Broadcom Announces World's First Wi-Fi 6E Chip for Mobile Devices

February 13, 2020

Broadcom BCM4389 blazes trail with multi-gigabit, low latency Wi-Fi and superior Bluetooth audio experience

SAN JOSE, Calif., Feb. 13, 2020 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced the world's first Wi-Fi 6E client device, the BCM4389. Wi-Fi 6E extends the Wi-Fi 6 standard to support the soon-to-be-operational 6 GHz band with wider 160 MHz channel bandwidths that double Wi-Fi speeds and cut latency in half compared to Wi-Fi 5. The BCM4389 delivers over 2 Gbps of real-world speeds and up to five times better battery utilization, making it an ideal solution for flagship smartphones and future AR/VR devices.

Wi-Fi 6E builds on the rich feature set of Wi-Fi 6, which includes improved performance in crowded environments, advanced roaming capabilities and increased security. This enhancement of Wi-Fi 6 uses new spectrum in the 6 GHz band to deliver multi-gigabit speeds while avoiding congestion with legacy devices. The BCM4389 expands on the accelerated deployment of Wi-Fi 6, delivering a steady, swift and secure consumer experience in tandem with over 150 million smartphones already in the market. With the additional innovations of Wi-Fi 6E, it unlocks high-speed bi-directional video applications and augmented reality. For more on Wi-Fi 6E and 6 GHz Wi-Fi, read our blog here.

The BCM4389 also brings advanced multi-radio technology to Bluetooth. Inspired by sophisticated Wi-Fi communication techniques such as multiple-input multiple-output (MIMO) and beamforming, the BCM4389 improves audio performance and range for any connected Bluetooth accessory. Phones equipped with the BCM4389 will provide a seamless, "glitch-free" audio experience with popular Bluetooth headsets even in congested places such as subway stations.

In yet another first, the BCM4389 utilizes Broadcom's new tri-band simultaneous (TBS) connectivity architecture to mobile devices. In addition to two main Wi-Fi radios and a MIMO Bluetooth radio, the BCM4389 incorporates a third ultra-low-power independent radio for optimizing Wi-Fi and Bluetooth performance. The three-radio architecture:

- Enables always-on Bluetooth discovery for faster pairing with accessories and interference mitigation. Phones and headsets can now pair faster.
- Quickly scans for interference-free Wi-Fi networks to connect to while main Wi-Fi radios provide data, voice and video services. Phones seamlessly switch to networks with better Quality-of-Service (QoS).
- Improves indoor location accuracy with always-on scanning and little impact on battery life.
- Enables the BCM4389 to deliver up to five times better battery utilization than current flagship connectivity solutions.

The BCM4389 will benefit from a full ecosystem of Wi-Fi 6E products, including home routers, residential gateways, enterprise access points, and AR/VR devices. The new 6 GHz spectrum band is expected to be operational in the United States in 2020, and a wide range of 6 GHz enabled devices will be available at launch.

"At Broadcom, we pride ourselves in delivering technology that defines the market. The BCM4389, the world's first Wi-Fi 6E mobile chip, is no exception since it paves the way for our wirelessly connected AR/VR future," said Vijay Nagarajan, vice president of marketing for the Wireless Communications and Connectivity Division at Broadcom. "The BCM4389 delivers on the core advantages of the 6 GHz band, multi-gigabit wireless speeds and very low latency. It also represents a paradigm shift in wireless design thinking with technology that brings glitch-free audio experience with Bluetooth headsets, fast pairing with wireless accessories, accurate indoor location, high battery efficiency and other everyday consumer experiences."

"Wi-Fi 6E momentum is moving very quickly with regulatory changes expected and chipsets becoming available," said Phil Solis, research director at IDC. "There are many video-related use cases that require shorter ranges that fit perfectly with the many large 160 MHz-wide channels that the 6 GHz spectrum band is capable of supporting."

PRODUCT HIGHLIGHTS

The BCM4389 is a smartphone combo chip. Key features include:

- Support for 2 streams of Wi-Fi 6E
- Multi-Radio Bluetooth 5 with antenna beamforming
- Tri-Band Simultaneous (TBS) architecture including a dedicated background scan radio
- Simultaneous dual-band operation
- 2.63 Gbps PHY rate
- Operation in 2.4 GHz and 5.1-7.125 GHz unlicensed band
- 160 MHz channel bandwidth
- 1024-QAM modulation
- OFDMA
- MU-MIMO

QUOTES

"Wi-Fi 6E will leverage up to 1200 MHz of new unlicensed spectrum that can provide seven uncongested, non-overlapping 160 MHz-wide channels or fifty 20 MHz-wide channels. The availability of such a large amount of contiguous greenfield spectrum makes it possible to deliver next-gen mobile

applications that require high throughput, link reliability, and low latency in unlicensed bands. Extreme Networks is excited to work closely with Broadcom, and plans to be among the first vendors to deliver end-to-end, cloud-driven Wi-Fi 6E networking solutions for the enterprise.” -- Eric Broockman, CTO, Extreme Networks.

“With the availability of up to 1.2GHz contiguous unlicensed spectrum in the 6GHz band, the enhanced benefits of Wi-Fi 6 will be fully realized. The addition of up to fifty 20MHz channels in the 6GHz band, which is uncongested and unencumbered by legacy technologies, will result in faster downloads and lower latency for mobile applications. This is essential as Wi-Fi continues to be the primary mechanism for accessing the internet at home, work, and in enterprises that want full control over their wireless data and infrastructures via AI-driven operations.” -- Bob Friday, CTO and Co-founder of Mist, a Juniper Company

“At NETGEAR, we lead with innovation to deliver the latest most advanced smart networking products to connect people, power businesses, and enhance the way we live. We look forward to continuing our long-standing partnership with Broadcom to deliver the fastest, most secure wireless experiences to NETGEAR customers worldwide by leveraging Wi-Fi 6E.” -- David Henry, Senior Vice President of Connected Home Products, NETGEAR

About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom’s category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to www.broadcom.com.

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Source: Broadcom Inc.