

# SGM200 Modular Microwave Signal Generator



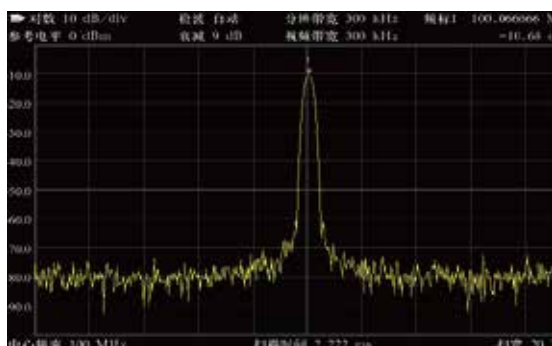
## Introduction

The microwave signal generator module has the characteristics of ultra wideband, excellent performance, and easy integration. The module has various practical functions such as continuous wave signal, analog modulation, pulse modulation, amplitude frequency scanning, and low-frequency function waveform output, and has a very high cost-effectiveness. The module height is standard 1U, suitable for system integration and desktop testing and measurement equipment use. The complete standard SCPI command set and universal USB and LAN interfaces provide great convenience for remote control and secondary development.

## Features

- ▶ Frequency range up to 20GHz
- ▶ Support 130dB wide dynamic power adjustmene output
- ▶ Pure Continuous Wave output, typical phase noise  $\leq -115\text{dBc}/\text{Hz}@10\text{KHz}$
- ▶ Sweep modes: frequency sweep, amplitude sweep, and frequency+amplitude sweep
- ▶ Standard analog modulation: AM/FM/ $\Phi$ M
- ▶ Pulse modulation with an on-off ratio of up to 70dB
- ▶ Low-frequency output: sine waves, square waves, triangular waves
- ▶ LAN remote control interface, offering a standard SCPI command set
- ▶ Low power consumption, lightweight design, and compact size suitable for system integration

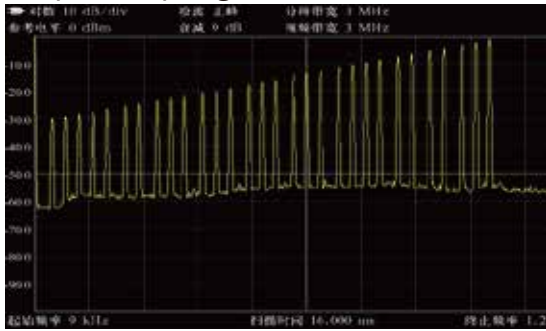
## Applications



### Pure Continuous Wave

- √.Outputting signals at various frequencies and amplitudes
- √.Output dynamic range of up to 130 dBm.

## Step Sweep Signal



√.The signal generator is capable of generating sweep signals with equal steps,including three sweep modes:frequency sweep amplitude sweep,and frequency+amplitude sweep.

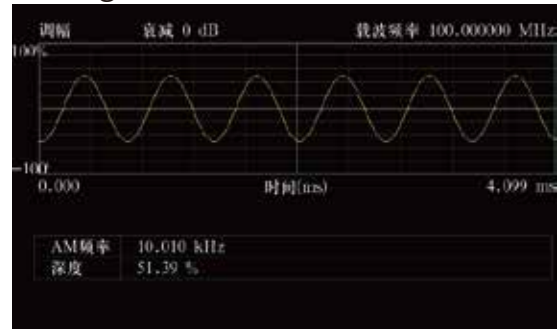
√.Sweep type:Step sweep,List sweep

## Low Frequency Output



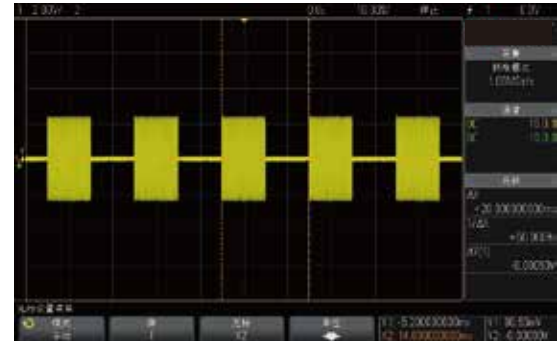
Low-frequency output:sine waves,square waves,triangular waves.

## Analog Modulation



√.AM/FM/PM

## Pulse Modulation



Pulse modulation with minimum pulse width of 200ns, supporting Internal/External pulse modulation input, External trigger input.

## Specifications

Model	SGM150A	SGM200A
<b>Frequency</b>		
Frequency range	100kHz~15.0GHz	9kHz~20GHz
Frequency resolution	0.01Hz	
<b>Reference</b>		
Reference frequency	10MHz	
Temperature stability	±1ppm (Option : ±100 ppb)	
Internal reference output	Typical	10MHz, ≥+8dBm
<b>Spectrum Purity</b>		
Harmonics	Typical	≤-30dBc
Nonharmonics	Typical	≤-60dBc
SSB phase noise	f=1GHz	≤-115dBc/Hz@10kHz
<b>Amplitude</b>		
Setting range	Maximun output power	+10dBm
	Minimun output power	-120dBm
Power step	0.1dB	
Accuracy	ALC ON	-90dBm~+10dBm ≤1.0dB -110dBm~-90dBm ≤1.5dB -120dBm~-110dBm ≤2.0dB
<b>Sweep Mode(Frequency And Amplitude)</b>		
Sweep mode	Frequency、Amplitude、Fequency+Amplitude	
Sweep type	Step sweep,List sweep	
Sweep range	Full frequency and amplitude range	
Step Change	Linear Change	
Number of points	Step sweep	2~65535
	List sweep	2~16383

Dwell time		10ms ~ 50s
Trigger mode		Auto, External trigger
<b>LF Output</b>		
Wave form	Sine wave, Square wave, Triangle wave	
Frequency range	Sine wave	1Hz~500kHz
	Triangle wave	1Hz~100kHz
	Square wave	1Hz~20kHz
Output level	0.2V <sub>P-P</sub> ~2V <sub>P-P</sub>	
<b>Modulation</b>		
Analog modulation (AM/FM/ΦM)		
AM	Modulation depth	0%~90%
	Modulation frequency response	10Hz~20kHz
FM	Maximum deviation	<sup>⓪</sup> N × 64MHz (Nominal value)
	Modulation frequency response	10Hz~200kHz
ΦM	Maximum phase deviation	N × 6rad (Nominal value)
	Modulation frequency response	10Hz~200kHz
Pulse modulation		
On/Off ratio		≥70dB
Pulse period		400ns~160s
Pulse width		200ns~85s
<b>Connectors</b>		
RFoutput		2.92mm, 50 Ω
LF output		SMA, 50 Ω
Functional connectors	Connectors name	External pulse input, Internal pulse output, External trigger input, internal trigger output, 10M REF input/output, AM modulation input, FM modulation input
	Connectors type	SMA
LAN		10/100Base-T
<b>General data</b>		
Operating temperature	Typical	-10°C~+50°C
Storage temperature		-40°C~+70°C
Power Supply	DC	Typical+12V±5%, Maximum current 2.0A
Dimensions(L×W×H)		255mm×235mm×44mm
Weight		<3kg

⓪N:represents the factor that helps define the indicator,with a Maximun value of 1 and a Minimun of 1/128.

## Order Information

Product	Description	Order Number
Host	Microwave signal generator	SGM150A、SGM200A
Accessories	CD-ROM(User manual,Programming manual)	
	Power cable (Standard +12V power adapter)	
Options	110dB Step Attenuator	SGM200-SAT
	Pulse Modulation	SGM200-PU
	Pulse traingenerator	SGM200-PT