LUCID SERIES
THINK RF THINK LUCID

DESKTOP MODELS

The Lucid Series offers the most advanced features and industry leading performance in the most compact form factor. The series feature 3, 6 and 12 GHz single channel versions, all sharing the very same industry leading highlighted features, in a compact, small footprint module. Featuring extremely fast switching speed, superior signal integrity and purity, all the necessary modulated signals for analog communication systems, built in SPI and micro-USB interfaces, the Lucid Series is designed to meet today's most demanding specifications, needed from the R&D benches to the production lines.

3, 6 & 12GHz RF analog signal generator

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

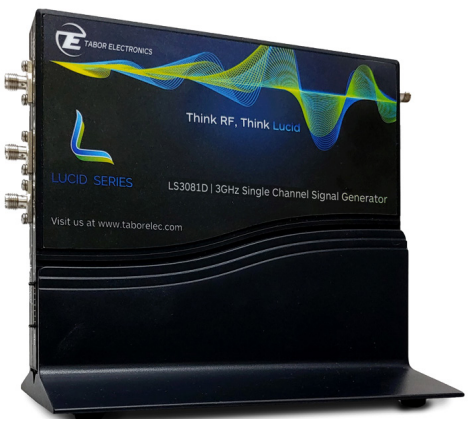
Exceptionally Low Phase Noise of -145dBc/Hz @100MHz and 10kHz offset

Fast Switching speed of <100us

SPI and micro-USB integrated interfaces

Extra small, compact module platform

Multi instrument synchronization capability



AM, FM, PM, Sweep, Pulse & Pattern Modulation

Flexible modular platform for OEM and custom requirements and applications, to satisfy specific customer demands.

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Signal Integrity and Purity

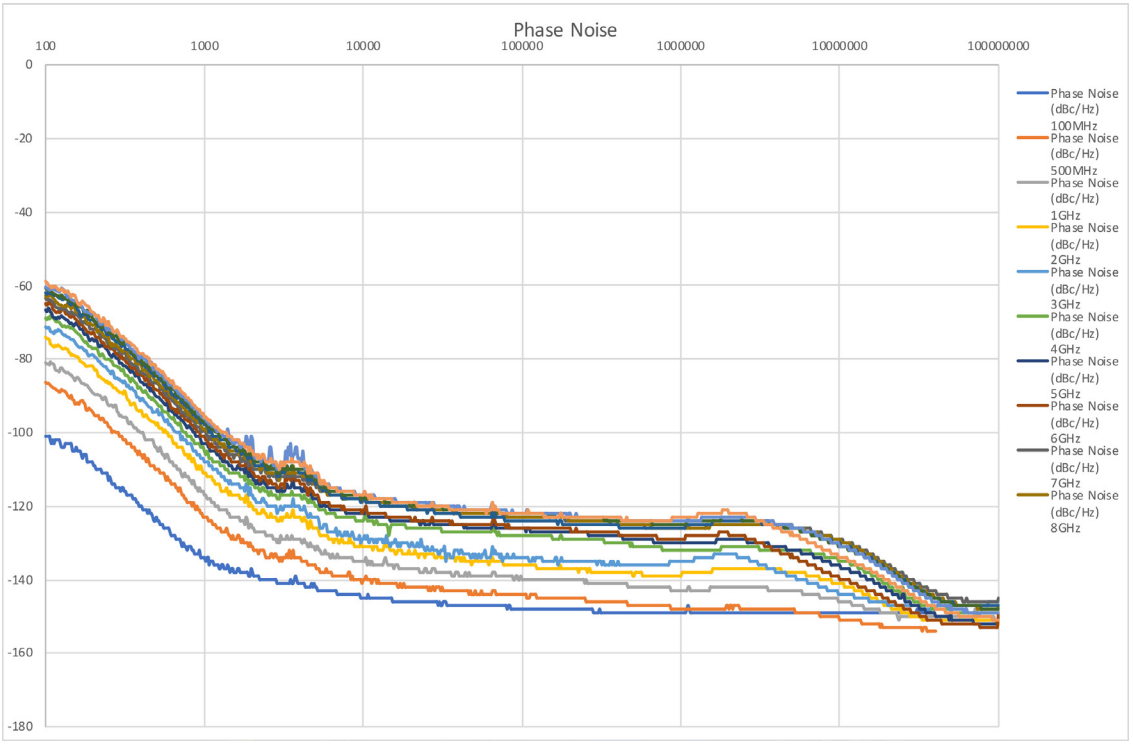
One of the most important requirements in today's testing and measurement applications is a high signal quality. With a typical SSB phase noise of -145dBc at 100MHz, and -132dBc at 1GHz, at 10 kHz carrier offset, Tabor's Lucid Series platform delivers one of the best quality signals available on the market today.

Multiple Ways to Control the Unit and Write Your Code

Tabor's Lucid Series has a dedicated software to control the instrument functions, modes and features via a graphical user interface (GUI). It also includes a complete set of drivers, allowing you to write your application in various environments, including LabVIEW, Python, CVI, C++, VB and MATLAB. You may also link the supplied DLL to other Windows-based API's or use low-level SCPI commands to program the instrument, regardless of whether your application is written for Windows, Linux or Macintosh operating systems.

Modulation Schemes

Signal bursts and chirps have become common need in most aerospace or defense application. With Tabor's All-New 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.



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Specifications

FREQUENCY	
Range:	
LS3081D:	9 kHz to 3GHz
LS6081D:	9 kHz to 6GHz
LS1291D:	9 kHz to 12GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	
Standard:	500 µs
FS Option:	100 µs

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

AMPLITUDE		
Max output power:		
Settable:	+20 dBm	
Calibrated:	+15 dBm [1]	
Min output power:	Base	LP Opt.
Settable:	-30 dBm	-100 dBm
Calibrated:	-20 dBm	-80 dBm
Resolution:	0.01 dB	
Power Mute:	-95 dBm	
Output Return Loss:	-10 dBm	
Accuracy (dB):	-50dBm to +15dBm	-90dBm to -50dBm
Up to 100MHz:	±0.3 (typ.)	±0.5 (typ.)
100MHz to 3GHz:	±0.4 (typ.)	±0.6 (typ.)
3GHz to 9GHz:	±0.7 (typ.)	±0.9 (typ.)
Above 9GHz:	±1 (typ.)	±1.5 (typ.)

PHASE NOISE (dBc/Hz)	
Measured @ 10kHz offset	
1 GHz:	-138 (typ.)
2 GHz:	-133 (typ.)
3 GHz:	-130 (typ.)
6 GHz:	-124 (typ.)
12 GHz:	-118 (typ.)

HARMONICS (dBc)	
Up to 100 MHz:	-30 dBc
100 MHz to 12 GHz:	-50 dBc [2]

SUB-HARMONICS (dBc)	
6 to 12 GHz:	-55 dBm

NON-HARMONICS (dBc)	
Up to 12 GHz:	-90dBc (typ.) [4,5] -60dBc max.[6]

MODULATION	
FREQUENCY MODULATION	
Maximum Deviation:	10 MHz
Resolution:	0.1% or 1 Hz (the greater)
Modulation Rate:	1 MHz
Resolution:	1 Hz
AMPLITUDE MODULATION [6]	
AM Depth:	
Type:	Linear
Maximum settable:	90%
Resolution:	0.1% of depth
Modulation rate:	DC to 100 kHz
PHASE MODULATION	
Peak Deviation:	360 deg
Modulation Rate:	DC to 100 kHz
PULSE MODULATION (PLS OPTION)	
On/off ratio:	60 dB
Rise/fall time: (10%-90%):	15ns (typ.)
Resolution:	6.4ns
Minimum Width:	32ns
Repetition frequency:	DC to 10 MHz
PATTERN MODULATION (PAT OPTION)	
Number of steps:	1 to 2048
Step Repetition:	1 to 65535
On/off time:	32 ns to 20 days
SWEEP	
Range:	Same as freq. range
Modes:	Frequency step, Amplitude step, List
Dwell time:	10 µs to 1000 s
Resolution:	1 µs
Number of points:	
List:	2 to 4,096
Step:	2 to 65,535
Step change:	Linear
Trigger:	Free run, External, Bus, Timer

INPUTS	
MODULATION INPUT	
Connector Type:	MMCX
Input Impedance:	50Ω
Max. input voltage:	±1V
Input damage level:	±3.5V
PULSE / TRIGGER INPUT	
Connector type:	MMCX
Input Impedance:	50Ω
Input voltage:	TTL, CMOS compatible
Threshold:	1.5V
Damage level:	-0.42V or 5.42V
EXTERNAL REFERENCE INPUT	
Connector type:	SMA
Input Impedance:	50Ω
Waveform:	Sine or Square
Frequency:	10/100MHz
Power:	-3 dBm to +10 dBm
Absolute Max. Level:	+15 dBm
Locking Range:	±2 ppm

OUTPUTS	
RF OUT	
Impedance:	50Ω
Connector type:	SMA
Number of outputs:	1
REFERENCE OUT	
Impedance:	50Ω
Connectors type:	2 x SMA
Frequency:	10 MHz or 100 MHz
Shape:	Sine
Power:	3 to 7 dBm

[1] Above 25kHz; [2] With LP Option; [3] 750MHz to 900MHz -35dBc (typ.); [4] -60dBm max. @ 1GHz, 1.5GHz, 2.5GHz and 3GHz;
[5] -75dBm max. @ -15dBm to +15dBm and f>6GHz; [6] Boundary spurs which may apear @ -100MHz to +100MHz offset from CW. [6] Specified for >100MHz.

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Specifications

GENERAL	
Voltage:	+12.0 to +12.6 VDC
Power Consumption:	
Normal Operation:	18W nom.
Max:	24W max.
Interface:	MICRO-USB, SPI
Dimensions:	12 x 16 x 2.5 cm
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 * 1 year standard in India

ORDERING INFORMATION	
MODEL	**DESCRIPTION**
LS3081D	3GHz RF Analog Signal Generator Desktop Module
LS6081D	6GHz RF Analog Signal Generator Desktop Module
LS1291D	12GHz RF Analog Signal Generator Desktop Module
OPTIONS	
LP	Low Power Option (-90dBc)
PLS	Pulse Modulation
PAT	Pattern Modulation
FS	Fast Switching

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