

R&S®FS-K15

VOR/ILS Measurement Demodulator

Signal analysis with the R&S®FSMR/FSQ/FSU at a glance



The R&S®FS-K15 option measures the most important parameters of VOR and ILS signals such as VOR phase, ILS DDM as well as the modulation depth and frequency of the individual signal components. When the option is integrated into the R&S®FSMR measuring receiver, the complete calibration and verification of VOR/ILS generators or generator parts of air navigation testers is easy – no additional equipment required.

Together with the spectrum and signal analyzers of the R&S®FSU and R&S®FSQ family, the R&S®FS-K15 option is particularly suitable for the development and operational monitoring of VOR and ILS installations.

The low measurement uncertainty meets the requirements of ILS CAT III applications. The selective distortion measurement completes the measurement functions and allows THD measurements without having to switch off individual signal components.

Key facts

- Frequency range:
 - 107 MHz to 120 MHz and 319 MHz to 341 MHz specified;
 - can be used in the frequency range of the base unit
- Level range:
 - 60 dBm to +30 dBm
- ILS measurement functions:
 - DDM
 - SDM
 - modulation depth and frequency at 90 Hz/150 Hz/identifier
 - THD
- DDM measurement range:
 - 0 DDM to 0.4 DDM
- DDM measurement uncertainty:
 - 0.0002 DDM + 1% of reading
- VOR measurement functions:
 - VOR phase
 - modulation depth and frequency for 30 Hz
 - subcarrier
 - identifier
 - 9.96 kHz subcarrier deviation
 - modulation depth and frequency of subcarrier
 - THD – phase between 90 Hz and 150 Hz signal
- VOR phase measurement range:
 - 0° to 360°, 0.1° resolution
- VOR phase measurement uncertainty: 0.003°

75 Years of Driving Innovation



Ordering information

Designation	Type	Order No.
VOR/ILS Measurement Demodulator	R&S®FS-K15	1302.0936.02



Measurement of an ILS localizer signal

The precise ILS analysis measures DDM (difference in depth of modulation) at a low uncertainty of only 0.00002 DDM + 1% even for signals with very low levels.



THD and distortion measurement of an ILS signal

The AF spectrum display is used to analyze distortion products in detail. The levels of sum products (such as 240 Hz as the sum of 90 Hz and 150 Hz) or individual harmonics can selectively be measured. With the R&S®FS-K15 option installed, the R&S®FSMR offers the analysis capabilities of an audio analyzer.



Measurement of a VOR signal and the VOR phase

Operation is easy: After selection of the operating mode, in this case VOR, the R&S®FSMR displays a summary of all measurement parameters in an easy-to-read table. Both RF signals and signals in the baseband can be analyzed via the audio input.

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