

Wi-Fi Alliance continues tech advance with WiFi 802.11ac Wave 2

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Image: Wikipedia.

(Tech Xplore)—A new Wi-Fi standard carries a promising impact on products meeting the new standard. Tech watchers are saying that 802.11ac Wave 2 certification means one can expect better performance and capacity in Wi-Fi.

Jon Brodtkin in *Ars Technica* summed it up: "The Wi-Fi Alliance industry group is now certifying products that can deliver multi-gigabit speeds and improve coverage in dense networks by delivering data to multiple devices [simultaneously](#)."

According to the Wi-Fi Alliance news release on Wednesday, the Wi-Fi Alliance is expanding Wi-Fi CERTIFIED ac to include new features; the new "wave 2" features enable Wi-Fi to more efficiently handle high-

bandwidth applications "from an increasing number of [smartphones](#), tablets, TVs, and other [consumer electronics devices](#) simultaneously connected to Wi-Fi networks."

So what? For one, certification programs can [open](#) up the enterprise to new technologies, as Mark Grodzinsky, Qualcomm Technologies senior director of product management, put it.

Kevin Robinson, VP of marketing for Wi-Fi Alliance, had this to say in *RCR Wireless News*.

"The second wave of features is really going to take Wi-Fi to an amazing new height in terms of performance and capacity—both on the consumer side in the home, but also it's relevant to service providers and the experience that they can deliver to their customers because of these new capabilities."

Of all the features tied to certification news, CNET said that the MU-MIMO (Multi-User Multi-[Input](#) Multi-Output) is a standout; "it allows Wi-Fi devices of different Wi-Fi grades to each connect at their stop speed without slowing each other down."

Dong Ngo in CNET said, "Networks with MU-MIMO are capable of multitasking by sending data to multiple devices at once rather than one at a time, improving overall network efficiency and throughput."

(The Wi-Fi Alliance news release noted "Four spatial streams: Device speeds are proportional to the number of spatial streams. Wi-Fi CERTIFIED ac now includes support for four spatial streams, up from three spatial streams.")

Kelly Hill in *RCR Wireless News* said, "Instead of an access point transmitting and receiving data to one device at a time and taking turns

among devices, MU-MIMO enables multiple devices to be served with simultaneous data streams, rather than juggling each [device](#)'s access on time-based slices of the available network capacity."

"You're getting faster pipes coming into the home, which means you need to have an efficient way of distributing that to all of your clients. Having an access point that can't meet the speeds of the pipe coming in is an artificial bottleneck," said Grodzinsky, in *RCR Wireless News*.

Hill also wrote that Signals Research Group conducted independent testing of MU-MIMO for Qualcomm earlier this year. SRG concluded that MU-MIMO provides significant improvements to Wi-Fi.

Ngo in CNET spoke about four spatial streams, aka quad-stream, or 4x4: "The more streams, the faster the wireless connection. Prior to this, three-stream (3x3) was the fastest certified speed—now quad-stream is also certified, paving the way for devices to support this level of speed."

RCR Wireless News' Hill said that "Although products with Wave 2 features have been on the market since last year, the WFA's Wi-Fi Certified program ensures interoperability among [devices](#)."

The Wi-Fi Alliance news release said that "The Wi-Fi CERTIFIED interoperability certification program will increase product support for newly supported features from a wide variety of mobile devices and access points, and 96 percent of devices will be dual-band by 2020."

The first Wi-Fi CERTIFIED ac products to support new features and which comprise the test [bed](#) for interoperability certification are:

- Broadcom BCM94709R4366AC
- Marvell Avastar 88W8964
- MediaTek MT7615 AP Reference Design and MT6632 STA

Reference Design

- Qualcomm IPQ8065 802.11ac 4-stream Dual-band, Dual-concurrent Router
- Quantenna QSR1000 4x4 802.11ac Wave 2 Chipset Family

More information: [www.wi-fi.org/news-events/news ... in-wi-fi-performance](http://www.wi-fi.org/news-events/news...in-wi-fi-performance)

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