

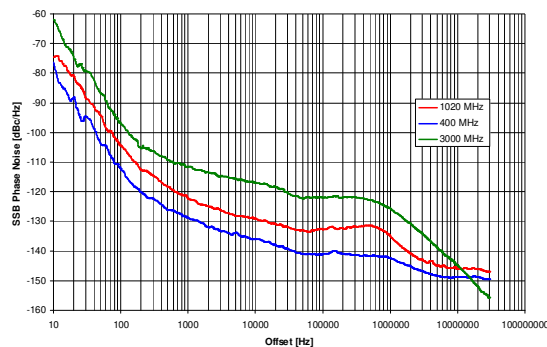
Product Brief

9 kHz to 3300 MHz Signal Generator **APSIN3000B**

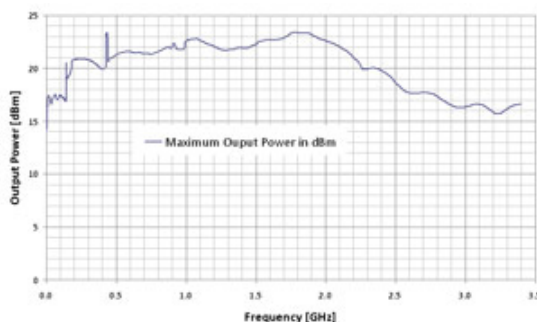
The APSIN3000 is a compact, high-performance signal generator with wide frequency coverage from 9 kHz to 3300 MHz, sub-Hz resolution, and broad power range up to 16 dBm. It provides excellent signal quality with low phase noise, good harmonic suppression and low spurious. It has an internal OCXO reference and can be locked to an external reference. The APSIN3000 is available with an optional internal battery and weighs less than 3 kgs.



SSB Phase Noise at 400 MHz, 1 GHz and 3 GHz



Maximum Output Power



Features

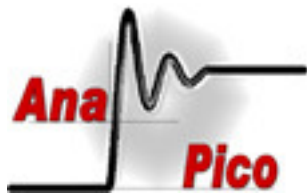
- Internal high-stability reference (OCXO), externally lockable
- Easy remote control from PC (GUI, Web-browser)
- VXI-11/SCPI-99 fully supported
- Powerful trigger and sweep capabilities

Applications

- High stability local oscillator
- Automated test systems (ATE)
- EMC testing
- Field measurements

Options

- **B3**: Internal rechargeable battery operation
- **RM**: 19" Rack mount kit
- **PE**: Extended power range (-100 to +13 dBm)
- **HC**: Front panel with rotary knob



Key Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Note
Frequency range	f	9 kHz		3300	MHz	1
resolution	f_{step}		0.001		Hz	
Phase resolution	ϕ_{step}		0.1		deg	
Frequency update rate				1	ms	
Settling/Transient time				200	μ s	
SSB Phase noise						
at 20 kHz from carrier			-129		dBc/ Hz	2
Wideband noise			-145 -155		dBm/Hz	$f < 1.5$ GHz $f > 1.5$ GHz
Total jitter			120		fs RMS	3
Power level						
Range	P_{out}	-45 -100*		+13	dBm	*option PE
Resolution			0.1		dB	
Level uncertainty				± 1	dB	4
Output impedance			50		Ohms	
Spectral purity						
Output harmonics			-45	-35	dBc	5
Sub-harmonics			-70		dBc	
Non-harmonic spurious						
$f < 130$ MHz			-60		dBc	
$f > 130$ MHz			-70		dBc	
Reference frequency input	f_{ref}	1	10	100	MHz	6
Input level		-8	0	+10	dBm	
Maximum deviation				± 1.0	ppm	
Input impedance			50		Ohms	
Internal reference frequency			100		MHz	
Temperature stability				± 100	ppb	0 to 50 °degC
Aging 1 st year			0.5		ppm	
Aging per day (after 30days operations)				5	ppb	
Warm-Up time			5		min	
Output of internal reference			-3		dBm	
			50		Ohms	

Notes:

1. settable to 3400 MHz
2. at $f=1$ GHz output carrier frequency
3. $f=1$ GHz, jitter BW from 10 Hz to 20 MHz
4. -40 dBm $< P_{out} < +13$ dBm
5. at output connector, $P_{out} < +10$ dBm; 3000 MHz $> f > 10$ MHz
6. must be integer $N \cdot 1$ MHz