublet Fee to be borne by Landlord
19.	Relevant Authorities' Approvals:	This Sublease is subject to JTC's approval and all other approvals from the relevant authorities as may be required. 1st Sublease application to JTC will be for Sublease Term Year 1 to 3, and a re-submission for the period of Sublease Term Year 4 and 5. Tenant shall provide all necessary information or documents as required for submission of the relevant forms to JTC and /

		or other relevant authorities within seven(7) days from the date of request by the Landlord
20.	Confidentiality:	The Tenant shall keep confidential and shall not at any time disclose or permit to be disclosed the terms of this Sublease, or any negotiations discussions or agreements for a renewal of this Sublease or any matter in relation to this Lease, except with the prior written consent of the Landlord save where required by law or save for disclosure to any of the Tenant's affiliates, partners, members, officers, employees, attorneys, brokers, consultants, professional advisers and agents or save to the extent that such information has become public knowledge not due to the Tenant's breach of this undertaking.

Save and except for the amended terms stated above, all other terms and conditions of the Lease Agreement shall continue to be valid, enforceable and binding as between the Landlord and the Tenant.

Capitalised terms not otherwise defined herein shall have the same meanings as they are defined in the Lease Agreement.

Please signify your acceptance of the above terms by signing and returning both copies of this letter together with the following by 7 October 2020:

1) A cheque for the amount **of S$269,194.16** made in favour of **Agilent Technologies Singapore Pte Ltd** being advance rental payment and tenant's contributions (inclusive of 7% GST)

2) A Banker's Guarantee for the amount of S$754,749.98 made in favour of Agilent Technologies Singapore Pte Ltd being in security deposit

3) A cheque for the amount of S$48,303.00 made in favour of Commissioner of Stamp Duties, being stamp duty payment.

Thank you.

/s/ Seah Kang Lai
Seah Kang Lai
Singapore WPS Manager
Agilent Technologies (S) Pte Ltd [stamped]

Your faithfully

Head of Facilities Management & Real Estate
Agilent Technologies (Singapore) Pte Ltd

ACCEPTANCE

I, Tay Thiam Siew Gary for and on behalf of Avago Technologies International Sales Pte. Limited, hereby confirm our acceptance of the Letter of Offer based on the above terms and conditions.

Name: Tay Thiam Siew Gary

Designation: Director

Signature: /s/ Tay Thiam Siew Gary

Company Stamp: [stamp applied]___

APPENDIX A

To insert floor plans

FIRST AMENDMENT TO LEASE AGREEMENT

THIS FIRST AMENDMENT TO LEASE AGREEMENT **("Amendment")** is dated for reference purposes as of May 22, 2020, but is deemed entered into and effective as of the "Effective Date" (defined below), and is made by and between FIVE POINT OFFICE VENTURE I, LLC, a Delaware limited liability company **("Landlord"),** and BROADCOM CORPORATION, a California corporation **("Tenant").**

R E C I T A L S:

A. Landlord and Tenant are parties to that certain Lease Agreement dated August 10, 2017 (the **"Lease"),** pursuant to which Tenant leases from Landlord certain premises located in Irvine, California, as more particularly described in the Lease (the **"Premises").**

B. Landlord is selling a portion of the Project to City of Hope **("COH")** for the development and operation of a cancer center within an existing Building (referred to as Building 5 with a street address of 15161 Alton Parkway) and development and operation of a future acute care hospital/cancer center. On or concurrently with the close of escrow of the sale to COH (the **"COH Closing"),** Landlord is recording in the official records of Orange County, California **("Official Records")** (i) that certain Second Amended and Fully Restated Declaration of Covenants, Conditions, Restrictions and Reservation of Easements for Five Point Gateway **("Campus REA"),** which, among other things, modifies certain Common Areas within the Project, and (ii) that certain Amended and Fully Restated Declaration of Development and Maintenance Covenants, Conditions and Restrictions and Reservation of Easements (Five Point Gateway Campus) **("HFET Development Declaration").**

C. Landlord and Tenant desire to amend the Lease upon the terms and provisions more particularly set forth herein.

A G R E E M E N T :

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. Effective Date/Incorporation. This Amendment shall be deemed effective as of, and only upon, the COH Closing (the **"Effective Date").** The Lease, including all exhibits and schedules attached thereto unless otherwise specifically provided herein, is incorporated into this Amendment by this reference. The capitalized terms used in this Amendment shall have the same definitions as set forth in the Lease to the extent that such capitalized terms are defined therein and not redefined in this Amendment.

2. Campus REA. From and after the Effective Date, all references in the Lease to "Amended and Restated Declaration" shall mean and refer to the Campus REA, for all purposes of the Lease, the form of which is attached hereto as **Exhibit A.** In furtherance of Section 5.3 of the Lease, Tenant shall execute and acknowledge and deliver to Landlord concurrent with the

execution of this Amendment, a Tenant Recognition in the form attached to the Campus REA attached hereto as **<u>Exhibit A</u>.**

3. <u>Development CC&Rs</u>. From and after the Effective Date, all references in the Lease to "Development CC&Rs" shall mean and refer to the HFET Development Declaration, for all purposes of the Lease, the form of which is attached hereto as **<u>Exhibit B</u>.** In furtherance of Section 5.3 of the Lease, Tenant shall execute and acknowledge and deliver to Landlord concurrent with the execution of this Amendment, a Tenant Recognition in the form attached to the HFET Development Declaration attached hereto as **<u>Exhibit B</u>.**

4. <u>Tenant's Share</u>. As of the Effective Date, Section 4.2.3 of the Lease is hereby deleted in its entirety and replaced with the following Section 4.2.3:

> ***"Tenant's Share"*** shall mean a fraction, expressed as a percentage, the numerator of which shall be the square feet of the space from time to time included in the Premises and the denominator of which shall be the square footage of the Project (excluding the square footage of any parking structure) , consistently applied; provided that Tenant's Share of CAM Expenses consisting of "Common Expenses" (as such term is defined in the Campus REA) that are allocable to the surface parking and parking structures shall be calculated as provided in Section 5.3 of the Campus REA. If the square footage of the Project increases (excluding the square footage of any parking structure), then Tenant's Share shall be reduced accordingly. As of the Effective Date of the First Amendment to Lease, Tenant's Share of CAM Expenses shall be Sixty Four Percent (64%), except that Tenant's Share of CAM Expenses consisting of "Common Expenses" (as such term is defined in the Campus REA) that are allocable to the surface parking and parking structures calculated pursuant to Section 5.3 of the Campus REA shall be Seventy Six Percent (76%). Such percentages shall be subject to adjustment as provided above."

5. <u>Landlord's Consent for Transfer Notices.</u> As of the Effective Date, the first sentence of Section 14.2 ("Landlord's Consent") is hereby deleted in its entirety and replaced with the following:

> "Landlord shall deliver written notice to Tenant of Landlord's determination to grant or withhold its consent to any proposed Transfer of the Subject Space to the Transferee on the terms specified in the Transfer Notice, within ten (10) business days following Landlord's receipt of a complete Transfer Notice. In the event Landlord has not granted or withheld its consent to the subject Transfer within such ten (10) business day period, Tenant shall deliver to Landlord a second Transfer Notice, and if Landlord does not notify Tenant of its decision to consent or not to consent to the Transfer within five (5)

business days following its receipt of such second Transfer Notice, Landlord shall be deemed to have disapproved such Transfer."

6. Miscellaneous.

(a) Effect of Amendment. Except to the extent set forth herein, the terms and provisions of the Lease shall remain unmodified and in full force and effect. In the event of conflict between the terms of the Lease and the terms of this Amendment, the terms of this Amendment shall prevail.

(b) Entire Agreement. This Amendment, together with the Lease, embodies the entire understanding between Landlord and Tenant with respect to its subject matter and can be changed only by an instrument in writing signed by Landlord and Tenant.

(c) Corporate Authority. Each individual executing this Amendment on behalf of Tenant represents that he or she is duly authorized to execute and deliver this Amendment for such entity.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first set forth above.

"LANDLORD": FIVE POINT OFFICE VENTURE I, LLC,
a Delaware limited liability company

By: /s/ Lynn Jochim
Print Name: Lynn Jochim
Print Title: Vice President

By: /s/ Michael Alvarado
Print Name: Michael Alvarado
Print Title: Vice President and Secretary

"TENANT": BROADCOM CORPORATION,
a Delaware corporation

By: /s/ Hock E. Tan
Print Name: Hock E. Tan
Print Title: CEO

By:___
Print Name:___
Print Title:_____

<u>EXHIBIT A</u>

CAMPUS REA

EXHIBIT B

HFET DEVELOPMENT DECLARATION

Notice of Grant of Restricted Stock Unit Award
Under the LSI Corporation
2003 Equity Incentive Plan

BROADCOM INC.
1320 Ridder Park Drive
San Jose, CA 95131

GRANTEE NAME: <Participant Name>
GRANTEE ID: <Employee ID>
GRANT NUMBER: <Client Grant ID>

Grant Date: <Grant Date>
Number of Restricted Stock Units: <Number of Awards Granted>

On the grant date shown above, Broadcom Inc., a Delaware corporation (the "***Company***"), granted to the grantee identified above ("***you***" or the "***Participant***") the number of restricted stock units shown above (the "***RSUs***" or "***Restricted Stock Units"***) under the LSI Corporation 2003 Equity Incentive Plan, as amended (the "***Plan***"). If and when it vests, each RSU entitles you to receive one share of the Company's common stock (each, a "***Share***").

Subject to the terms of the attached Restricted Stock Unit Award Agreement, the RSUs will vest as follows if you have not incurred a Termination of Services prior to the applicable time of vesting:

[insert vesting provisions]

By accepting this award electronically through the Plan service provider's online grant acceptance process:

(1) You agree that the RSUs are governed by this Notice of Grant and the attached Restricted Stock Unit Award Agreement (including <u>Exhibit A</u> thereto and together with the Notice of Grant, the "***Agreement***") and the Plan.

(2) You have received, read and understand the Agreement, the Plan and the prospectus for the Plan.

(3) If you are an employee providing services in the U.S., you agree in Section 3.12 of the Agreement to the arbitration agreement contained in <u>Exhibit A</u> of the Agreement, which requires you to arbitrate most disputes with the Company or any subsidiary.

(4) You agree that the Company, in its sole discretion, may satisfy any withholding obligations in respect of the RSUs and any other restricted stock units, if any, granted to you prior to the Grant Date under the Plan or any other Company equity incentive plan (each, a "***Prior Award***") in accordance with Section 2.6 of the Agreement by (i) withholding Shares otherwise issuable to you upon vesting of the RSUs or such Prior Award, (ii) instructing a broker on your behalf to sell Shares issuable to you upon vesting of the RSUs or such Prior Award and submit proceeds of such sale to the Company or (iii) using any other method permitted by Section 2.6 of the Agreement, the Plan or the equity incentive plan pursuant to which such Prior Award was granted.

(5) You agree to accept as binding all decisions or interpretations of the Committee or its delegate regarding any questions relating to the Plan or the Agreement.

(6) You have read and agree to comply with the Company's Insider Trading Policy.

Capitalized terms not specifically defined in this Notice shall have the meanings specified in the Plan or the Agreement.

LSI CORPORATION

2003 EQUITY INCENTIVE PLAN
RESTRICTED STOCK UNIT AWARD AGREEMENT

Broadcom Inc., a Delaware corporation (the "***Company***"), pursuant to the LSI Corporation 2003 Equity Incentive Plan, as amended from time to time (the "***Plan***"), has granted to the grantee indicated in the attached Notice of Grant (the "***Notice of Grant***") an award of restricted stock units ("***Restricted Stock Units***" or "***RSUs***"). The RSUs are subject to all of the terms and conditions set forth in this Restricted Stock Unit Award Agreement (including Exhibit A hereto and together with the Notice of Grant, the "***Agreement***") and the Plan.

ARTICLE I

GENERAL

a. Defined Terms. Capitalized terms not specifically defined in this Agreement shall have the meanings specified in the Plan or in the Notice of Grant, unless the context clearly requires otherwise.

i. "***Termination of Directorship***" shall mean the time when Participant, if he or she is or becomes a Nonemployee Director, ceases to be a Director for any reason, including, but not by way of limitation, a termination by resignation, failure to be elected, death or retirement. The Board, in its sole and absolute discretion, shall determine the effect of all matters and questions relating to Termination of Directorship with respect to Nonemployee Directors.

ii. "***Termination of Employment***" shall mean the time when the employee-employer relationship between Participant and the Company or any Subsidiary is terminated for any reason, with or without cause, including, but not by way of limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where there is a simultaneous reemployment or continuing employment of Participant by the Company or any Subsidiary. The Committee, in its absolute discretion, shall determine the effect of all matters and questions relating to Termination of Employment, including, but not by way of limitation, the question of whether a particular leave of absence constitutes a Termination of Employment.

iii. "***Termination of Services***" shall mean Participant's Termination of Directorship or Termination of Employment, as applicable.

b. General. Each Restricted Stock Unit represents the right to receive one Share if and when it vests. The Restricted Stock Units shall not be treated as property or as a trust fund of any kind.

c. Incorporation of Terms of Plan. RSUs are subject to the terms and conditions of the Plan which are incorporated herein by reference. In the event of any inconsistency between the Plan and this Agreement, the terms of the Plan shall control.

ARTICLE II

GRANT OF RESTRICTED STOCK UNITS

2.1 Grant of RSUs. In consideration of your continued employment with or service to the Company or a Subsidiary and for other good and valuable consideration, effective as of the Grant Date set forth in the Notice of Grant (the "***Grant Date***"), the Company granted to you the number of RSUs set forth in the Notice of Grant.

2.2 Company's Obligation to Pay. Unless and until the RSUs will have vested in the manner set forth in Article II hereof, you will have no right to payment of any such RSUs. Prior to actual payment of any vested RSUs, such RSUs will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company.

2.3 Vesting Schedule. Subject to Sections 2.4 and 3.12, your RSUs will vest and become nonforfeitable with respect to the applicable portion thereof according to the vesting schedule set forth in the Notice of Grant (the "***Vesting Schedule***") as long as you have not had a Termination of Services prior to the vesting date for such portion. Unless otherwise determined by the Committee, employment or service for a portion, even a substantial portion, of any vesting period will not entitle you to any proportionate vesting or avoid or mitigate a termination of rights and benefits upon or following a Termination of Services as provided in Section 2.5 below or under the Plan.

2.4 Change in Control Treatment. In the event the successor corporation in a Change in Control refuses to assume or substitute for the RSUs in accordance with Section 9.1 of the Plan, the RSUs will vest as of immediately prior to such Change in Control.

2.5 Forfeiture, Termination and Cancellation upon Termination of Services. Upon your Termination of Services for any or no reason, any then-unvested RSUs (after giving effect to any accelerated vesting pursuant to Section 2.4) will be automatically forfeited, terminated and cancelled as of the applicable termination date without payment of any consideration by the Company, and you, or your beneficiary or personal representative, as the case may be, shall have no further rights hereunder.

2.6 Payment after Vesting.

(a) On or before the tenth (10^{th}) day following the vesting of any Restricted Stock Units pursuant to Section 2.3, 2.4 or 3.2, the Company shall deliver to the Participant a number of Shares equal to the number of Restricted Stock Units that so vested, unless such Restricted Stock Units terminate prior to the given vesting date pursuant to Section 2.5. Notwithstanding the foregoing, in the event Shares cannot be issued because of the failure to meet one or more of the conditions set forth in Section 2.8(a), (b) or (c) hereof, then the Shares shall be issued pursuant to the preceding sentence as soon as administratively practicable after the Committee determines that Shares can again be issued in accordance with Sections 2.8(a), (b) and (c) hereof. Notwithstanding any discretion in the Plan, the Notice of Grant or this Agreement to the contrary, upon vesting of the RSUs, Shares will be issued as set forth in this section. In no event will the RSUs be settled in cash.

(b) Notwithstanding anything to the contrary in this Agreement or the agreements evidencing any Prior Awards, the Company shall be entitled to require you to pay any sums required by applicable law to be withheld with respect to the RSUs, the issuance of Shares or with respect to any Prior Awards. Such payment shall be made in such form of consideration as determined by the Company in its sole discretion, including:

(i) Cash or check;

(ii) Surrender or withholding of Shares otherwise issuable under the RSUs or Prior Awards, as applicable, and having an aggregate fair market value on the date of delivery sufficient to meet the withholding obligation, as determined by the Company in its sole discretion;

(iii) Other property acceptable to the Company in its sole discretion (including cash resulting from a transaction (a "***Sell to Cover***") in which the Company, on your behalf, instructs Fidelity Stock Plan Services, LLC or one of its affiliates or another agent selected by the Company (collectively, the "***Agent***") to sell a number of Shares issued to you sufficient to meet the withholding obligation, as determined by the Company in its sole discretion, and to remit proceeds of such sale to the Company sufficient to satisfy the withholding obligation); or

(iv) By deduction from other compensation payable to you.

If the Company requires or permits a Sell to Cover:

(A) You hereby appoint the Agent as your agent and direct the Agent to (1) sell on the open market at the then prevailing market price(s), on your behalf, promptly after any RSUs (or Prior Awards) vest, such number of the Shares that are issued in respect of such RSUs (or subject to or issued in respect of such Prior Awards) as the Agent determines will generate sufficient proceeds to cover (x) any estimated tax, social insurance, payroll, fringe benefit or similar withholding obligations with respect to such vesting and (y) all applicable fees and commissions due to, or required to be collected by, the Agent with respect thereto and (2) in the Company's discretion, apply any remaining funds to your federal tax withholding or remit such remaining funds to you.

(B) You hereby authorize the Company and the Agent to cooperate and communicate with one another to determine the number of Shares to be sold pursuant to subsection (A) above. You understand that to protect against declines in the market price of Shares, the Agent may determine to sell more than the minimum number of Shares needed to generate the required funds.

(C) You understand that the Agent may effect sales as provided in subsection (A) above in one or more sales and that the average price for executions resulting from bunched orders will be assigned to your account. In addition, you acknowledge that it may not be possible to sell Shares as provided in subsection (A) above due to (1) a legal or contractual restriction applicable to the Agent, (2) a market disruption, or (3) rules governing order execution priority on the national exchange where the Shares may be traded. In the event of the Agent's inability to sell Shares, you will continue to be responsible for the timely payment to the Company and/or its affiliates of all federal, state, local and foreign taxes that are required by applicable laws and regulations to be withheld, including but not limited to those amounts specified in subsection (A) above.

(D) You acknowledge that, regardless of any other term or condition of this Section 2.6(b), neither the Company nor the Agent will have any liability to you for (1) special, indirect, punitive, exemplary, or consequential damages, or incidental losses or damages of any kind, (2) any failure to perform or for any delay in performance that results from a cause or circumstance that is beyond its reasonable control, or (3) any claim relating to the timing of any Sell to Cover, the price at which Shares are sold in any Sell to Cover, or the timing of the delivery to you of any Shares following any Sell to Cover. Regardless of the Company's or any Subsidiary's actions in connection with tax withholding pursuant to this Agreement, you acknowledge that the ultimate responsibility for any and all tax-related items imposed on you in connection with any aspect of the RSUs (and any Prior Awards) and any Shares issued upon vesting of the RSUs (or subject to or issued in respect of your Prior Awards) is and remains your responsibility and liability. Except as expressly stated herein, neither the Company nor any Subsidiary makes any commitment to structure the RSUs (or any Prior Award) to reduce or eliminate your liability for tax-related items.

(E) You hereby agree to execute and deliver to the Agent any other agreements or documents as the Agent reasonably deems necessary or appropriate to carry out the purposes and intent of this Section 2.6(b). The Agent is a third-party beneficiary of this Section 2.6(b).

This Section 2.6(b) shall survive termination of this Agreement until all tax withholding obligations arising in connection with this Award have been satisfied.

The Company shall not be obligated to deliver any Shares to you unless and until you have paid or otherwise satisfied in full the amount of all federal, state, local and foreign taxes required to be withheld in connection with the grant or vesting of the RSUs.

2.7 Rights as Stockholder. As a holder of RSUs you are not, and do not have any of the rights or privileges of, a stockholder of the Company, including, without limitation, any dividend rights or voting rights, in respect of the RSUs and any Shares issuable upon vesting thereof unless and until such Shares shall have been actually issued by the Company to you. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 4.3 of the Plan.

2.8 Conditions to Delivery of Shares. Subject to Section 13.3 of the Plan, the Shares deliverable hereunder, or any portion thereof, may be either previously authorized but unissued Shares or issued Shares which have then been reacquired by the Company. Such Shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any Shares deliverable hereunder prior to fulfillment of all of the following conditions:

(a) The admission of such Shares to listing on all stock exchanges on which the Shares are then listed;

(b) The completion of any registration or other qualification of such Shares under any state, federal or foreign law or under rulings or regulations of the Securities and Exchange Commission or of any other governmental regulatory body, which the Committee shall, in its absolute discretion, deem necessary or advisable;

(c) The obtaining of any approval or other clearance from any state, federal or foreign governmental agency which the Committee shall, in its absolute discretion, determine to be necessary or advisable;

(d) The receipt by the Company of full payment for such Shares, including payment of any applicable withholding tax, which may be in one or more of the forms of consideration permitted under Section 2.6 hereof; and

(e) The lapse of such reasonable period of time following the vesting of any Restricted Stock Units as the Committee may from time to time establish for reasons of administrative convenience.

ARTICLE III

OTHER PROVISIONS

3.1 Administration. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret, amend or revoke any such rules. All actions taken and all interpretations and determinations made by the Committee in good faith shall be final and binding upon you, the Company and all other interested persons. No member of the Committee or the Board shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan, this Agreement or the RSUs.

3.2 Adjustments Upon Specified Events. In addition, upon the occurrence of certain events relating to the Shares contemplated by Section 4.3 of the Plan (including, without limitation, an extraordinary cash dividend on such Shares), the Committee shall make such adjustments as the Committee deems appropriate in the number of Restricted Stock Units then outstanding and the number and kind of securities that may be issued in respect of the Restricted Stock Units. You acknowledge that the RSUs are subject to modification and termination in certain events as provided in this Agreement and Sections 4.3 and 9 of the Plan.

3.3 Grant is Not Transferable. Your RSUs may not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of the RSUs, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, the RSUs will terminate immediately and will become null and void.

3.4 Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of the Secretary of the Company at the Company's principal office, and any notice to be given to Participant shall be addressed to Participant at the Participant's last address reflected on the Company's records, including any email address. By a notice given pursuant to this Section 3.4, either party may hereafter designate a different address for notices to be given to that party. Any notice to the Company shall be deemed given when actually received. Any notice given by the Company shall be deemed given when sent via email or 5 U.S. business days after mailing.

3.5 Titles. Titles provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

3.6 Governing Law; Severability. The laws of the State of California shall govern the interpretation, validity, administration, enforcement and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

3.7 Conformity to Securities Laws. You acknowledge that the Plan and this Agreement are intended to conform to the extent necessary with all provisions of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended (the "***Exchange Act***") and any and all regulations and rules promulgated by the Securities and Exchange Commission thereunder, and state and foreign securities laws and regulations. Notwithstanding anything herein to the contrary, the Plan shall be administered, and the RSUs are granted, only in such a manner as to conform to such laws, rules and regulations. To the extent permitted by applicable law, the Plan and this Agreement shall be deemed amended to the extent necessary to conform to such laws, rules and regulations.

3.8 Amendments, Suspension and Termination. To the extent permitted by the Plan, this Agreement may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Committee or the Board, *provided*, that, except as may otherwise be provided by the Plan, no amendment, modification, suspension or termination of this Agreement shall adversely affect the RSUs in any material way without your prior written consent.

3.9 Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth in Section 3.3 hereof, this Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns.

3.10 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan or this Agreement, if you are subject to Section 16 of the Exchange Act, the Plan, the RSUs and this Agreement shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b-3 of the Exchange Act) that are requirements for the application of such exemptive rule. To the extent permitted by and necessary to comply with applicable law, this Agreement shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

3.11 Not a Contract of Employment. Nothing in this Agreement or in the Plan shall be interpreted as forming an employment or service contract with the Company or any Subsidiary or as conferring upon you any right to continue to serve as an employee or other service provider of the Company or any of its Subsidiaries.

3.12 Dispute Resolution. By accepting the RSUs, if you are an employee providing services in the U.S., you agree to the provisions of, and to be bound by, the Broadcom Inc. Employment Arbitration Agreement attached as Exhibit A hereto (the "***Arbitration Agreement***"). In the event you violate the Arbitration Agreement, any unvested RSUs will thereupon be cancelled for no consideration.

3.13 Entire Agreement. The Plan, the Notice of Grant and this Agreement constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof.

3.14 Section 409A. The RSUs are not intended to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code (together with any Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the date hereof, "***Section 409A***"). However, notwithstanding any other provision of the Plan or this Agreement, if at any time the Committee determines that the RSUs (or any portion thereof) may be subject to Section 409A, the Committee shall have the right in its sole discretion (without any obligation to do so or to indemnify you or any other person for failure to do so) to adopt such amendments to the Plan or this Agreement or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Committee determines are necessary or appropriate either for the RSUs to be exempt from the application of Section 409A or to comply with the requirements of Section 409A.

3.15 Limitation on Participant's Rights. Participation in the Plan confers no rights or interests other than as herein provided. Neither the Plan nor any underlying program, in and of itself, has any assets. The Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the RSUs, and rights no greater than the right to receive the Shares as a general unsecured creditor with respect to RSUs, as and when payable hereunder.

* * * * *

EXHIBIT A

BROADCOM INC. EMPLOYMENT ARBITRATION AGREEMENT

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Notice of Grant of Performance Stock Unit Award Under the LSI Corporation 2003 Equity Incentive Plan		**BROADCOM INC. 1320 Ridder Park Drive San Jose, CA 95131**	

—

GRANTEE NAME: <Participant Name>
GRANTEE ID: <Employee ID>
GRANT NUMBER: <Client Grant ID>

Grant Date: <Grant Date>
Number of Performance Stock Units: <Grant Custom Field 4>

—

The maximum number of shares that may be issued in respect of the Performance Stock Units is <Number of Awards Granted> shares.

On the grant date shown above (the "***Grant Date***"), Broadcom Inc., a Delaware corporation (the "***Company***"), granted to the grantee identified above ("***you***" or the "***Participant***") the number of performance stock units shown above (the "***PSUs***" or "***Performance Stock Units***") under the LSI Corporation 2003 Equity Incentive Plan, as amended (the "***Plan***"). If and when it vests, each PSU entitles you to receive a number of shares of the Company's common stock (each, a "***Share***") as determined below.

The number of Shares issuable in respect of each Performance Period (as defined in Exhibit A) shall be determined by multiplying the Achievement Factor (as determined in accordance with Exhibit A) for such Performance Period by twenty-five percent (25%) of the total number of PSUs shown above, if you have not incurred a Termination of Services prior to the anniversary of the Grant Date immediately following the end of such Performance Period (each such anniversary, a "***Vesting Date***") and subject to the additional terms set forth in the attached Performance Stock Unit Award Agreement.

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By accepting this award electronically through the Plan service provider's online grant acceptance process:

(1) You agree that the PSUs are governed by this Notice of Grant and the attached Performance Stock Unit Award Agreement (including the Exhibits thereto and together with the Notice of Grant, the "***Agreement***") and the Plan.

(2) You have received, read and understand the Agreement, the Plan and the prospectus for the Plan.

(3) If you are an employee providing services in the U.S., you agree in Section 3.12 of the Agreement to the arbitration agreement contained in Exhibit B of the Agreement, which requires you to arbitrate most disputes with the Company or any subsidiary.

(4) You agree that the Company, in its sole discretion, may satisfy any withholding obligations in respect of the PSUs and any other performance stock units or restricted stock units, if any, granted to you prior to the Grant Date under the Plan or any other Company equity incentive plan (each, a "***Prior Award***") in accordance with Section 2.6 of the Agreement by (i) withholding Shares issuable to you upon vesting of the PSUs or such Prior Award, (ii) instructing a broker on your behalf to sell Shares otherwise issuable to you upon vesting of the PSUs or such Prior Award and submit proceeds of such sale to the Company or (iii) using any other method permitted by Section 2.6 of the Agreement, the Plan or the equity incentive plan pursuant to which such Prior Award was granted.

(5) You agree to accept as binding all decisions or interpretations of the Committee or its delegate regarding any questions relating to the Plan or the Agreement.

(6) You have read and agree to comply with the Company's Insider Trading Policy.

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Capitalized terms not specifically defined in this Notice shall have the meanings specified in the Plan or the Agreement.

LSI CORPORATION

2003 EQUITY INCENTIVE PLAN
PERFORMANCE STOCK UNIT AWARD AGREEMENT

Broadcom Inc., a Delaware corporation (the "***Company***"), pursuant to the LSI Corporation 2003 Equity Incentive Plan, as amended from time to time (the "***Plan***"), has granted to the grantee indicated in the attached Notice of Grant (the "***Notice of Grant***") an award of performance stock units ("***Performance Stock Units***" or "***PSUs***"). The PSUs are subject to all of the terms and conditions set forth in this Performance Stock Unit Award Agreement (including the Exhibits hereto and together with the Notice of Grant, the "***Agreement***") and the Plan.

ARTICLE I

GENERAL

a. Defined Terms. Capitalized terms not specifically defined in this Agreement shall have the meanings specified in the Plan or in the Notice of Grant, unless the context clearly requires otherwise.

i. "***Termination of Directorship***" shall mean the time when Participant, if he or she is or becomes a Nonemployee Director, ceases to be a Director for any reason, including, but not by way of limitation, a termination by resignation, failure to be elected, death or retirement. The Board, in its sole and absolute discretion, shall determine the effect of all matters and questions relating to Termination of Directorship with respect to Nonemployee Directors.

ii. "***Termination of Employment***" shall mean the time when the employee-employer relationship between Participant and the Company or any Subsidiary is terminated for any reason, with or without cause, including, but not by way of limitation, a termination by resignation, discharge, death, disability or retirement; but excluding terminations where there is a simultaneous reemployment or continuing employment of Participant by the Company or any Subsidiary. The Committee, in its absolute discretion, shall determine the effect of all matters and questions relating to Termination of Employment, including, but not by way of limitation, the question of whether a particular leave of absence constitutes a Termination of Employment.

iii. "***Termination of Services***" shall mean Participant's Termination of Directorship or Termination of Employment, as applicable.

b. General. Each Performance Stock Unit represents the right to receive a number of Shares determined in accordance with Exhibit A if and when it vests. The Performance Stock Units shall not be treated as property or as a trust fund of any kind.

c. Incorporation of Terms of Plan. PSUs are subject to the terms and conditions of the Plan which are incorporated herein by reference. In the event of any inconsistency between the Plan and this Agreement, the terms of the Plan shall control.

ARTICLE II

GRANT OF Performance STOCK UNITS

2.1 Grant of PSUs. In consideration of your continued employment with or service to the Company or a Subsidiary and for other good and valuable consideration, effective as of the Grant Date set forth in the Notice of Grant (the "***Grant Date***"), the Company granted to you the number of PSUs set forth in the Notice of Grant.

2.2 Company's Obligation to Pay. Subject to and until the PSUs will have vested in the manner set forth in Article II hereof, you will have no right to payment of any such PSUs. Prior to actual payment of any vested PSUs, such PSUs will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company.

2.3 Vesting Schedule. Subject to Sections 2.4 and 3.12, your PSUs will vest and become nonforfeitable according to the vesting schedule set forth in the Notice of Grant as long as you have not had a Termination of Services prior to the applicable Vesting Date. Unless otherwise determined by the Committee, employment or service for a portion, even a substantial portion, of the vesting period will not entitle you to any proportionate vesting or avoid or mitigate a termination of rights and benefits upon or following a Termination of Services as provided in Section 2.5 below or under the Plan.

2.4 Change in Control Treatment. In the event of a Change in Control prior to the end of any Performance Period (as defined in Exhibit A), each Performance Period then in effect shall be shortened to end at such date within ten (10) days prior to the closing of the Change in Control as determined by the Committee, the Achievement Factor for each such Performance Period shall be calculated on a date occurring prior to the closing of the Change in Control, as determined by the Committee, in its sole discretion, and such Performance Stock Units will vest on the Vesting Date following the originally scheduled Performance Period related to such Performance Stock Units, with the number of Shares to be issued upon such vesting determined using the Achievement Factor calculated in accordance with this Section 2.4, subject, in each case, to you not experiencing a Termination of Services prior to the applicable Vesting Date. For the avoidance of doubt, the Performance Stock Units shall be subject to any accelerated vesting applicable to such Performance Stock Units under any change in control plan you participate in or any change in control agreement you are party to, in each case, in accordance with the terms thereof and using the Achievement Factor determined in accordance with this Section 2.4.

2.5 Forfeiture, Termination and Cancellation upon Termination of Services. Upon your Termination of Services prior to a Vesting Date for any or no reason, the PSUs subject to such Performance Period will be automatically forfeited, terminated and cancelled as of the applicable termination date without payment of any consideration by the Company, and you, or your beneficiary or personal representative, as the case may be, shall have no further rights hereunder. In addition, any PSUs that do not vest in accordance with the Notice of Grant and Exhibit A will be automatically forfeited, terminated and cancelled as of the Determination Date applicable to such PSUs without payment of any consideration by the Company, and you, or your beneficiary or personal representative, as the case may be, shall have no further rights hereunder.

2.6 Payment after Vesting.

(a) On or before the tenth (10th) day following the later of (i) the Determination Date or (ii) the Vesting Date for each Performance Period, the Company shall deliver to the Participant that number of Shares, if any, issuable in respect of such Performance Period, as determined in accordance with the Notice of Grant. Notwithstanding the foregoing, in the event Shares cannot be issued because of the failure to meet one or more of the conditions set forth in Section 2.8(a), (b) or (c) hereof, then the Shares shall be issued pursuant to the preceding sentence as soon as administratively practicable after the Committee determines that Shares can again be issued in accordance with Sections 2.8(a), (b) and (c) hereof. Notwithstanding any discretion in the Plan, the Notice of Grant or this Agreement to the contrary, upon vesting of the PSUs, Shares will be issued, if at all, as set forth in this section. In no event will the PSUs be settled in cash.

(b) Notwithstanding anything to the contrary in this Agreement or the agreements evidencing any Prior Awards, the Company shall be entitled to require you to pay any sums required by applicable law to be withheld with respect to the PSUs, the issuance of Shares or with respect to any Prior Awards. Such payment shall be made in such form of consideration as determined by the Company in its sole discretion, including:

(i) Cash or check;

(ii) Surrender or withholding of Shares otherwise issuable under the PSUs or Prior Awards, as applicable, and having an aggregate fair market value on the date of delivery sufficient to meet the withholding obligation, as determined by the Company in its sole discretion;

(iii) Other property acceptable to the Company in its sole discretion (including cash resulting from a transaction (a "***Sell to Cover***") in which the Company, on your behalf, instructs Fidelity Stock Plan Services, LLC or one of its affiliates or another agent selected by the Company (collectively, the "***Agent***") to sell a number of Shares issued to you sufficient to meet the withholding obligation, as determined by the Company in its sole discretion, and to remit proceeds of such sale to the Company sufficient to satisfy the withholding obligation); or

(iv) By deduction from other compensation payable to you.

If the Company requires or permits a Sell to Cover:

(A) You hereby appoint the Agent as your agent and direct the Agent to (1) sell on the open market at the then prevailing market price(s), on your behalf, promptly after any PSUs (or Prior Awards) vest, such number of the Shares that are issued in respect of such PSUs (or subject to or issued in respect of such Prior Awards) as the Agent determines will generate sufficient proceeds to cover (x) any estimated tax, social insurance, payroll, fringe benefit or similar withholding obligations with respect to such vesting and (y) all applicable fees and commissions due to, or required to be collected by, the Agent with respect thereto and (2) in the Company's discretion, apply any remaining funds to your federal tax withholding or remit such remaining funds to you.

(B) You hereby authorize the Company and the Agent to cooperate and communicate with one another to determine the number of Shares to be sold pursuant to subsection (A) above. You understand that to protect against declines in the market price of Shares, the Agent may determine to sell more than the minimum number of Shares needed to generate the required funds.

(C) You understand that the Agent may effect sales as provided in subsection (A) above in one or more sales and that the average price for executions resulting from bunched orders will be assigned to your account. In addition, you acknowledge that it may not be possible to sell Shares as provided in subsection (A) above due to (1) a legal or contractual restriction applicable to the Agent, (2) a market disruption, or (3) rules governing order execution priority on the national exchange where the Shares may be traded. In the event of the Agent's inability to sell Shares, you will continue to be responsible for the timely payment to the Company and/or its affiliates of all federal, state, local and foreign taxes that are required by applicable laws and regulations to be withheld, including but not limited to those amounts specified in subsection (A) above.

(D) You acknowledge that, regardless of any other term or condition of this Section 2.6(b), neither the Company nor the Agent will have any liability to you for (1) special, indirect, punitive, exemplary, or consequential damages, or incidental losses or damages of any kind, (2) any failure to perform or for any delay in performance that results from a cause or circumstance that is beyond its reasonable control, or (3) any claim relating to the timing of any Sell to Cover, the price at which Shares are sold in any Sell to Cover, or the timing of the delivery to you of any Shares following any Sell to Cover. Regardless of the Company's or any Subsidiary's actions in connection with tax withholding pursuant to this Agreement, you acknowledge that the ultimate responsibility for any and all tax-related items imposed on you in connection with any aspect of the PSUs (and any Prior Awards) and any Shares issued upon vesting of the PSUs (or subject to or issued in respect of your Prior Awards) is and remains your responsibility and liability. Except as expressly stated herein, neither the Company nor any Subsidiary makes any commitment to structure the PSUs (or any Prior Award) to reduce or eliminate your liability for tax-related items.

(E) You hereby agree to execute and deliver to the Agent any other agreements or documents as the Agent reasonably deems necessary or appropriate to carry out the purposes and intent of this Section 2.6(b). The Agent is a third-party beneficiary of this Section 2.6(b).

This Section 2.6(b) shall survive termination of this Agreement until all tax withholding obligations arising in connection with this Award have been satisfied.

The Company shall not be obligated to deliver any Shares to you unless and until you have paid or otherwise satisfied in full the amount of all federal, state, local and foreign taxes required to be withheld in connection with the grant, vesting or settlement of the PSUs.

2.7 Rights as Stockholder. As a holder of PSUs you are not, and do not have any of the rights or privileges of, a stockholder of the Company, including, without limitation, any dividend rights or voting rights, in respect of the PSUs and any Shares issuable upon vesting or settlement thereof unless and until such Shares shall have been actually issued by the Company to you. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 4.3 of the Plan.

2.8 Conditions to Delivery of Shares. Subject to Section 13.3 of the Plan, the Shares deliverable hereunder, or any portion thereof, may be either previously authorized but unissued Shares or issued Shares which have then been reacquired by the Company. Such Shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any Shares deliverable hereunder prior to fulfillment of all of the following conditions:

(a) The admission of such Shares to listing on all stock exchanges on which the Shares are then listed;

(b) The completion of any registration or other qualification of such Shares under any state, federal or foreign law or under rulings or regulations of the Securities and Exchange Commission or of any other governmental regulatory body, which the Committee shall, in its absolute discretion, deem necessary or advisable;

(c) The obtaining of any approval or other clearance from any state, federal or foreign governmental agency which the Committee shall, in its absolute discretion, determine to be necessary or advisable;

(d) The receipt by the Company of full payment for such Shares, including payment of any applicable withholding tax, which may be in one or more of the forms of consideration permitted under Section 2.6 hereof; and

(e) The lapse of such reasonable period of time following a Vesting Date as the Committee may from time to time establish for reasons of administrative convenience.

ARTICLE III

OTHER PROVISIONS

3.1 Administration. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret, amend or revoke any such rules. All actions taken and all interpretations and determinations made by the Committee in good faith shall be final and binding upon you, the Company and all other interested persons. No member of the Committee or the Board shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan, this Agreement or the PSUs.

3.2 Adjustments Upon Specified Events. In addition, upon the occurrence of certain events relating to the Shares contemplated by Section 4.3 of the Plan (including, without limitation, an extraordinary cash dividend on such Shares), the Committee shall make such adjustments as the Committee deems appropriate in the number of Performance Stock Units then outstanding and the number and kind of securities that may be issued in respect of the Performance Stock Units. You acknowledge that the PSUs are subject to modification and termination in certain events as provided in this Agreement and Sections 4.3 and 9 of the Plan.

3.3 Grant is Not Transferable. Your PSUs may not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of the PSUs, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, the PSUs will terminate immediately and will become null and void.

3.4 Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of the Secretary of the Company at the Company’s principal office, and any notice to be given to Participant shall be addressed to Participant at the Participant’s last address reflected on the Company’s records, including any email address. By a notice given pursuant to this Section 3.4, either party may hereafter designate a different address for notices to be given to that party. Any notice to the Company shall be deemed given when actually received. Any notice given by the Company shall be deemed given when sent via email or 5 U.S. business days after mailing.

3.5 Titles. Titles provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

3.6 Governing Law; Severability. The laws of the State of California shall govern the interpretation, validity, administration, enforcement and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

3.7 Conformity to Securities Laws. You acknowledge that the Plan and this Agreement are intended to conform to the extent necessary with all provisions of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended (the "***Exchange Act***") and any and all regulations and rules promulgated by the Securities and Exchange Commission thereunder, and state and foreign securities laws and regulations. Notwithstanding anything herein to the contrary, the Plan shall be administered, and the PSUs are granted, only in such a manner as to conform to such laws, rules and regulations. To the extent permitted by applicable law, the Plan and this Agreement shall be deemed amended to the extent necessary to conform to such laws, rules and regulations.

3.8 Amendments, Suspension and Termination. To the extent permitted by the Plan, this Agreement may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Committee or the Board, *provided*, that, except as may otherwise be provided by the Plan, no amendment, modification, suspension or termination of this Agreement shall adversely affect the PSUs in any material way without your prior written consent.

3.9 Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth in Section 3.3 hereof, this Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns.

3.10 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan or this Agreement, if you are subject to Section 16 of the Exchange Act, the Plan, the PSUs and this Agreement shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b-3 of the Exchange Act) that are requirements for the application of such exemptive rule. To the extent permitted by and necessary to comply with applicable law, this Agreement shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

3.11 Not a Contract of Employment. Nothing in this Agreement or in the Plan shall be interpreted as forming an employment or service contract with the Company or any Subsidiary or conferring upon you any right to continue to serve as an employee or other service provider of the Company or any of its Subsidiaries.

3.12 Dispute Resolution. By accepting the PSUs, if you are an employee providing services in the U.S., you agree to the provisions of, and to be bound by, the Broadcom Inc. Employment Arbitration Agreement attached as Exhibit B hereto (the "***Arbitration Agreement***"). In the event you violate the Arbitration Agreement, any unvested PSUs will thereupon be cancelled for no consideration.

3.13 Entire Agreement. The Plan, the Notice of Grant and this Agreement constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof.

3.14 Section 409A. The PSUs are not intended to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code (together with any Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the date hereof, "***Section 409A***"). However, notwithstanding any other provision of the Plan or this Agreement, if at any time the Committee determines that the PSUs (or any portion thereof) may be subject to Section 409A, the Committee shall have the right in its sole discretion (without any obligation to do so or to indemnify you or any other person for failure to do so) to adopt such amendments to the Plan or this Agreement or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Committee determines are necessary or appropriate either for the PSUs to be exempt from the application of Section 409A or to comply with the requirements of Section 409A.

3.15 Limitation on Participant's Rights. Participation in the Plan confers no rights or interests other than as herein provided. Neither the Plan nor any underlying program, in and of itself, has any assets. The Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the PSUs, and rights no greater than the right to receive the Shares as a general unsecured creditor with respect to PSUs, as and when payable hereunder.

* * * * *

EXHIBIT A
TO LSI CORPORATION
2003 EQUITY INCENTIVE PLAN
PERFORMANCE STOCK UNIT AWARD AGREEMENT

Performance Criteria and measurement

1. Definitions.

For the purposes of the charts, calculations and conditions below:

a. "***Average Market Value***," with respect to a company, shall mean the average closing trading price of a company's shares on the principal exchange on which such shares are then traded, during the 30 consecutive calendar days ending on (and including) a specified date, as reported by the applicable principal exchange on which such company's shares are listed or quoted, or by such other authoritative source as the Committee may determine.

b. "***Prior Achievement Sum***" means the sum of the Achievement Factors (as defined below) for Performance Period 1, Performance Period 2 and Performance Period 3.

c. "***Relative TSR***" shall mean the Company's TSR relative to the TSR of the companies that comprise the S&P 500 Index as of the last day of the Performance Period, expressed as a percentile.

d. "***TSR***" means the compound annual total stockholder return of the Company (or of a company in the S&P 500 Index, as applicable), as measured by the change in the price of a Share (or the publicly traded securities of a company in the S&P 500 Index, as applicable) over the Performance Period (positive or negative), calculated based on the Average Market Value on the first day of the Performance Period as the beginning share price, and the Average Market Value on the last day of the Performance Period as the ending share price, and assuming dividends (if any) are reinvested based on the price of a Share (or the publicly traded securities of a company in the S&P 500 Index, as applicable) in accordance with the "gross" or "total" return methodology as defined by S&P Dow Jones.

2. Performance Periods. There shall be four performance periods (each, a "***Performance Period***") as follows: March 2 on or immediately preceding the Grant Date (the "***Performance Period Commencement Date***") through March 1 of the first calendar year following the Performance Period Commencement Date ("***Performance Period 1***"), the Performance Period Commencement Date through March 1 of the second calendar year following the Performance Period Commencement Date ("***Performance Period 2***"), the Performance Period Commencement Date through the March 1 of the third calendar year following the Performance Period Commencement Date ("***Performance Period 3***") and

the Performance Period Commencement Date through March 1 of the fourth calendar year following the Performance Period Commencement Date ("***Performance Period 4***").

3. Achievement Factor. As soon as administratively practicable, and in any event within 60 days, following the end of each Performance Period, the Committee shall determine the Relative TSR for such Performance Period and calculate the Achievement Factor (such date of determination, the "***Determination Date***"). For the purposes hereof, "***Achievement Factor***" shall mean that factor determined under the applicable table below.

Relative TSR Performance Periods 1, 2 and 3	**Achievement Factor**
Below the 25th percentile of the S&P 500	0
At the 25th percentile of the S&P 500	0.50
At or above the 50th percentile of the S&P 500	1

Relative TSR Performance Period 4	**Achievement Factor**
Below the 25th percentile of the S&P 500	0
At the 25th percentile of the S&P 500	Prior Achievement Sum greater than or equal to 1.5 = 0.5. Prior Achievement Sum less than 1.5 = 2 less the Prior Achievement Sum.
At the 50th percentile of the S&P 500	4 less the Prior Achievement Sum.
At or above the 75th percentile of the S&P 500	Absolute TSR Negative = 4 less the Prior Achievement Sum. Absolute TSR Neutral or Positive = 8 less the Prior Achievement Sum.

If the Relative TSR achieved during the applicable Performance Period is between two of the levels set forth in the tables above, the Achievement Factor shall be determined using linear interpolation. For the avoidance of doubt, the Shares issuable in respect of the PSUs shall in no event exceed two times the number of PSUs shown in the Notice of Grant, and in the event the Relative TSR for the Performance Period is less than the 25th percentile, the Achievement Factor shall be 0 (i.e., no linear interpolation between the two lowest Relative TSR achievement levels set forth in the tables above). If our absolute TSR is negative for Performance Period 4, then the maximum number of Shares issuable in respect of the PSUs is 100% of the number of PSUs shown in the Notice of Grant.

EXHIBIT B

BROADCOM INC. EMPLOYMENT ARBITRATION AGREEMENT

Broadcom Inc. – List of Significant Subsidiaries

As of November 1, 2020

Name of Subsidiary	Country of Incorporation
Avago Technologies International Sales Pte. Limited	Singapore
Avago Technologies Wireless (U.S.A.) Manufacturing LLC	Delaware (U.S.A.)
Broadcom Bermuda Ltd.	Bermuda
Broadcom Corporation	California (U.S.A.)
Broadcom International Limited	Cayman Islands
Broadcom International Pte. Ltd.	Singapore
Broadcom Technologies, Inc.	Delaware (U.S.A.)
CA, Inc.	Delaware (U.S.A.)
CA Europe Sárl	Switzerland
LSI Corporation	Delaware (U.S.A.)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-221654-01, 333-215291-01, 333-209331-01, 333-228175, 333-235663, and 333-235753) and Form S-3 (No. 333-225648) of Broadcom Inc. of our report dated December 18, 2020 relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Jose, California
December 18, 2020

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Hock E. Tan, certify that:

1. I have reviewed this Annual Report on Form 10-K of Broadcom Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: December 18, 2020

/s/ Hock E. Tan

Hock E. Tan
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Kirsten M. Spears, certify that:

1. I have reviewed this Annual Report on Form 10-K of Broadcom Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: December 18, 2020

/s/ Kirsten M. Spears

Kirsten M. Spears
Chief Financial Officer and Principal Financial Officer

EXHIBIT 32.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Broadcom Inc. (the “Company”) for the fiscal year ended November 1, 2020 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, Hock E. Tan, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: December 18, 2020

/s/ Hock E. Tan
Hock E. Tan
Chief Executive Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.

EXHIBIT 32.2

CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Broadcom Inc. (the "Company") for the fiscal year ended November 1, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Kirsten M. Spears, Chief Financial Officer and Principal Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: December 18, 2020

/s/ Kirsten M. Spears
Kirsten M. Spears
Chief Financial Officer and Principal Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.