Broadcom Introduces Industry's First Wi-Fi 8 Silicon Ecosystem Powering the AI Era

October 14, 2025

New license option to help scale vibrant edge of smartphones, PCs, automotives and IoT devices in support of AI-first access devices

PARIS, Oct. 14, 2025 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced the industry's first Wi-Fi 8 silicon solutions for the broadband wireless edge ecosystem including residential gateways, enterprise access points, and smart mobile clients. Broadcom's Wi-Fi 8 solutions are purpose-built to address the stringent performance, reliability, intelligence, and efficiency demands of AI-era edge networks. Recognizing the need for rapid industry-wide deployment of AI-first wireless connectivity for the edge, Broadcom further announced the availability of its Wi-Fi 8 IP for license for Internet of Things (IoT), automotive, and mobile devices as a complement to the access ecosystem.

The new family of Wi-Fi 8 solutions include:

- BCM6718 designed for residential and operator access applications
- BCM43840 and BCM43820 are tailored for enterprise access applications
- BCM43109 for edge wireless clients such as smartphones, laptops, tablets and automotive

"Wi-Fi 8 represents a fundamental shift in how we approach wireless broadband. The transition to the 'AI era' demands networks that are fast, smart, adaptive, and deeply reliable. Broadcom's Wi-Fi 8 products are meticulously engineered to provide the AI-ready, high-performance, low-latency, and predictability that the modern AI edge demands," said Mark Gonikberg, senior vice president and general manager of Broadcom's Wireless Communications and Connectivity Division. "We are taking this up a notch by offering our industry-best Wi-Fi 8 solutions to the broader industry through flexible licensing options to accelerate the proliferation of Edge AI."

"Wi-Fi 8 features further enhance wireless connectivity performance and resilience across consumer, enterprise, and industrial domains," said Phil Solis, research director at IDC. "Broadcom's two-pronged strategy of providing Wi-Fi 8 chips to its core markets and expanding its innovation-rich IP offering into everything else has market disruption potential. In combination with licensees' implementations, this move will open the doorways for more Wi-Fi 8 chips in various end user and IoT devices to create a comprehensive next-generation Wi-Fi ecosystem."

"The next generation of devices and services requires new levels of reliability, efficiency, and performance, and Wi-Fi Alliance is proud to see our members' relentless innovation, exemplified by Broadcom's leadership in advancing Wi-Fi solutions to meet increasing demands," said Kevin Robinson, president and CEO of Wi-Fi Alliance. "Wi-Fi 8 will usher in the next era of high-performance connectivity, enabling more advanced applications, immersive experiences, and ultra-reliable, multi-gigabit connectivity for users worldwide. Broadcom's early innovation helps accelerate the ecosystem and ensures that Wi-Fi continues to be a strong, reliable foundation for connectivity."

AI-Aware Broadband Edge

As AI moves from the cloud into the fabric of daily life at the edge, networks must be robust, resilient and ready to support the requirements of the next generation of experiences while meeting the increasing wireless demands within the home and enterprise. AI workloads demand robust low-latency symmetrical uplink-downlink capacity to handle continuous voice streams, high-resolution video uploads, and real-time device-to-cloud interactions. This necessitates that the wireless edge be equipped to handle everything from real-time voice dialogue with AI assistants, to connected devices streaming rich sensor data, to AI-driven applications requiring significantly more uplink bandwidth.

Broadcom's Wi-Fi 8 silicon represents a critical leap forward in the support for this unprecedented demand for reliable, low-latency, high-data rate network. Combining advanced scheduling technology with Wi-Fi 8 capabilities, Broadcom's Wi-Fi 8 solutions ensure faster speeds, longer range, optimized spectrum use, reduced contention, and predictable performance even in challenging operating environments and across diverse devices and applications. Broadcom's Wi-Fi 8 silicon future-proofs the network with breakthroughs in ultra-low latency, intelligent traffic management, and multi-device performance management at scale.

AI-First from Connectivity to Intelligence

Delivering next-generation bandwidth and reliability is only part of the equation. To fully unlock AI-driven experiences, networks must become intelligent systems—capable of measuring performance, adapting in real-time, and enabling predictive insights

Broadcom's Wi-Fi 8 access silicon includes a hardware-accelerated telemetry engine, a game-changer for AI-driven network optimization. This engine collects real-time data on network performance, device behavior, and environmental conditions, serving as a critical input for AI models. This telemetry can be leveraged by customers to train and run inference on the edge or in the cloud for use cases such as:

- Measuring and optimizing Quality of Experience (QoE)
- Strengthening Wi-Fi network security and anomaly detection
- Lowering total cost of ownership through predictive maintenance and automated optimization

By enabling access to fine-grained telemetry, Broadcom's Wi-Fi 8 residential and enterprise silicon empower customers to design and deploy AI services tailored to their devices and end users.

AI-Ready Breakthrough Wi-Fi 8 Features in Broadcom's Wi-Fi Silicon

Wi-Fi 8 marks a shift from chasing raw peak speed to redefining connectivity through Ultra High Reliability (UHR)—delivering consistent, predictable

network performance even under challenging conditions. Key features include:

- Inter-AP Coordination: Coordinated Spatial Reuse (Co-SR) and Coordinated Beamforming (Co-BF) where access points dynamically adjust transmit power and collaboratively direct signal beams to targeted devices to reduce latency and increase throughput.
- Congestion Avoidance: Dynamic Sub-Channel Operation (DSO), Non-Primary Channel Access (NPCA), and Dynamic Bandwidth Expansion (DBE) enable access to spectrum by avoiding congestion and providing real-time bandwidth allocation to improve throughput and reduce latency even in the most demanding environments.
- Range Enhancements: Extended Long Range (ELR) and Distributed Resource Units (dRu) to expand coverage and maintain strong connections in large homes, multi-level buildings, and outdoor IoT deployments—ensuring reliable performance at the edge.
- Seamless Roaming: Ensures uninterrupted experiences as devices move between access points, while maintaining ultra-low latency.
- Enhanced Modulation Coding Schemes (MCS): Provides higher throughput rates at typical signal-to-noise ratios (SNR), adding refined rate gradations, smoothing transitions, and improving overall connection stability.

Broadcom's Wi-Fi 8 Silicon Family

Broadcom's Wi-Fi 8 ecosystem product portfolio includes BCM6718, BCM43840, BCM43820, and BCM43109.

The BCM6718 is optimized for the residential Wi-Fi access point market. Key features include:

- Four-stream Wi-Fi 8 radio
- BroadStream wireless telemetry engine for AI training/inference
- BroadStream intelligent packet scheduler maximizing QoE
- Receiver sensitivity enhancements enabling faster uploads
- Advanced eco modes resulting in up to 30% greater energy efficiency
- Third-generation digital pre-distortion reducing peak power by 25%
- Full compliance to IEEE 802.11bn and WFA Wi-Fi 8 specifications

The BCM43840 and BCM43820 are optimized for the enterprise Wi-Fi access point market. Key features include:

- BCM43840 – four-stream Wi-Fi 8 radio
- BCM43820 – two-stream scanning and analytics Wi-Fi 8 radio
- BroadStream wireless telemetry engine for AI training/inference
- Advanced location tracking capability
- Advanced eco modes resulting in 30% greater energy efficiency
- Third-generation digital pre-distortion reducing peak power by 25%
- Full compliance to IEEE 802.11bn and WFA Wi-Fi 8 specifications

The BCM43109 is a highly integrated Wi-Fi 8, high-bandwidth Bluetooth, and 802.15.4 combo chip optimized for mobile handset applications. Key features include:

- Two-stream Wi-Fi 8 radio with 320 MHz channel support
- Enhanced Long Range (ELR) Wi-Fi
- Non-Primary Channel Access (NPCA) for latency reduction
- Improved Low-Density Parity Check (LDPC) coding to extend gigabit coverage
- Bluetooth 6.0 high data throughput and higher bands support
- 802.15.4 support including Thread V1.4 and Zigbee Pro
- Sensing and secure ranging
- Full compliance to IEEE 802.11bn and WFA Wi-Fi 8 specifications

A Broader Commitment to the AI Edge

The AI edge requires a network that is open, scalable and power-efficient. Devices in the network must be AI-aware and work in tandem to unlock AI benefits for users and service providers alike. Broadcom's Wi-Fi 8 solutions are not only standards-based but also reflect decades of architectural enhancements that result in smaller footprint and better battery-efficiency as compared to benchmark Wi-Fi 7 solutions in the market today. To enable the wireless edge to quickly scale for the AI era, Broadcom will also open its Wi-Fi 8 IP for other industry players to license, manufacture and use in edge client devices. This move is expected to quickly create a vibrant, AI-aware ecosystem of IoT, automotive and mobile devices that complement the AI-first Broadcom access points.

Availability

Broadcom's Wi-Fi 8 silicon is currently sampling to select partners, and the IP is currently available for licensing. Contact your local Broadcom sales representative for samples and pricing. For more information on Broadcom Wi-Fi 8, please click here.

Supporting Quotes:

Raymond Hsiung, VP of Sales & Marketing, Arcadyan Technology Corporation
“As a technology-leading ODM partner, Arcadyan is proud to advance Wi-Fi 8 deployment alongside Broadcom’s latest innovations. With Wi-Fi 8 powering our next-generation platforms, we work closely with service providers and customers to deliver high-reliability, ultra-low latency connectivity —built on scalable, future-ready devices.”

Tenlong Deng, Corporate VP & General Manager of Wireless and Networking BU, ASUS
“AI is transforming connectivity, demanding speed, stability, and low latency. Partnering with Broadcom on Wi-Fi 8 enables ASUS to deliver seamless experiences for cloud gaming, smart homes, and AI-driven applications. This collaboration reflects ASUS’s commitment to delivering exceptional networking quality.”

Jean-Paul Arzel, Chief Technology Officer, Bouygues Telecom
“For over a decade, our partnership with Broadcom has fueled continuous innovation. Being named the No. 1 Wi-Fi operator by nPerf for the sixth time reaffirms our commitment to putting customers at the center of everything we do. With Wi-Fi 8 on the horizon and our ongoing collaboration with Broadcom, we’re driving breakthroughs that will elevate performance, strengthen our technology leadership, and deliver connectivity that consistently exceeds our customers’ expectations.”

Luciano Oliveira, Director of Product, Home & TV at EE, BT Group’s Consumer Division
“At EE, we are committed to delivering a best-in-class network experience for our customers. Partnering with cutting-edge organizations like Broadcom for Wi-Fi 8 supports our ambition to continue providing the UK’s best network, while laying the foundations for connected experiences of the future.”

Justin Colwell, Executive Vice President, Technology Strategy and Innovation, Charter Communications
“Our collaboration with Broadcom is focused on staying ahead of subscriber needs by offering broadband services and in-home Wi-Fi that are ready for emerging applications. With Wi-Fi 8 capabilities, we will be able to enhance the quality of the experience and differentiate our services in a competitive market.”

Fraser Stirling, Global Chief Product Officer, Comcast
“Comcast has a long history of Wi-Fi innovation, always focused on delivering the best in-home experience for our customers. We’re deploying technologies on our network that enable ultra-low latency, multi-gig symmetrical speeds, and the bandwidth needed for data-intensive applications like live streaming, gaming, and emerging AI capabilities. Wi-Fi 8 is the next step forward, and by working with technology leaders like Broadcom, we’re ensuring our AI-powered network and in-home Wi-Fi continue to outperform the competition and keep our customers ahead of the curve.”

Dan DeBacker, Senior Vice President of Product Management, Extreme Networks
“AI is fundamentally transforming how networks perform, think, and adapt. By integrating Wi-Fi 8 and AI-powered intelligence into every connection, we’re pushing the boundaries of what networks can deliver, turning them into intelligent, proactive systems that unlock incredible levels of efficiency and innovation. Together with Broadcom, we’re building a transformative ecosystem where AI-first connectivity powers every edge device, every user, and every interaction, making intelligent networks the new standard for the AI era.”

Jerry Lee, CEO, Humax
“Humax Networks and Broadcom share a strong history of collaboration in delivering wireless innovation. Our continued partnership with Broadcom on Wi-Fi 8 allows us to develop a new generation of broadband products that combine the performance required for emerging AI use cases with the intelligence to reduce total cost of ownership for our telco partners.”

Jonathan Oakes, Senior VP & General Manager of Home Networking, NETGEAR
“As a pioneer in networking products and services for nearly 30 years, NETGEAR is proud to collaborate with Broadcom on the development of Wi-Fi 8. The integration of AI into home networking is a game-changer that will help us to elevate the customer experience by delivering smarter, faster, and more immersive experiences. We look forward to continuing our partnership with Broadcom, whose core technology empowers us to create next-generation solutions that redefine the connected home.”

Boris Nabedryk, Executive Vice President and Managing Director of Broadband Solutions BU, Sagemcom
“The arrival of Wi-Fi 8 marks a new milestone for broadband connectivity, where speed, reliability, and adaptability are essential to meet the ever-growing demands of connected homes and businesses. As with previous Wi-Fi 6 and 7 generations, Sagemcom is aiming to be the first to release Wi-Fi 8-based broadband solutions to the market. By integrating Broadcom’s latest Wi-Fi 8 silicon into our next-generation product portfolio and contributing to its implementation, we enable operators and end-users to benefit from ultra-low latency, high-performance, and robust networks, unlocking new possibilities for digital experiences.”

Derek Elder, President of Service Provider Business Group, Sercomm
“Connectivity innovation never slows, and Wi-Fi 8 powers the performance, reliability, and intelligence needed for an AI-driven world. Our long partnership with Broadcom positions Sercomm at the forefront of broadband innovation, letting us deliver best-in-class broadband solutions that give Tier 1 service providers worldwide the competitive edge in their markets.”

Tim O’Laughlin, CEO, Vantiva
“Our collaboration with Broadcom puts Wi-Fi 8 at the center of our upcoming portfolio. This foundation delivers the performance and reliability that support AI innovation in our products.”

About Broadcom
Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops, and supplies a broad range of semiconductor, enterprise software and security solutions. Broadcom's category-leading product portfolio serves critical markets including cloud, data center, networking, broadband, wireless, storage, industrial, and enterprise software. Our solutions include service provider and enterprise networking and storage, mobile device and broadband connectivity, mainframe, cybersecurity, and private and hybrid cloud infrastructure. Broadcom is a Delaware corporation headquartered in Palo Alto, CA. For more information, go to www.broadcom.com.

Broadcom, the pulse logo, and Connecting everything are among the trademarks of Broadcom. The term “Broadcom” refers to Broadcom Inc., and/or its subsidiaries. Other trademarks are the property of their respective owners.

Press Contact:
Khanh Lam
Global Communications
press.relations@broadcom.com
Telephone: +1 408 433 8649

Source: Broadcom Inc.