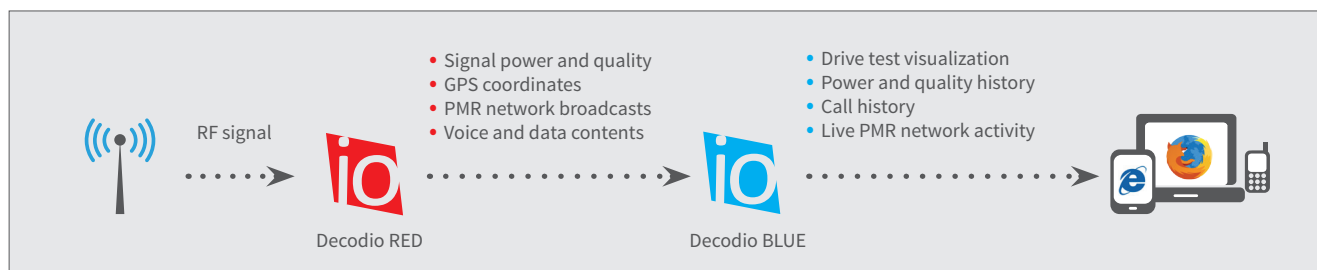


DECODIO RUNNER

Decodio RUNNER combines the potential of Decodio RED and Decodio BLUE to provide an advanced mobile drive test solution for network planning, verification and troubleshooting..

A wideband input signal is acquired, channelized and decoded using Decodio RED. The decoded information and measurements are then archived in a database and made available through an intuitive browser-based interface by Decodio BLUE.

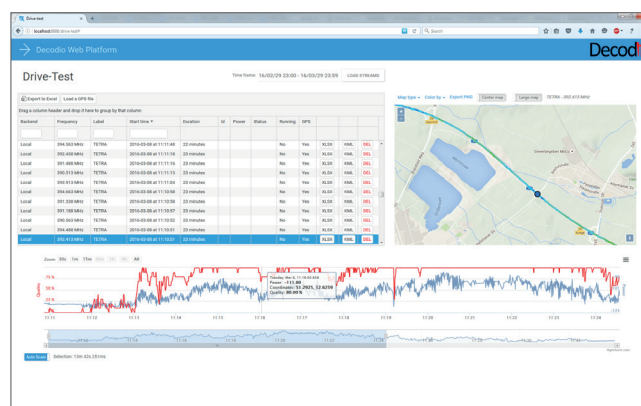


INTUITIVE DRIVE TEST INTERFACE

Signal quality and power are plotted as time series and interactively coupled to a map displaying the corresponding position based on GPS coordinates.

Hovering the mouse over the plot animates the map and allows to quickly spot areas with weak signal coverage.

Data can be easily exported to external applications, including Microsoft Excel and Google Earth.



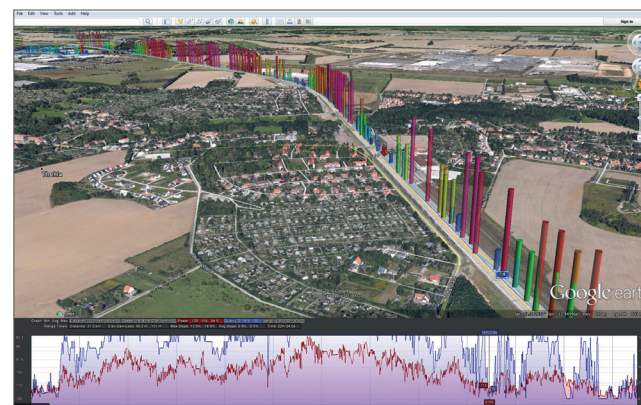
Web-based coverage visualization

BUILT-IN GPS SUPPORT

Decodio RUNNER includes support for any GPS device delivering NMEA data over a serial interface. All quality measurements are automatically tagged with the current position whenever a GPS signal is available.

MULTIPLE MAP TYPES WITH OFFLINE CACHE

Several maps are available and can be saved to disk for field missions without Internet access.



KML export to Google Earth

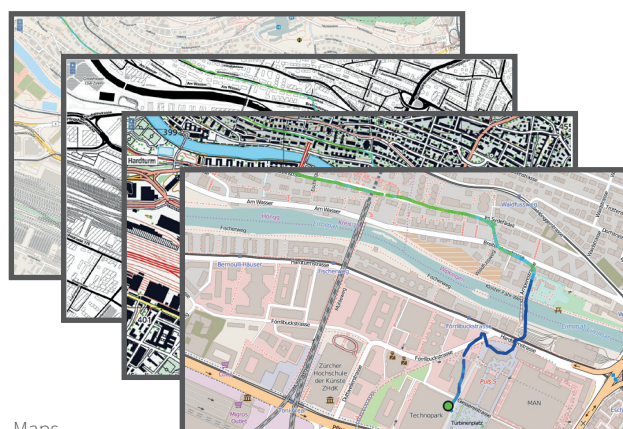
ACCURATE SIGNAL QUALITY MEASUREMENTS

The power measurements are done in the time domain with a sampling rate greater than the signal bandwidth. The averaging interval can be selected between 10 milliseconds and 2 seconds.

Both power level and digital modulation quality (incl. frame error rate) can be monitored, to easily identify co-channel interferences.

The raw power values with high time resolution can be recorded in a WAV file for offline analysis.

Sampling rate and averaging interval meet the Lee criteria for any given carrier frequency and measurement unit velocity.



Maps

PARALLEL DECODING OF MULTIPLE CHANNELS

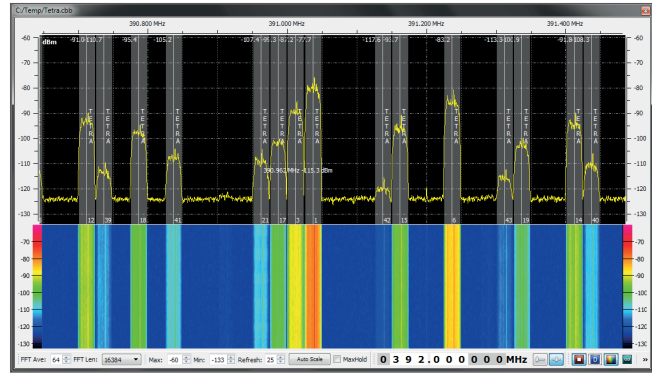
Thanks to the high-performance channelization capabilities of Decodio RED, up to 256 narrowband channels can be decoded and monitored in parallel.

EXTENSIVE DIGITAL PMR SUPPORT

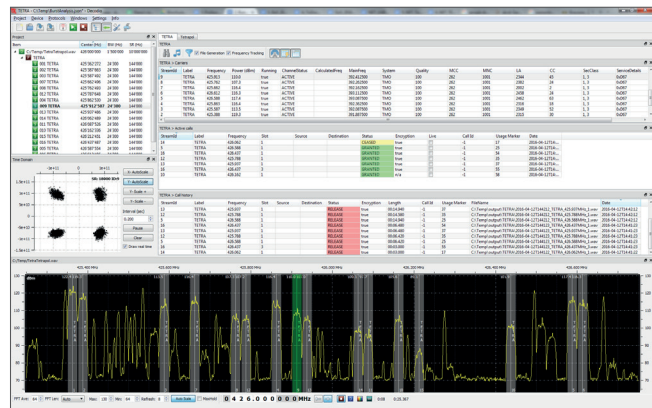
With full support for TETRA, Tetrapol, NXDN, DMR, dPMR and P25, virtually all mobile radio networks can be monitored.

A fast scan feature allows to quickly detect unwanted emissions, and thanks to full decoding of broadcast information such as cell ID and country code, interference sources can be easily identified.

Live voice output is also available from multiple channels simultaneously.



Multi-channel measurements



TETRA monitoring

HIGHLIGHTS

- Multi-channel drive test
- Power and quality measurements
- Network information and voice traffic decoding

APPLICATIONS

- Coverage test
- Network planning and verification
- Interference detection

TECHNICAL DATA

Channel bandwidth	8 kHz to 2 MHz
Measurement interval	1 / sampling rate (time-domain measurements)
Averaging	10 ms – 2 sec
Measurements	Power and quality
Supported maps	<ul style="list-style-type: none"> • Google Maps • OpenStreetMap • MapQuest • SwissTopo (Switzerland)
GPS interface	Serial NMEA
Maximum real-time bandwidth	Up to 50 MHz (depending on receiver)
Decodio software components	RED and BLUE

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