

When mobility
matters
Handheld
solutions for
network operators





Network users demand excellent reception and performance wherever they go. Being connected at all times is key. To meet these demands, network operators need to constantly stay ahead of the technology curve, and all parts of the network must function properly.

With Rohde & Schwarz test and measurement solutions, you are well equipped to maintain the high quality of service needed for lasting customer satisfaction and confidence. Our solutions are a unique combination of high performance and low total cost of ownership thanks to our personal service and support, and to our instruments' reliability, modular design and extensibility to new standards.

Our family of handheld instruments are an ideal example of these advantages. The instruments are not only lightweight, rugged and simple to operate, they also excel in terms of scalability and unique features. They help field engineers and technicians to work faster, easier and more precisely when installing, maintaining and troubleshooting antenna and transmitter systems.

Accelerate your time to market and stay ahead of the competition.

Install and maintain antenna systems

R&S®ZVH cable and antenna analyzer

A lightweight, simple-to-operate cable and antenna analyzer designed specifically for use in the field, the R&S®ZVH performs fast, reliable and highly accurate measurements to support RF service engineers and technicians when installing and maintaining antenna systems for mobile radio. The built-in wizard allows users to run even complex test sequences quickly and easily.

Key features

- ▮ Frequency range from 100 kHz to 3.6 GHz or 8 GHz
- ▮ 100 dB (typ.) dynamic range for filter and antenna isolation measurements
- ▮ Built-in DC voltage supply (bias) for active components such as amplifiers
- ▮ Power meter option
- ▮ Saving of measurement results on SD memory card or USB memory stick
- ▮ Easy operation with user-configurable test sequences (wizard)
- ▮ Easy-to-replace Li-ion battery for up to 4.5 h of operation
- ▮ Rugged, splash-proof housing for rough work in the field
- ▮ Easy handling due to low weight (3 kg with battery) and easy-to-reach function keys

Installation and maintenance of antenna systems

- ▮ Distance-to-fault measurements
- ▮ One-port cable loss measurements
- ▮ Reflection measurements
- ▮ Transmission measurements
- ▮ Built-in DC voltage supply
- ▮ Terminating power measurements
- ▮ Directional power measurements
- ▮ Position finding using GPS receiver

Easy operation

- ▮ Test report in just a few steps using the R&S®ZVH wizard
- ▮ Channel tables for frequency setting
- ▮ Optimal reading of measurement results in any situation
- ▮ Operation in different languages
- ▮ Easy-to-access, well-protected connectors



Measure all communications standards

R&S® FSH4/FSH8 spectrum analyzer

A rugged, handheld, battery-operated spectrum analyzer providing the most important RF analysis functions that an RF field service technician or installation and maintenance team needs to solve everyday routine measurement tasks – quickly, accurately and reliably.



Key features

- Frequency range from 9 kHz to 3.6 GHz or 8 GHz
- High sensitivity (< -141 dBm (1 Hz), with preamplifier < -161 dBm (1 Hz))
- 20 MHz demodulation bandwidth for analyzing LTE signals
- Low measurement uncertainty (< 1 dB)
- Measurement functions for all important measurement tasks related to the startup and maintenance of transmitter systems
- Internal tracking generator and VSWR bridge with built-in DC voltage supply (bias)
- Two-port network analyzer
- Rugged, splash-proof housing for rough work in the field
- Easy handling due to low weight (3 kg with battery) and easy-to-reach function keys
- Easy operation thanks to user-configurable, automatic test sequences (wizard)

Installation and maintenance of transmitter stations (base stations)

- Power measurements on pulsed signals
- Channel power measurements
- Adjacent channel power measurements
- Measurements of spurious emissions (spectrum emission mask)
- Measurements of the modulation spectrum on pulsed signals with gated sweep
- Spectrogram measurements
- Analysis of LTE FDD/TDD, WCDMA/HSDPA/HSPA+, GSM/GPRS/EDGE, CDMA2000®, 1xEV-DO and TD-SCDMA/HSDPA transmit signals
- Distance-to-fault measurements
- Two-port vector network analysis
- Scalar network analysis
- One-port cable loss measurements
- Vector voltmeter
- Position finding and increased measurement accuracy using the GPS receiver
- Power measurements up to 18 GHz
- Directional power measurements up to 4 GHz

Detect and find interference

R&S®PR100 portable receiver

The R&S®PR100 is a portable receiver for “catching” interfering signals that are not obvious in the spectrum because of their pulsed, hopping or unstable timing behavior. Interference signals negatively impact radio networks. In some scenarios they will drastically reduce the data rate or significantly increase the number of dropped calls. Its realtime properties enable the R&S®PR100 to easily identify these unknown signals over a very wide bandwidth. The receiver’s compact design, low weight and battery operation, together with the R&S®HE300 handheld directional antenna, make it ideal for field operation wherever needed.



Key features

- ▀ Wide frequency range from 9 kHz to 7.5 GHz
- ▀ Fast panorama scan (up to 2 GHz/s) across the entire frequency range for a wide spectral overview
- ▀ 10 MHz realtime IF spectrum for displaying all types of signals – regardless of how unstable they are
- ▀ Demodulation with bandwidths from 150 Hz to 500 kHz for listening to the signal content
- ▀ Fast waterfall with up to 100 lines/s for investigating the timing behavior of the interference
- ▀ Differential mode for highlighting newly occurred changes in the spectrum relative to a reference spectrum
- ▀ Storage of measurement results to SD card for documentation and offline analysis
- ▀ LAN interface for remote control and data output
- ▀ Ergonomic and rugged design for portable use
- ▀ 6.5” color display with enhanced backlight function – especially useful in bright sunlight
- ▀ Low weight of 3.5 kg including battery
- ▀ Location of emissions using the R&S®HE300 directional antenna
- ▀ GPS, electronic compass and digital maps for localization of the interference source
- ▀ Upgradeable to full functionality of the R&S®DDF007 portable direction finder (see right)

Interference detection, location and elimination in professional radio networks

- ▀ Reliable detection of radio interference caused e.g. by defective electronic equipment
- ▀ Hunting and eliminating hard to catch (i.e. pulsed, hopping, unstable) interferences, such as:
 - Use of unlicensed DECT cordless phones
 - Passive intermodulation caused by defective connectors
 - WLAN repeaters with broken TX filter
 - Switched power supplies for LCD screens in public transport stations
 - Wireless barcode readers used in shopping malls
 - Traffic counting systems at roadside installations
 - Air traffic control radar systems
 - Malfunction of ISM devices around 866 MHz
 - Faulty LTE USB sticks producing sideband emissions

Locate interference fast and precisely

R&S®DDF007 portable direction finder

Sources of interference must be located quickly since they limit or even block radiocommunications services. The fastest and easiest way to locate interference is homing with mobile direction finders (DF). The new R&S®DDF007 portable direction finder turns a standard vehicle into a mobile DF within minutes. The compact R&S®ADD107 (VHF/UHF) and R&S®ADD207 (UHF/SHF) DF antennas with integrated GPS modules are quickly installed on the vehicle roof using a magnetic mount adapter.

Key features

- Wide frequency range from 20 MHz to 6 GHz for DF and 9 kHz to 7.5 GHz for monitoring
- Use of high precision DF methods and multi-element DF antennas
- Compact DF antennas with integrated GPS module and electronic compass
- Map display of DF results with triangulation function to locate the source of interference
- Vehicle adapter with magnetic mount for quick and easy installation of the DF antenna on a vehicle roof
- Integrated wideband receiver for fast panorama scan, wideband spectrum and waterfall display (same functions as the R&S®PR100, see left)
- All options for the R&S®PR100 also available for the R&S®DDF007
- Compact lightweight Li-Ion battery pack for up to two hours operation in DF mode
- Low weight of 3.5 kg including battery (DF) and 6 kg (DF antennas)



Compact R&S®ADD207 DF antenna on vehicle adapter
(not true to scale compared to the R&S®DDF007)



Service you can rely on

- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

About Rohde & Schwarz

Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radio-monitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

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