

HF 30 MHz VHF 300 MHz UHF 3,000 MHz SHF 30 GHz EHF

Spectrum Enterprise Services & Capabilities

Overview

- Electromagnetic Spectrum superiority is a warfighting imperative.
- The EMS is an integral part of the “Information Battle Space,” and a comprehensive understanding of all EMS activity is essential, given the requirements for increased battle tempo, agile operations, coordination, training and surgical targeting.
- Military spectrum requirements are extensive, diverse, complex and growing. Successful modern military operations in all domains (air, land, maritime, space and cyberspace) and across all joint functions (command and control, information, intelligence, fires, movement and maneuver, protection and sustainment) are dependent on capabilities enabled by dominating EMS operations. Growing spectrum demand from consumers, commerce and the military is significantly increasing congestion in the most desirable portions of the EMS. While it is essential for the nation to spur economic growth and satisfy consumer demand, we must concurrently ensure that the unique and vital requirements of our national security and safety are met.
- DISA provides, enhances and evolves unique services and capabilities that support the complex task of managing the DoD EMS and keeps pace with the highly dynamic battle space.
- DISA performs deliberate analyses to evaluate spectrum bands and ensures balanced spectrum repurposing decisions at domestic and international spectrum and satellite network forums. DISA leads DoD preparations for the World Radio communication Conference, an international forum where radio regulations are periodically reviewed and revised.

DoD Spectrum Support To The Warfighter

Department of Defense spectrum management is a crucial element of America’s national defense. Electromagnetic support is a critical component in carrying out DISA’s priorities around the globe.

- **Coalition Partnership with UK Ministry of Defense.** The DSO team met with UK MoD counterparts as part of the DISA Information Systems and Services Communications Memorandum of Understanding to discuss spectrum items. Primary topics included: EMS data standards, EMS architecture, software capability development, and emerging spectrum technologies, aligned with increasing lethality; World Radiocommunication Conference 2019 NATO/ Combined Communications-Electronics Board strategies, aligned with coalition building; and domestic sharing and access strategies, aligned with ensuring and increasing spectrum access to support DoD test and training operations.
- **Allied Rapid Response Corps.** DSO members met with ARRC and Joint Electromagnetic Warfare Center team members to share Joint Electromagnetic Spectrum Operations related experiences and information in order to better understand operations within EUCOM/NATO and the US JEMSO communities. The ARRC is a NATO warfighting corps postured to support current and future operations.

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- **2019 WRC-19.** A 15-person DoD team traveled to Sharm el Sheikh, Egypt to serve on the U.S. delegation led by Ambassador Grace Koh. WRC-19 will consider more than 30 agenda items and issues and will revise the treaty-level International Radio Regulations that provide the regulatory framework under which U.S. forces negotiate local access to spectrum domestically and in other nations. DoD members serve on the U.S. delegation in key spokesperson positions and other delegation leadership positions. The decisions made at WRC-19 are based on the results of a four-year preparatory cycle during which DSO was heavily engaged and facilitates the execution for the DoD.
- **DoD IT Enterprise Architecture review.** DSO representatives developed to be and transition plan inputs for the modernize section under the C3 line of effort in the DoD IT Enterprise Architecture v3 Inc 1 report to Congress.
- **Electromagnetic Spectrum Enterprise Architecture Team Briefing to the Enterprise Architecture and Engineering Panel.** The EMSEA team briefed the Enterprise Architecture and Engineering Panel to initiate the assessment of EMSEA version 1.0 as a reference architecture.
- **Japan Air Self Defense Force Technical Interchange Meeting.** A DSO representative participated in the Technical Interchange Meeting between the U.S. and the JASDF. DSO provides electromagnetic compatibility analytical and measurement support to JASDF for the Foreign Military Sales Case for Link 16. The FMS case support requires DSO to participate in semi-annual meetings to discuss test findings and recommendations to ensure compatible operations of Link 16-equipped aircraft with Japan aviation navigation equipment.
- **Frequency Band Study.** DSO performed a frequency band study for Project Manager Maneuver Ammunition Systems identifying the regulatory status and operating constraints for spectrum compliance of 40 mm ammo systems. DSO also reviewed program documentation and participated in multiple working group meetings.
- **3.5 GHz Operational Analyses.** DSO worked with the 3.5 GHz Joint Working Group to resolve ground-based radar protection schema. DSO provided spectrum access system report findings to DoD CIO and Navy reviewers for consideration.
- **Exercise Juniper Cobra Support.** DSO provided a spectrum manager to support the U.S. European Command Joint Frequency Management Office during the main planning meeting for the exercise. The main objective of DSO's engagement was to assist in developing scenarios for operating in a contested/congested environment.
- **U.S. Africa Command Combined Joint Task Force Horn of Africa Support.** DSO representatives performed an onsite survey/spectrum occupancy measurement in support of CJTF HOA J6. The support consisted of an in-depth analysis of the electromagnetic environment, frequency assignment validation and on-site spectrum management training. The DSO team provided an initial outbrief to the CJTF-HOA commanding general and staff as well as a detailed final report with findings and recommendations.
- **Joint EW Theater Operations Course.** A DSO representative presented the spectrum management planning module to JEWTOC students. The purpose of the JEWTOC is to develop EW system operators into theater electromagnetic battlespace managers.
- **Joint Spectrum Data Repository and Electronic Warfare Planning and Management Tool Connectivity Testing.** The machine-to-machine connection between JSDR and the Army's EWPMT on SIPRNet was successfully tested.
- **SXXI EUCOM Mission Partner Network Support.** Members of the DSO Global Electromagnetic Spectrum Information System team travelled to EUCOM to upgrade the Mission Partner SXXI Server used by EUCOM and mission partners for frequency coordination. The team also worked with EUCOM on a memorandum of understanding to address long-term sustainment of the capability.

DISA DSO Current Strategic Efforts

- Continue supporting DoD EMBM evaluation efforts to deliver dynamic EMS command and control capabilities to the warfighter.
- Continue supporting DoD efforts to ensure DoD electromagnetic spectrum equities are considered and incorporated into the National Spectrum Strategy.
- Support DoD's WRC-19. The agency's support is essential to ensuring DoD EMS equities are considered at WRC-19.
- Continue improving direct support to DoD components to enable effective spectrum operations.
- Advocate for a robust DoD EMS enterprise governance structure and policy and operational requirements definition.