

GA146X Series Microwave Signal Generators



Summary

GA146X Microwave Signal generator, Used the Agile variable frequency technology, Output frequency up to 40GHz, Operation more flexible, have a higher price performance.

Can be widely used in communications, radar and its automatic test system, Applicable to components, components, receivers and other electronic products in the field of production testing.

Main features

- Stylish and lightweight design, convenient and flexible interface
- High cost performance, suitable for different user requirement
- Extremely high frequency stability, aging rate $< \pm 8 \times 10^{-10}$ / day
- High-quality spectral performance, phase noise: $-119\text{dBc} / \text{Hz} @ 10\text{kHz}$
- Convenient and flexible scan output: the frequency, the amplitude of a variety of scanning output combination



Technical Parameters

Model	GA1461	GA1462	GA1464	Test environment
Frequency feature				
Frequency Range	5MHz - 12GHz	5MHz - 24GHz	5MHz - 40GHz	
Resolution	1Hz (Nominal value)			
Frequency switch speed	$\leq 20\text{ms}$ (Nominal value)			
Internal time base	Frequency	10MHz		
	Accuracy	$< \pm 0.1\text{ppm}$ (Nominal value)		
	Aging Rate	$< \pm 8 \times 10^{-10}$ / days or after 30 days $< \pm 3 \times 10^{-8}$ / years (Nominal value)		
	Output Amplitude	10dBm (Nominal value), 50Ω load		
	Temperature effect	$< \pm 1 \times 10^{-8}$, -20 to +70°C (Nominal value)		
External reference input	Frequency	10MHz		
	Amplitude	5dBm $\pm 2\text{dB}$ (Nominal value)		
	Impedence	50Ω (Nominal value)		
	Waveform	Sine wave or Square wave		

SIGNAL GENERATORS

Technical Parameters (contd..)

Model		GA1461	GA1462	GA1464	Test environment			
Amplitude Features								
Amplitude switching speed		Use step attenuator $\leq 20\text{ms}$ (nominal value); No use step attenuator $\leq 2\text{ms}$ (nominal value)						
Amplitude Range	$\leq 2\text{GHz}$	-110~+25dBm		-110~+25dBm		The technical and indicators are under the temperature between 15°C ~ 35°C, the indicators in the absence of harmonic options		
	$\leq 12\text{GHz}$	-110~+20dBm		-110~+20dBm				
	$\leq 24\text{GHz}$			-110~+20dBm				
	$\leq 40\text{GHz}$			-110~+15dBm				
Resolution		0.1dB(Nominal Value)						
Absolute accuracy	$\geq -20\text{ dBm}$	$\pm 0.8\text{dB}$ ($f \leq 2\text{GHz}$); $\pm 1.3\text{dB}$ ($f \leq 40\text{GHz}$)						
	$\geq -75\text{dBm}$	$\pm 1\text{dB}$ ($f \leq 2\text{GHz}$); $\pm 1.5\text{dB}$ ($f \leq 40\text{GHz}$)						
	$< -75\text{ dBm}$	$\pm 2\text{dB}$ ($f \leq 24\text{GHz}$); $\pm 2.2\text{dB}$ ($f \leq 40\text{GHz}$)						
Standing wave	$\leq 2\text{GHz}$	< 1.4						ATT=10dB
	$\leq 24\text{GHz}$	< 1.5						
	$\leq 40\text{GHz}$	< 1.6						
Spectral Features								
Phase noise (SSB)dBc/Hz		100Hz	1kHz	10kHz	100kHz	1MHz	10MHz	At room temperature, the output power Rate measured at 0dBm
	100MHz	< -100	-107	-115	-127	-143	-150	
	250MHz	< -100	-107	-115	-127	-143	-150	
	500MHz	< -100	-107	-115	-128	-143	-150	
	1GHz	< -100	-112	-119	-124	-131	-150	
	10GHz	< -85	-107	-113	-112	-115	-133	
	20GHz	< -78	-101	-108	-106	-108	-128	
40GHz	< -72	-96	-102	-100	-102	-122		
Harmonic		P=10dBm						
	70~200MHz	$< -40\text{dBc}$						
	0.2~2GHz	$< -50\text{dBc}$						
Non-harmonic	2~20GHz	$< -50\text{dBc}$						$> 1\text{MHz}$ offset; non-harmonic related to power supply line; $< -60\text{dBc}$, measured in the range of 1MHz to 40GHz
	1MHz~2GHz	$< -80\text{dBc}$						
	$\leq 12\text{GHz}$	$< -70\text{dBc}$						
	$\leq 24\text{GHz}$	$< -65\text{dBc}$						
$\leq 40\text{GHz}$	$< -60\text{dBc}$							
Modulation Features (Pulse modulation option)								
Pulse modulation	Breaking ratio	$> 60\text{dB}$ (Typical Value)						
	Minimum pulse width	100ns (Typical Value)						
	Minimum period	200ns (Typical Value)						
External pulse input	Minimum impedance	DC coupling, High impedance						
	Level logic	3.3V-CMOS						
Internal pulse generator option GASG	Square wave rate	0.1Hz~5MHz (Nominal value)						
	Pulse period	200ns~10s (Rated value)						
	Pulse width	100ns~10s (Nominal Value)						
	Resolution	20ns						
	Adjustable trigger delay	5ns~10s						
	Level logic	3.3V-CMOS						
General Features								
Interface		LAN (100 Base T); RS232						
Power		198~242V (AC), 48~62Hz; 70W Peak, 60W Mean						
Working temperature		0~55°C						
Storage temperature		-40~70°C						
Working and Storage Altitude		Up to 15,000 feet (or 4,600 m)						
Weight		Net Weight: $\leq 8\text{Kg}$						
Size		H x W x D: 88mm x 370mm x 460mm						