

## Specifications

FREQUENCY	
<b>Range:</b>	
LSX8081X:	100 kHz to 8 GHz
LSX2091X:	100 kHz to 20 GHz
LSX4091X:	100 kHz to 40 GHz
<b>Resolution:</b>	0.001 Hz
<b>Phase offset:</b>	0.01 deg
<b>Switching speed:</b>	
Standard:	500 $\mu$ s
FS Option:	100 $\mu$ s

  

FREQUENCY REFERENCE	
<b>Temp. Stability:</b>	$\pm 25$ ppb max.
<b>Aging:</b>	$\pm 3$ ppm for 20 years
<b>Warm up time:</b>	30 min

  

AMPLITUDE	
<b>Max output power:</b>	
Settable:	+15 dBm
Calibrated:	+10 dBm
<b>Min output power:</b>	Base LP Opt.
Settable:	-70 dBm -80 dBm
Calibrated:	-50 dBm -70 dBm
<b>Resolution:</b>	0.01 dB
<b>Power Mute:</b>	-70 dBm
<b>Output Return Loss:</b>	-10 dBm
<b>Accuracy (dB):</b>	-50dBm to +15dBm
Up to 100MHz:	$\pm 0.3$ (typ.)
100MHz to 3GHz:	$\pm 0.4$ (typ.)
3GHz to 9GHz:	$\pm 0.7$ (typ.)
Above 9GHz:	$\pm 1$ (typ.)

  

PHASE NOISE (dBc/Hz)	
<b>Measured @ 10kHz offset</b>	
100MHz	-155 (typ.)
250MHz	-147 (typ.)
500MHz	-141 (typ.)
1GHz	-134 (typ.)
2GHz	-128 (typ.)
4GHz	-123 (typ.)
8GHz	-116 (typ.)
10GHz	-115 (typ.)
20GHz	-109 (typ.)
40GHz	-103 (typ.)

  

HARMONICS (typ.)		
<b>Range:</b>	0dBm	+10dBm
Up to 8GHz:	-50dBc	-42dBc
8GHz to 20GHz:	-40dBc	-32dBc
20GHz to 40GHz:	-35dBc	-28dBc

  

SUB-HARMONICS (typ.)	
<b>Up to 20GHz:</b>	-75 dBc
<b>20 to 40GHz:</b>	-35 dBc

  

NON-HARMONICS (dBc)	
<b>Up to 40GHz:</b>	-90dBc (typ.) -60dBc max. <sup>(1)</sup>

  

MODULATION	
<b>FREQUENCY MODULATION</b>	
<b>Maximum Deviation:</b>	10MHz
Resolution:	0.1% or 1Hz (the greater)
<b>Modulation Rate:</b>	1MHz
Resolution:	1Hz
<b>AMPLITUDE MODULATION</b>	
<b>AM Depth:</b>	
Type:	Linear
Maximum settable:	100%
Resolution:	0.1% of depth
<b>Modulation rate:</b>	DC to 100kHz
<b>PHASE MODULATION</b>	
<b>Peak Deviation:</b>	360 deg
<b>Modulation Rate:</b>	DC to 100 kHz
<b>SWEEP</b>	
<b>Range:</b>	Same as freq. range
<b>Modes:</b>	Frequency step, Amplitude step, List
<b>Dwell time:</b>	10 $\mu$ s to 1000 s
<b>Resolution:</b>	1 $\mu$ s
<b>Number of points:</b>	
List:	2 to 4,096
Step:	2 to 65,535
<b>Step change:</b>	Linear
<b>Trigger:</b>	Free run, External, Bus, Timer
<b>PATTERN MODULATION (PAT OPTION)</b>	
<b>Number of steps:</b>	1 to 2048
<b>Step Repetition:</b>	1 to 65535
<b>On/off time:</b>	20ns to 20 days

  

PULSE MODULATION (PLS OPTION)	
<b>On/off ratio:</b>	70dB
<b>Rise/fall time:</b>	15ns, 10%-90% (typ.)
<b>Resolution:</b>	10ns
<b>Minimum Width:</b>	30ns
<b>Repetition frequency:</b>	DC to 10MHz

  

INPUTS / OUTPUTS	
<b>RF OUT</b>	
<b>Impedance:</b>	50 $\Omega$
<b>Connector type:</b>	2.4mm
<b>REFERENCE OUT</b>	
<b>Impedance:</b>	50 $\Omega$
<b>Connector type:</b>	SMA
<b>Frequency:</b>	10 MHz or 100 MHz
<b>Shape:</b>	Sine
<b>Power:</b>	3 to 7 dBm
<b>MODULATION INPUT</b>	
<b>Connector Type:</b>	SMP
<b>Input Impedance:</b>	50 $\Omega$
<b>Max. input voltage:</b>	$\pm 1$ V
<b>Input damage level:</b>	$\pm 3.5$ V
<b>PULSE / TRIGGER INPUT</b>	
<b>Connector type:</b>	SMP
<b>Input Impedance:</b>	50 $\Omega$
<b>Input voltage:</b>	TTL, CMOS compatible
Threshold:	1.5V
<b>Damage level:</b>	-0.42V or 5.42V
<b>REFERENCE INPUT</b>	
<b>Connector type:</b>	SMA
<b>Input Impedance:</b>	50 $\Omega$
<b>Waveform:</b>	Sine or Square
<b>Frequency:</b>	10/100MHz
<b>Power:</b>	-3dBm to +10dBm
<b>Absolute Max. Level:</b>	+15dBm
<b>CLOCK INPUT / OUTPUT</b>	
<b>Number of Ports:</b>	2, (1 Input & 1 Output)
<b>Connector type:</b>	SMA
<b>Input Impedance:</b>	50 $\Omega$
<b>Waveform:</b>	Sine
<b>Frequency:</b>	2.7GHz – 3.3GHz
<b>Power:</b>	+10dBm
<b>Absolute Max. Level:</b>	+12dBm

<sup>(1)</sup> Boundary spurs which may appear @ -100MHz to +100MHz offset from CW.

## Specifications

MULTI-INSTRUMENT SYNCHRONIZATION	
Number of Ports:	2
Type:	SYNC I/O & SYNC X
Connector type:	MMCX
Input Impedance:	50Ω

GENERAL	
Voltage:	+12.0 to +12.6 VDC
Power Consumption:	30W max. per slot
Current Consumption:	+3.3V 0.5A max. +12V 5.5A max.
Interface:	PXle Gen3 x8 Lanes
Dimensions:	8HP PXle (2 Slots)
Weight:	
Without Package:	1.0 kg
Shipping Weight:	1.5 kg
Temperature:	
Operating:	0°C to +40°C
Storage:	-40°C to +70°C
Warm up time:	15 minutes
Humidity:	85% RH, non-condensing
Safety:	CE Marked, IEC61010-1:2010
EMC:	IEC 61326-1:2013
Calibration:	2 years
Warranty:	3 year standard

ORDERING INFORMATION	
MODEL	DESCRIPTION
LSX8081X	8GHz PXle Microwave Signal Generator
LSX2091X	20GHz PXle Microwave Signal Generator
LSX4091X	40GHz PXle Microwave Signal Generator
OPTIONS	
LP	Low Power Option (-80dBc)
PLS	Pulse Modulation
PAT	Pattern Modulation
FS	Fast Switching
EMU	Emulator pack for Keysight, R&S, Anapico & Holzworth

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