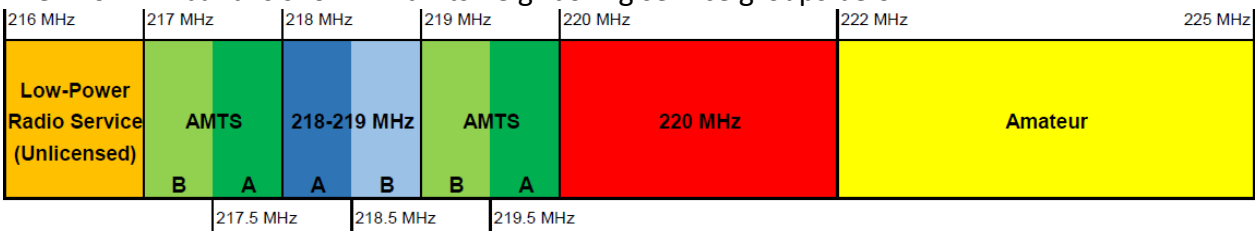
June, 2017

Wireless Communications in 220 MHz Services (220-222 MHz) Band Suitable for Land Mobile Radio & Rail Applications Available in New York City, Southeast TX and Southwest VA Areas

Select Spectrum is offering **220 MHz Services FCC licensed spectrum** in three markets across 12 licenses. The licenses consist of a 50 kHz market-based license covering the entire New York cellular market area, a 50 kHz site-based license permitted to cover a 64 km radius around a tall Manhattan rooftop site, 100 kHz market-based license covering Southwest Virginia in and around Roanoke, and a combination of 9 market-based and site-based licenses ranging from 50 kHz to 150 kHz covering Southeast Texas and key cities such as Houston. 220 MHz licenses provide excellent propagation and the NY licenses provide 15 2-way 5 kHz channels across the most densely populated urban core in the US. The FCC has approved the 220 MHz band for a broad range of uses and the 5 kHz interleaved channel plan is suitable for many voice and narrowband data applications.

The 220 MHz band is shown with its neighboring service groups below:



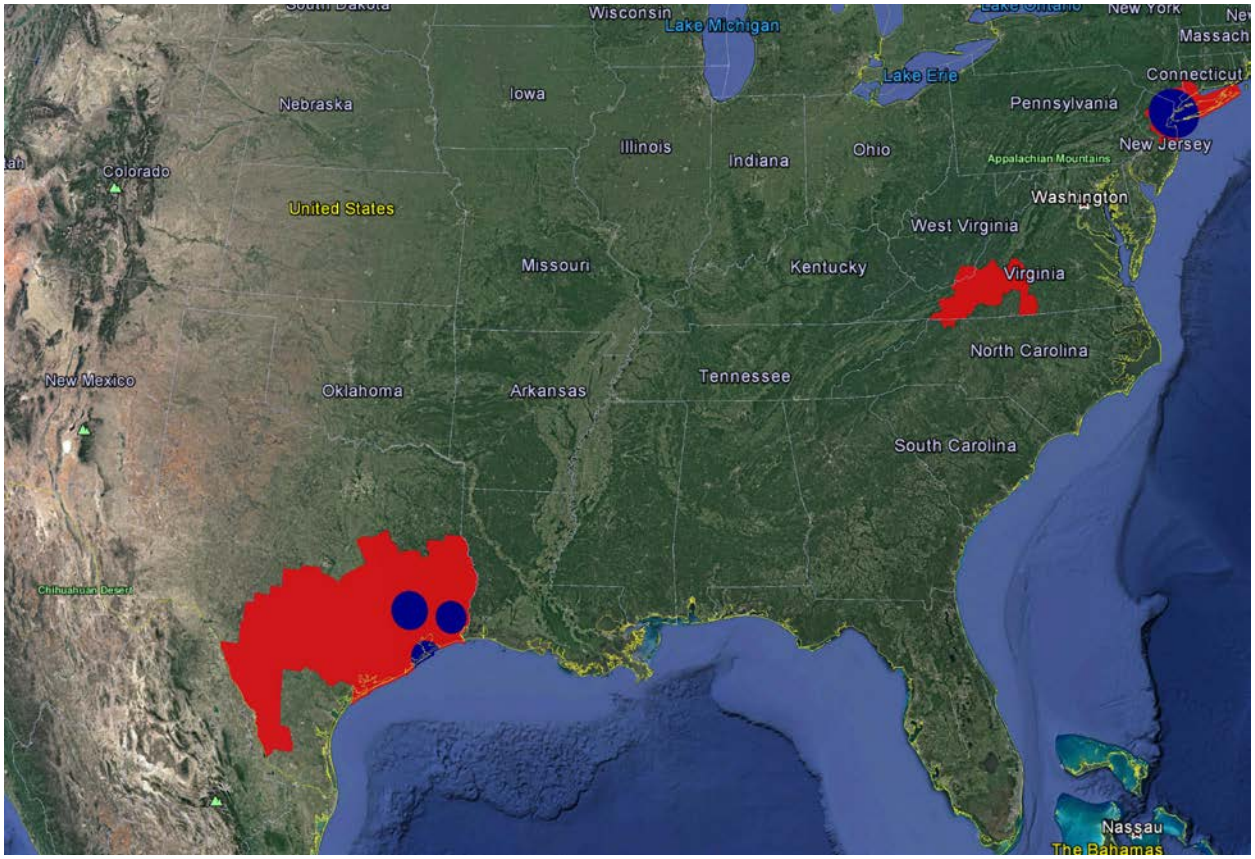
The 220 MHz band originally consisted of site licenses (Phase I) with 5 2-way 5 kHz channels. Later, the FCC auctioned market-based licenses (Phase II) with 10-20 2-way 5 kHz channels, depending on channel block and auction. This offering has one license from phase I and two from phase II. Two-way transmission may be divided between remote and base frequencies or by time delay on the same channel. The frequencies may be reused at multiple sites within the licensed areas. These licenses are valid through 2019 & 2023 when they may be renewed for a small administrative fee.

220 MHz spectrum can be used for broadcast or two-way; mobile or fixed; voice or narrowband data. Maximum base power is based on height above average terrain, with the site license permitted 125 Watts ERP[1] and maximum mobile power is 50 Watts ERP. This provides long range and high reliability in urban and rural areas with multiple large encumbrances such as skyscrapers or trees and mountains, respectively.

These licenses can support a wide variety of applications including critical infrastructure, public safety, and utility communications, Internet of Things (IoT) applications, Positive Train Control (PTC), Unmanned Aerial Vehicle "UAV" (Drone) communications, Oil & Gas production and transportation, and land mobile radio. Networks may employ point-to-point, point-multipoint (tall site) and/or cellular architectures.

Contact: Robert Finch, rfinch@selectspectrum.com, 571 287 8721 http://selectspectrum.com

Available 220 MHz license coverage maps are shown below. In NYC, the market license resembles the New York Cellular Market Area CMA001, while the site license covers the entire city and most suburbs. Market licenses are shown red, site licenses blue:



Equipment for the band is made by Full Spectrum www.fullspectrumnet.com, 4RF www.4rf.com, GE MDS www.gedigitalenergy.com, XetaWave www.xetawave.com, Alligator Communications http://www.alligatorcom.com and Tait Communications https://www.taitradio.com. The band is also compatible with a new IEEE wireless standard – 802.16s "GRIDMAN". This high reliability standard is intended for use by utilities and other critical infrastructure operators.

The Roanoke license covers its entire original assignment, the market-based NYC license has been disaggregated from its original Basic Economic Area assignment in accordance with FCC rules including §90.813 of Title 47, Part 90. Basic information about the call signs offered is shown below. Please contact us for additional information regarding these licenses.

Call Sign	Market Code	Major Cities	2016 POPs	Call Sign	Market Code	Major Cities	2016 POPs
WPCX365	Site-based	New York, NY	17,475,702	WPCV298	Site-based	Beaumont, TX	Upon Request
WQAQ954	BEA010-2	New York, NY	19,444,084	WPVC300	Site-based	Galveston, TX	Upon Request
				WPEP805	Site-based	Houston, TX	Upon Request
WQIM619	BEA017	Roanoke, VA	896,445	3 Call Signs	BEA087	Beaumont, TX	466,936
				3 Call Signs	EAG005-4	Houston, TX	13,464,648

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