





## A Technical and Pricing Overview of Four RF Signal Generators

Manufacturer	SRS	Agilent	SRS	Agilent
Model	<b>SG384</b>	<b>N5171B-503</b>	<b>SG394</b>	<b>N5172B-503</b>
Front panel image				
Frequency range	<b>DC to 4.05 GHz</b>	<b>9 kHz to 3 GHz</b>	<b>DC to 4.05 GHz</b>	<b>9 kHz to 3 GHz</b>
Frequency extension to 6 GHz	Yes (SG386)	Yes (N5171B-506)	Yes (SG396)	Yes (N5172B-506)
Frequency resolution	0.000001 Hz	0.01 Hz	0.000001 Hz	0.01 Hz
Frequency switching speed	8 ms	5 ms	8 ms	5 ms
Output power range	+13 to -110 dBm	+18 to -144 dBm	+13 to -110 dBm	+18 to -144 dBm
Output power resolution	0.01 dB	0.01 dB	0.01 dB	0.01 dB
Phase adjustment resolution at 1 GHz	0.1 degree	0.1 degree	0.1 degree	0.1 degree
Phase noise (1 GHz, 10 Hz offset)	-80 dBc/Hz	-62 dBc/Hz	-80 dBc/Hz	-62 dBc/Hz
Phase noise (1 GHz, 20 kHz offset)	-116 dBc/Hz	-122 dBc/Hz	-116 dBc/Hz	-122 dBc/Hz
Spurs (> 10 kHz offset, referenced to 1 GHz)	-75 dBc	-72 dBc	-75 dBc	-72 dBc
Standard timebase (temperature stability)	OCXO ( $\pm 0.002$ ppm)	TCXO ( $\pm 1$ ppm)	OCXO ( $\pm 0.002$ ppm)	TCXO ( $\pm 1$ ppm)
Optional timebase (temperature stability)	Rubidium ( $\pm 0.0001$ ppm), \$1500	No	Rubidium ( $\pm 0.0001$ ppm), \$1500	No
Modulation types	<b>Analog</b>	<b>Analog (Option)</b>	<b>Analog + Vector</b>	<b>Analog (Option) + Vector (Option)</b>
Analog modulation	AM, FM, $\emptyset$ M, sweeps, pulse	Opt UNT, \$553	AM, FM, $\emptyset$ M, sweeps, pulse	Opt UNT, \$831
External analog modulation input	Yes, $\pm 1.0$ V	With Opt UNT, $\pm 0.5$ V	Yes, $\pm 1.0$ V	With Opt UNT, $\pm 0.5$ V
Internal analog modulation source	Sine, ramp, saw, pulse, noise	Opt 303, \$1,656	Sine, ramp, saw, pulse, noise	Opt 303, \$1,656
Fast pulse modulation	Yes (20 ns)	Opt UNW, (10 ns), \$1,044	Yes (20 ns)	Opt UNW: (10 ns), \$1,044
Dual baseband generator for I/Q modulation	No	No	Yes	Opt 653, \$4,124
Vector modulation I/Q inputs and outputs	Option 3, \$750	No	Yes. 50 $\Omega$ , $\pm 0.5$ V	Yes. 50 $\Omega$ , $\pm 0.5$ V. (Outputs with Opt 653)
Digital filters (with real time computation)	No	No	Nyquist, root Nyquist, Gaussian, rectangular, linear, sinc, user FIR	With Opt 653: Nyquist, root Nyquist, Gaussian, rectangular, user FIR
Vector modulation support	No	No	PSK, QAM, FSK, CPM, MSK, ASK, VSB	Opt 431: PSK, QAM, FSK, MSK, ASK, \$4,132
Data types	No	No	PRBS, pattern, user	With Opt 431: PRBS, pattern, user, Ext serial
Vector modulation carrier frequency range			400 MHz to 6 GHz	10 MHz to 6 GHz
Internal support for multiple carriers	No	No	No	With Opt 431
Standard programming interfaces	LAN, GPIB, RS-232	LAN, GPIB, USB	LAN, GPIB, RS-232	LAN, GPIB, USB
URL for complete specifications	<a href="http://www.ThinkSRS.com">www.ThinkSRS.com</a>	<a href="http://www.Agilent.com">www.Agilent.com</a>	<a href="http://www.ThinkSRS.com">www.ThinkSRS.com</a>	<a href="http://www.Agilent.com">www.Agilent.com</a>
Base price (USD)	<b>SG382 ( 2.025 GHz ) \$3,900</b>	<b>N5171B-501 ( 1 GHz ) \$7,135</b>	<b>SG392 ( 2.025 GHz ) \$5,400</b>	
Base price (USD)	<b>SG384 ( 4.050 GHz ) \$4,600</b>	<b>N5171B-503 ( 3 GHz ) \$9,430</b>	<b>SG394 ( 4.050 GHz ) \$6,600</b>	<b>N5172B-503 ( 3 GHz ) \$17,499</b>
Base price (USD)	<b>SG386 ( 6.075 GHz ) \$5,900</b>	<b>N5171B-506 ( 6 GHz ) \$17,661</b>	<b>SG396 ( 6.075 GHz ) \$8,400</b>	<b>N5171B-506 ( 6 GHz ) \$28,026</b>