RFsentry®

Modular spectrum monitoring system that safeguards RF operations

RFsentry® provides real-time spectrum monitoring capability with adaptable hardware and software that detects radio frequency (RF) interference from authorized or unauthorized transmissions. The flexible system architecture seamlessly integrates with any network requirements and mission planning tools to enhance the overall situational understanding and management of the RF electromagnetic environment.

Mission Application

RFsentry® is a critical aspect in various mission platforms for military, regulatory and security operations. It actively monitors and analyzes the electromagnetic spectrum to identify and locate signals of interest and supports a wide range of applications, including threat detection, signal analysis, interference mitigation and situational awareness.

The sensor suite is mission-flexible, combining antennas, receivers, interfacing hardware and customizable software for diverse applications including:

- Permanent: Real-time automated fixed monitoring.
- Mobile: Rapidly deployable RF signal hunting.
- Manpack: Ruggedized for interoperability and networking with mounted/dismounted warfighters.
- Portable: Easy assembly/disassembly; conducts spectrum surveys without infrastructure.
- Drone: Efficient aerial monitoring enhances monitoring range and frequency capabilities.

Advantages

- **Comprehensive Monitoring:** Enables long-term spectrum monitoring, short-term RF environment characterizations and signal playback for analysis.
- **Accurate Direction Finding:** Identifies signal direction of arrival (DOA) and matches signals with frequency assignment databases.
- **Proactive Interference Management:** Categorizes electromagnetic interference, providing real-time threshold violation notifications.
- **Reliable Remote Operations:** Offers remote access and 24/7 unattended operations for continuous monitoring.
- **Situational Awareness:** Designed to interface seamlessly with the Tactical Assault Kit (TAK) platform to show situational awareness.

Features

- Intuitive user interface with spectrum plots, customizable threshold masks and accessible main menu options.
- Centralized dashboard for remote, unmanned monitoring and dynamic site reconfiguration.
- Default display includes spectrum graph, energy signals and azimuth chart with detailed signal characteristics (e.g., frequency, amplitude, bandwidth).
- Full 3D visualization software for signal reporting, autonomous monitoring and color-coded severity status updates.
- Secure login with configurable permissions for varied access levels.
- Visualization and archival storage of signal data for post-analysis playback and interference data backup.(FDR) calculations for precise interaction assessments.

HII

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