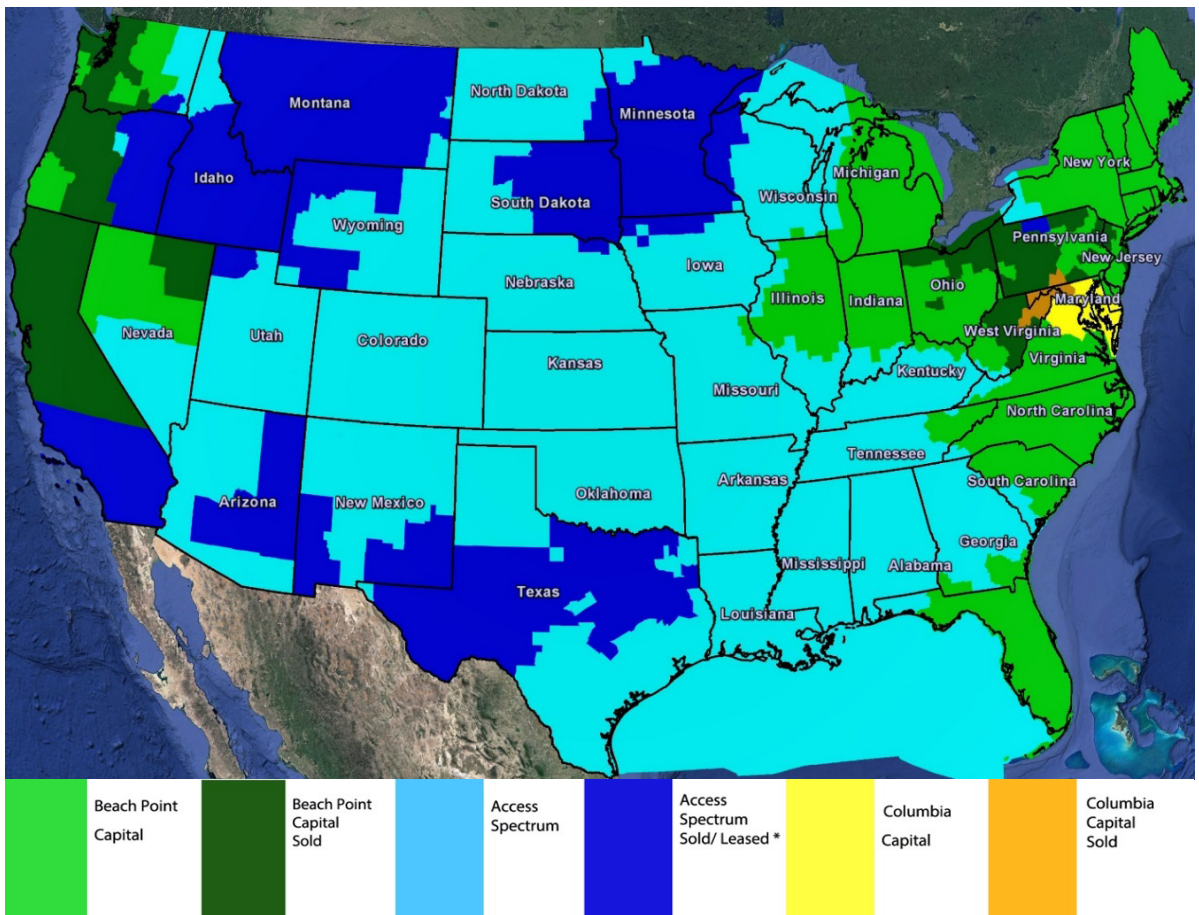


## Wireless Spectrum Licenses in the Upper 700 MHz A Block Band Ideal for Utility and Critical Infrastructure Applications Available Nearly Nationwide

Select Spectrum represents Beach Point Capital (BPC), which holds 2 x 1 MHz of **Upper 700 MHz A Block FCC licensed spectrum**. The Utilities Telecom Council (UTC) recommends this band to utility companies for critical infrastructure applications; Select Spectrum can provide a copy of the relevant UTC White Paper upon request. Coverage is presently available for purchase via Select Spectrum in key markets across the Great Lakes and East Coast, including Chicago, Indianapolis, Philadelphia, Miami, the D.C. Metropolitan Area and New York.

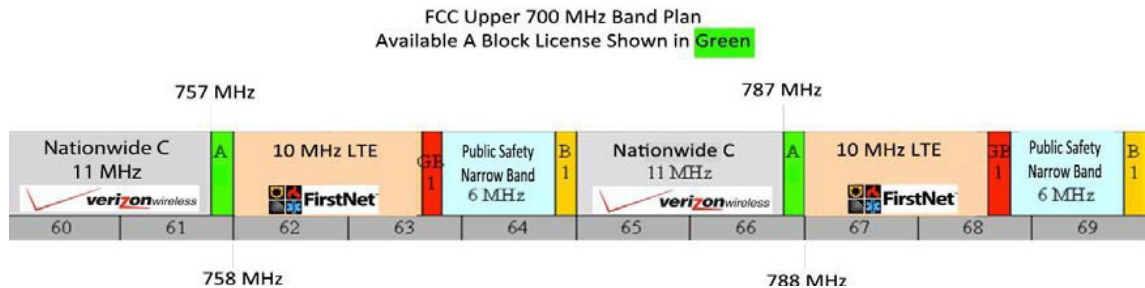
The map below shows BPC spectrum available for purchase in light green, with spectrum previously sold being reflected in dark green. Licenses holders Dominion 700's spectrum, which Select Spectrum also represents, and Access 700's Spectrum is available for purchase in yellow, (orange sold), and light blue, (dark blue sold), respectively. **All three license holders will partition the licenses to match rail operating areas to the county level.**



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Visit our website at <http://selectspectrum.com> to learn more

The Upper 700 MHz A Block is shown with neighboring service groups below:



**Upper 700 MHz A Block spectrum has excellent propagation and can be used for a broad range of applications including fixed & mobile data, voice, and video.** Licenses are in use by and recommend for utility and other critical infrastructure communications, Land Mobile Radio (LMR), Surveillance Control and Data Acquisition (SCADA) and Oil & Gas operations. Networks may employ point-to-point, point-multipoint (tall site) and/or cellular architectures. Engineers recommend the spectrum for small-cell deployments for superior building penetration.

Maximum downlink power is 1000 Watts ERP at 1000 feet, and maximum uplink power is 30 Watts ERP. Maximum out of band emissions limits of  $43 + 10\log(P)$  dB apply to the A Block and the adjacent 11 x 11 MHz Upper 700 MHz C Block where Verizon operates a nearly nationwide 10 MHz paired LTE network. The A Block, located between 757-758 MHz / 787-788 MHz, is similarly protected from interference from the adjacent public safety broadband channels at 758-768 MHz and 788-798 MHz.

In total, ten utilities across the nation have acquired spectrum rights. **Great River Energy** of Minnesota is currently using the band for point-multipoint data collection and **Northwestern Energy** has deployed point-to-point links across Montana, North and South Dakota. Through successful field trials **Salt River Project** and **Puget Sound Energy** found 700 highly effective. Other buyers include **FirstEnergy**, **Portland General Electric**, **Idaho Power Company**, **Oncor**, **Navopache Co-op**, and **National Grid**.

These utilities, along with others that are considering the band, have formed a **Utility Users Group**. The Electric Power Research Institute, the WiMAX Forum, UTC and various manufacturers all support the implementation of the IEEE approved **802.16s GRIDMAN standard** with compatible equipment in the band. Upper 700 MHz A Block is under consideration by 3GPP for the **LTE Narrowband IoT standard**.

BPC has announced its **Critical Infrastructure Network Expansion Initiative**, or "CINEI", which will provide alternative spectrum solutions to rail, utility, and other critical infrastructure participants. This program offers usage of the Upper 700 MHz A Block spectrum, **providing wireless links to interested parties at no cost**. Availability is on a limited first-come, first-served basis across many parts of the United States. Please inquire with us for further details on the program.

Pt-Multipoint and Pt-Pt Wireless Equipment for this band is made by Full Spectrum [www.fullspectrumnet.com](http://www.fullspectrumnet.com), 4RF [www.4rf.com](http://www.4rf.com), GE MDS [www.gedigitalenergy.com](http://www.gedigitalenergy.com), ConVergence Technologies [www.converge-tech.com](http://www.converge-tech.com), XetaWave [www.xetawave.com](http://www.xetawave.com), ABB <http://www.abb.com/>, MiMOMax [www.mimomax.com](http://www.mimomax.com), Cambium <http://www.cambiumnetworks.com>, PowerTrunk <http://www.powertrunk.com/>, and Tait Communications <https://www.taitradio.com>. Other manufacturers are considering upgrading their existing lines of equipment to make use of this band.

The licenses are valid through July, 2019 when they will be renewed by the FCC for \$290 per license. To be eligible for renewal, license holders must show they meet the FCC's Substantial Service guidelines, which require a limited threshold of use of the licenses be met or exceeded. Please contact us for additional information regarding these licenses.

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