

SPECTRUM IS THE FOUNDATION OF ALL WIRELESS COMMUNICATIONS.

Historically there are two main types of Spectrum: one for carriers, which have exclusive licenses, and one for Wi-Fi systems in unlicensed bands. The FCC is close to creating a first-of-its-kind framework for sharing spectrum in the 3.5 GHz or "Innovation Band." This model uses technology -- sensors and a dynamic database -- to get the most out of a finite resource. A Spectrum Access System, or SAS, manages who can use the spectrum, and when, across three tiers of users: incumbents, carriers and consumers.



HOME

This spectrum can be used by existing mobile operators to offer Gigabit LTE speeds in more places including inside homes, which has been a problem in the past. Sercomm has worked with Federated Wireless to develop products that will deliver robust, in-home LTE network services using the 3.5 GHz band.



MALL

Mobile operators could also use this spectrum for small-cell deployments to extend coverage and add capacity indoors. Ruckus Wireless has already built LTE Small Cells for the 3.5 GHz CBRS band and showed them off at Mobile World Congress 2017. Verizon plans to deploy both low-power and high-power small cells in the 3.5 GHz band, and AT&T is also testing.



SPORTS STADIUM

Venues like sports stadiums can deploy LTE networks indoors regardless of who the consumers' network operator is, without deploying network equipment for each provider, which is cost prohibitive. Nokia's Flexizone product is specifically for use in this band by enterprises, venues and the hospitality industry.



SCHOOL AND LIBRARY COMPLEX

The General Access tier will act like the Wi-Fi bands which already provide low cost connections for community anchor institutions like schools and libraries. Intel is working on technology to coordinate and integrate wireless communications--from LTE to Wi-Fi--in the CBRS band.



STARTUPS

The three-tier approach is great for startups because ANYONE can create an LTE-based network in a specific geographic area. Qualcomm has configured its Snapdragon chipsets and built a virtual reality zone inside stock car race cars, creating a full 360° "in car" experience in real time.



FACTORY

This framework lets users create private LTE networks without owning big, expensive swaths of spectrum. These can power the industrial IoT on a factory floor. For example, GE has been working with Nokia and Qualcomm to integrate 3.5 GHz-supported devices into their Predix platform.



RURAL BROADBAND

Wireless Internet Service Providers (WISPs) have a long-standing interest in this spectrum to serve their rural customers. Rise Broadband has made significant investments CBRS in support of its \$16.9 million in Rural Broadband Experiment funding.