

Product Brief

100 kHz to 12 GHz μ W Signal Generator **APSIN12G**

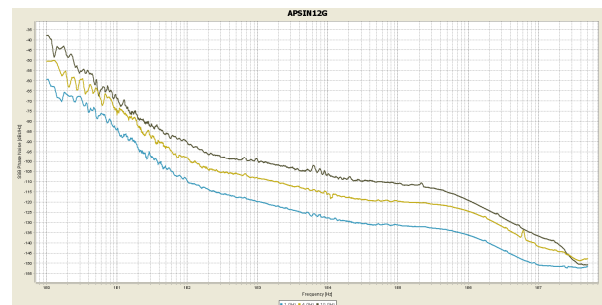
The APSIN12G is a low-noise and fast-switching microwave signal generator covering a frequency range from 100 kHz up to 12 GHz. The APSIN12G comprises a full set of analog modulation (amplitude, frequency, phase pulse, Pulse trains, chirps).

With a 0.001 Hz frequency resolution, a wide and accurately levelled output power range, and low spurious levels, the APSIN12G operates with an ultra-stable temperature compensated 100 MHz reference (OCXO) and can be phase-locked to any external reference from 1 to 250 MHz.

Available also as truly portable model with internal rechargeable battery module, this instrument offers a reliable and powerful alternative to expensive high-end microwave signal generators, where small size and excellent microwave performance at an attractive cost is required.



SSB Phase Noise



Key Features

- Only 400 μ s frequency switching time
- Very low SSB phase noise: -108 dBc/Hz at 10 GHz and 20 kHz offset
- Comprehensive AM, low-distortion, wideband DCFM, and high speed pulse modulation for testing all types of receivers
- LAN/USB/GPIB (optional) remote control with SCPI 1999 command set
- Input for USB power sensor
- Powerful trigger and sweeping modes

Applications

- R&D low noise signal source
- Production testing (industry-leading switching times; high dynamic range)
- Service and maintenance
- Signal simulation (Radar, WiMax, UWB)
- Aerospace & Defence (Pulse modulator, Chirps)

Hand Carry Bag



Options

- PE3: extended power range with step attenuators (70 dB)
- GPIB: IEEE 4888 General Purpose Interface Bus
- Bag: Robust hand carry bag
- B3: Internal rechargeable battery

Key Specifications (typical)

Parameter	Typical Value	
Frequency range	100 kHz to 12 GHz	
resolution	0.001 Hz	
Phase resolution	0.1 deg	
Settling time	0.4 ms	
SSB Phase noise		
at 20 kHz from carrier	-108 dBc/Hz	10 GHz carrier
wideband noise	-150 dBc/Hz	
Power Level Range	-20 to +15 dBm -90 to +14 dBm	standard options PE3
resolution	0.01 dB	
uncertainty	< 1 dB	
Output impedance VSWR	50 Ω < 2	
Spectral purity output harmonics non-harmonic spurious	-40 dBc < -60 dBc	at +5 dBm
Sweeps & Trigger		
Dwell time	min 50 μ s	
Time resolution	10 μ s	
List size	65.000	
Trigger	auto, external, bus, gated	
Frequency Modulation		
Modulation rate	DC to 800 kHz	
Maximum deviation	5 % of carrier	
Distortion	< 1 %	$f_{mod} = 1 \text{ kHz}$ & $f_{dev} = 10 \text{ MHz}$
Amplitude Modulation		
Rate	0.1 Hz – 20 kHz	
Depth	0 to 90 %	
Pulse Modulation		
Rate	DC – 10 MHz	
On/OFF Ratio	80 dB	Pout = +10 dBm
Pulse width	30 ns	
Rise/Fall times	10 ns	
Internal reference frequency	10/100 MHz	
Temperature stability	± 100 ppb	0 to 50 $^{\circ}$ C