

Key Features

Frequency range: **100 kHz – 13 GHz**

Frequency step (exact frequency mode):
0.0001 Hz

Phase noise @ 1 GHz center, 20 kHz
offset: **-140 dBc/Hz**

Frequency switching time (200 MHz VCO
step): **3.5 us**

SCPI Command Set

USB or **RS-232** interfaces for remote
control (CP2102 USB to COM bridge)

+12 Vdc Power Supply (AC/DC adaptor
included)



Specification

Parameter	Conditions	Value		Unit
		min	max	
RF Output & General Characteristics				
RF Output Frequency Range		100	13000	MHz
LF Output Frequency Range		0.1	250	MHz
Min. Frequency Step	all frequency range		$1 \cdot 10^{-4}$	Hz
Frequency Switching Time	200 MHz VCO step		3.5	us
	1 GHz VCO step		30	us
	6 GHz VCO step		120	us
RF Output Power	RF Out, 0.1 to 13GHz (unc.)	-14	+15	dBm
	calibrated	-6	+12	dBm
Absolute output power error	RF Out, 0.1 to 13GHz (cal.)		1.5	dB
RF Output Power Step	RF Out, 0.1 to 13GHz (nom.)	0.5		dB
LF Output Power	LF Out, 0.1 to 250 MHz	0	+10	dBm
LF Output Power Step	LF Out, 0.1 to 250 MHz	0.01		dB
Output Power Flatness (uncalibrated)	RF Out, 0.1 to 12GHz		6	dBpp
Nominal Output Impedance		50		Ohm
Output VSWR			2.1	
Spectral Purity & Phase Noise Characteristics				
Phase Noise normalized to 1GHz center frequency, Pout=+17dBm, typ.	Fout=1GHz, @ Offset:			
	100 Hz		-110	dBc/Hz
	1 kHz		-129	dBc/Hz
	10 kHz		-139	dBc/Hz
	100 kHz		-141	dBc/Hz
	1 MHz		-141	dBc/Hz
	10 MHz		-143	dBc/Hz
	30 MHz		-151	dBc/Hz
Spurious Suppression (except harmonics), all frequency range	worst		-60	dBc
	typ.		-80	dBc
Harmonic Suppression	6GHz to 13GHz, +10 dBm		-23	dBc

	<6GHz, 2-nd harmonics	-45	-30	dBc
	<6GHz, 3-nd harmonics		-10	dBc
Internal Reference Frequency Characteristics				
Temperature Stability	0..+50 °C (high stab. option)		±10	ppb
	0..+50 °C (base "M" version)		±100	ppb
Digital Frequency Adjustment		±0.5	±1	ppm
Aging 1-st year			±50	ppb
Allan Variance	at 1 s		20·10 ⁻¹²	
External Frequency Reference Characteristics				
Frequency	1 MHz step	1	250	MHz
Operating Temp. Range		-40	+65	°C
Input Level of External Reference Signal		-10	+10	dBm
REF Output	10 or 100 MHz, 50 Ω load	10±3		dBm
Power Supply				
+12V Supply Voltage Current			1.9	A
Dimensions & Weight				
Length	excluding SMA connectors		256	mm
Width			105	mm
Height			54	mm
Weight			1.8	kg

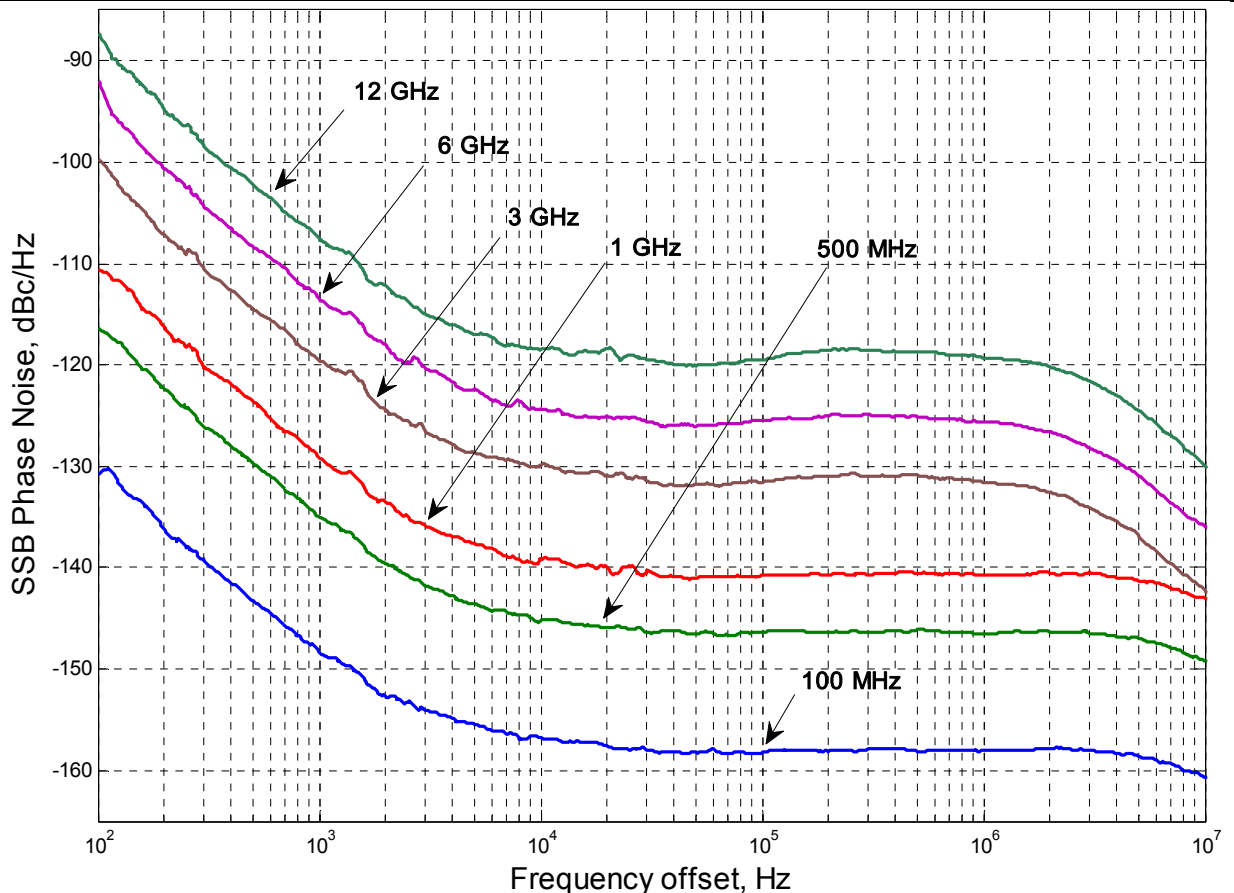


Fig. 1. Phase noise vs frequency offset, +10 dBm, internal reference

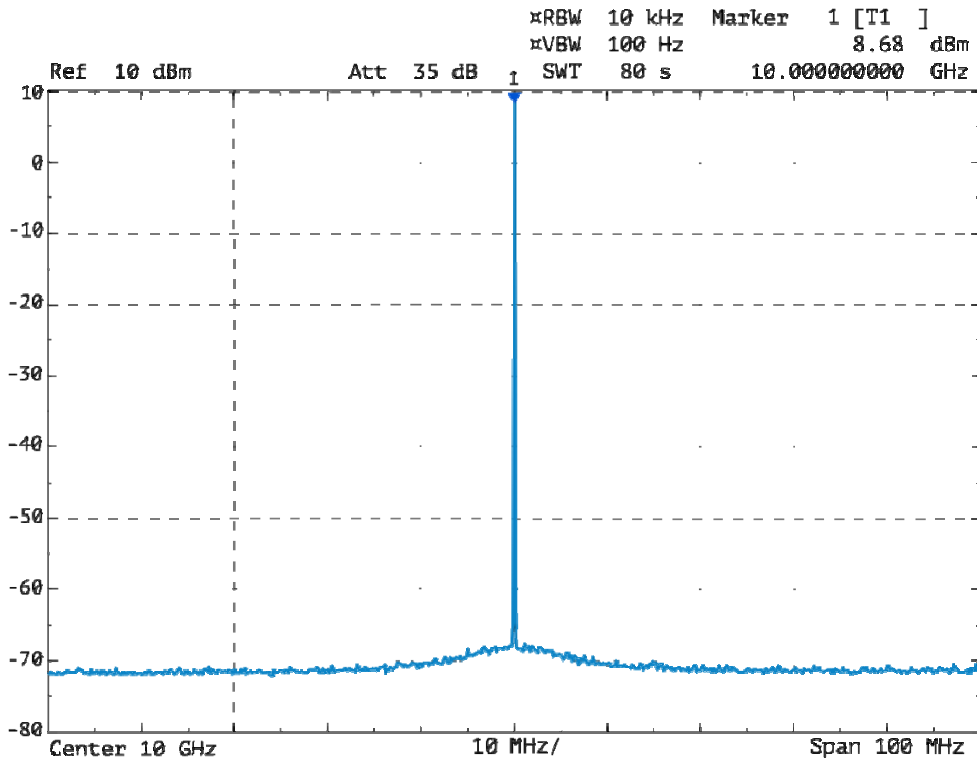


Fig. 2. SFDR at 10 GHz, +10 dBm, internal reference



Fig. 3. UNO-01M-C105W54H256 Front panel



Fig. 4. UNO-01M-C105W54H256 Rear panel



Fig. 5. UNO-01M-C105W54H256 Side view



UNO-01M-C105W54H256
Low Noise Frequency Synthesizer
100 kHz -13 GHz



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