

## NEWS RELEASE

### **Broadcom Announces Availability of Industry's First Complete Ecosystem of 802.11ax Solutions**

*The 6<sup>th</sup> Generation of Wi-Fi, Max WiFi, offers dramatic speed and capacity improvements for the connected home, business and public venues; packs innovations for a stellar online social experience.*

**SAN JOSE, Calif., and SINGAPORE, August 15, 2017** – Broadcom Limited (NASDAQ: AVGO) continues its historic leadership in Wi-Fi by launching Max WiFi, the industry's first family of connectivity solutions using the next Wi-Fi standard, 802.11ax. The Max WiFi chips enable up to four times faster download speeds, six times faster upload speeds, four times better coverage, and seven times better battery life than similar Wi-Fi solutions on the market today that use 802.11ac. The chips released today are designed to kick-start an ecosystem of Wi-Fi routers, residential gateways, enterprise access points, and client devices that deliver next generation Wi-Fi. Visit [www.maxwifi.org](http://www.maxwifi.org) to learn more about the advantages of Max WiFi: 802.11ax.

Max WiFi is the sixth generation of Wi-Fi and the most powerful standard yet, with innovations that go beyond speed. Max WiFi supports delivery of simultaneous video, voice, data and IOT services to an ever-increasing number of wireless devices. This means that steady, high-speed Wi-Fi with unprecedented quality of service is available wherever consumers want it: homes, offices and high-traffic public venues such as stadiums. Max WiFi's unique architecture is also optimized for internet upload, making social media live-streaming and cloud storage seamless.

The demand for high performance Wi-Fi in the home is growing unabated with a typical family of four expected to have an average of 50 connected devices by 2022. At the same time, the amount of media content exchanged among mobile devices through the cloud has increased exponentially. According to Extreme Networks, an astounding 11.8 Terabytes of data was generated at this year's Super Bowl by fans posting videos, updating status, and streaming live from the stadium. The need to support the 'things' that connect the home and the mobile devices that create and consume video content in the moment already strain existing Wi-Fi networks. This will be more pronounced for emerging applications such as augmented reality & virtual reality. Broadcom's Max WiFi, with its innovative architecture, addresses these growing needs of modern consumers in their connected homes.

Broadcom's ecosystem of Max WiFi products includes [BCM43684](#), [BCM43694](#) & [BCM4375](#).

## PRODUCT HIGHLIGHTS:

Max WiFi implements:

- Uplink and Downlink Orthogonal Frequency Division Multiple Access (OFDMA) technology, which is the fundamental building block of 802.11ax. OFDMA significantly increases efficiency and capacity of the wireless network as several devices communicate concurrently in portions of the frequency spectrum allocated proportional to their needs. In addition, it enables fine grain quality of service for complex quadruple play applications via the implementation of sophisticated downlink and uplink scheduling.
- Multi-User MIMO (MU-MIMO) technology to increase channel capacity when servicing multiple simultaneous devices.
- Target Wake Time (TWT) to orchestrate specific times when clients wake and sleep enabling mobile devices to reduce power consumption and increase battery life.
- Spatial Reuse, which allows access points to more efficiently share channel capacity by making intelligent decisions on when to transmit data.

The [BCM43684](#) is a chip targeted for the residential Wi-Fi market while the [BCM43694](#) is optimized for use in enterprise access points. Key features include:

- Support for 4-streams of 802.11ax
- 4.8 Gbps PHY Rate
- 160 MHz Channel Bandwidth
- 1024 QAM Modulation
- Uplink & Downlink OFDMA
- MU-MIMO
- ZeroWait DFS
- AirIQ Interference Identification
- Full compliance to IEEE and WFA 802.11ax specifications

The [BCM4375](#) is a smartphone combo chip. Key Features include:

- Support for 2-streams of 802.11ax
- Bluetooth 5.0+ including Low-Energy Long Range (LELR)
- Real Simultaneous Dual-Band (RSDB)
- 1.429 Gbps PHY Rate
- 1024 QAM Modulation
- OFDMA
- MU-MIMO

Broadcom is sampling Max WiFi solutions to its early access partners in retail, enterprise and smartphone, service provider, and carrier segments.

802.11ax has generated broad support across the consumer-electronics industry. Companies and partners across the ecosystem appreciate the importance of 802.11ax and are committed to its development, integration, and distribution.

## **Supporting Quotes**

### **Greg Fischer, Senior Vice President and General Manager, Broadband Carrier Access, Broadcom**

“Our reliance on Wi-Fi has increased tremendously as we stream live experiences over social media and upload pictures and files to the cloud while also connecting the many ‘things’ around our home. Max WiFi, based on 802.11ax, is designed from the bottom up to address these evolving consumer needs. With the launch of the Max WiFi ecosystem, Broadcom has yet again pioneered the generational transition of Wi-Fi.”

### **Andrew Zignani, Senior Analyst, ABI Research**

“The 802.11ax Wi-Fi protocol is significant for users as it functions in the critical 2.4 GHz and 5 GHz bands and adds OFDMA while retaining backward compatibility with legacy protocols. The Wi-Fi device and traffic explosion, higher density Wi-Fi deployments, growing use of outdoor Wi-Fi, and the need to support a great variety of different device types will require more efficient Wi-Fi implementations that can help to deliver richer experiences for enterprise and consumer applications that are hungry for bandwidth.”

### **Bruno Zerbib, Chief Technology Officer, Altice**

“Providing best in class in home Wi-Fi is an essential part of Altice's global service offering. Our subscriber's Broadband experience begins and ends with the quality of Wi-Fi. The 802.11ax standard will enable more services to be delivered to an ever increasing number of Wi-Fi enabled devices in the connected home. Altice is working closely with Broadcom to enable 802.11ax Wi-Fi in our next generation of Broadband gateways and fixed ecosystem.”

### **Larry Robinson, President, ARRIS CPE Products**

“Advancement in the WLAN standards are critical to keep pace with the reliable delivery of quadruple play services to an increasing number of wireless connected devices in the home. The 6<sup>th</sup> generation WLAN standard, 802.11ax, adopts many of the established technologies from cellular standard such as LTE enabling true “carrier grade” Wi-Fi. This will allow service providers to provide their subscribers a best in class wireless experience that matches the WAN speeds provided by state of the art xDSL, DOCSIS and PON technologies. ARRIS is partnering with Broadcom to bring 802.11ax technology to the latest generation of Telco and Cable operator gateways.”

### **Alan Amrod, Senior Vice President, Aerohive Networks Products Organization**

“Today people expect to be connected to work, family, and friends anywhere, anytime, and anyplace and a majority of that connected time is over Wi-Fi. 802.11ax is the most efficient Wi-

Fi standard developed to date that can deliver the performance, scalability, and capacity that elevates Wi-Fi to utility-grade in today's challenging enterprise environments.”

**Tenlong Deng, GM of Networking & Wireless Devices BU, ASUSTek Computer Inc.**

"ASUS, the leader in high performance Wi-Fi routers, is excited to once again work closely with Broadcom to develop products with the most advanced and highest performance Wi-Fi technology. ASUS products utilizing Broadcom's 802.11ax solution will be able to deliver multi-gigabit wireless speeds and substantially better coverage while allowing consumers to connect a higher number of devices to their home network.”

**Anny Wei, CEO, D-LINK**

“D-LINK is working aggressively with Broadcom to bring the advances of 802.11ax technology to our customers. With the 6th generation of Wi-Fi, users can expect to connect more devices with better reliability and faster speeds.”

**Dr. Liu Yiping, VP and General Manager, Wireless Business Unit, New H3C**

“Enterprise networks are growing increasingly dense, making 802.11ax a much-needed technology for next-generation access points. 802.11ax will greatly enhance capacity and coverage so users will be able to stream video, download content quickly, and not be hindered at times of high-traffic use.”

**Dr. Amer Hassan, Senior Director, Office Communications Service, Microsoft Corporation**

“Emerging applications in video conferencing, holographic imaging, and augmented reality require the highest quality experiences and demand the highest performing wireless networks. These are networks that have low latency, high reliability and very high throughput. This generation of Wi-Fi based on IEEE 802.11ax will meet the demands of these fast growing markets and drive adoption by consumers and business workers.”

**Patrick Lo, CEO, NETGEAR**

"As the worldwide leader in home networking solutions, NETGEAR is partnering with Broadcom to deliver the benefits of 802.11ax technology to our customers. With 802.11ax, consumers with multiple wireless devices can expect lower latency gaming, more reliable video streaming and faster sharing of files and photos."

**Ahmed Selmani, CEO, Sagemcom Broadband**

"The performance requirements for home Wi-Fi networks continue to increase as the number of mobile, video, and IoT devices in the home grow. Broadcom's implementation of the 802.11ax specification will allow home Wi-Fi gateways to gracefully scale and meet the very high

performance needed to deliver traffic to many wireless devices concurrently. Sagemcom is partnering with Broadcom to integrate this important technology into our next generation product portfolio.”

**Gary Gutknecht, Senior Vice President, Technicolor Connected Home**

"Technicolor believes the advancements brought by 802.11ax Wi-Fi technology are revolutionary for consumers. The adoption of Broadcom's 802.11ax solutions across Technicolor's gateway platforms, combined with the close collaboration between the two companies, will enable substantial improvements in wireless capacity, number of connected devices, speed, range, and quality of service. This will allow our network service provider customers to continue to deliver the highest quality in home Wi-Fi experience, while lowering the total cost of ownership."

**Andy Chen, Vice President, Networking BU & International Sales, TP-LINK**

"As consumer use of high-bandwidth applications increases, best-in-class Wi-Fi routers will need to utilize 802.11ax technology to support increases in throughput to more and more devices. TP-Link is building a portfolio of products utilizing Broadcom's MAX WiFi solution which will be designed to meet the needs of the most demanding wireless use cases."

**About Broadcom Limited**

Broadcom Limited (NASDAQ: AVGO) is a leading designer, developer and global supplier of a broad range of analog and digital semiconductor connectivity solutions. Broadcom Limited's extensive product portfolio serves four primary end markets: wired infrastructure, wireless communications, enterprise storage and industrial & other. Applications for our products in these end markets include: data center networking, home connectivity, broadband access, telecommunications equipment, smartphones and base stations, data center servers and storage, factory automation, power generation and alternative energy systems, and displays. For more information, go to [www.broadcom.com](http://www.broadcom.com).

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Press Contact:  
David Szabados  
Corporate Communications  
david.szabados@broadcom.com  
Telephone: 1-408-433-7848