

## Specifications

FREQUENCY		HARMONICS (dBc)		Resolution:	
<b>Range:</b>		<b>Up to 100 MHz:</b>	-30 dBc	<b>Number of points:</b>	
LS3081/2/4B:	9 kHz to 3GHz	<b>100 MHz to 12 GHz:</b>	-50 dBc <sup>(2)</sup>	List:	2 to 4,096
LS6081/2/4B:	9 kHz to 6GHz			Step:	2 to 65,535
LS1291/2/4B:	9 kHz to 12GHz			<b>Step change:</b>	Linear
<b>Resolution:</b>	0.001 Hz			<b>Trigger:</b>	Free run, External, Bus, Timer
<b>Phase offset:</b>	0.01 deg				
<b>Switching speed:</b>					
Standard:	500 µs				
FS Option:	100 µs				
FREQUENCY REFERENCE		SUB-HARMONICS (dBc)		INPUTS	
<b>Temp. Stability:</b>	±25 ppb max.	<b>6 to 12 GHz:</b>	-55 dBm	<b>MODULATION INPUT</b>	
<b>Aging:</b>	± 3 ppm for 20 years			<b>Connector Type:</b>	BNC
<b>Warm up time:</b>	30 min			<b>Input Impedance:</b>	50Ω
				<b>Max. input voltage:</b>	±1V
				<b>Input damage level:</b>	±3.5V
				<b>PULSE / TRIGGER INPUT</b>	
				<b>Connector type:</b>	BNC (per channel)
				<b>Input Impedance:</b>	50Ω
				<b>Input voltage:</b>	TTL, CMOS compatible
				Threshold:	1.5V
				<b>Damage level:</b>	-0.42V or 5.42V
				<b>EXTERNAL REFERENCE INPUT</b>	
				<b>Connector type:</b>	BNC (per channel)
				<b>Input Impedance:</b>	50Ω
				<b>Waveform:</b>	Sine or Square
				<b>Frequency:</b>	10/100MHz
				<b>Power:</b>	-3 dBm to +10 dBm
				<b>Absolute Max. Level:</b>	+15 dBm
				<b>Locking Range:</b>	±2 ppm
AMPLITUDE		MODULATION		OUTPUTS	
<b>Max output power:</b>		<b>FREQUENCY MODULATION</b>		<b>RF OUT</b>	
Settable:	+20 dBm	<b>Maximum Deviation:</b>	10 MHz	<b>Impedance:</b>	50Ω
Calibrated:	+15 dBm <sup>(1)</sup>	Resolution:	0.1% or 1 Hz (the greater)	<b>Connector type:</b>	SMA
<b>Min output power:</b>		<b>Modulation Rate:</b>	1 MHz	<b>Number of outputs:</b>	
Settable:	-100 dBm	Resolution:	1 Hz	LS3081/6081/1291B:	1
Calibrated:	-80 dBm	<b>AMPLITUDE MODULATION</b>		LS3082/6082/1292B:	2
<b>Resolution:</b>	0.01 dB	<b>AM Depth:</b>		LS3084/6084/1294B:	4
<b>Power Mute:</b>	-95 dBm	Type:	Linear	<b>REFERENCE OUT</b>	
<b>Output Return Loss:</b>	-10 dBm	Maximum settable:	90%	<b>Impedance:</b>	50Ω
<b>Accuracy (dB):</b>	-50dBm to +15dBm	Resolution:	0.1% of depth	<b>Connectors type:</b>	2 x BNC
Up to 100MHz:	±0.3 (typ.)	Accuracy (1 kHz)	< ± 4% of setting	<b>Frequency:</b>	10 MHz or 100 MHz
100MHz to 3GHz:	±0.4 (typ.)	<b>Modulation rate:</b>	DC to 100 kHz	<b>Shape:</b>	Sine
3GHz to 9GHz:	±0.7 (typ.)	<b>PHASE MODULATION</b>		<b>Power:</b>	3 to 7 dBm
Above 9GHz:	±1 (typ.)	<b>Peak Deviation:</b>	360 deg		
		<b>Modulation Rate:</b>	DC to 100 kHz		
		<b>PULSE MODULATION (PLS OPTION)</b>			
		<b>On/off ratio:</b>	80 dB		
		<b>Rise/fall time (10%-90%):</b>	15ns (typ.)		
		<b>Resolution:</b>	6.4ns		
		<b>Minimum Width:</b>	32ns		
		<b>Repetition frequency:</b>	DC to 10 MHz		
		<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>	32 ns to 20 days		
		<b>SWEEP</b>			
		<b>Range:</b>	Same as freq. range		
		<b>Modes:</b>	Frequency step, Amplitude step, List		
		<b>Dwell time:</b>	10 µs to 1000 s		
PHASE NOISE (dBc/Hz)					
<b>Measured @ 10kHz offset</b>					
<b>1 GHz:</b>	-138 (typ.)				
<b>2 GHz:</b>	-133 (typ.)				
<b>3 GHz:</b>	-130 (typ.)				
<b>6 GHz:</b>	-124 (typ.)				
<b>12 GHz:</b>	-118 (typ.)				

<sup>(1)</sup> Above 25kHz; <sup>(2)</sup> 750MHz to 900MHz -35dBc (typ.); <sup>(3)</sup> -60dBm max. @ 1GHz, 1.5GHz, 2.5GHz and 3GHz; <sup>(4)</sup> -75dBm max. @ -15dBm to +15dBm and f>6GHz; <sup>(5)</sup> Boundary spurs which may appear @ -100MHz to +100MHz offset from CW

## Specifications

GENERAL	
<b>Voltage Range:</b>	90VAC to 264VAC
<b>Frequency Range:</b>	47Hz to 63Hz
<b>Power Consumption:</b>	100W
<b>Display Type:</b>	5", TFT capacitive touch screen
<b>Interface:</b>	
Host:	2 x front panel USB type A 1 x rear panel USB type A
Device: USB: LAN:	1 x rear panel USB type B 1 x rear panel 1000/100/10 BASE-T
<b>Storage:</b>	Removable SD card
<b>Dimensions (W x H x D):</b>	
Without feet	315 X 88 x 425 mm
With feet	315 X 102 x 425 mm
<b>Weight:</b>	
Without Package:	6.0 kg
Shipping Weight:	6.5 kg
<b>Temperature:</b>	
Operating:	0°C to +40°C
Storage:	-40°C to +70°C
<b>Warm up time:</b>	15 minutes
<b>Humidity:</b>	85% RH, non-condensing
<b>Safety:</b>	CE Marked, EC61010-1:2010
<b>EMC:</b>	IEC 61326-1:2013
<b>Calibration:</b>	2 years
<b>Warranty:</b>	1 / 3 year warranty plan

ORDERING INFORMATION	
MODEL	DESCRIPTION
<b>LS3081B</b>	3GHz Single Channel RF Analog Signal Generator
<b>LS3082B</b>	3GHz Dual Channel RF Analog Signal Generator
<b>LS3084B</b>	3GHz Four Channel RF Analog Signal Generator
<b>LS6081B:</b>	6GHz Single Channel RF Analog Signal Generator
<b>LS6082B</b>	6GHz Dual Channel RF Analog Signal Generator
<b>LS6084B</b>	6GHz Four Channel RF Analog Signal Generator
<b>LS1291B</b>	12GHz Single Channel RF Analog Signal Generator
<b>LS1292B</b>	12GHz Dual Channel RF Analog Signal Generator
<b>LS1294B</b>	12GHz Four Channel RF Analog Signal Generator
OPTIONS	
<b>PLS</b>	Pulse Modulation
<b>PAT</b>	Pattern Modulation
<b>ELP</b>	Extended Low Power (-150dBc)
<b>EPR</b>	Extended Power Range (-130dBc to +27dB)
<b>FS</b>	Fast Switching
<b>EMU</b>	Emulator pack for Keysight, R&S, Anapico & Holzworth
<b>W-Rack</b>	Rack mount kit

## 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  $-145\text{dBc}$  at  $100\text{MHz}$ , and  $-132\text{dBc}$  at  $1\text{GHz}$ , at  $10\text{kHz}$  carrier offset. Lucid delivers one of the best quality signals available on the market today.

## Multiple Ways to Control the Unit and Write Your Code

The 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 applications 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 the 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 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.

## Multi-channel, phase coherent, benchtop generator

Many test systems and experimental setups require multiple RF channels, either separate or synchronized. The Lucid series benchtop platform offers up to 4, separate or phase coherent, RF outputs in a single 19" 2U box, saving up to 4 times the space compared to available benchtop solutions on the market. You can save both valuable bench/rack space and investment capital without compromising performance.

## Easy to use

The benchtop platform offers a 5" 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 Ethernet and USB interface enabling remote programming from PC.

