

스펙

FSWP 위상 노이즈 분석기 및 VCO 테스터



Base unit		
Frequency		
Frequency range, RF input		
Phase noise, amplitude noise measurement	R&S®FSWP8	1 MHz to 8 GHz
	R&S®FSWP26	1 MHz to 26.5 GHz
	R&S®FSWP50	1 MHz to 50 GHz
Phase noise measurement		
Measurement results		SSB phase noise, spurious signals, integrated RMS phase deviation, residual FM, time jitter
Offset frequency range	input signal ≤ 1 GHz	10 mHz to 30 % of carrier frequency
	input signal > 1 GHz	10 mHz to 300 MHz

Phase noise sensitivity with R&S®FSWP-B60 option (no. of correlations = 1, start offset = 1 Hz) ¹⁾									
RF input frequency	Offset from carrier								
	1 Hz	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	≥ 30 MHz
1 GHz	-56	-88	-116	-143	-166	-173	-173	-173	-173

Phase noise sensitivity with R&S®FSWP-B61 option (no. of correlations = 1, start offset = 1 Hz) ¹⁾									
RF input frequency	Offset from carrier								
	1 Hz	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	≥ 30 MHz
1 GHz	-72	-95	-120	-150	-166	-173	-173	-173	-173

Amplitude noise measurement									
Offset frequency range	input signal ≤ 100 MHz		10 mHz to 30 % of carrier frequency						
	input signal > 100 MHz		10 mHz to 30 MHz						
AM noise sensitivity ¹⁾									
RF input frequency	Offset from carrier								
	1 Hz	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	30 MHz
1 GHz	-105	-120	-135	-150	-158	-165	-165	-165	-165

Additive phase noise measurement (R&S®FSWP-B64 option)									
Signal source									
Frequency range	R&S®FSWP8	10 MHz to 8 GHz							
	R&S®FSWP26	10 MHz to 18 GHz							
	R&S®FSWP50	10 MHz to 18 GHz							
Additive phase noise measurement									
Offset frequency range	input signal ≤ 100 MHz		10 mHz to 30 % of carrier frequency						
	input signal > 100 MHz		10 MHz to 30 MHz						
AM noise sensitivity ¹⁾									
RF input frequency	Offset from carrier								
	1 Hz	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	3 MHz	
1 GHz	-115	-123	-137	-147	-160	-165	-165	-161	
10 GHz	-85	-104	-120	-138	-148	-154	-164	-160	

¹⁾ Values in dBc (1 Hz).

R&S®FSWP-B1 signal and spectrum analyzer option		
Frequency range	R&S®FSWP8	10 Hz to 8 GHz
	R&S®FSWP26	10 Hz to 26.5 GHz
	R&S®FSWP50	10 Hz to 50 GHz
Aging per year		±1 × 10 ⁻⁷ /year
	with R&S®FSWP-B4 option	±3 × 10 ⁻⁸ /year
Resolution bandwidths	standard filter	1 Hz to 10 MHz with R&S®FSWP-B8 option: 20 MHz, 50 MHz, 80 MHz additionally

Resolution bandwidths	RRC filter	18 kHz (NADC), 24.3 kHz (TETRA), 3.84 MHz (3GPP)
	channel filter	100 Hz to 5 MHz
	video filter	1 Hz to 10 MHz
I/Q demodulation bandwidths		10 MHz
	with R&S [®] FSWP-B80 option	80 MHz
Displayed average noise level (DANL)	2 GHz	typ. -150 dBm (1 Hz)
	8 GHz	typ. -150 dBm (1 Hz)
	20 GHz	typ. -145 dBm (1 Hz)
	40 GHz	typ. -137 dBm (1 Hz)
DANL with preamplifier	8 GHz	typ. -162 dBm (1 Hz)
	20 GHz	typ. -160 dBm (1 Hz)
	40 GHz	typ. -156 dBm (1 Hz)
Phase noise	1 GHz carrier frequency, 10 kHz offset	typ. -138 dBm (1 Hz)
Total measurement uncertainty	< 8 GHz	< 0.4 dB

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