DECODIO NETWORK HEALTH MONITORING AND VOICE LOGGING

Decodio is specialised in software-defined radio technologies and offers best-in-class network health monitoring and voice logging solutions.

Extensive PMR protocol support and advanced, web-based analysis tools provide quick and accurate insight into network health and traffic.

HIGH THROUGHPUT

Real-time monitoring of 256 simultaneous channels over an instantaneous bandwidth of up to 50 MHz can be achieved on commodity hardware, offering unmatched spectrum analysis capabilities. The solution is based on multi-purpose receivers capable of streaming baseband IQ data and thus operates passively, in total independence of the network infrastructure. Multiple receivers can be used to increase the total bandwidth.

Network broadcasts

Long-term power measurement

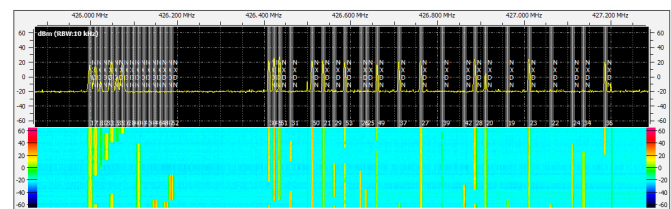## EXTENSIVE DIGITAL PROTOCOL SUPPORT

Decodio's spectrum monitoring system is capable of decoding and analysing a wide range of modern digital VHF/UHF transmission protocols in both uplink and downlink directions. With full support for TETRA, Tetrapol, NXDN, DMR, dPMR and P25, all practical mobile radio networks can be monitored. Logging of data transmissions such as SDS/text messages and position reports is supported.

ADVANCED DIGITAL NETWORK MONITORING

Full decoding of protocol metadata such as cell ID and country code combined with a fast and powerful scanning feature allows to automatically find signals for a given network and quickly identify sources of interference and unwanted emissions. Voice recording, contents decoding and database logging are also available and a PDU output option can be used to troubleshoot and detect configuration errors.

CONTINUOUS LOGGING AND REAL-TIME ANALYSIS

Continuous logging of both signal quality and signal power for all channels allows early detection of system outage, signal quality drop and external interference. Voice content can be listened to in real time and logged to a database, for both digital and analog communications.

ANALOG RECORDING AND TRIGGERS

Analog transmissions are fully supported, and can be both monitored for quality and demodulated. A squelch criteria can be set for each channel to trigger the recording of demodulated waveforms and baseband IQ data with adjustable pre- and post recording intervals. Demodulated waveforms can be displayed and listened to by the operator in real-time.

Web-based front-end

Channelizing

WEB-BASED FRONT-END

A web-based front-end allows remote access to the monitoring history and real-time network activity from a wide range of devices. Browser-based visualisation features include time series charts of long-term signal quality monitoring, call history browsing with advanced filtering and sorting as well as report generation in various formats such as Microsoft Excel and PDF.

APPLICATIONS

- **Network health monitoring in mission critical environments**
- **Voice logging of analog and digital RF communications**
- **Network planning and verification**
- **Interference detection**