

Spectrum Rider FPH Spectrum Analyzer

Power, optical power and pulse measurements (R&S®FPH-K9/-K19/-K29)



Key specifications	
Frequency	5 kHz to 31 GHz
Resolution bandwidth	1 Hz to 3 MHz
DANL at 3 GHz (preamp on)	< -163 dBm
Battery operation	> 6 hours
Weight	2.5 kg

Your benefit	Features
Additional measurement capabilities	Power, optical power and pulse measurements (R&S®FPH-K9/-K19/-K29)
Easily upgradeable functions	User upgradeable software keycodes
Power measurements up to 110 GHz with simple setup	<ul style="list-style-type: none"> ■ R&S®FPH-K9 power sensor support ■ R&S®NRP power sensor

Transform the spectrum analyzer into a power meter

The R&S®FPH-K19 channel power meter option converts the analyzer into a portable power meter with a level measurement accuracy of typ. 0.5 dB. This option makes it possible to achieve power measurement results quickly and easily without needing a power sensor. The R&S®FPH-K9 option with a power sensor such as R&S®NRPxxT can perform precise power measurements with uncertainty as low as 0.01 dB (relative).



The perfect choice for

Precisely measuring RF power

Measuring optical power

Basic analysis of pulse characteristics

Pulse measurement

The R&S®FPH-K29 option enables precise pulse and peak power measurements using the R&S®Spectrum Rider FPH together with the Rohde & Schwarz wideband power sensor family. The wideband power sensors measure pulses with a resolution of up to 50 ns and support frequencies up to 44 GHz.

Optical power measurement

When used with a USB optical power meter (R&S®HA-Z360/Z361), the R&S®FPH-K9 option reads out optical absolute power in dBm as well as relative power in dB.



R&S®HA-Z360/Z361 OEM USB optical power meter for optical power measurements

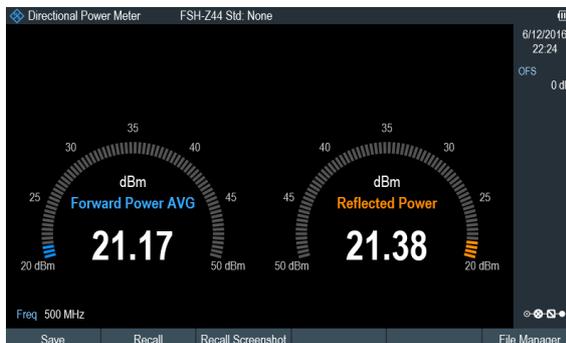
► For more information, see www.hxyyq.com

Precision RF power measurements with power sensor support (R&S®FPH-K9)

For applications requiring very high accuracy to measure and align transmitter RF power levels, the R&S®FPH-K9 option allows the R&S®Spectrum Rider FPH to be used together with Rohde & Schwarz power sensors for precise power measurements.



Power measurement with the R&S®NRP8S power sensor



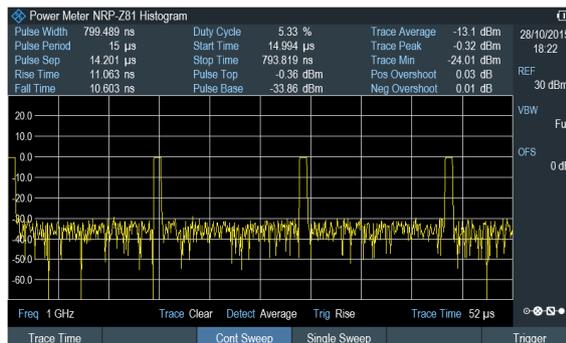
Forward power and reflected power measurement with the R&S®FSH-Z44 directional power sensor

Internal channel power meter (R&S®FPH-K19)



Power measurement using the internal power meter

Pulse measurement (R&S®FPH-K29)



Pulse measurement with the R&S®NRP-Z81 power sensor

Related options

Type	Description
R&S®FPH-K9	Power sensor support
R&S®FPH-K19	Channel power meter
R&S®FPH-K29	Pulse measurements with power sensor

Optical power sensors supported by R&S®FPH-K9

Type	Description
R&S®HA-Z360	OEM USB optical power meter (Germanium)
R&S®HA-Z361	OEM USB optical power meter (filtered InGaAs)

Power sensors supported by R&S®FPH-K9

Directional power sensors	
R&S®FSH-Z14	25 MHz to 1 GHz
R&S®FSH-Z44	200 MHz to 4 GHz
Universal power sensors	
R&S®NRP-Z211 ¹⁾	10 MHz to 8 GHz, 100 mW, 2-path
R&S®NRP-Z221 ¹⁾	10 MHz to 18 GHz, 100 mW, 2-path
Three-path diode power sensors	
R&S®NRP8S ²⁾	100 pW to 200 mW, 10 MHz to 8 GHz
R&S®NRP18S ²⁾	100 pW to 200 mW, 10 MHz to 18 GHz
R&S®NRP33S ²⁾	100 pW to 200 mW, 10 MHz to 33 GHz
R&S®NRP40S ²⁾	100 pW to 200 mW, 50 MHz to 40 GHz
R&S®NRP50S ²⁾	100 pW to 200 mW, 50 MHz to 50 GHz
High-power three-path diode power sensors	
R&S®NRP18S-10 ²⁾	1 nW to 2 W, 10 MHz to 18 GHz
R&S®NRP18S-20 ²⁾	10 nW to 15 W, 10 MHz to 18 GHz
R&S®NRP18S-25 ²⁾	30 nW to 30 W, 10 MHz to 18 GHz
Thermal power sensors	
R&S®NRP18T ²⁾	300 nW to 100 mW, DC to 18 GHz
R&S®NRP33T ²⁾	300 nW to 100 mW, DC to 33 GHz
R&S®NRP40T ²⁾	300 nW to 100 mW, DC to 40 GHz
R&S®NRP50T ²⁾	300 nW to 100 mW, DC to 50 GHz
R&S®NRP67T ²⁾	300 nW to 100 mW, DC to 67 GHz
R&S®NRP110T ²⁾	300 nW to 100 mW, DC to 110 GHz
Average power sensors	
R&S®NRP6A ²⁾	100 pW to 200 mW, 8 kHz to 6 GHz
R&S®NRP18A ²⁾	100 pW to 200 mW, 8 kHz to 18 GHz

Wideband power sensors supported by R&S®FPH-K29

R&S®NRP-Z81 ¹⁾	50 MHz to 18 GHz, 100 mW
R&S®NRP-Z85 ¹⁾	50 MHz to 40 GHz, 100 mW (2.92 mm)
R&S®NRP-Z86 ¹⁾	50 MHz to 40 GHz, 100 mW (2.40 mm)
R&S®NRP-Z86 ¹⁾	50 MHz to 44 GHz, 100 mW (2.40 mm)

¹⁾ Requires R&S®NRP-Z4 USB adapter cable

²⁾ Requires R&S®NRP-ZKU USB interface cable



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