



Test and Measurement Requirements DoD 1755-1780 MHz Spectrum Sharing Test & Demonstration (SSTD) Program

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DISA

AWS-3 Transition Plan Tasks



- **DISA 1: 1755-1780 MHz Early Entry Portal:** Automated interface between DoD and industry to exchange coordination data for sharing agreements to facilitate early entry and transitional sharing - includes business process, enhancing analysis models, visualization, and performing required analysis
- **DISA 2: FSMS Portal:** Migrate Early Entry Portal to NTIA FSMS capability to support long-term sharing activities: fully automates analysis processes; creates a cross-domain solution for all federal agencies
- **DISA 3: Compression Optimization Analysis and Testing:** Enhanced engineering tool to evaluate en masse frequency assignment options to optimize spectrum usage in a given band by adding visualization tools to decrease analysis time and increase reporting capabilities, making the Mass Relocation Tool (MRT) more user-friendly to allow for its use by other than expert users, and adding capabilities and optimization algorithms
- **DISA 4: 2025-2110 MHz Band Coordination & Spectrum Management Capability:** Develop a web-based spectrum management tool to be used by incumbent Broadcast Auxiliary Service (BAS) and new DoD users wishing to share the 2025-2110 MHz - includes business process, enhancing analysis models, visualization, monitoring and measurements ,and performing required analysis
- ***DISA 5: Spectrum Sharing Testing/Demo Program: A program to assess, improve, and demonstrate spectrum sharing between LTE and DoD systems in the 1755-1780 MHz band - includes testing to characterize interference and evaluation of existing and future mitigation techniques available to LTE devices.***



SSTD Overview

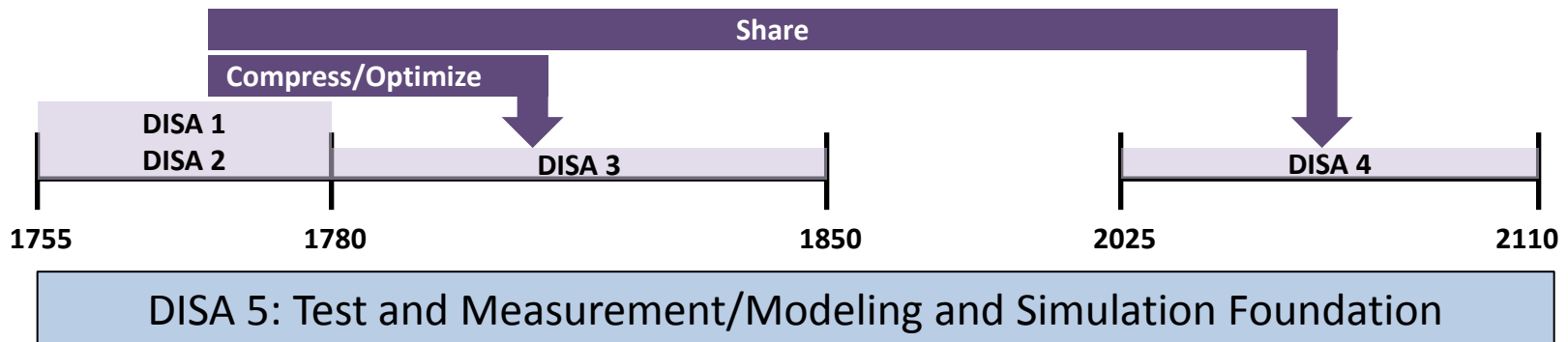


• Objectives:

- Facilitate expedited and expanded entry of commercial deployments
- Identify, demonstrate, and operationalize techniques that support increased sharing between LTE and incumbent DoD systems
 - Emphasis on standardized (3GPP) techniques
- Provide T&M/M&S support the migration of DoD systems into the 1780-1850 and 2025-2110 MHz bands
- Prototype advanced sharing concepts (e.g., databases and sensing) if advocated by industry

• Approach:

- Prioritize SSTD requirements to provide the greatest benefits to coordination requests and industry deployments
- Establish an SSTD “infrastructure”
 - Build Fixed and Mobile Testbeds and M&S Capabilities
 - Leverage existing capabilities through use of NASTCN



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Initial Test & Measurement Requirements

- **Propagation**
 - Validate clutter model (0-10 dB rural, 10-20 dB urban/suburban uniformly distributed) used in the revised CSMAC AMT analysis and examine if different values may be more applicable for ground-to-ground interactions
 - Examine existing terrain models and determine which is more applicable for adoption into coordination analyses
 - Develop methodology for incorporating terrain into air-to-ground coordination analyses
 - Quantify path loss between SATOPS facilities and LTE base stations
- **LTE Uplink Physical Resource Block “Notching”**
 - Investigate “notching” the LTE uplink and associated impact on evaluation of carrier coordination requests in ACTS operating areas
- **LTE Resiliency**
 - Assess LTE resiliency in the presence of DoD systems

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