

Frequency		
Frequency range	with the R&S [®] SGS-B106 option	1 MHz to 6 GHz
	with the R&S [®] SGS-B106 and R&S [®] SGS-B112 options	1 MHz to 12.75 GHz
	with the R&S [®] SGS-B106 and R&S [®] SGS-B112 options plus the R&S [®] SGU100A with the R&S [®] SGU-B120 option	10 MHz to 20 GHz
	with the R&S [®] SGS-B106 and R&S [®] SGS-B112 options plus the R&S [®] SGU100A with the R&S [®] SGU-B120 option and R&S [®] SGU-B140 option	10 MHz to 40 GHz
	with the R&S [®] SGS-B106V option	80 MHz to 6 GHz
	with the R&S [®] SGS-B106V and R&S [®] SGS-B112V options	80 MHz to 12.75 GHz
	with the R&S [®] SGS-B106V and R&S [®] SGS-B112V options plus the R&S [®] SGU100A with the R&S [®] SGU-B120V option	80 MHz to 20 GHz
	with the R&S [®] SGS-B106V and R&S [®] SGS-B112V options plus the R&S [®] SGU100A with the R&S [®] SGU-B120V option and the R&S [®] SGU-B140V	80 MHz to 40 GHz
Setting time	with PCIe remote control	
	R&S [®] SGS100A alone	< 500 μs
	R&S [®] SGS100A together with R&S [®] SGU100A	< 2 ms
Input frequency for external reference	into R&S [®] SGS100A	10 MHz, 100 MHz, 1000 MHz
Level		
Specified level range	for the R&S [®] SGS100A	-10 dBm to +15 dBm (PEP) ¹⁾
	with the R&S [®] SGS-B26 option	-120 dBm to +15 dBm (PEP) ¹⁾
	for the R&S [®] SGS100A together with the R&S [®] SGU100A	
	50 MHz < f ≤ 12 GHz (bypass mode)	-10 dBm to +15 dBm (PEP) ¹⁾
	12 GHz < f ≤ 20 GHz	-10 dBm to +17 dBm (PEP) ¹⁾
	12 GHz < f ≤ 40 GHz with the R&S [®] SGU-B140/B140V	-10 dBm to +15 dBm (PEP) ¹⁾
	for the R&S [®] SGS100A together with the R&S [®] SGU100A and the R&S [®] SGU-B26 option	
	50 MHz < f ≤ 12 GHz (bypass mode)	-100 dBm to +13 dBm (PEP) ¹⁾
12 GHz < f ≤ 20 GHz	-100 dBm to +15 dBm (PEP) ¹⁾	
Level error	Setting Characteristic: AUTO; temperature range from +18 °C to +33 °C	
	1 MHz ≤ f ≤ 3 GHz (R&S [®] SGS100A alone)	< 0.5 dB
	3 GHz < f ≤ 12.75 GHz (R&S [®] SGS100A alone)	< 0.9 dB
	12 GHz < f ≤ 20 GHz (R&S [®] SGS100A together with R&S [®] SGU100A), level > -30 dBm	< 0.9 dB
Output impedance VSWR in 50 Ω system	in full frequency range, with the R&S [®] SGS-B26 option (R&S [®] SGS100A alone)	< 1.8
	in full frequency range (R&S [®] SGS100A together with R&S [®] SGU100A)	< 1.7 (meas.)
Setting time	with PCIe remote control, Setting Characteristic: AUTO	
	R&S [®] SGS100A alone	< 500 μs
	R&S [®] SGS100A together with R&S [®] SGU100A	< 2 ms (without switching of the mechanical attenuator)
	R&S [®] SGS100A together with R&S [®] SGU100A plus R&S [®] SGU-B26	< 25 ms (with switching of the mechanical attenuator)
Spectral purity		
Harmonics	level ≤ 8 dBm, CW, I/Q wideband OFF	< -30 dBc
Nonharmonics	level > -10 dBm ²⁾ , offset > 10 kHz from carrier, f ≤ 1.5 GHz (for R&S [®] SGS100A)	< -76 dBc
Subharmonics	level > -10 dBm ²⁾ , f ≤ 3 GHz	< -76 dBc
Wideband noise	1 MHz ≤ f ≤ 6 GHz and 10 MHz carrier offset, 6 GHz < f ≤ 12.75 GHz and 30 MHz carrier offset, auto mode, level > 5 dBm, 1 Hz measurement bandwidth, CW	
	R&S [®] SGS100A alone	< -145 dBc
	R&S [®] SGS100A together with R&S [®] SGU100A	
	CW, f ≤ 12 GHz	< -140 dBc (meas.)
	CW, f > 12 GHz	< -142 dBc
SSB phase noise	20 kHz carrier offset, 1 Hz measurement bandwidth	
	f = 1 GHz	< -126 dBc; -130 dBc (typ.)
	f = 10 GHz	< -106 dBc; -110 dBc (typ.)
I/Q modulation		
I/Q modulator bandwidth (RF)	100 MHz < f ≤ 2.5 GHz, I/Q wideband	40% of carrier frequency
	2.5 GHz < f ≤ 12.25 GHz, I/Q wideband	1 GHz
	f > 12 GHz (R&S [®] SGS100A together with R&S [®] SGU100A)	2 GHz
Error vector	measured with 16QAM, filter root cosine α = 0.5, 10 kHz symbol rate	
	f > 80 MHz, RMS, 10 kHz symbol rate (R&S [®] SGS100A alone)	< (0.4 % + 0.2 % × f/GHz)
	f > 12 GHz, RMS, 10 MHz symbol rate (R&S [®] SGS100A together with R&S [®] SGU100A)	< (2 % + 0.04 % × f/GHz)
ACLR	WCDMA 3GPP FDD, TM 1/64, frequency range from 1800 MHz to 2200 MHz (R&S [®] SGS100A alone)	> 67 dB; 69.5 dB (meas.)

Baseband bypass mode		
Frequency range		1 MHz ≤ f ≤ 80 MHz
Specified level range	R&S®SGS100A alone	-5 dBm to +15 dBm
	with the R&S®SGS-B26 option	-120 dBm to +15 dBm
Remote control	using Rohde & Schwarz instrument driver	PCIe (single lane)
	using SCPI 1999.5 or compatible command sets	Ethernet (TCP/IP) 10/100/1000BaseT
	using SCPI 1999.5 or compatible command sets	USB 2.0
General data		
Power consumption	R&S®SGS100A alone	70 W (meas.)
	R&S®SGU100A alone	40 W (meas.)
Dimensions	W × H × D, per unit	250 mm × 52.5 mm × 401 mm
		(9.84 in × 2.07 in × 15.79 in)
Weight	when fully equipped	1 HU, ½ 19" rack width
		4.0 kg

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