SALE OF UPPER 700 MHZ A BLOCK SPECTRUM

A Common Spectrum Solution for the Critical Infrastructure Industry

John Vislosky, Access Spectrum, LLC
May 2014
PURPOSE

- **Update on the Sale of the Upper A Block 700 MHz Licensed Spectrum**

- **Raise Understanding of:**
  - The 700 MHz Spectrum’s Capabilities
  - The Spectrum Band’s Attributes
  - Licensing Rules
  - Applications
  - Coalition Document
  - Resources Available
  - Next Steps for Purchase
  - Contact Information
The A Block is licensed in 52 major Economic Areas (MEAs) and covers all 50 States and US Territories – all of which is available for acquisition.
The Upper 700 MHz A Block is a 2x1 MHz paired (2 MHz total) block of spectrum licensed by the FCC in 52 geographic areas called Major Economic Areas (MEAs).

Upper 700 MHz licenses covering the entire United States and Gulf of Mexico are controlled by Access Spectrum with 28 licenses & 2 other Investment firms (23 licenses & 1 license respectively).

Altogether the 2x1 MHz paired Upper 700 MHz A Licenses cover 313 million POPs.

The Price of the Spectrum is $0.75/MHz-POP.

Recent sale of 700 MHZ Spectrum by Verizon to T-Mobile valued at $1.89/MHz POP.
A Block is 2x1 paired MHz block at 757-758 MHz and 787-788 MHz

The 700 MHz band is often referred to as the spectrum equivalent of “beach-front property” due to its superior propagation characteristics.

- These propagation characteristics enable broader wireless coverage at lower cost than in other spectrum bands

In addition, the 700 MHz spectrum – formerly used for television analog broadcast signals – is ideal for achieving in-building signal penetration
• **Favorable FCC Rules and Spectrum Attributes:**

  • **No Build out requirements**
    • Rules call for *Substantial Use*
    • Ease of renewal
  
  • Is unencumbered/clear and licensed spectrum;

  • Offers superior propagation characteristics (building penetration and rural coverage) relative to other bands;

  • Is governed by flexible service and technical rules which permit a wide range of technologies and applications (Voice, SCADA, Telemetry, and other Data applications);

  • Base Station transmissions $\leq 1000$ watts ERP on the Higher Frequency and $\leq 30$ watts ERP on the Lower Frequency, and the Antenna $\leq 305$ meters HAAT.
LCC International & AT4 Wireless completed a full field demonstration in Herndon, Virginia using off-the-shelf TDD (WiMax 802.16) equipment.

- Demonstrated:
  - Compliance with FCC rules
  - No interference with adjacent operations
  - Ability to pass data at ~700 kbps using 500 kHz TDD channel

- We Estimate that with customized equipment each 1 MHz channel would pass data at > 1.5 Mbps

- Great River Energy (GRE) has been a Leased Customer since 2005 on the ASL Spectrum with a Point to Multipoint Solution.
APPLICATIONS & SOLUTIONS

**Operations**
- Data Analytics & Business Intelligence
- Cyber & Physical Security
- Network, Device & Asset Management
- Workforce Management
- Contractor Management
- Installation and Maintenance Management
- Common Spectrum Platform for Acquisitions

**Security**
- Unmanned Aircraft Control Channel to Monitor Operations
- Talk Communications (12.5 kHz Channel or the potential of LTE)
- Intercostal Waterways and Supply Chain Security

**Other**
- Time Stamp
- GPS
- Control Channel to access Regional TV White Space
Definition

- Coalition answers the conundrum of availability of equipment in the Upper 700 MHz Band

  - CII concerns were that if they purchased the 700 MHz Spectrum as a “common solution” that there would not be any equipment available in the 700 MHZ Spectrum.

  - Conversely, the Equipment/Infrastructure companies, asked if the CII would support and purchase equipment if they made equipment in that frequency range.

- In an effort to bridge this communication gap, The 700 MHz Licensees created The Coalition Document which promotes Economies of Scale & Interoperability.

- The Coalition Document is a non-financial, non-binding document that supports the concept that the Upper A Block 700 MHz Spectrum is a viable solution for all parties concerned. In addition to approaching the CII’s for signature, we seek the endorsement of Equipment Manufacturers and Engineering Firms.

We encourage everyone to sign the Coalition Document.
RESOURCES AVAILABLE

• 700 MHz Whitepaper

• Studies of Estimated Infrastructure Costs for Major Economic Areas (MEA); Major Service Areas (MSA) and Beacon Transmission;

• Assistance with Business Use Case Development for internal Budgeting;

• Coordination of a Pilot Program- if required

• Access to ASL Regulatory Attorney for clarity on license transfer, procedure and verification of rules governing the spectrum, etc.

• In-person presentations to internal decision making group

• Other assistance - just ask
NEXT STEPS FOR PURCHASE

- Access Spectrum is in the process of “Parceling” its Upper 700 MHz Licenses now to Individual CII and Utilities for Purchase

- Contact Access Spectrum’s, John Vislosky, to set up an immediate meeting and/or for information and Economic Area Map (EA) to determine the Licenses you wish to purchase

- Access Spectrum will confirm your Licensed Geographies and prepare a simple Term Sheet to review terms and investment

- If a proof of concept pilot is required we suggest it runs concurrently with finalizing the purchase

- Once the Term Sheet is fully executed and payment made Access Spectrum will coordinate with your company and the FCC to transfer the licenses.
Questions can be directed to:

John Vislosky, Access Spectrum, LLC

Email: John.Vislosky@AccessSpectrum.com

Office: (301) 941-1110

Cell: (240)-507-8816