

TALON[®] POWER SYSTEMS SG9000 Competitive Product Matrix: Key Performance Specifications				
Performance Specification	SG9000	Keysight AP5001A (with 1E1 option)	Siglent SSG3021X	Rigol DSG815
Frequency Range & Reference Clock				
Frequency Range:	400 kHz to 400 MHz	9 kHz to 3.0 GHz	9 kHz to 2.1 GHz	9 kHz to 1.5 GHz
Frequency Resolution Step Size:	1 Hz	0.001 Hz	0.01	0.01 Hz
Channel Storage:	50	Not Specified	Not Specified	Not Specified
Reference Clock/Stability:	50 MHz 0.5 ppm; 1 GHz TCXO 1 ppm Option 020	10 MHz 1 ppm	10 MHz 1 ppm	10 MHz 2 ppm
RF Power & Level Control				
RF Power Range:	-135 dBm to +10 dBm	-120 dBm to +17 dBm (1E1 option), +10 dBm < 50 MHz	-110 dBm to +13 dBm	-110 dBm to +20 dBm
RF Power Step Resolution:	0.1 dB	0.01 dB	0.01 dB	0.01 dB
Level Uncertainty:	≤ 1.1 dB, ≤ -120 dBm: ≤1.8 dB	± 0.8 dB -20 to +10 dBm; ± 1.3 dB < -20 dBm	-50 dBm to -105 dBm: ≤1.1 dB, -105 dBm to -110 ≤1.8 dB	≤ 1.1 dB (-110 to -110 dBm)
RF Output VSWR:	≤ 1.8:1	1.8:1	1.8:1 nominal	1.8:1 typical
RF Output Trigger:	TTL On: High, Off: Low	TTL	Not Specified	Not Specified
Reverse RF Power Protection & DC Block				
Reverse RF Power Protection:	+30 dBm Max; protection threshold +20 dBm typical	+27 dBm	+30 dBm Max	1 W (+30 dBm) Max
DC Voltage Block:	50 VDC	5 VDC	50 VDC	50 VDC
Spectral Purity				
Narrowband 25 kHz SFDR:	-50 dBc (-60 dBc 1 GHz ref)	Not Specified	>10 kHz (1 MHz ≤f≤1.5 GHz < -63 dBc	Not Specified
Wideband SFDR:	-45 dBc (-55 dBc 1 GHz ref)	< -55 dBc	>10 kHz (1 MHz ≤f≤1.5 GHz < -63 dBc	< -60 dBc
Harmonics:	2nd: ≤ -40 dBc; 3rd: ≤ -45 dBc	< -30 dBc	< -30 dBc	< -30 dBc
SSB Phase Noise:	Standard 50 MHz TCXO: 122 dBc/Hz; Option 020 1 GHz TCXO: 139 dBc/Hz; Fc= 397.8 MHz, 20 kHz Offset	< -130 dBc/Hz; Fc=1 GHz, 20 kHz Offset	< -118 dBc/Hz typical; Fc=100 MHz, 20 kHz Offset	< -105 dBc/Hz; Fc=1.5 GHz, 20 kHz Offset
AM Modulation				
Frequency Range:	10 Hz to 100 kHz in 1 Hz steps	20 Hz to 50 kHz	10 Hz to 100 kHz < 3dB nominal	10 Hz to 100 kHz < 3dB nominal
Modulation Depth:	0% to 99% in 1% steps	0% to 95%	0% to 100% in 0.1% steps	0% to 100% in 0.1% steps
Double Sideband Suppressed Carrier (DBSC)				
Frequency Range:	10 Hz to 100 kHz in 1 Hz steps	Not Specified	Not Specified	Not Specified
FM Modulation				
Frequency Range:	10 Hz to 100 kHz in 1 Hz steps	1 Hz to 800 kHz	10 Hz to 100 kHz < 3dB nominal	10 Hz to 100 kHz < 3dB nominal
Deviation Range:	0 Hz to 100 kHz in 1 Hz steps		N*1 MHz (typical)	N*1 MHz (typical)
Digital Modulation				
APSK-32, BPSK & QPSK	Yes	NA	Yes (SSG3000X-IQE option)	NA
Pulse Modulation				
Pulse Repetition Frequency	DC to 100 kHz	DC to 32 MHz	20ns to 300s (SSG3000X-PT option)	DC to 1 MHz (DSG800-PUM Option)
Frequency Sweep				
Sweep Type:	Linear	Linear & Logarithmic	Linear & Logarithmic	Step sweep & list sweep
Sweep Range:	Full frequency range	Full frequency range	Full frequency range	Full level range
Sweep Mode:	Continuous		Continuous	Single & continuous
Dwell Time Range:	1ms to 10s	10 ms to 1s	1 ms to 100s	20ms to 100s
Dwell Time Resolution:	1 ms	50 μs	0.1 ms	
Trigger Output:	TTL High 15 μs	TTL	Not Specified	Auto, key, external bus
Remote Control Protocol & Software				
Protocol:	Standard Commands for Programmable Instruments (SCPI)	Standard Commands for Programmable Instruments (SCPI)	Standard Commands for Programmable Instruments (SCPI)	Standard Commands for Programmable Instruments (SCPI)
OS:	Windows 10/11	Windows 10	Windows 10	Windows 10
Port:	USB 2.0	USB: B, LAN	USB-A 2.0 & USB-B 2.0 & LAN	USB 2.0
Power Supply System				
DC Power:	10 to 33 VDC (<5 W @ 18 VDC); AC Adapter Supplied	6 VDC 20 W; AC Adapter Supplied	Not Specified	Not Specified
AC Power:	120 or 240 VAC, 50-60 Hz	100 to 240 VAC, 50 to 60 Hz, 65 W	100 to 240 VAC, 50 to 60 Hz, 35 W	100 to 240 VAC, 50 to 60 Hz, 50 W