

What's News...

Verizon steps up 5G Home offering

Verizon's 5G Home fixed wireless access (FWA) service is about to transition from its "pre-standardized version to 5G New Radio (NR), first in Chicago with other cities soon to follow, according to the company. The customer-premise unit now includes a router that supports Wi-Fi 6 (formerly known as IEEE 802.11ax) that also includes Bluetooth playback and parental controls, and Amazon Alexa. It includes a smartphone app that helps customers position the equipment in the home to make it self-installable. It costs \$50 per month for Verizon customers and \$70 otherwise and offers downlink speeds of 300 Mb/s to 1 Gb/s. Verizon says the next step will be to allow 5G (i.e., cellular) signals to be available in the home, using repeaters.



5G SoC market to hit \$10.9 billion in 2024

Common Networks, a company founded by ex-Square employees, has designed a technology that can challenge providers in the telecommunications market. For about \$50 a month, Common Networks is offering 300 Mb/s to 1 Gb/s download speeds for households around Silicon Valley. The company uses unlicensed 5G microwave and millimeter-wave spectrum antennas installed on rooftops, and using open-source software and hardware, the company developed so "graph-based technology" that delivers high-speed broadband for what it claims is about one-tenth what telecom companies typically pay.

A Word from Sam Benzacar

My Predictions for 2019: The Reckoning



By Sam Benzacar

Last December, instead of summing up the trends to watch in the coming year, I took the precarious step of making my own predictions. For example, I predicted that 5G-capable smartphones would be available from some manufacturers and Fixed Wireless Access (wireless broadband delivery) would be available in some places. Both proved to be true, although only a few 5G-enabled smartphones are available a year later and Apple is waiting until later this year or possibly next year.

The big news this year has been rollouts of FWA by Verizon at 28 GHz and AT&T using a combination of millimeter-wave and mid-band frequencies. T-Mobile is taking the low road, using mid-band frequencies exclusively, although millimeter-wave frequencies could be added if the merger with Sprint is achieved. FWA represents the leading of 5G at the moment.

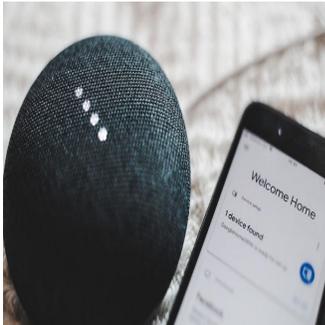


5G: FWA will expand to become a true competitor to cable as it's deployed more widely in urban and some suburban areas. Now that the stand-alone version of 5G New Radio (5G NR) has been finalized, 5G deployment, in general, will accelerate in 2020, more Android smartphones will become



FBI: Use separate Wi-Fi networks for IoT

The FBI's Portland, OR, office says home IoT devices like doorbells, digital assistants, and other devices should be on a Wi-Fi network separate from computers. "Your fridge and your laptop should not be on the same network," the office said in its weekly advice column. "Keep your most private, sensitive data on a separate system from your other IoT devices." Its good advice considering that IoT devices have dubious security features now, and camera-enabled doorbells are being integrated into neighborhood networks used by law enforcement. The reasoning behind it is simple. By keeping all the IoT equipment on a separate network, any compromise of a "smart" device will not grant an attacker a direct route to a user's primary devices -- where most of their data is stored. Jumping across the two networks would require considerable effort from the attacker. The easiest way is to use two routers. The same advice has been shared in the past by IT and security experts.



Cable moves into the mobile market

Major cable companies are moving into the wireless business at a surprisingly rapid pace. In the third quarter of this year alone, Comcast, Charter, and Altice added nearly 500,000 subscribers, collectively reaching 2.5 million. MoffettNathanson analyst Craig Moffett noted in a recent report that "as a percentage of net market growth, the cable operators have already reached a level of clear relevance in wireless," and that cable is now starting to "matter" in the wireless sector. He expects cable companies to add nearly 2 million subscribers in 2020. Pricing is one of the reasons as Altice, for example, is offering its current broadband subscribers at a rate of \$20 per month per line "for life" with unlimited voice, text, and data.

available, and prices may decrease along with greater competition. Apple, which typically follows its own path, may (or may not) add some 5G capabilities to its phone line-up in the third or fourth quarter.

Realistic service plans will begin to appear from the big four (or three) carriers later in the year. Deployment of millimeter-wave infrastructure will increase, and it will be somewhat easier to visualize how well it will work to ensure low-latency, gigabit-per-second downlink speeds, and coverage indoors and other difficult coverage areas.

New mid-band spectrum: Unlike almost everywhere else, the U.S. has few available spectrum resources below 6 GHz, but the FCC is feverishly working to remedy this through re-farming of existing services, frequency sharing, the Citizens Broadband Radio Service (CBRS), and other efforts. We can expect the issues surrounding these activities to produce beneficial results for carriers, allowing them to provide some 5G requirements without the immediate need to rely on millimeter-wave frequencies.

IoT: In the consumer world, IoT has become a standard feature in everything from home automation to surveillance, digital assistants, and many other products. In 2020, some of the kinks will be removed, such as problems with incompatibility among short-range communication standards using multi-protocol IoT gateways. The much larger industrial markets such as industrial IoT and "smart" cities will ramp up significantly this year and new applications will begin to be deployed as well.

Rural broadband: The wireless industry will finally step up to the plate to minimize the number of people with either minimal or no broadband service. All it took was the possibility of significant revenue generated by broadband, IoT, and in the case of AT&T the windfall provided by the National Broadband Public Safety Network. It's great news for customers but probably bad news for the wireless internet service provider (WISP) industry that has been the saving grace for rural customers for two decades.

Defense: I predicted that 2019 would be a great year for RF and microwave manufacturers serving the defense industry. Just how accurate this prediction was depended, as always, on what programs you serve. In 2020, I predict that revenue will increase more broadly as services upgrade their equipment, and the Army in particular, is massively expanding its EW capabilities. There are many other potentially lucrative programs, from satellites to GPS, and new Navy ships, to name just a few.

There are obviously many other markets that contribute to the total revenue of the industry, but those above are those driving most of its fortunes. We'll check back this time next year to see how my predictions fared.

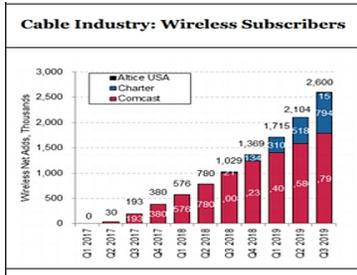
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