

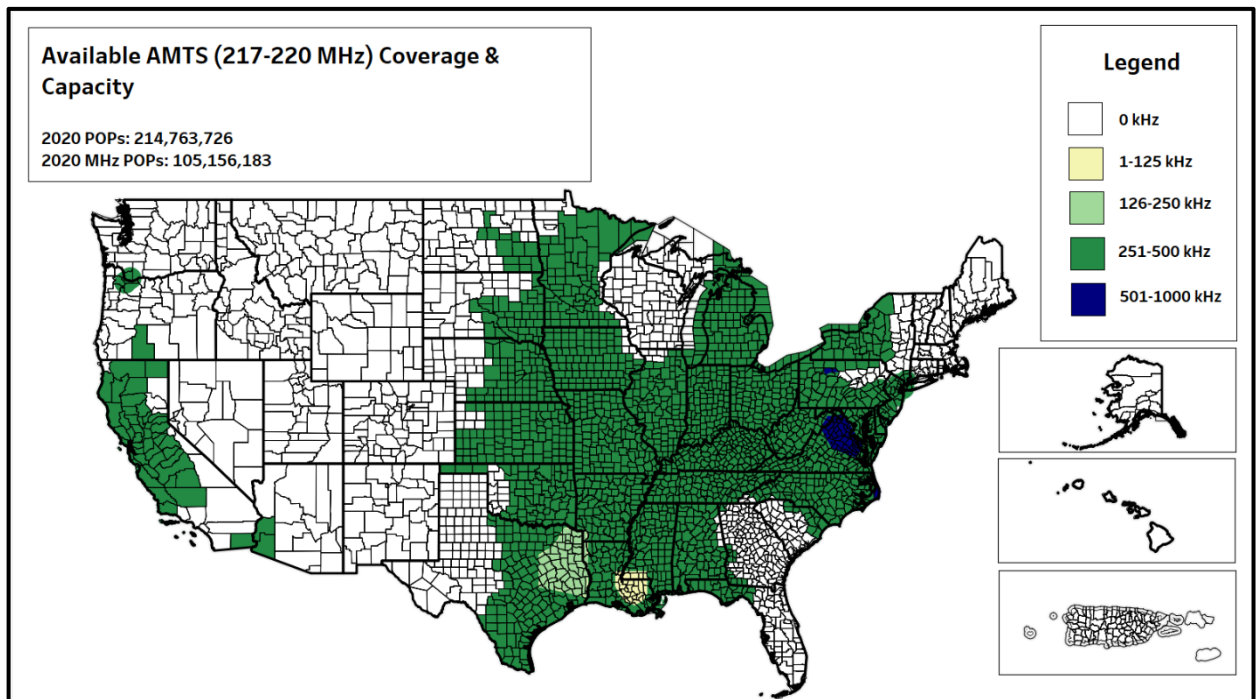


## Wireless Spectrum Licenses in the AMTS (217-220 MHz) Band Ideal for Utility and Critical Infrastructure Applications Available Nearly Nationwide

Select Spectrum represents Choctaw Telecommunications, owner of **Automated Maritime Telecommunications System “AMTS” (217-220 MHz) FCC licensed spectrum** of up to 1.0 MHz bandwidth. Coverage is presently available across approximately 214.75M POPs (64.1% of the US population), with 500 kHz of contiguous bandwidth available in most markets. Choctaw will partition the licenses geographically and spectrally to match buyer requirements.

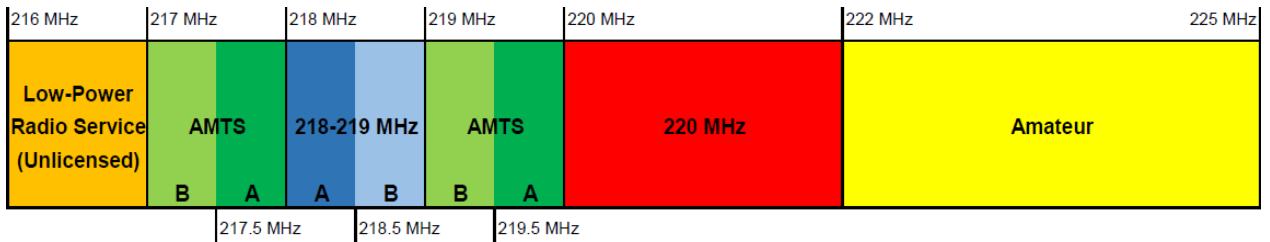
**Avangrid, Avista, Chesapeake Operating, DEMCO, East Kentucky Power Cooperative, Eversource, Exelon/Pepco, Hoosier Energy, Idaho Power, Oncor Electric Delivery, Pacific Gas and Electric, Portland General Electric, PTC-220, Puget Sound Energy, Vermont Transco, WEC Energy,** and additional utilities and critical infrastructure companies have acquired AMTS spectrum for two-way voice communications and Field Area Networks (FANs).

AMTS license coverage is shown below, detailing available capacity (in kHz), per county:



**217-220 MHz spectrum has excellent propagation and can be used for a broad range of applications including fixed and mobile data, voice, and video.** AMTS licenses are in use by and recommended for utility and other critical infrastructure communications, land mobile radio (LMR) / digital mobile radio (DMR), supervisory control and data acquisition (SCADA), and distribution automation (DA).

The Channel plan includes A and B blocks of 1 MHz each as shown below in green:



Originally set aside for Automated Maritime Telecommunications System services, AMTS spectrum provides for a wide variety of FCC-approved uses. The available licenses are primarily A Block, which is located between 217.5-218.0 MHz / 219.5-220.0 MHz. **The majority of the available spectrum is specifically situated between 217.5-218.0 MHz**, as the 219.5-220.0 MHz segment has been sold and is in use for mission-critical Positive Train Control (PTC) communications.

AMTS spectrum can be used for broadcast or two-way; mobile or fixed; data, voice, or video. Maximum downlink power is 1000 Watts ERP and maximum uplink power is 50 Watts ERP which provides for long range and high reliability. Networks may employ point-to-point, point-multipoint (tall site), and/or cellular architectures.

The large frequency allocation enables wideband channels which afford greater flexibility in network design and use. The buyer may also divide the blocks into narrower channels such as 6.25 or 12.5 kHz. The channels can provide two-way transmissions (voice or data) by utilizing time division duplex “TDD” operation. This significantly increases the spectral efficiency of the available 500 kHz, allowing users to reap the benefits of paired spectrum at a reduced cost.

AMTS spectrum is well positioned to enable multi-frequency narrowband/wideband networks (dubbed “heterogenous spectrum layering”) as an economical alternative to expensive private LTE/5G networks. Multiple utilities have widely deployed AMTS spectrum, in addition to one or more sub-1 GHz narrowband/wideband frequencies, to enable an integrated network that supports multiple voice and data applications. Please inquire today to learn more about the multiple AMTS-user case studies for use as a standalone solution or as one layer of a multi-band network.

Equipment for the band is made by Aviat Networks <https://aviatnetworks.com>, Ondas Inc. [www.ondas.com](http://www.ondas.com), GE Grid Solutions <https://www.gegridsolutions.com>, XetaWave [www.xetawave.com](http://www.xetawave.com), 4RF [www.4rf.com](http://www.4rf.com), Cambium <http://www.cambiumnetworks.com>, Alligator Communications [www.alligatorcom.com](http://www.alligatorcom.com) and Tait Communications [www.taitradio.com](http://www.taitradio.com).

The band is also compatible with the IEEE 802.16s/t wireless standard, designed for utility and critical infrastructure operators. The 802.16t revision, actively deployed by Ondas Inc. and adopted by the Association of American Railroads (AAR) Wireless Communications Committee, enables consolidation of multiple narrow channel frequencies to deliver wideband speeds.