



# 16.6 GHz Low Noise Phase Locked Source

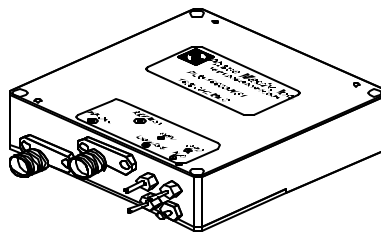
## PLS-16600-M100I

### Features

- Operating frequency:  
16.6 GHz
- Output Power (50  $\Omega$  Load):  
13 dBm Minimum
- Operating Temperature  
Range: From 0°C to 70 °C
- Low Phase Noise:  
-100 dBc @ 1 KHz
- Internal 100MHz Reference
- Small Size Package  
2.25 x 2.25 x 0.75 inches
- Freq. Stability  $\pm 1$  ppm

### Applications

- Communications,  
Instrumentation and  
Military
- Ku-Band Phase Lock  
Source

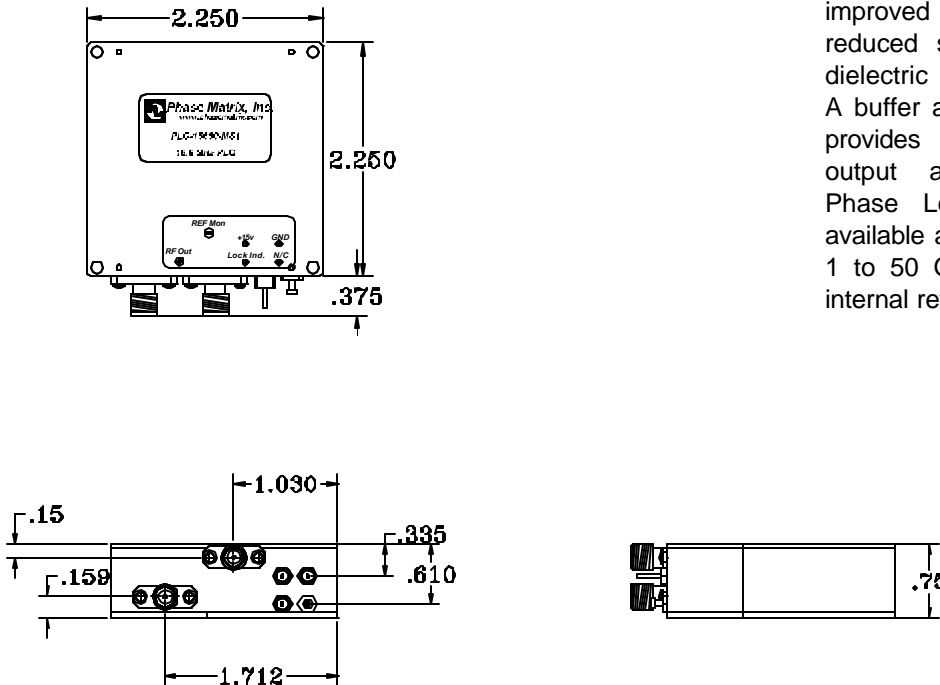


### General Description

Emerging applications of wireless technology require very high performance signal sources for use as Local oscillators in military and commercial communications.

This new PLS-16600-M100I provides a low noise Phase Locked Source at 16.6 GHz using an internal reference of 100 MHz OCXO in a small package. A Phase Lock Loop with a sampling mixer is used to provide one of the lowest phase noise and spurious performance available in the industry.

### Package Mechanical Dimensions (Inches)



A silicon bipolar transistor low noise Oscillator using a high Q planar microstrip resonator is used as the primary source. This approach provides improved microphonics and reduced size compared to a dielectric resonator oscillator. A buffer amplifier in the output provides the desired power output and load isolation. Phase Locked Sources are available at any frequency from 1 to 50 GHz with external or internal references.

### PLS-16600-M100I Absolute Maximum Ratings

Parameter	Units	Ratings
Positive Supply Voltage	V	0 to +14
Operating Temperature	C°	-10 to +85
Storage Temperature	C°	-40 to +130

### PLS-16600-M100I Summary Characterization

0° C to 70° C

Parameter	Units	Min	Typ	Max
Output Operating Frequency	GHz		16.600	
Frequency Stability over temp.	ppm			± 1
Aging per year	ppm		± 1	
Output Power	dBm	13		17
Phase Noise				
100 Hz	dBc		-75	
1 KHz	dBc		-100	
10 KHz	dBc		-105	
100 KHz	dBc		-105	
1 MHz	dBc		-125	
10 MHz	dBc		-145	
Harmonics (Below Carrier)	dBc		-40	-30
Sub Harmonically Related Spurious	dBc		-40	-30
Spurious Output (Below Carrier)	dBc		-70	-65
Internal Reference	MHz		100	
Lock Alarm (Locked)	TTL		High	
Positive Supply Voltage	V	11.7	12	12.3
Positive Supply Current	mA		800	1000
Mechanical Dimension	in	2.25" x 2.25" x 0.75"		

**Note:** Contact factory for External Reference Source option or for any changes in the specifications.

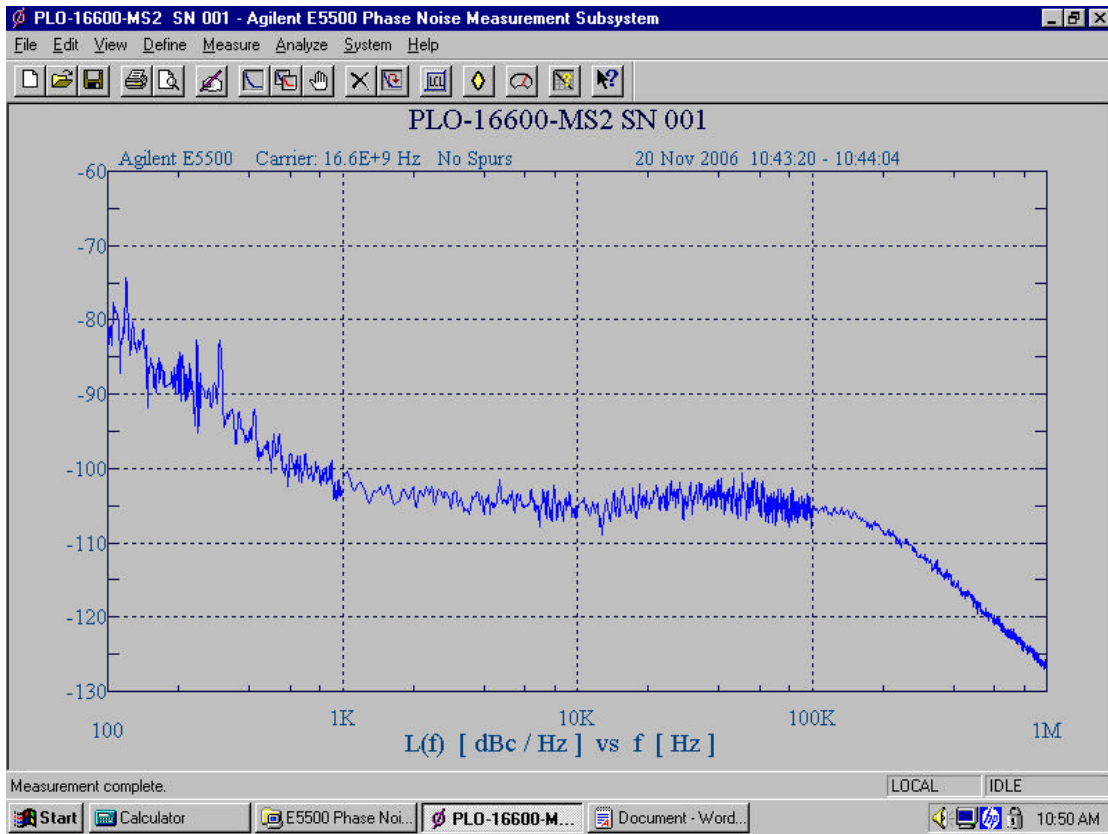
### Part Number Ordering Information

Part Number
PLS-16600-M100I

**For more information:**

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PLS-16600-M100I Jan 2007 Preliminary  
Specification is subject to change without prior notification



Phase Noise Plot for PLO-16600-M100I