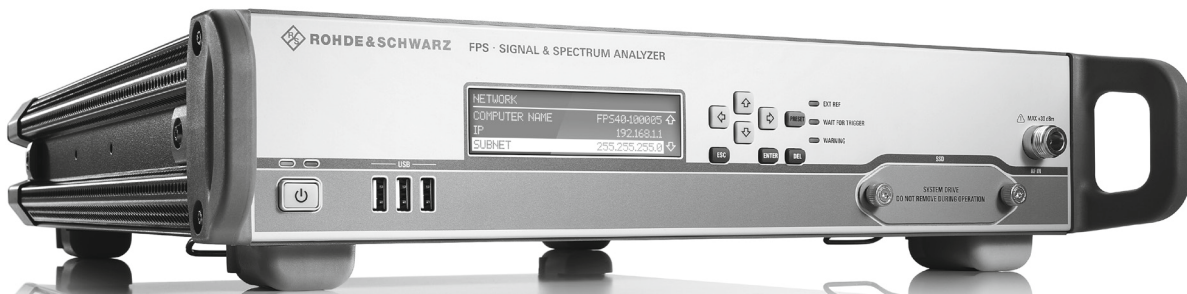




R&S® FPS Signal and Spectrum Analyzer Specifications



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Definitions

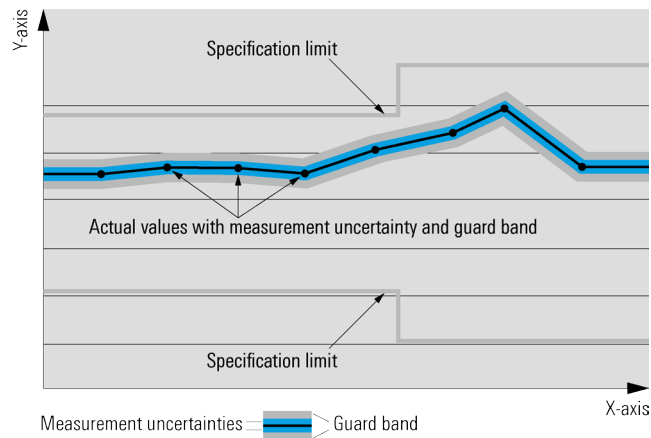
General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 minutes warm-up operation
- Specified environmental conditions met
- Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $<$, \leq , $>$, \geq , \pm , or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with $<$, $>$ or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)

Characterize product performance by means of a representative value for the given parameter (e.g. nominal impedance). In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties

Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Device settings and GUI parameters are indicated as follows: "parameter: value".

Typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

Specifications

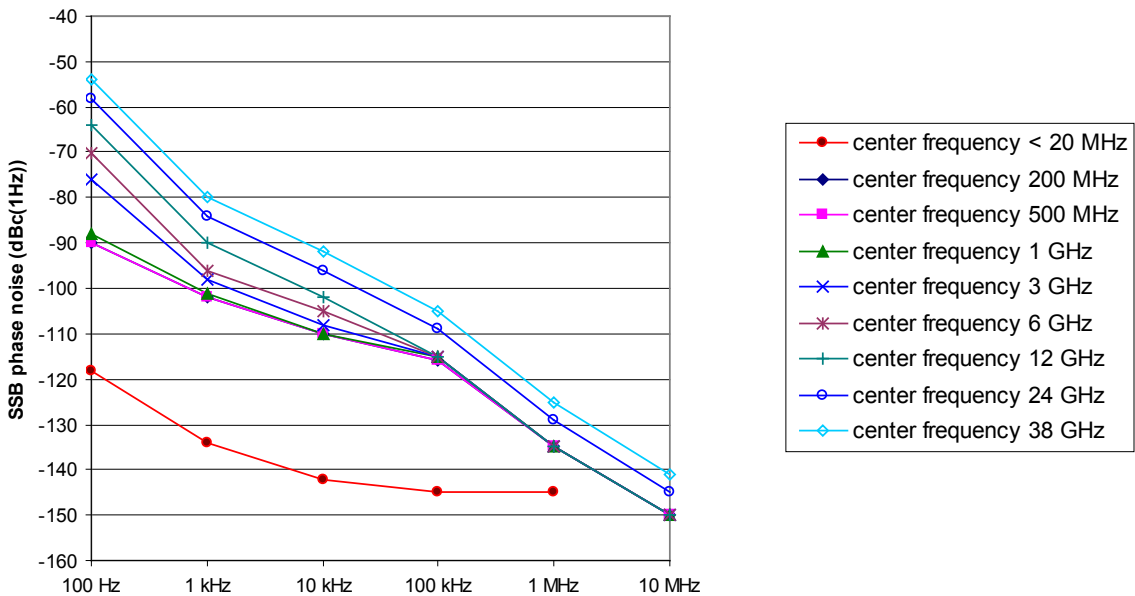
Frequency

Frequency range	R&S®FPS4	
	DC-coupled	10 Hz to 4 GHz
	AC-coupled	1 MHz to 4 GHz
	R&S®FPS7	
	DC-coupled	10 Hz to 7 GHz
	AC-coupled	1 MHz to 7 GHz
	R&S®FPS13	
	DC-coupled	10 Hz to 13.6 GHz
	AC-coupled	10 MHz to 13.6 GHz
	R&S®FPS30	
	DC-coupled	10 Hz to 30 GHz
	AC-coupled	10 MHz to 30 GHz
	R&S®FPS40	
	DC-coupled	10 Hz to 40 GHz
AC-coupled	10 MHz to 40 GHz	
Frequency resolution	0.01 Hz	

Reference frequency, internal		
Accuracy		(time since last adjustment × aging rate) + temperature drift + calibration accuracy
Aging per year	standard	1×10^{-6}
	with R&S®FPS-B4 option	1×10^{-7}
Temperature drift (0 °C to +50 °C)	standard	1×10^{-6}
	with R&S®FPS-B4 option	1×10^{-7}
Achievable initial calibration accuracy	standard	5×10^{-7}
	with R&S®FPS-B4 option	5×10^{-8}

Frequency readout		
Marker resolution		1 Hz
Uncertainty		$\pm(\text{marker frequency} \times \text{reference uncertainty} + 10\% \times \text{resolution bandwidth} + \frac{1}{2}(\text{span} / (\text{sweep points} - 1)) + 1 \text{ Hz})$
Number of sweep (trace) points	default value	1001
	range	101 to 32001
Marker tuning frequency step size	marker step size = sweep points	$\text{span} / (\text{sweep points} - 1)$
	marker step size = standard	$\text{span} / (\text{default sweep points} - 1)$
Frequency counter resolution		0.001 Hz
Count accuracy		$\pm(\text{frequency} \times \text{reference uncertainty} + \frac{1}{2}(\text{last digit}))$
Display range for frequency axis		0 Hz, 10 Hz to max. frequency
Resolution		0.1 Hz
Max. span deviation		$\pm 0.1\%$

Spectral purity		
SSB phase noise	frequency = 500 MHz, carrier offset	
	100 Hz	< -84 dBc (1 Hz)
	1 kHz	< -101 dBc (1 Hz)
	10 kHz	< -106 dBc (1 Hz)
	100 kHz	< -115 dBc (1 Hz)
	1 MHz	< -134 dBc (1 Hz)
	10 MHz	-150 dBc (1 Hz) (nom.)
Residual FM	frequency = 500 MHz, RBW = 1 kHz, sweep time = 100 ms	< 3 Hz (nom.)



Typical phase noise at different center frequencies.

Sweep time

Range	span = 0 Hz	1 μ s to 16000 s
	span \geq 10 Hz, swept	1 ms to 16000 s ¹
	span \geq 10 Hz, FFT	7 μ s to 16000 s ²
Sweep time accuracy	span = 0 Hz	\pm 0.1 % (nom.)
	span \geq 10 Hz, swept	\pm 3 % (nom.)

¹ Net sweep time without additional hardware settling time.

² Time for data acquisition for FFT calculation.

Resolution bandwidths

Sweep filters and FFT filters		
Resolution bandwidths (-3 dB)	span \geq 10 Hz, sweep filters	1 Hz to 10 MHz in 1/2/3/5 sequence
	span \geq 10 Hz, FFT filters	1 Hz to 3 MHz in 1/2/3/5 sequence
	all models except R&S®FPS40 span = 0 Hz	20 MHz, 28 MHz additionally
	all models except R&S®FPS40 with R&S®FPS-B40 option, span = 0 Hz, $f \leq$ 7 GHz	40 MHz additionally
Bandwidth uncertainty		< 3 % (nom.)
Shape factor 60 dB:3 dB		< 5 (nom.)
Channel filters		
Bandwidths (-3 dB)	standard (RRC = root raised cosine)	100 Hz, 200 Hz, 300 Hz, 500 Hz
		1/1.5/2/2.4/2.7/3/3.4/4/4.5/5/6/8.5/9/10/ 12.5/14/15/16/18 (RRC)/20/21/ 24.3 (RRC)/25/30/50/100/150/192/200/ 300/500 kHz
		1/1.228/1.28 (RRC)/1.5/2/3/ 3.84 (RRC)/4.096 (RRC)/5/10 MHz
	all models except R&S®FPS40	20 MHz, 28 MHz additionally
	all models except R&S®FPS40 with R&S®FPS-B40 option, $f \leq$ 7 GHz	40 MHz additionally
Bandwidth accuracy		< 2 % (nom.)
Shape factor 60 dB:3 dB		< 2 (nom.)
Video bandwidths		
	standard	1 Hz to 10 MHz in 1/2/3/5 sequence
	all models except R&S®FPS40	20 MHz, 28 MHz additionally
	all models except R&S®FPS40 with R&S®FPS-B40 option, $f \leq$ 7 GHz	40 MHz additionally
Signal analysis bandwidth (equalized)		
	$f \leq$ 7 GHz	
	all models	28 MHz (nom.)
	with R&S®FPS-B40 option	40 MHz (nom.)
	with R&S®FPS-B160 option	160 MHz (nom.)

Level

Display range	displayed noise floor up to +30 dBm
---------------	-------------------------------------

Max. input level		
DC voltage	AC-coupled	50 V
	DC-coupled	0 V
CW RF power	RF attenuation 0 dB	
	RF preamplifier = off	20 dBm (= 0.1 W)
	with R&S®FPS-B22 option, RF preamplifier = on	13 dBm (= 0.02 W)
	RF attenuation ≥ 10 dB	
	RF preamplifier = off	30 dBm (= 1 W)
	with R&S®FPS-B22 option, RF preamplifier = on	23 dBm (= 0.2 W)
Pulse spectral density	RF attenuation 0 dB, RF preamplifier = off	97 dB μ V/MHz
Max. pulse voltage	RF attenuation ≥ 10 dB	150 V
Max. pulse energy	RF attenuation ≥ 10 dB, 10 μ s	1 mWs

Intermodulation		
1 dB compression of input mixer	RF attenuation 0 dB, RF preamplifier = off	
	f ≤ 7 GHz	+3 dBm (nom.)
	f > 7 GHz	+5 dBm (nom.)
	with R&S®FPS-B22 or R&S®FPS-B24 option, RF preamplifier = on, RF attenuation 0 dB	
	f ≤ 7 GHz	-12 dBm (nom.)
	f > 7 GHz	-25 dBm (nom.)
Third-order intercept point (TOI)	RF attenuation 0 dB, level 2 × -15 dBm, $\Delta f > 5 \times$ RBW or 10 kHz, whichever is larger, RF preamplifier = off	
	10 MHz ≤ f_{in} < 100 MHz	> 12 dBm, typ. 15 dBm
	100 MHz ≤ f_{in} < 3.6 GHz	> 13 dBm, typ. 16 dBm
	3.6 GHz ≤ f_{in} ≤ 40 GHz	> 15 dBm, typ. 18 dBm
	with R&S®FPS-B22 or R&S®FPS-B24 option, RF preamplifier = on, RF attenuation 0 dB, level 2 × -45 dBm, $\Delta f > 5 \times$ RBW or 10 kHz, whichever is larger	
	10 MHz ≤ f_{in} < 100 MHz	-3 dBm (nom.)
	100 MHz ≤ f_{in} < 3.6 GHz	-2 dBm (nom.)
	3.6 GHz ≤ f_{in} < 7 GHz	0 dBm (nom.)
	7 GHz ≤ f_{in} ≤ 40 GHz	-10 dBm (nom.)
Second harmonic intercept (SHI)	RF attenuation 0 dB, level -10 dBm, RF preamplifier = off	
	100 MHz < f_{in} ≤ 3.5 GHz	45 dBm (typ.)
	3.5 GHz < f_{in} ≤ 20 GHz	
	standard	80 dBm (typ.)
	with R&S®FPS-B24 option	75 dBm (typ.)
	with R&S®FPS-B22 or R&S®FPS-B24 option, RF preamplifier = on, RF attenuation 0 dB, level -40 dBm	
	100 MHz < f_{in} ≤ 3.5 GHz	25 dBm (nom.)
3.5 GHz < f_{in} ≤ 20 GHz	10 dBm (nom.)	

Displayed average noise level without preamplifier options	
0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 5 Hz, VBW = 5 Hz, zero span, sweep time 500 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed	
10 Hz	< -90 dBm (nom.)
20 Hz	< -100 dBm, -110 dBm (typ.)
100 Hz	< -110 dBm, -120 dBm (typ.)
1 kHz	< -120 dBm, -130 dBm (typ.)
with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for f > 7 GHz	
0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 1 kHz, VBW = 3 kHz, zero span, sweep time 50 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed	
R&S®FPS4, R&S®FPS7	
9 kHz ≤ f < 100 kHz	< -130 dBm, -140 dBm (typ.)
100 kHz ≤ f < 1 MHz	< -145 dBm, -150 dBm (typ.)
1 MHz ≤ f < 1 GHz	< -152 dBm, -155 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -150 dBm, -153 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -148 dBm, -151 dBm (typ.)
6 GHz ≤ f ≤ 7 GHz	< -146 dBm, -149 dBm (typ.)
R&S®FPS13, R&S®FPS30	
9 kHz ≤ f < 100 kHz	< -130 dBm, -140 dBm (typ.)
100 kHz ≤ f < 1 MHz	< -145 dBm, -150 dBm (typ.)
1 MHz ≤ f < 1 GHz	< -151 dBm, -154 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -149 dBm, -152 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -146 dBm, -149 dBm (typ.)
6 GHz ≤ f < 7.4 GHz	< -144 dBm, -147 dBm (typ.)
7.4 GHz ≤ f < 15 GHz	< -148 dBm, -151 dBm (typ.)
15 GHz ≤ f ≤ 30 GHz	< -144 dBm, -147 dBm (typ.)
R&S®FPS40	
9 kHz ≤ f < 100 kHz	< -130 dBm, -140 dBm (typ.)
100 kHz ≤ f < 1 MHz	< -145 dBm, -150 dBm (typ.)
1 MHz ≤ f < 1 GHz	< -151 dBm, -154 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -149 dBm, -152 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -146 dBm, -149 dBm (typ.)
6 GHz ≤ f < 7.4 GHz	< -144 dBm, -147 dBm (typ.)
7.4 GHz ≤ f < 15 GHz	< -145 dBm, -148 dBm (typ.)
15 GHz ≤ f < 34 GHz	< -142 dBm, -145 dBm (typ.)
34 GHz ≤ f ≤ 40 GHz	< -136 dBm, -139 dBm (typ.)
with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for f > 7 GHz	

Displayed average noise level with R&S®FPS-B22 preamplifier option

0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 5 Hz, VBW = 5 Hz, zero span, sweep time 500 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = off

10 Hz	< -90 dBm (nom.)
20 Hz	< -100 dBm, -110 dBm (typ.)
100 Hz	< -110 dBm, -120 dBm (typ.)
1 kHz	< -120 dBm, -130 dBm (typ.)

with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for $f > 7$ GHz

0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 1 kHz, VBW = 3 kHz, zero span, sweep time 50 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = off

R&S®FPS4, R&S®FPS7

$9 \text{ kHz} \leq f < 100 \text{ kHz}$	< -130 dBm, -140 dBm (typ.)
$100 \text{ kHz} \leq f < 1 \text{ MHz}$	< -145 dBm, -150 dBm (typ.)
$1 \text{ MHz} \leq f < 1 \text{ GHz}$	< -152 dBm, -155 dBm (typ.)
$1 \text{ GHz} \leq f < 3.6 \text{ GHz}$	< -150 dBm, -153 dBm (typ.)
$3.6 \text{ GHz} \leq f < 6 \text{ GHz}$	< -148 dBm, -151 dBm (typ.)
$6 \text{ GHz} \leq f \leq 7 \text{ GHz}$	< -146 dBm, -149 dBm (typ.)

R&S®FPS13, R&S®FPS30

$9 \text{ kHz} \leq f < 100 \text{ kHz}$	< -130 dBm, -140 dBm (typ.)
$100 \text{ kHz} \leq f < 1 \text{ MHz}$	< -145 dBm, -150 dBm (typ.)
$1 \text{ MHz} \leq f < 1 \text{ GHz}$	< -151 dBm, -154 dBm (typ.)
$1 \text{ GHz} \leq f < 3.6 \text{ GHz}$	< -149 dBm, -152 dBm (typ.)
$3.6 \text{ GHz} \leq f < 6 \text{ GHz}$	< -146 dBm, -149 dBm (typ.)
$6 \text{ GHz} \leq f < 7.4 \text{ GHz}$	< -144 dBm, -147 dBm (typ.)
$7.4 \text{ GHz} \leq f < 15 \text{ GHz}$	< -148 dBm, -151 dBm (typ.)
$15 \text{ GHz} \leq f \leq 30 \text{ GHz}$	< -144 dBm, -147 dBm (typ.)

R&S®FPS40

$9 \text{ kHz} \leq f < 100 \text{ kHz}$	< -130 dBm, -140 dBm (typ.)
$100 \text{ kHz} \leq f < 1 \text{ MHz}$	< -145 dBm, -150 dBm (typ.)
$1 \text{ MHz} \leq f < 1 \text{ GHz}$	< -151 dBm, -154 dBm (typ.)
$1 \text{ GHz} \leq f < 3.6 \text{ GHz}$	< -149 dBm, -152 dBm (typ.)
$3.6 \text{ GHz} \leq f < 6 \text{ GHz}$	< -146 dBm, -149 dBm (typ.)
$6 \text{ GHz} \leq f < 7.4 \text{ GHz}$	< -144 dBm, -147 dBm (typ.)
$7.4 \text{ GHz} \leq f < 15 \text{ GHz}$	< -145 dBm, -148 dBm (typ.)
$15 \text{ GHz} \leq f < 34 \text{ GHz}$	< -142 dBm, -145 dBm (typ.)
$34 \text{ GHz} \leq f \leq 40 \text{ GHz}$	< -136 dBm, -139 dBm (typ.)

with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for $f > 7$ GHz

0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 1 kHz, VBW = 3 kHz, zero span, sweep time 50 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = on

R&S®FPS4, R&S®FPS7

$100 \text{ kHz} \leq f < 1 \text{ MHz}$	< -150 dBm, -155 dBm (typ.)
$1 \text{ MHz} \leq f < 1 \text{ GHz}$	< -162 dBm, -165 dBm (typ.)
$1 \text{ GHz} \leq f < 3.6 \text{ GHz}$	< -160 dBm, -163 dBm (typ.)
$3.6 \text{ GHz} \leq f < 6 \text{ GHz}$	< -158 dBm, -161 dBm (typ.)
$6 \text{ GHz} \leq f \leq 7 \text{ GHz}$	< -156 dBm, -159 dBm (typ.)

R&S®FPS13, R&S®FPS30, R&S®FPS40

$100 \text{ kHz} \leq f < 1 \text{ MHz}$	< -145 dBm, -148 dBm (typ.)
$1 \text{ MHz} \leq f < 20 \text{ MHz}$	< -155 dBm, -158 dBm (typ.)
$20 \text{ MHz} \leq f < 1 \text{ GHz}$	< -161 dBm, -164 dBm (typ.)
$1 \text{ GHz} \leq f < 3.6 \text{ GHz}$	< -159 dBm, -162 dBm (typ.)
$3.6 \text{ GHz} \leq f < 6 \text{ GHz}$	< -156 dBm, -159 dBm (typ.)
$6 \text{ GHz} \leq f \leq 7 \text{ GHz}$	< -154 dBm, -157 dBm (typ.)

with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for $f > 7$ GHz

Displayed average noise level with R&S®FPS-B24 preamplifier option	
0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 5 Hz, VBW = 5 Hz, zero span, sweep time 500 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = off	
10 Hz	< -90 dBm (nom.)
20 Hz	< -100 dBm, -110 dBm (typ.)
100 Hz	< -110 dBm, -120 dBm (typ.)
1 kHz	< -120 dBm, -130 dBm (typ.)
with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for f > 7 GHz	
0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 1 kHz, VBW = 3 kHz, zero span, sweep time 50 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = off	
R&S®FPS13, R&S®FPS30	
9 kHz ≤ f < 100 kHz	< -130 dBm, -140 dBm (typ.)
100 kHz ≤ f < 1 MHz	< -145 dBm, -150 dBm (typ.)
1 MHz ≤ f < 1 GHz	< -150 dBm, -153 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -147 dBm, -150 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -144 dBm, -147 dBm (typ.)
6 GHz ≤ f < 7.4 GHz	< -141 dBm, -144 dBm (typ.)
7.4 GHz ≤ f < 13.6 GHz	< -145 dBm, -148 dBm (typ.)
13.6 GHz ≤ f < 15 GHz	< -143 dBm, -146 dBm (typ.)
15 GHz ≤ f ≤ 30 GHz	< -141 dBm, -144 dBm (typ.)
R&S®FPS40	
9 kHz ≤ f < 100 kHz	< -130 dBm, -140 dBm (typ.)
100 kHz ≤ f < 1 MHz	< -145 dBm, -150 dBm (typ.)
1 MHz ≤ f < 1 GHz	< -150 dBm, -153 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -147 dBm, -150 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -144 dBm, -147 dBm (typ.)
6 GHz ≤ f < 7.4 GHz	< -141 dBm, -144 dBm (typ.)
7.4 GHz ≤ f < 13.6 GHz	< -143 dBm, -146 dBm (typ.)
13.6 GHz ≤ f < 15 GHz	< -141 dBm, -144 dBm (typ.)
15 GHz ≤ f < 34 GHz	< -139 dBm, -142 dBm (typ.)
34 GHz ≤ f ≤ 40 GHz	< -132 dBm, -135 dBm (typ.)
with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for f > 7 GHz	
0 dB RF attenuation, termination 50 Ω, log. scaling, normalized to 1 Hz RBW, RBW = 1 kHz, VBW = 3 kHz, zero span, sweep time 50 ms, sample detector, trace average, sweep count = 20, mean marker, R&S®FPS-B160 option not installed, RF preamplifier = on	
R&S®FPS13, R&S®FPS30, R&S®FPS40	
100 kHz ≤ f < 1 MHz	< -145 dBm, -148 dBm (typ.)
1 MHz ≤ f < 20 MHz	< -155 dBm, -158 dBm (typ.)
20 MHz ≤ f < 1 GHz	< -160 dBm, -163 dBm (typ.)
1 GHz ≤ f < 3.6 GHz	< -157 dBm, -160 dBm (typ.)
3.6 GHz ≤ f < 6 GHz	< -153 dBm, -156 dBm (typ.)
6 GHz ≤ f < 7.4 GHz	< -150 dBm, -153 dBm (typ.)
7.4 GHz ≤ f < 15 GHz	< -164 dBm, -167 dBm (typ.)
15 GHz ≤ f < 34 GHz	< -159 dBm, -162 dBm (typ.)
34 GHz ≤ f ≤ 40 GHz	< -154 dBm, -156 dBm (typ.)
with R&S®FPS-B160 option installed, add 1.5 dB to the above specifications for f > 7 GHz	

Spurious responses		
Image response	20 MHz ≤ f ≤ 7 GHz	
	$f_{in} - 2 \times 8409.9$ MHz (1st IF)	< -80 dBc (typ.)
	$f_{in} - 2 \times 729.9$ MHz (2nd IF)	< -80 dBc
	$f_{in} - 2 \times 89.9$ MHz (3rd IF)	< -80 dBc
	7 GHz < f ≤ 30 GHz	
	$f_{in} \pm 2 \times 729.9$ MHz (1st IF)	< -80 dBc
	$f_{in} - 2 \times 89.9$ MHz (2nd IF)	< -80 dBc
	30 GHz < f ≤ 40 GHz	
	$f_{in} \pm 2 \times 729.9$ MHz (1st IF)	< -70 dBc
	$f_{in} - 2 \times 89.9$ MHz (2nd IF)	< -80 dBc
Intermediate frequency response	20 MHz ≤ f ≤ 7 GHz	
	1st IF (8409.9 MHz)	< -70 dBc (typ.)
	2nd IF (729.9 MHz)	< -80 dBc
	3rd IF (89.9 MHz)	< -80 dBc
	7 GHz < f ≤ 40 GHz	
	1st IF (729.9 MHz)	< -80 dBc
	2nd IF (89.9 MHz)	< -80 dBc
Residual spurious response	0 dB RF attenuation	
	f ≤ 1 MHz	< -90 dBm
	f > 1 MHz	< -103 dBm
Local oscillator related spurious	f < 15 GHz	
	1 kHz ≤ carrier offset ≤ 10 MHz	< -70 dBc
	carrier offset > 10 MHz	< -80 dBc
	15 GHz ≤ f < 30 GHz	
	1 kHz ≤ carrier offset ≤ 10 MHz	< -64 dBc
	carrier offset > 10 MHz	< -74 dBc
	30 GHz ≤ f ≤ 40 GHz	
	1 kHz ≤ carrier offset ≤ 10 MHz	< -58 dBc
	carrier offset > 10 MHz	< -68 dBc
Other interfering signals		
Subharmonic of 1st LO	20 MHz ≤ f < 7 GHz, spurious at 8410 MHz - 2 × f _{in}	< -70 dBc
Harmonic of 1st LO	mixer level < -25 dBm, spurious at f _{in} - 4205 MHz	< -70 dBc

Level display		
Logarithmic level axis		1 dB to 200 dB, in steps of 1/2/5
Linear level axis		10 % of reference level per level division, 10 divisions or logarithmic scaling
Number of traces		6
Trace detector		max. peak, min. peak, auto peak (normal), sample, RMS, average
Trace functions		clear/write, max. hold, min. hold, average, view
Setting range of reference level		-130 dBm to (-10 dBm + RF attenuation - RF preamplifier gain), in steps of 0.01 dB
Units of level axis	logarithmic level display	dBm, dBμV, dBmV, dBμA, dBpW
	linear level display	μV, mV, μA, mA, pW, nW

Level measurement uncertainty		
Absolute level uncertainty at 64 MHz	RBW = 10 kHz, level –10 dBm, reference level –10 dBm, RF attenuation 10 dB	
	+20 °C to +30 °C	< 0.2 dB ($\sigma = 0.07$ dB)
	0 °C to +50 °C	< 0.35 dB ($\sigma = 0.12$ dB) (nom.)
Frequency response referenced to 64 MHz	DC coupling, RF attenuation 10 dB, 20 dB, 30 dB, 40 dB, RF preamplifier = off, +20 °C to +30 °C	
	9 kHz $\leq f < 10$ MHz	< 0.5 dB ($\sigma = 0.17$ dB)
	10 MHz $\leq f < 3.6$ GHz	< 0.3 dB ($\sigma = 0.1$ dB)
	3.6 GHz $\leq f < 7$ GHz	< 0.5 dB ($\sigma = 0.17$ dB)
	7 GHz $\leq f < 13.6$ GHz, span < 1 GHz	< 1.5 dB ($\sigma = 0.5$ dB)
	13.6 GHz $\leq f < 30$ GHz, span < 1 GHz	< 2 dB ($\sigma = 0.66$ dB)
	30 GHz $\leq f \leq 40$ GHz, span < 1 GHz	< 2.5 dB ($\sigma = 0.83$ dB)
	any setting of RF attenuation, RF preamplifier = off, 5 °C to +40 °C	
	9 kHz $\leq f < 3.6$ GHz	< 1 dB ($\sigma = 0.33$ dB)
	3.6 GHz $\leq f < 7$ GHz	< 1.5 dB ($\sigma = 0.5$ dB)
	7 GHz $\leq f < 13.6$ GHz	< 2.5 dB ($\sigma = 0.83$ dB)
	13.6 GHz $\leq f < 30$ GHz	< 3 dB ($\sigma = 1$ dB)
	30 GHz $\leq f \leq 40$ GHz	< 3.5 dB ($\sigma = 1.33$ dB)
	any setting of RF attenuation, RF preamplifier = on, 5 °C to +40 °C	
	9 kHz $\leq f < 3.6$ GHz	< 1 dB ($\sigma = 0.33$ dB)
	3.6 GHz $\leq f < 7$ GHz	< 1.5 dB ($\sigma = 0.5$ dB)
	7 GHz $\leq f < 13.6$ GHz	< 3 dB ($\sigma = 1$ dB)
	13.6 GHz $\leq f < 30$ GHz	< 3.5 dB ($\sigma = 1.17$ dB)
	30 GHz $\leq f \leq 40$ GHz	< 4 dB ($\sigma = 1.33$ dB)
	DC coupling, RF preamplifier = off, 5 °C to +40 °C	
10 Hz $\leq f < 20$ Hz	< 1.5 dB (nom.)	
20 Hz $\leq f < 9$ kHz	< 1 dB ($\sigma = 0.33$ dB)	
Attenuator switching uncertainty	f = 64 MHz, 0 dB to 70 dB, referenced to 10 dB attenuation	< 0.2 dB ($\sigma = 0.07$ dB)
Uncertainty of reference level setting		0 dB ³ (nom)
Bandwidth switching uncertainty	referenced to RBW = 10 kHz	
	sweep filters	< 0.1 dB ($\sigma = 0.04$ dB)
	FFT filters	< 0.2 dB ($\sigma = 0.07$ dB)
Nonlinearity of displayed level		
Logarithmic level display	+5 °C to +40 °C, S/N > 16 dB	
	0 dB to –70 dB	< 0.1 dB ($\sigma = 0.04$ dB)
Linear level display	S/N > 16 dB, 0 dB to –70 dB	5 % of reference level
Total measurement uncertainty		
signal level 0 dB to –70 dB below reference level, S/N > 20 dB, sweep time auto, sweep type = sweep, RF attenuation 10 dB, 20 dB, 30 dB, 40 dB, RF preamplifier = off, span/RBW < 100, 95 % confidence level, +20 °C to +30 °C		
	9 kHz $\leq f < 10$ MHz	0.39 dB
	10 MHz $\leq f < 3.6$ GHz	0.28 dB
	3.6 GHz $\leq f < 7$ GHz	0.39 dB
	7 GHz $\leq f < 13.6$ GHz	1 dB
	13.6 GHz $\leq f < 30$ GHz	1.32 dB
	30 GHz $\leq f \leq 40$ GHz	1.65 dB

³ The setting of the reference level affects only the graphical representation of the measurement result on the display, not the measurement itself. Therefore, the reference level setting causes no additional uncertainty in measurement results.

Trigger functions

Trigger		
Trigger source		free run, video, external, IF power
	signal analysis bandwidth > 40 MHz	free run, external
Trigger offset	span \geq 10 Hz	31.25 ns to 30 s, min. resolution 31.25 ns (or 1 % of offset)
	span = 0 Hz	(–sweep time) to 30 s, min. resolution 31.25 ns (or 1 % of offset)
Max. deviation of trigger offset		$\pm(7.8125 \text{ ns} + (0.1 \% \times \text{trigger offset}))$
IF power trigger		
Sensitivity	min. signal power	–60 dBm + RF attenuation – RF preamplifier gain
	max. signal power	–10 dBm + RF attenuation – RF preamplifier gain
IF power trigger bandwidth	RBW > 500 kHz, swept	40 MHz (nom.)
	RBW > 20 kHz, FFT	
	RBW \leq 500 kHz, swept	6 MHz (nom.)
	RBW \leq 20 kHz, FFT	
Gated sweep		
Gate source		video, external, IF power
Gate delay		31.25 ns to 30 s, min. resolution 31.25 ns (or 1 % of delay)
Gate length		31.25 ns to 30 s, min. resolution 31.25 ns (or 1 % of gate length)
Max. deviation of gate length		$\pm(7.8125 \text{ ns} + (0.1 \% \times \text{gate length}))$

I/Q data

Interface		GPIB or LAN interface
Memory length		max. 200 Msample I and Q
Word length of I/Q samples	sampling rate > 64 MHz or number of samples > 100 Msample	18 bit
	otherwise	24 bit
Sampling rate	all models	100 Hz to 45 MHz
	with R&S®FPS-B40 option	100 Hz to 128 MHz
	with R&S®FPS-B160 option	100 Hz to 400 MHz
Max. signal analysis bandwidth (equalized)	$f \leq 7$ GHz	
	all models	28 MHz
	with R&S®FPS-B40 option	40 MHz
	with R&S®FPS-B160 option	160 MHz

Signal analysis bandwidth ≤ 40 MHz ⁴

Amplitude flatness	$f \leq 7$ GHz	± 0.3 dB (nom.)
Deviation from linear phase	$f \leq 7$ GHz	$\pm 1^\circ$ (nom.)
Nonlinearity of displayed level		see section Nonlinearity of displayed level
Level measurement uncertainty (at center frequency)		see section Total measurement uncertainty
Displayed average noise level (at center frequency)		see section Displayed average noise level
ADC related third-order intermodulation distortion	$f \geq 100$ MHz two -30 dBm tones at input mixer within analysis bandwidth	-80 dBc (nom.)
Residual spurious response	RF attenuation 0 dB, $f \geq 100$ MHz	-90 dBm (nom.)
Other spurious responses		see section Spurious responses

Signal analysis bandwidth 40 MHz to 160 MHz ⁵

The specifications in this section apply for a maximum frequency of 7 GHz.

Amplitude flatness	RF attenuation ≥ 10 dB, RF preamplifier = off	
	$100 \text{ MHz} \leq f < 4 \text{ GHz}$	± 0.7 dB (nom.) ⁶
	$4 \text{ GHz} \leq f < 6 \text{ GHz}$	± 1.0 dB (nom.) ⁶
	$6 \text{ GHz} \leq f \leq 7 \text{ GHz}$	± 1.5 dB (nom.) ⁶
Deviation from linear phase	RF attenuation ≥ 10 dB, RF preamplifier = off	
	$100 \text{ MHz} \leq f < 4 \text{ GHz}$	$\pm 2^\circ$ (nom.) ⁷
	$4 \text{ GHz} \leq f < 6 \text{ GHz}$	$\pm 2.5^\circ$ (nom.) ⁷
	$6 \text{ GHz} \leq f \leq 7 \text{ GHz}$	$\pm 3^\circ$ (nom.) ⁷
Nonlinearity of displayed level	0 dB to -70 dB	< 0.15 dB (nom.)
Level measurement uncertainty (at center frequency)		add 0.2 dB (nom.) to the values in section "Total measurement uncertainty"
Displayed average noise level (at center frequency)		add 5 dB (nom.) to the values in section "Displayed average noise level"
ADC related third-order intermodulation distortion	$f \geq 100$ MHz two -30 dBm tones at input mixer within analysis bandwidth	-65 dBc (nom.)
Residual spurious response	RF attenuation 0 dB, $f \geq 100$ MHz	-90 dBm (nom.)
Image response	$f \geq 100$ MHz	-65 dBc (nom.)
ADC related spurious response	$f \geq 100$ MHz mixer level = -20 dBm reference level = signal level single tone within analysis bandwidth	-65 dBc (nom.)
Other spurious responses		see section "Spurious responses"

⁴ Requires R&S®FPS-B40 or R&S®FPS-B160 option.

⁵ Requires R&S®FPS-B160 option.

⁶ With R&S®FPS-B24 option installed, add 0.2 dB to the specifications.

⁷ With R&S®FPS-B24 option installed, add 1° to the specifications.

Inputs and outputs

RF input		
Impedance		50 Ω
Connector	R&S®FPS4, R&S®FPS7, R&S®FPS13	N female
	R&S®FPS30	APC 3.5 mm/N female test port adapter
	R&S®FPS40	2.92 mm (K)/N female test port adapter
VSWR	RF attenuation ≥ 10 dB	
	10 MHz ≤ f < 3.6 GHz	< 1.5, typ. 1.3 (typ.)
	3.6 GHz ≤ f < 20 GHz	< 2, typ. 1.8 (typ.)
	20 GHz ≤ f < 27 GHz	< 2, typ. 2, 2 (typ.)
	27 GHz ≤ f < 30 GHz	
	DC-coupled	< 2.2, typ. 2 (typ.)
	AC-coupled	2.5 (typ.)
	30 GHz ≤ f ≤ 40 GHz	
	DC-coupled	< 2.5, typ. 2.2
	AC-coupled	3 (typ.)
	RF attenuation < 10 dB, DC-coupled	
	10 MHz ≤ f < 7 GHz	2 (meas.)
	7 GHz ≤ f < 30 GHz	2.5 (typ.)
30 GHz ≤ f ≤ 40 GHz	3 (typ.)	
Setting range of attenuator	standard	0 dB to 75 dB, in 5 dB steps
	with R&S®FPS-B25 option	0 dB to 75 dB, in 1 dB steps
Setting range of electronic attenuator	with R&S®FPS-B25 option, f ≤ 7 GHz	0 dB to 25 dB, in 1 dB steps
	with R&S®FPS-B25 option, f > 7 GHz	0 dB to 9 dB, in 1 dB steps
RF preamplifier gain	with R&S®FPS-B22 option	20 dB (nom.)
	with R&S®FPS-B24 option	
	f ≤ 7 GHz	20 dB (nom.)
	f > 7 GHz	30 dB (nom.)
USB interface		
	front	3 ports, type A plug, version 2.0
	rear	4 ports, type A plug, version 2.0
		1 port, type B plug, version 2.0
Reference output		
Connector		BNC female
Impedance		50 Ω (nom.)
Output frequency	internal reference	10 MHz
	external reference	same as reference input signal
Level		> 0 dBm (nom.)
Reference input		
Connector		BNC female
Impedance		50 Ω (nom.)
Input frequency range		1 MHz ≤ f _n ≤ 20 MHz, in 100 kHz steps
Required level		> 0 dBm into 50 Ω (nom.)
External trigger/gate input		
Connector		BNC female
Trigger voltage		0.5 V to 3.5 V (nom.)
Input impedance		10 kΩ (nom.)
External Trigger2 (switchable trigger input/ trigger output)		
Connector		BNC female
Trigger input		
Trigger voltage		0.5 V to 3.3 V (nom.), min. 0 V, max. 5 V
Input impedance		10 kΩ (nom.)
Trigger output		
Trigger voltage	waiting for trigger/triggered state	TTL-compatible, 0 V/3.3 V (nom.)

IF/video output		
Connector		BNC female
IF out		
Impedance		50 Ω , (nom.)
Bandwidth		equal to RBW setting
IF frequency		32 MHz (nom.)
Output level (gain versus RF input)	RF attenuation 0 dB, RF preamplifier off, span 0 Hz	0 dB (nom.)
Video out		
Impedance		50 Ω (nom.)
Bandwidth		equal to VBW setting
Output scaling	log. display scale	logarithmic
	lin. display scale	linear
Output level	center frequency > 10 MHz, span 0 Hz, signal at reference level and center frequency	1 V (nom.) open circuit
IEC/IEEE bus control		
Command set		SCPI 1997.0
Connector		24-pin Amphenol female
Interface functions		SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT1, C0
LAN interface		
Connector		10/100/1000BaseT RJ-45
PCIe cable interface		
Connector	dedicated output	PCIe x1 Gen 1 (single lane) 2 \times 18-pin Molex [®] TDP [®] cable connector
External monitor		
Connector		HDMI DVI (digital outputs only)
External generator control		
Interface		LAN PCIe cable interface
Supported signal generators	LAN	R&S [®] SGS100A12, R&S [®] SGS100A6, R&S [®] SGT100A, R&S [®] SMA01A, R&S [®] SMA100A3, R&S [®] SMA100A6, R&S [®] SMB100A1, R&S [®] SMB100A12, R&S [®] SMB100A2, R&S [®] SMB100A20, R&S [®] SMB100A3, R&S [®] SMB100A40, R&S [®] SMB100A6, R&S [®] SMBV100A3, R&S [®] SMBV100A6, R&S [®] SMC100A1, R&S [®] SMC100A3, R&S [®] SMF100A, R&S [®] SMF22, R&S [®] SMF22B2, R&S [®] SMF43, R&S [®] SMF43B2, R&S [®] SMJ03, R&S [®] SMJ06, R&S [®] SMU02, R&S [®] SMU02B31, R&S [®] SMU03, R&S [®] SMU03B31, R&S [®] SMU04, R&S [®] SMU04B31, R&S [®] SMU06, R&S [®] SMU06B31, R&S [®] SMW03, R&S [®] SMW06, R&S [®] SMF100A, R&S [®] SMF22, R&S [®] SMF22B2, R&S [®] SMF43, R&S [®] SMF43B2
	PCIe cable interface	R&S [®] SGS100A12, R&S [®] SGS100A6, R&S [®] SGT100A

General data

Data storage		
Internal		solid state module \geq 30 Gbyte (nom.) removable
External		supports USB-2.0-compatible memory devices

Environmental conditions		
Temperature	operating temperature range	+5 °C to +40 °C
	permissible temperature range	0 °C to +50 °C
	storage temperature range	-40 °C to +70 °C
Climatic loading		+40 °C at 90 % rel. humidity, in line with EN 60068-2-30

Mechanical resistance		
Vibration	sinusoidal	5 Hz to 55 Hz, 0.15 mm constant amplitude (1.8 g at 55 Hz) in line with EN 60068-2-6
		55 Hz to 150 Hz acceleration: 0.5 g constant, in line with EN 60068-2-6
	random	10 Hz to 300 Hz, acceleration 1.2 g (RMS), in line with EN 60068-2-64
Shock		40 g shock spectrum, in line with MIL-STD-810E Method No. 516.4 Procedure I

EMC		
		in line with EMC Directive 2004/108/EC including:
		IEC/EN 61326-1 ^{8, 9}
		IEC/EN 61326-2-1
		CISPR 11/EN 55011 ⁸
		IEC/EN 61000-3-2
		IEC/EN 61000-3-3

Recommended calibration interval		
		1 year

Power supply		
AC supply		100 V to 240 V, max. 3.5 A 50 Hz to 60 Hz/400 Hz, class of protection I in line with VDE 411
Power consumption	R&S®FPS4, R&S®FPS7	125 W (nom.), max.160 W with all options (meas.)
	R&S®FPS13, R&S®FPS30, R&S®FPS40	165 W (nom.), max.210 W with all options (meas.)
Safety		in line with EN 61010-1, IEC 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1
Test mark		VDE, GS, CSA, CSA-NRTL

Dimensions and weight		
Dimensions (nom.)	W × H × D	461 mm × 107 mm × 551 mm (18.15 in × 4.21 in × 21.69 in)
Net weight without options (nom.)	R&S®FPS4, R&S®FPS7	10.1 kg (22.27 lb)
	R&S®FPS13	10.9 kg (24.03 lb)
	R&S®FPS30	11.3 kg (24.92 lb)
	R&S®FPS40	11.7 kg (25.80 lb)

⁸ Emission limits for class A equipment.

⁹ Immunity test requirement for industrial environment (EN 61326 table 2).

Ordering information

Designation	Type	Order No.
Signal and Spectrum Analyzer	R&S®FPS4	1319.2008.04
Signal and Spectrum Analyzer	R&S®FPS7	1319.2008.07
Signal and Spectrum Analyzer	R&S®FPS13	1319.2008.13
Signal and Spectrum Analyzer	R&S®FPS30	1319.2008.30
Signal and Spectrum Analyzer	R&S®FPS40	1319.2008.40
Accessories supplied		
Power cable, quick start guide and CD-ROM (with operating manual and service manual)		
R&S®FPS30: adapter 3.5 mm (APC3.5-compatible) female/female		
R&S®FPS40: adapter 2.92 mm female/female		

Options

Designation	Type	Order No.	Retrofittable	Remarks
Hardware				
Rear RF Input	R&S®FPS-B0	1321.4310.02	no	for R&S®FPS4 and R&S®FPS7
OXC0 Reference Frequency	R&S®FPS-B4	1321.4291.02	yes	retrofit in service center
External Generator Control	R&S®FPS-B10	1321.4256.02	yes	preinstalled
Spare Solid-State-Drive	R&S®FPS-B18	1321.4304.02	yes	
RF Preamplifier (9 kHz to 7 GHz)	R&S®FPS-B22	1321.4027.02	yes	user-retrofittable
Electronic Attenuator, 1 dB steps	R&S®FPS-B25	1321.4033.02	yes	user-retrofittable
RF Preamplifier (9 kHz to 13.6 GHz)	R&S®FPS-B24	1321.4279.13	no	
RF Preamplifier (9 kHz to 30 GHz)	R&S®FPS-B24	1321.4279.30	no	
RF Preamplifier (9 kHz to 40 GHz)	R&S®FPS-B24	1321.4279.40	no	
40 MHz Analysis Bandwidth	R&S®FPS-B40	1321.4040.02	yes	user-retrofittable, for frequencies ≤ 7 GHz
160 MHz Analysis Bandwidth	R&S®FPS-B160	1321.4285.02	yes	for R&S®FPS4 and R&S®FPS7 retrofit in service center
160 MHz Analysis Bandwidth	R&S®FPS-B160	1321.4285.13	yes	for R&S®FPS13 for frequencies ≤ 7 GHz, retrofit in service center
160 MHz Analysis Bandwidth	R&S®FPS-B160	1321.4285.40	yes	for R&S®FPS30 and R&S®FPS40 for frequencies ≤ 7 GHz retrofit in service center
Firmware/software				
Analog Modulation Analysis for AM, FM, φM	R&S®FPS-K7	1321.4079.02		
GSM/EDGE/EDGE Evolution/ VAMOS Measurements	R&S®FPS-K10	1321.4091.02		
Vector Signal Analysis	R&S®FPS-K70	1321.4127.02		
3GPP FDD (WCDMA) BS Measurements (incl. HSDPA and HSDPA+)	R&S®FPS-K72	1321.4133.02		
3GPP FDD (WCDMA) MS Measurements (incl. HSUPA and HSUPA+)	R&S®FPS-K73	1321.4140.02		
TD-SCDMA BS Measurements	R&S®FPS-K76	1321.4379.02		
TD-SCDMA UE Measurements	R&S®FPS-K77	1321.4385.02		
CDMA2000® BS Measurements	R&S®FPS-K82	1321.4156.02		
CDMA2000® MS Measurements	R&S®FPS-K83	1321.4162.02		
1xEV-DO BS Measurements	R&S®FPS-K84	1321.4179.02		
1xEV-DO MS Measurements	R&S®FPS-K85	1321.4185.02		
WLAN 802.11a/b/g Measurements	R&S®FPS-K91	1321.4191.02		
WLAN 802.11n Measurements	R&S®FPS-K91n	1321.4204.02		requires R&S®FPS-K91 and R&S®FPS-B40 or R&S®FPS-B 160
WLAN 802.11p Measurements	R&S®FPS-K91p	1321.4391.02		requires R&S®FPS-K91
WLAN 802.11ac Measurements	R&S®FPS-K91ac	1321.4210.02		requires R&S®FPS-K91 and R&S®FPS-B 160
EUTRA/LTE FDD Downlink Measurements	R&S®FPS-K100	1321.4227.02		
EUTRA/LTE FDD Uplink Measurements	R&S®FPS-K101	1321.4340.02		
EUTRA/LTE Downlink MIMO Measurements	R&S®FPS-K102	1321.4333.02		requires R&S®FPS-K100 or R&S®FPS-K104
EUTRA/LTE TDD Downlink Measurements	R&S®FPS-K104	1321.4233.02		
EUTRA/LTE TDD Uplink Measurements	R&S®FPS-K105	1321.4362.02		

Recommended extras

Designation	Type	Order No.
IEC/IEEE Bus Cable, length: 1 m	R&S®PCK	0292.2013.10
IEC/IEEE Bus Cable, length: 2 m	R&S®PCK	0292.2013.20
19" Rack Adapter	R&S®ZZA-478	1175.3010.00
19" Rack Adapter, pre installed ex factory	R&S®FPS-B478	1321.4262.02
Matching pads, 50/75 Ω		
L Section, matching at both ends	R&S®RAM	0358.5414.02
Series Resistor, 25 Ω, matching at one end (taken into account in instrument function RF INPUT 75 Ω)	R&S®RAZ	0358.5714.02
SWR bridges, 50 Ω		
SWR Bridge, 5 MHz to 3 GHz	R&S®ZRB2	0373.9017.5x
SWR Bridge, 40 kHz to 4 GHz	R&S®ZRC	1039.9492.5x
High-power attenuators		
Attenuator, 100 W, 3/6/10/20/30 dB, 1 GHz	R&S®RBU100	1073.8495.xx (xx = 03/06/10/20/30)
Attenuator, 50 W, 3/6/10/20/30 dB, 2 GHz	R&S®RBU50	1073.8695.xx (xx = 03/06/10/20/30)
Attenuator, 50 W, 20 dB, 6 GHz	R&S®RDL50	1035.1700.52
Connectors and cables		
N-type Adapter for R&S®RT-Zx Oscilloscope probes	R&S®RT-ZA9	1417.0909.02
Probe Power Connector, 3-pin		1065.9480.00
LVDS Cable, for connecting digital baseband interfaces	R&S®SMU-Z6	1415.0201.02
DC blocks		
DC Block, 10 kHz to 18 GHz (type N)	R&S®FSE-Z4	1084.7443.02

Service options		
Extended Warranty, one year	R&S®WE1	Please contact your local Rohde & Schwarz sales office.
Extended Warranty, two years	R&S®WE2	
Extended Warranty, three years	R&S®WE3	
Extended Warranty, four years	R&S®WE4	
Extended Warranty with Calibration Coverage, one year	R&S®CW1	
Extended Warranty with Calibration Coverage, two years	R&S®CW2	
Extended Warranty with Calibration Coverage, three years	R&S®CW3	
Extended Warranty with Calibration Coverage, four years	R&S®CW4	

Extended warranty with a term of one to four years (WE1 to WE4)

Repairs carried out during the contract term are free of charge ¹⁰. Necessary calibration and adjustments carried out during repairs are also covered. Simply contact the forwarding agent we name; your product will be picked up free of charge and returned to you in top condition a couple of days later.

Extended warranty with calibration (CW1 to CW4)

Enhance your extended warranty by adding calibration coverage at a package price. This package ensures that your Rohde & Schwarz product is regularly calibrated, inspected and maintained during the term of the contract. It includes all repairs ¹⁰ and calibration at the recommended intervals as well as any calibration carried out during repairs or option upgrades.

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¹⁰ Excluding defects caused by incorrect operation or handling and force majeure. Wear-and-tear parts are not included.

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Certified Quality Management

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Certified Environmental Management

ISO 14001

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R&S®FPS Signal and Spectrum Analyzer

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