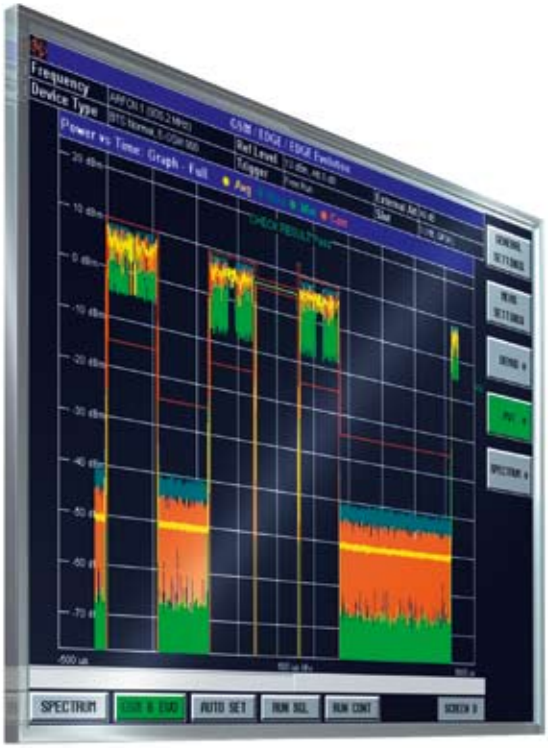
# R&S®FS-K10 GSM/EDGE/ EDGE Evolution Measurements

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Product Brochure | 01.01

# R&S®FS-K10 GSM/EDGE/ EDGE Evolution Measurements

## At a glance

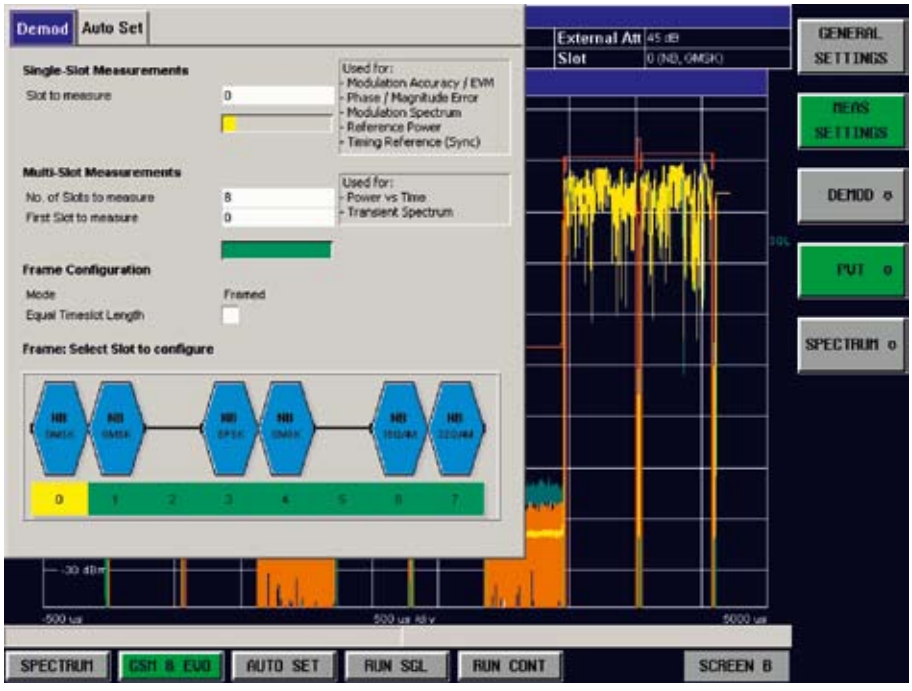
The R&S®FS-K10 application firmware covers transmitter measurements of GSM, EDGE and EDGE Evolution signals in line with the standards (3GPP TS 45.005, 51.010 and 51.021).

The option performs modulation and spectrum-related analysis in line with the 3GPP standard, e.g. calculation of phase/frequency/magnitude error, EVM, I/Q imbalance, spectrum due to modulation and spectrum due to switching transients.

It can be installed on the R&S®FSQ and R&S®FSG signal and spectrum analyzers with Windows XP (not supported on the R&S®FSQ with the R&S®FSQ-B18 removable hard disk option).

### Key facts

- Supports GSM, EDGE and EDGE Evolution
- Supports GSMK, QPSK, 8PSK, 16QAM and 32QAM modulation
- Supports normal and high symbol rates
- Support of normal, micro and pico BTS classes
- Support of normal and small MS classes
- Supports frequency bands from T-GSM380 up to PCS1900
- Autodetection of modulation, burst type and training sequence
- No trigger required
- Error vector magnitude (EVM)
- Phase, frequency and magnitude error
- Power versus time (PVT)
- Spectrum due to modulation
- Spectrum due to switching transients
- Constellation diagram
- Full remote control via GPIB or LAN




Pressing the "Auto Set" key makes the analyzer detect the active bursts, the modulation and filter types and the training sequences.

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## Benefits and key features

### Convenient analysis due to standard-conforming limit checks

After configuring the type and class of device (e.g. normal BTS or small MS) as well as the power control level (PCL) used, the test limits for spectrum due to modulation and due to switching transients as well as for power versus time are automatically configured in line with the standard, with pass and fail results.

### Automatic detection and configuration

After the "Auto Set" key has been pressed, R&S®FS-K10 automatically detects the burst type, modulation type (GSMK, QPSK, 8PSK, 16QAM or 32QAM) and the training sequence. The instrument is automatically configured and ready to perform all measurements; no additional configuration is needed.

### Convenient and comprehensive analysis

The Modulation Accuracy table provides a quick overview of the most important numeric parameters. It is derived from the selected slot in the capture buffer.

Additional measurements, e.g. of phase or magnitude error versus time, or EVM versus time and the constellation diagram, provide enhanced analysis capabilities.

### Automate your measurements

All functions can be remote-controlled by SCPI commands either via GPIB (IEEE 488) bus or LAN interface.

The power versus time measurement allows both single- and multi-slot analysis using fully standard-conforming limit lines. The limit lines are automatically configured based on the measured slot powers, burst types and device parameters, e.g. device type and power class.

The Modulation Accuracy table provides an overview of the most important modulation parameters at a glance. Statistics are calculated based on a configurable number of bursts. All standard-required parameters plus additional values such as I/Q imbalance are measured.

The Modulation Spectrum measurement in List mode automatically compares the standard-specified frequencies to the appropriate limits.

# Ordering information

| Designation | Type | Order No. |
|---|---|---|
| GSM/EDGE/EDGE Evolution Measurements | R&S®FS-K10 | 1309.9700.02 |
| Upgrade of R&S®FS-K5 to R&S®FS-K10 | R&S®FS-K5U | 1309.9745.02 |
| **The R&S®FS-K10 option can be installed in the following spectrum and signal analyzers:** | | |
| Spectrum Analyzer, 9 kHz to 8 GHz | R&S®FSG8 | 1309.0002.08 |
| Spectrum Analyzer, 9 kHz to 13.6 GHz | R&S®FSG13 | 1309.0002.13 |
| Signal Analyzer, 20 Hz to 3.6 GHz | R&S®FSQ3 | 1155.5001.03 |
| Signal Analyzer, 20 Hz to 8 GHz | R&S®FSQ8 | 1155.5001.08 |
| Signal Analyzer, 20 Hz to 26 GHz | R&S®FSQ26 | 1155.5001.26 |
| Signal Analyzer, 20 Hz to 40 GHz | R&S®FSQ40 | 1155.5001.40 |

Your local Rohde&Schwarz expert will help you determine the optimum solution for your requirements and will be glad to provide you with a customized quotation.

To find your nearest Rohde&Schwarz representative, visit www.sales.rohde-schwarz.com

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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, radiomonitoring and radiolocation, as well as secure communications. Established 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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For data sheet, see
PD 5214.0982.22
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