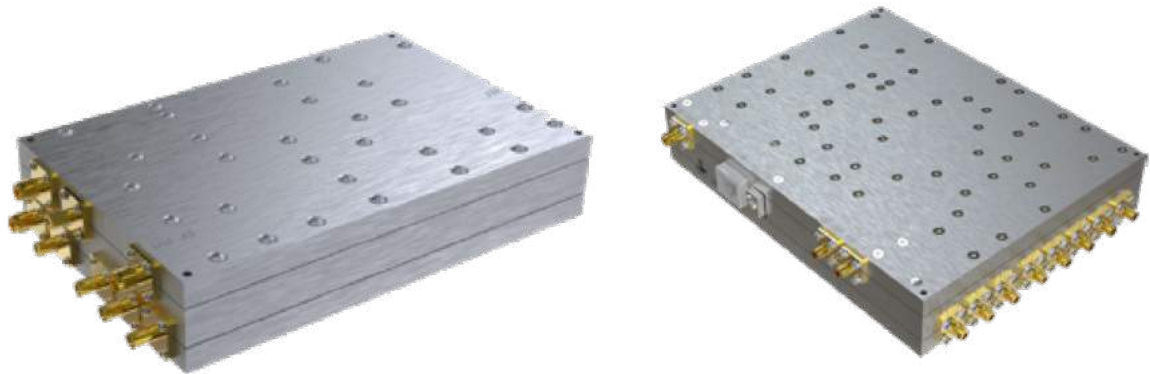




MAXWELLON MSG700

9kHz~3.0GHz/ 6.0GHz
Signal Generator Module
2023

The MSG700 series signal generator module has rich functions and a flexible integrated volume. The module has multiple functions such as continuous wave signal, analog modulation, pulse modulation, digital modulation, amplitude/frequency sweep, linear frequency modulation, and upconversion, suitable for teaching and research, product development, and system integration.

The A-series modules focus on analog signal modulation, with a maximum analog modulation rate of up to 1MHz. The B-type module focuses on digital modulation and is equipped with an IQ modulator, which can flexibly support input I/Q modulation of baseband data such as various communication data links, standard public network communication, and cable digital television broadcasting. The maximum baseband modulation bandwidth is up to 20MHz, making it convenient for users to build experimental platforms.

The complete standard SCPI command set and universal USB and LAN interfaces bring great convenience for remote control and secondary development.

■ Key Feature

- Frequency Range: 9kHz~3.0GHz/6.0GHz
- Typical output power from -120dBm to +10dBm
- Support multiple digital modulation, built-in IQ modulator (B-type)
- AM/FM/ΦM analog modulation functions, maximum modulation rate up to 1MHz (A-type)
- Support pulse modulation, minimum pulse width 100ns
- Support linear frequency modulation, can simulate radar signals
- As frequency upper conversion, support external input IF signals
- Internal modulation source: sine wave, square wave, triangle wave, sawtooth wave
- USB/ LAN remote control interface, SCPI supported
- Low power consumption, light weight and compact size, suitable for system integration and installation

■ Specification

Frequency Properties		
Frequency Range	MSG730A/B: 9kHz~3.0GHz	
	MSG760A/B: 9kHz~6.0GHz	
Frequency Resolution	0.23Hz	
Internal Reference Frequency	10 MHz	
Temperature Stability	±1.0ppm	
Internal Reference Output	10 MHz, +2 dBm (typ.)	
Spectral Purity		
Harmonic	MSG730: < -30 dBc (typ.)	
	MSG760: < -35 dBc (typ.)	
Non-Harmonic	MSG730: < -50 dBc (typ.)	
	MSG760: < -60 dBc (typ.)	
SSB Phase Noise	Carrier Frequency Offset @f=1GHz	MSG730: -93 dBc/Hz@10kHz offset
		MSG760: -98 dBc/Hz@10kHz 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	9kHz~50kHz	-120dBm~0dBm	
	50kHz~6.0GHz	-120dBm ~ +10dBm	
Power Accuracy	±1.5 dB(typ.)		
Modulation Characteristics			
Analog Modulation (AM/FM/ΦM),Supporting internal and external modulation sources			
		MSG730A/MSG760A	MSG730B/MSG760B
Amplitude Modulation	Modulation Depth	0 %~100 %	1 %~100 %
	Modulation Rate	20Hz~1MHz	1Hz~1MHz
Phase Modulation	Modulation Phase	0°~360°	0°~360°
	Modulation Rate	20Hz~1MHz	1Hz~1MHz
Frequency Modulation	Frequency Offset	5MHz	5MHz
	Modulation Rate	20Hz~1MHz	1Hz~1MHz
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),
Pulse Modulation	Break-make Ratio	≥60 dB	
	Pulse Cycle Range	MSG730A/B: 200ns~160s	
		MSG760A/B: 300ns~160s	
	Pulse width	MSG730A/B: 100ns~85s	
MSG760A/B: 200ns~85s			
Linear Frequency Modulation	Sweep Maximum Range	20MHz(MSG700 option: 50MHz)	
	Sweep Time	1 μs~1 s	
Frequency Upper Conversion	Input IF frequency range	MSG730A/B: 190MHz±30MHz	
		MSG760A/B: 200MHz±10MHz	
	Input IF power range	-50dBm ~ 0dBm	
	Output frequency range	MSG730A/B: 201MHz~3.0GHz	
MSG760A/B: 61MHz~6.0GHz			
Interface			
RF Output Interface	SMA, 50Ω		
LF Output	SMA, 50Ω		
Functional Interface	Interface Name	External Intermediate Frequency Input, External Pulse Modulation Input, External Trigger Input, External Modulation Input, 10m Reference Input/Output	
	Interface Type	SMA	
LAN	10/100 Base T		
USB	USB 2.0		
General Properties			
Dimension (W x D x H)	MSG730A/B:145mm×95mm×28mm		
	MSG760A/B:165mm×122mm×28mm500g		
Weight	MSG730A/B:500g		
	MSG760A/B:700g		
Operating Temp.	-10 C ~ +45 C		
Storage Temp.	-40 C ~ +70 C		
Power Supply	DC: +12V±5%/1.5A		

■ Ordering Information

Model

Model	Name	Description
MSG730A	Signal Generator Module	9kHz~3.0GHz
MSG730B	Signal Generator Module	9kHz~3.0GHz, built-in IQ modulator
MSG760A	Signal Generator Module	9kHz~6.0GHz
MSG760B	Signal Generator Module	9kHz~6.0GHz, built-in IQ modulator

Standard

No.	Name	Description
1	Power Cord	DC: +12V±5%/1.5A
2	Product certificate	

Options

Option Model	Name
BBG	Internal baseband data generation
BBW	Real time bandwidth options
RFUC	RF upconversion device
LFM	Linear frequency modulation function
AMK	Amplitude modulation option (SSB/DSB/CW)



Maxwellon Electronic Instruments Co.,LTD.

Factory: No.6 Xiangjiang Road, Qingdao 266000, China
Tel: 0086 13816527810

Sales Office: NO.153 Zhuzhou Rd.,Laoshan District, Qingdao 266100, China.
Tel: 0086-532-80977508
Fax: 0086-532-80977508

Sales: Sales@Maxwellon.com
Web: www.maxwellon.com