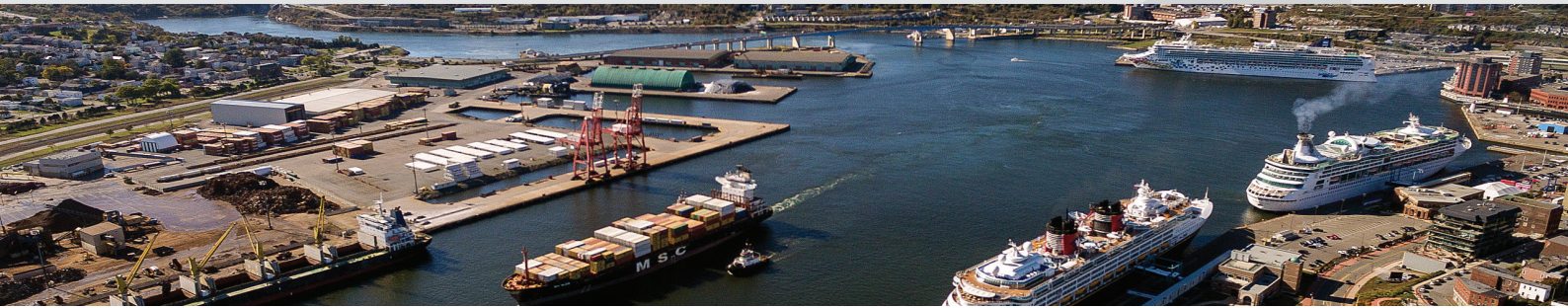**Anritsu** envision : ensure

Anritsu Remote Spectrum Monitor MS27102A

The perfect tool for maritime port monitoring

Port of Entry Monitoring

Customs and Border Protection agencies have a complex mission at ports of entry with broad law enforcement authorities tied to screening all foreign visitors, returning native citizens, and imported cargo that enters the country via land, air, and sea ports. Interference caused by RF signals, whether illicit or simply bandwidth intensive, complicate this mission even further.

RF Interference

Radio frequencies are typically allocated by country, so devices built for one country or region can cause interference in other countries or regions of the world. Many times these devices are left on when entering a port of call and can have a detrimental effect the closer the vessel is to the shoreline. Early detection and geolocation of these unintended interfering sources can greatly reduce or eliminate interference on the shoreline. While there are exceptions, international waters are typically 24 miles from the shoreline. Once in port, it isn't uncommon for vessels to dock and wait for unloading or loading. During these times laws and regulations of the host port are applicable. If an electronic device that is not intended to be used is energized, the resulting interference could cause multiple issues and service outages. With the increased dependency on wireless systems, rapid mitigation will become essential.

Early Detection and Geolocation

Establishing an RF monitoring solution that has the ability to alert and provide geolocation of interfering signals to the responsible agencies is critical. The Anritsu Remote Spectrum Monitor MS27102A, along with its Vision™ software, can provide early detection of suspicious signals and conditions, violation alerts, spectrum activity recording, and geolocation information using multiple techniques. With three or more remote spectrum monitors at strategic terrestrial locations, precise geolocation is possible. By identifying a vessel or group of vessels, the appropriate actions can be taken.

The Remote Spectrum Monitor MS27102A is rated to IP67 standards for outdoor deployment. It is dust tight (no ingress of dust) as well as water resistant and it comes with a mounting plate designed for field applications.

Remote Spectrum Monitor
MS27102A
9 kHz to 6 GHz

Continuous. Fast. Reliable.

Government regulators often use outdoor monitors for enforcing spectrum policies. The Remote Spectrum Monitor MS27102A is designed for outdoor environments where probes are positioned in a permanent or semi-permanent location for radio surveillance and monitoring. Capable of sweep rates up to 24 GHz/s, the Remote Spectrum Monitor MS27102A allows for the capture of many types of signals. This includes periodic or transient transmissions, as well as short "bursty" signals. The available 20 MHz instantaneous FFT bandwidth provides the ability for wideband, real-time captures of signal activity for subsequent post-processing. IQ captures can be recorded in both block mode or streamed.

Features

- Sweep rates up to 24 GHz/s
- Low spurious signals for accurate signal discovery
- 20 MHz IF bandwidth
- Low power consumption < 11 watts
- Integrated GPS receiver for monitoring location and time synchronization applications
- Gigabit Ethernet available for high-speed communications
- Measurements: occupied bandwidth and channel power
- Interference analysis: 3D spectrogram and signal strength
- Dynamic range: > 106 dB normalized to 1 Hz BW
- Phase noise: –99 dBc/Hz @ 10 kHz offset at 1 GHz
- Frequency accuracy: < ±1.5 ppm, < ±50 ppb with GPS High Accuracy Mode
- IQ block mode and streaming with time stamping for time difference of arrival (TDOA) applications
- Remote control via SCPI commands
- Vision software options for automated spectrum measurements, setting alarms, and geolocating signal sources
- Standard 3-year warranty

Key Benefits of Remote Spectrum Monitoring

- Automation and scalability
- Identify patterns of interference, record a spectrum history, and locate the sources of problem signals
- Perform signal analysis for satellite and other signal types
- New features, options, and firmware updates can be added remotely, no site visits required

Key Applications

- Network interference monitoring
- Geolocation of interference signals
- Maintain history of spectrum activity
- Set power threshold levels to automatically generate alarms
- Automated reports on network health