Utilities Technology Council™
2550 South Clark Street Suite 960
Arlington, VA 22202 USA
STAY ENGAGED Twitter LinkedIn

Interference in the 6 GHz Spectrum Band Issue Brief

Background:
Nearly every electric, water, and natural gas utility operate their own extensive wireline and wireless communications systems. While these wireless systems are used to ensure the safe and reliable delivery of critical services, utilities and other critical infrastructure industries (CII) are reliant on having access to licensed microwave spectrum that is allocated in limited capacity. Though there is no one single spectrum band dedicated for utility use, many utilities rely on the 6 gigahertz (GHz) spectrum band given the band's ability to allow utilities to monitor their systems and service territories. Furthermore, this spectrum band has allowed utilities to deploy smarter technologies that allow customers more control over their energy usage.

Issue:
In April 2020, the Federal Communications Commission (FCC) approved a plan to expand the 6 GHz band to non-critical commercial entities for the purpose of broadband internet service expansion. This plan would allow and set forth the following:

- The "standard-power operation" of wireless internet devices under the control of an Automated Frequency Coordination (AFC) system that was meant to protect utilities and incumbents from interference
- The "low-power operation" of wireless internet devices without an AFC system
- A proceeding that would remove modest power levels on low-power devices
- Allow "very low power" devices to have unlimited access to the 6 GHz band

However, various energy utilities preformed real-world interference tests using wireless devices that are allowed to operate in the 6 GHz spectrum band. These tests showed certain low-power indoor devices not only caused interference to utility microwave systems from their broadband transmissions but also from the devices that transmit beacon signals. Recent tests from First Energy not only supported these preliminary real-world tests but also conclusively proved there will be additive interference to utility and other CII microwave systems when two or more unlicensed devices operate in the same area.

UTC Analysis:
UTC is currently advocating before the FCC for recognition of the needs for its utility and other critical-infrastructure industry members that operate in the 6 GHz spectrum band. In September 2021, UTC joined a group of public safety and CII to appeal the FCC's 2020 Report and Order in federal court. Though the federal court decided in December 2021 to uphold the FCC's decision, UTC and 12 other stakeholder organizations filed a Petition for Rulemaking and a Request for Stay with the FCC.[iiiii] The Petition formally requested the FCC develop new rules for unlicensed operations to protect the microwave operations of energy utilities and other CII. The Request for Stay formally requested the FCC temporarily halt the certification of AFC systems and the production of these wireless devices.

With the prediction that more than 900 million unlicensed devices will be commercially available within the next few years, UTC is concerned the deployment of these devices will result in an increase in microwave interference, which will cause utilities to lose the ability to monitor the energy grid.

With microwave systems being the workhorse of utility information and communication networks, they must meet and exceed high standards for reliability. Furthermore, with utilities lacking alternatives to operate in adjacent spectrum bands, the 6 GHz band is the only option for utilities to communicate over long distances from

point-to-point.

Contact Information

Brett Kilbourne, Senior Vice President for Policy & General Counsel: Brett.Kilbourne@utc.org
Cordell Briggs, Vice President for Policy & Cybersecurity: Cordell.Briggs@utc.org
Eric Wagner, Manager for Advocacy: Eric.Wagner@utc.org
Campbell Baskin, Legislative Assistant: Campbell.Baskin@utc.org

---

References

[i] https://utc.org/wp-content/uploads/2022/01/Petition-for-Rulemaking-final-1.pdf
[ii] https://utc.org/wp-content/uploads/2022/01/Request-for-Stay-final-1.pdf
[iii] https://utc.org/wp-content/uploads/2022/01/20-1190-1928330.pdf