



## 3.5 GHz Issue Brief

UPDATED: DECEMBER 2017

### SUMMARY

The Utilities Technology Council (UTC) welcomes efforts by the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA) to make more radio spectrum accessible through spectrum sharing, as is the case in the 3.5 GHz band. This may make it possible for more efficient use of spectrum for utilities and other CII.

UTC supports allowing utilities (and others) to apply for PALs in areas where they were the only applicant. This may enable utilities to obtain Priority Access Licenses (PALs) in some remote areas, but it is unclear whether utilities will have much success attaining priority access in urban areas where commercial carriers are likely to outbid everyone for those licenses.

### UTC POSITION

UTC supports policies aimed at making more spectrum accessible and efficient, as doing so will make more spectrum available to utilities and other critical infrastructure industries. However, we are concerned that the decision to expand the 3.5 GHz band to include the 3.65 GHz band will potentially cause interference to the incumbent systems that operate there.

### BACKGROUND

The radio portion of the electromagnetic spectrum is needed to enable wireless applications for utilities, public safety, and telecommunications providers, among others. This radio spectrum is subdivided into various "bands" measured by "hertz" that have different properties. Utilities often operate their own "private" communications networks—i.e., networks not owned by telecommunications providers, typically to ensure optimal reliability for critical infrastructure sectors such as utilities. These utilities have, in some cases, purchased or otherwise gained access to cer-

tain bands of spectrum to enable wireless applications.

The 3.5 GHz band represents both an opportunity and a challenge for utilities in terms of spectrum access for wireless communications. The 3.5 GHz band creates an opportunity to expand capacity because utilities will have access to as much as 150 MHz of spectrum (3550-3700 MHz) as well as "Long-Term Evolution" (LTE) equipment, which is a standard for high-speed wireless communications, that will be available for use in the band.

The challenge for utilities is that they have incumbent systems in the 3.65 GHz portion of the band (3650-3700 MHz) which must contend with the threat of interference from new operations coordinated by a spectrum access system database. Such a situation is untested and may not effectively mitigate the threat of interference to incumbent utility systems in the 3.65 GHz band.

Additional complications arise because the utilities that will ultimately need to transition from current rules that apply to their incumbent systems will lose special protections against interference and will need to comply with new rules, including interconnection with the spectrum access database. Utilities have extensive systems in the band and are concerned that the new licensing regime in the 3.5 GHz band will undermine the reliability of and strand the investments made in these systems.

In the spring of 2015, the Federal Communications Commission (FCC) issued a proposal to implement a three-tiered spectrum-sharing framework to make up to 150 MHz of 3.5 GHz band spectrum available for mobile broadband in the new Citizens Broadband Radio Service (CBRS). The CBRS spans from 3550 MHz to 3700 MHz and consists of 100 MHz newly available spectrum

(3550-3650 MHz) and 50 MHz (3650- 3700 MHz) of spectrum already available for commercial use. The three-tiered licensing scheme is composed of a General Authorized Access (GAA) tier, a Priority Access License (PAL) tier, and an incumbent access tier.

Federal incumbent users in the 3550-3650 MHz band will be protected from harmful interference from PAL and GAA users through a two-phase approach. In phase one, federal radar systems will be protected by smaller than proposed geographic exclusion zones, and in phase two they will be protected by a new environmental sensor capability that will detect federal radar transmissions and report them to the Spectrum Access System (SAS) database.

Additionally, the rules include a fixed transition period to protect existing licensees in the 3650-3700 MHz band, many of them held by UTC member utilities, from harmful interference from Citizens Broadband Radio Service.

Following this, the FCC issued sought comment on the parameters for Grandfathered Wireless Protection Zones (GWPZs), which would protect incumbent utility systems in the 3.65 GHz band from interference from new CBSDs operating on a GAA basis in the band. UTC urged the FCC to protect utility systems by expanding the size of the GWPZ, but others commented that the GWPZ should be smaller than proposed. In June 2015, the FCC established that the GWPZ will protect utility incumbent systems based upon center coordinates of their base stations extending outward in segments to a radius of approximately 18 kilometers where there are entities with registered "customer premise equipment (CPE)." In other areas where there are no registered entities with CPEs, the GWPZ will only extend out to a radius of approximately four kilometers from the center coordinates of the base station of the incumbent utility system.

In October 2017, the FCC proposed to revise the rules for the 3.5 GHz band once again to make it more conducive for 5G services. Specifically, the FCC proposal would expand the geographic size and extend the term of priority access licenses (PALs), and it would require auctions, even if

there is only one applicant for a license in a given area.

## **SITUATIONAL AWARENESS**

UTC supports policies aimed at making more spectrum accessible and efficient, as doing so will make more spectrum available to utilities and other critical infrastructure industries.

However, we are concerned that the decision to expand the 3.5 GHz band to include the 3.65 GHz band will potentially cause interference to the incumbent systems that operate there.

Moreover, we question whether the GWPZ adequately protects utilities in the band or if enables them to expand the coverage of their base stations as they expected when they originally deployed their systems. UTC will monitor developments to determine whether these incumbent systems become subject to interference from CBSDs in the 3.65 GHz band.

UTC is also concerned that the FCC's proposal will make it harder for utilities to be able to access PALs in the band, if the carriers were able to lock up all of the available geographic areas for extended periods of time by acquiring all of the PALs at auction. We do not know if utilities would be able to compete at auction with carriers who would be able to pass on the costs of the spectrum to their customers. The FCC's latest proposal takes up some of the same proposals from the petitions by CTIA and T-Mobile.

## **ABOUT UTC**

The Utilities Technology Council (UTC) is a global trade association dedicated to serving critical infrastructure providers. Through advocacy, education and collaboration, UTC creates a favorable business, regulatory and technological environment for companies that own, manage or provide critical telecommunications systems in support of their core business.

## **UTC Contacts**

Brett Kilbourne, Vice President & General Counsel  
Email: [Brett.Kilbourne@utc.org](mailto:Brett.Kilbourne@utc.org)

Sharla Artz, Vice President of Government Affairs, Policy, and Cybersecurity  
Email: [Sharla.Artz@utc.org](mailto:Sharla.Artz@utc.org)