

LUCID SERIES

THINK RF THINK LUCID

PORTABLE MODELS

The All-new Lucid-X Portable platform extends the frequency range of Tabor's industry leading Lucid series of analog signal generator all the way up to mm-Wave and is by far the most advanced portable, handheld signal generator on the market. It offers a modern design capable of operating either as a benchtop or a portable signal generator. The series feature 20 and 40GHz single channel versions, all sharing the very same industry leading highlighted features. Featuring superior signal integrity and purity, all the necessary modulated signals for analog communication systems, built in USB, optional LAN interfaces and removable micro-SD card, the Lucid-X Series is designed to meet today's most demanding applications, whether in the lab or out in the field.



20 & 40GHz Microwave signal generator



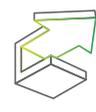
Field ready, with 10" touch screen suited for day and night use and 2 hour battery operation



Phase noise of $-134\text{dBc}/\text{Hz}$ @1GHz and 10kHz offset



Remotely programmable via MATLAB, Python, LabVIEW and other software programming environments.

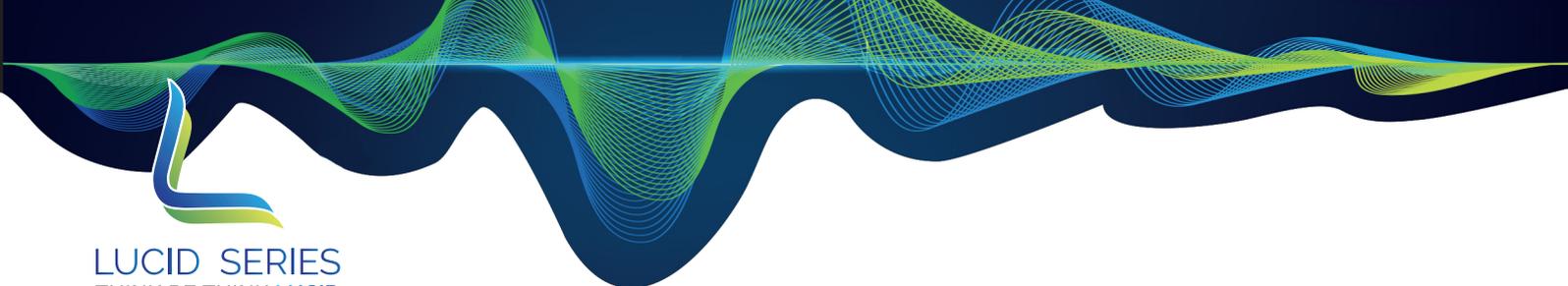


Removable uSD card for instrument security



AM, FM, PM, Sweep & Modulation





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Signal Integrity and Purity

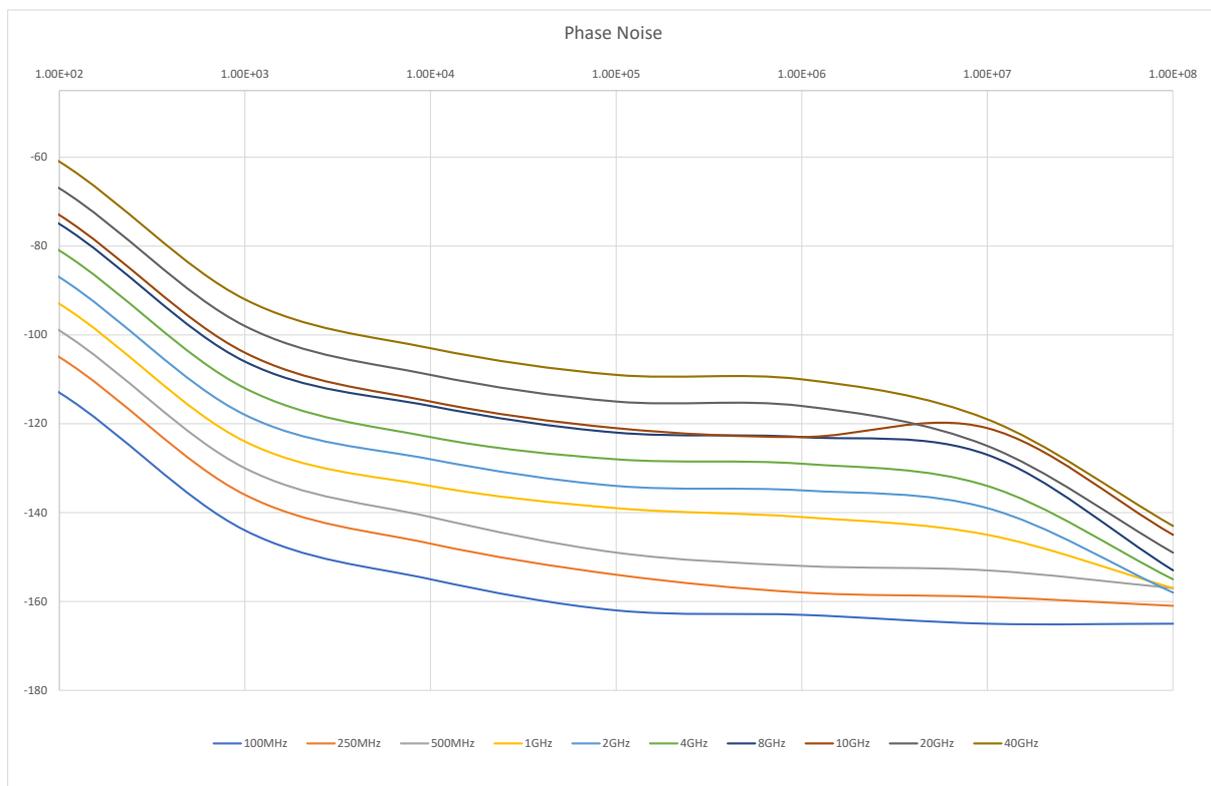
One of the most important requirements in today's testing and measurement applications is a high signal quality. With a typical SSB phase noise of $-134\text{dBc}/\text{Hz}$ at 1GHz , and $-115\text{dBc}/\text{Hz}$ at 10GHz , at 10kHz carrier offset, Tabor's Lucid X Series platform delivers great quality signals with the best price to performance value.

Modulation Schemes

Signal bursts and chirps have become common need in most aerospace or defense application. With Tabor's Lucid Series, any signal modulation is possible, no matter if "narrow" or "standard" signals are required. On top of its outstanding pulse modulation performance, the Lucid Series is also equipped with many CW interferers, and modulated signals such as AM, FM, PM, Pulse, Pattern and Sweep.

Easy to use

The Portable platform offers a $10''$ touch screen with user friendly GUI to quickly and easily generate the required signal, while displaying all the critical information. For remote control, the series is equipped with a built-in USB interface enabling remote programming from PC. For those requiring LAN interface a USB to LAN converter can be provided.



Specifications

FREQUENCY	
Range:	
LSX2091P:	100 kHz to 20 GHz
LSX4091P:	100 kHz to 40 GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	
Standard:	500 μ s
FS Option:	100 μ s

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

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

NON-HARMONICS (dBc)	
Up to 40GHz:	-90dBc (typ.) -60dBc max. ⁽¹⁾

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

AMPLITUDE	
Max output power:	
Settable:	+15 dBm
Calibrated:	+10 dBm
Min output power:	Base LP Opt.
Settable:	-70 dBm -80 dBm
Calibrated:	-50 dBm -70 dBm
Resolution:	0.01 dB
Power Mute:	-70 dBm
Output Return Loss:	-10 dBm
Accuracy (dB):	-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)	
Measured @ 10kHz offset	
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.)

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

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

INPUTS / OUTPUTS	
RF OUT	
Impedance:	50 Ω
Connector type:	2.4mm
REFERENCE OUT	
Impedance:	50 Ω
Connector type:	SMA
Frequency:	10 MHz or 100 MHz
Shape:	Sine
Power:	3 to 7 dBm
MODULATION INPUT	
Connector Type:	SMP
Input Impedance:	50 Ω
Max. input voltage:	\pm 1V
Input damage level:	\pm 3.5V
PULSE / TRIGGER INPUT	
Connector type:	SMP
Input Impedance:	50 Ω
Input voltage:	TTL, CMOS compatible
Threshold:	1.5V
Damage level:	-0.42V or 5.42V
REFERENCE INPUT	
Connector type:	SMA
Input Impedance:	50 Ω
Waveform:	Sine or Square
Frequency:	10/100MHz
Power:	-3dBm to +10dBm
Absolute Max. Level:	+15dBm
CLOCK INPUT / OUTPUT	
Number of Ports:	2, (1 Input & 1 Output)
Connector type:	SMA
Input Impedance:	50 Ω
Waveform:	Sine
Frequency:	2.7GHz, 3.0GHz, 3.3GHz
Power:	+10dBm
Absolute Max. Level:	+12dBm

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

Specifications

GENERAL	
Voltage:	+12.0 to +12.6 VDC
Supply Voltage:	+15 V DC
Power Consumption:	60W max.
Display Type	10", TFT capacitive touch screen
Battery (included):	
Type:	4-cell, replaceable
Standby:	Up to 2 hours
Max. load:	Up to 1 hours
Interface:	
Host:	2 x USB type A
Device:	1 x USB type B 1 x micro USB for LAN adapter
Storage:	Removable SD card
Dimensions:	280 x 225 x 65 mm (W x H x D)
Weight:	
Without Package:	3 kg
Shipping Weight:	4.5 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
LSX2091P	20GHz Portable Microwave Signal Generator
LSX4091P	40GHz Portable Microwave Signal Generator
OPTION	
BAT	4-cell, replaceable battery (extra)
CHA	External Charger for the Lucid Portable Battery
PLS	Pulse Modulation Option
PAT	Pattern Modulation Option
LP	Low Power Option