Product Feature

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# Remote Monitoring System Resolves Interference Issues

## This powerful, cloud-based system enables operators to remotely assess the health of their wireless networks from web-enabled smartphones, tablets, or computers.

**WIRELESS COMMUNICATIONS NETWORKS** have become essential tools for first responders and a broad range of mission-critical state, local, and federal agencies. During emergency operations, an agency's wireless network is simply too important to fail.


**The SpectrumPROFILER DS-1620S remote monitoring system can perform fast frequency sweeps from 9 kHz to 3 GHz with high sensitivity to capture interference signals that might be disrupting wireless network operation.**

In the past, maintaining signaling reliability meant scheduling a technician with a handheld analyzer to search for interference and quality issues. However, with an increase in the distribution of small cells and wireless gateways, the traditional method of collecting on-site measurements has become logistically challenging, time-intensive, and costly.

Fortunately, there is a better way. By implementing a SpectrumPROFILER DS-1620S remote monitoring system from Deviser Instruments at key points throughout the wireless network infrastructure, an agency can monitor, analyze, and resolve wireless interference signals in real time—and from anywhere in the world with internet access *(see figure)*.

This remote monitoring system operates from 9 kHz to 3 GHz with 1-Hz frequency resolution; resolution bandwidths (RBWs) from 1 Hz to 3 MHz; and video bandwidths from 1 Hz to 1 MHz. It features the fast sweep speed needed to capture even sporadic interference, sweeping its entire bandwidth in only 60 ms.

The DS-1620S works through a network of distributed rack-mounted management units working in unison with an array of actively monitoring self-positioning sensors. The system is accessed through the internet via a simple-yet-powerful user-interface experience (UX) from any smartphone, tablet, or personal computer (PC). By offering network operators independence from specific locations and the flexibility to access their wireless spectrum at any time, system maintenance is simplified.

The system is offered in a small-footprint 1U-high rack-mount enclosure. It can be remotely accessed using any computerized mobile communications device, laptop computer, or network operations center (NOC) computer via TCP/IP Ethernet over VPN or through an integrated web user interface. Remotely accessible features include measurement settings such as center frequency, frequency span, and reference level.

The analyzer can also measure channel power, occupied bandwidth (OBW), and adjacent channel leakage ratio (ACLR). It displays results in a number of different formats to simplify signal analysis, including in spectrograms, three-dimensional (3D) waterfall displays, received-signal-strength-indication (RSSI) plots, and field-strength displays.

Fully equipped, the DS-1620S can leverage an array of three or more geo-locating sensors that triangulate signals-of-interest, helping to precisely locate detected interference in three-dimensional (3D) space. The DS-1620S includes an impressive measurement tool, with a built-in 18-dB gain preamplifier, essential in capturing extremely low-level interference. The unit has a displayed average noise level (DANL) of −148 dBm offset 1 Hz from the carrier, without the preamplifier, and −158 dBm at the same offset with the preamplifier.

For measuring higher-level signals, the unit includes a step attenuator with 0 to 55 dB attenuation in 5-dB steps. The analyzer exhibits spectral purity of −95 dBc/Hz offset 10 kHz from the carrier. It holds frequency uncertainty to ±1 ppm, with frequency reference aging rate of ±1 ppm/year, and temperature drift of only ±1 ppm/°C for an operating temperature range of −10 to +55°C. mw

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