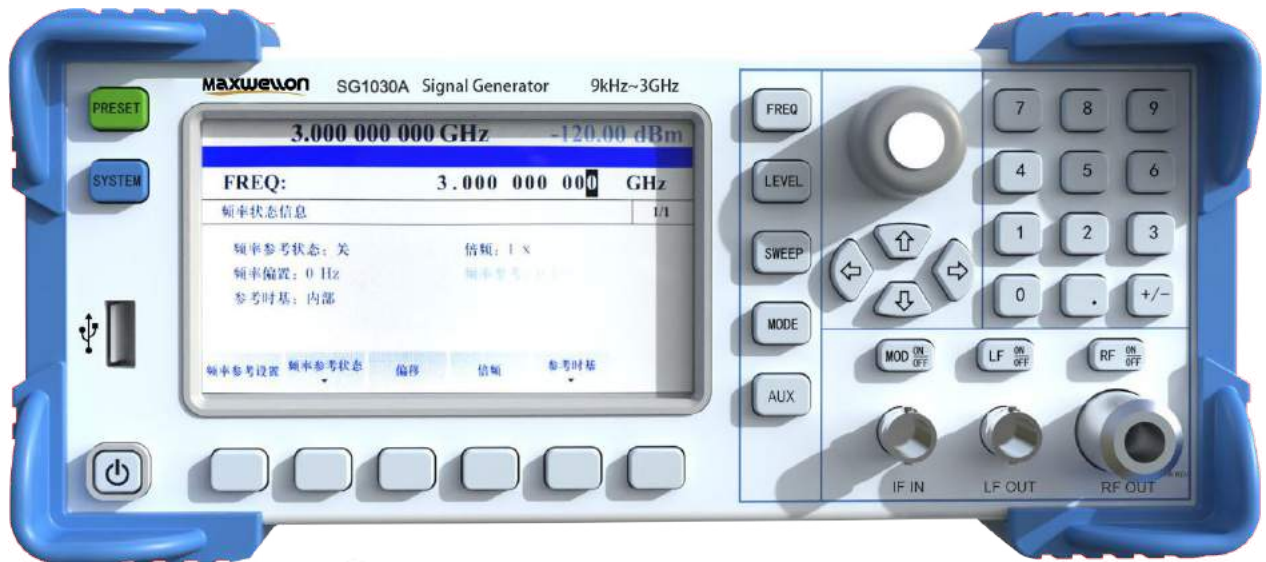


Quality&Precise



MAXWELLON SG1030

9kHz~3GHz
RF Signal Generator
2023

Maxwellon

SG1030 RF signal generator provides engineers with a “Smaller, lighter and easier” solution for 3GHz signal-generation applications. While it is an entry level instrument, the SG1030 provides most commonly used functions an engineer needs such as CW signal generation, AM/FM/PM/Pulse modulation, digital modulation (ASK, FSK, PSK), Up-converting, LF output etc. SG1030 also provides flexible interfaces and support SCPI for easy remote control. SG1030 is perfect suitable for education, RF component manufacture and maintenance.

■ Key Feature

- Frequency range from 9 kHz to 3 GHz
- Typical output power from -120dBm to +10dBm
- Standard low frequency output function, sine, square, triangle and saw tooth wave forms are supported
- Standard analog modulation functions, AM, FM, PM and Pulse modulation, minimum pulse width is 100ns
- Standard digital modulation functions, ASK, 2/4/8FSK, 2/4/8PSK supported
- Support linear frequency modulation, can simulate radar signals
- Standard IF input output, USB/LAN remote control interface, SCPI supported

■ Specification

Frequency Properties		
Frequency Range	9kHz ~ 3GHz	
Frequency Resolution	0.23 Hz	
Internal Reference Frequency	10 MHz	
Temperature Stability	±1ppm (option: ±100ppb)	
Internal Reference Output	10 MHz, +2 dBm (typ.)	
Spectral Purity		
Harmonic	< -30 dBc (typ.)	
Non-Harmonic	< -50 dBc (typ.)	
SSB Phase Noise	Carrier Frequency Offset @f=300MHz	≤-105 dBc / Hz @ 10kHz offset
		≤-115 dBc / Hz @ 100kHz offset
	Carrier Frequency Offset @f=1GHz	≤-93 dBc / Hz @ 10kHz offset
		≤-105 dBc / Hz @ 100kHz offset
Sweep Properties		
Sweep Mode	Step Sweep, List Sweep	
Sweep points	Step Sweep	2 ~ 65535
	List Sweep	2 ~16383
Dwell time	5ms~50s	
Trigger mode	Free/External	
Power Properties		
Output Power Range	9 kHz~50 kHz	- 120 dBm~0 dBm
	50 kHz~3 GHz	- 120 dBm~+ 10 dBm
Power Accuracy	±1.5 dB(typ.)	
Modulation Characteristics		
Internal Modulation Signal Generator (LF)	Waveform	Sine, Square, Triangle, Sawtooth
	Sine	1 Hz~500 kHz
	Square/Triangle	1 Hz~100 kHz
	Sawtooth	1 Hz~20 kHz

Analog Modulation (AM/FM/ΦM),Supporting internal and external modulation sources			
		SG1030A	SG1030B
Amplitude Modulation	Modulation Depth	0 %~100 %	1 %~100 %
	Modulation Rate	20 Hz~1 MHz	1 Hz~1 MHz
Phase Modulation	Modulation Phase	0°~360°	0°~360°
	Modulation Rate	20 Hz ~1 MHz	1 Hz ~1 MHz
Frequency Modulation	Frequency Offset	5 MHz	5 MHz
	Modulation Rate	20 Hz~1 MHz	1 Hz ~1 MHz
Digital Modulation, supporting internal and external modulation sources			
IQ Modulator		/	Support
Internal Source		ASK/2FSK/4FSK/8FSK/2PSK/4PSK/8PSK	Supports universal digital modulation (option)
External Sources		/	Arb Mode (IQ data), Data Rate: 1 ksp/s~20 Msp/s (Option: 1 ksp/s~50 Msp/s)
Pulse Modulation	Break-make Ratio	≥60 dB	
	Pulse Cycle Range	200 ns~160 s	
	Pulse width	100 ns~85 s	
Linear Frequency Modulation	Sweep Maximum Range	20MHz(Option:50MHz)	
	Sweep Time	1 μs~1 s	
Frequency Upper Conversion	Input IF frequency range	190 MHz ± 30 MHz	
	Input IF power range	-50dBm ~ 0dBm	
	Output frequency range	201MHz ~ 3GHz	
	Output power range	-120dBm ~ +10dBm	
Interface			
RF Output Interface		N type 50ohm (Front Panel)	
LF Output		BNC 50ohm (Front Panel)	
IF Input		BNC 50ohm (Front Panel)	
USB		USB B 2.0 B type (Front Panel)	
External Ref In/Out		BNC 50ohm (Rear Panel)	
External Pulse Input		BNC 50ohm (Rear Panel)	
External Trigger Input		BNC 50ohm (Rear Panel)	
LAN		10/100 Base T (Rear Panel)	
USB		USB A type (Rear Panel)	
RS232		9-PIN D-SUB Male (Rear Panel)	
General Properties			
Dimension (W x D x H)		340mm×230mm×110mm	
Weight		Approx. 5Kg	
Operating Temp.		-10 C ~ +45 C	
Storage Temp.		-20 C ~ +70 C	
Power Supply		110 ~ 240V 50/60Hz	

■ Ordering Information

Model

Model	Name	Description
SG1030A	Signal Generator	9 kHz~3.0 GHz
SG1030B	Signal Generator	9 kHz~3.0 GHz, built-in IQ modulator

Standard

No.	Name	Description
1	Power Cord	Standard three core power cord
2	Product certificate	

Options

Option Model	Name
BBG	Internal baseband data generation
RFUC	RF upconversion device
LFM	Linear frequency modulation function
BBW	Real time bandwidth options
AMK	Amplitude modulation option (SSB/DSB/CW)
OCXO ¹	High stability time base option
PMC	Power meter control kit

Notes:

1. This option can only be assembled and calibrated at the manufacturer's location



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