

Specifications

FREQUENCY	
Range:	
LS3081/2/4/16R:	9 kHz to 3GHz
LS6081/2/4/16R:	9 kHz to 6GHz
LS1291/2/4/16R:	9 kHz to 12GHz
Resolution:	0.001 Hz
Phase offset:	0.01 deg
Switching speed:	
Standard:	500 μ s
FS Option:	100 μ s

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:	+20 dBm	
Calibrated:	+15 dBm ⁽¹⁾	
Min output power:		
Settable:	-100 dBm	
Calibrated:	-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:	\pm 0.3 (typ.)	\pm 0.5 (typ.)
100MHz to 3GHz:	\pm 0.4 (typ.)	\pm 0.6 (typ.)
3GHz to 9GHz:	\pm 0.7 (typ.)	\pm 0.9 (typ.)
Above 9GHz:	\pm 1 (typ.)	\pm 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.) ^(3,4) -60dBc max. ⁽⁵⁾

MODULATION	
FREQUENCY MODULATION	
Maximum Deviation:	10 MHz
Resolution:	0.1% or 1 Hz (the greater)
Modulation Rate:	1 MHz
Resolution:	1 Hz

AMPLITUDE MODULATION	
AM Depth:	
Type:	Linear
Maximum settable:	90%
Resolution:	0.1% of depth
Accuracy (1 kHz)	$\lt \pm$ 4% of setting
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:	80 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 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

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

OUTPUTS	
RF OUT	
Impedance:	50 Ω
Connector type:	SMA
Number of outputs:	
LS3081/6081/1291R:	1
LS3082/6082/1292R:	2
LS3084/6084/1294R:	4
LS30816/60816/12916R:	16
REFERENCE OUT	
Impedance:	50 Ω
Connectors type:	2 x BNC
Frequency:	10 MHz or 100 MHz
Shape:	Sine
Power:	3 to 7 dBm

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

Specifications

GENERAL	
Voltage Range:	90VAC to 264VAC
Frequency Range:	47Hz to 63Hz
Power Consumption:	
1U box:	100W
3U box:	400W
Interface:	
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
Storage:	Removable SD card
Dimensions (W x H x D):	
1U box:	450 X 43 x 500 mm
3U box:	450 X 129 x 500 mm
Weight:	
Without Package:	
1U box:	6.0 kg
3U box:	12 kg
Shipping Weight:	
1U box:	7.0 kg
3U box:	13 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, EC61010-1:2010
EMC:	IEC 61326-1:2013
Calibration:	2 years
Warranty:	1 / 3 year warranty plan

ORDERING INFORMATION	
MODEL	DESCRIPTION
LS3081R:	3GHz 1CH Rack-Mounted Analog Signal Generator
LS3082R:	3GHz 2CH Rack-Mounted Analog Signal Generator
LS3084R:	3GHz 4CH Rack-Mounted Analog Signal Generator
LS30816R:	3GHz 16CH Rack-Mounted Analog Signal Generator
LS6081R:	6GHz 1CH Rack-Mounted Analog Signal Generator
LS6082R:	6GHz 2CH Rack-Mounted Analog Signal Generator
LS6084R:	6GHz 4CH Rack-Mounted Analog Signal Generator
LS60816R:	6GHz 16CH Rack-Mounted Analog Signal Generator
LS1291R:	12GHz 1CH Rack-Mounted Analog Signal Generator
LS1292R:	12GHz 2CH Rack-Mounted Analog Signal Generator
LS1294R:	12GHz 4CH Rack-Mounted Analog Signal Generator
LS12916R:	16GHz 4CH Rack-Mounted Analog Signal Generator
OPTIONS	
PLS	Pulse Modulation
PAT	Pattern Modulation
ELP	Extended Low Power (-150dBc)
EPR	Extended Power Range (-130dBc to +27dB)
FS	Fast Switching
EMU	Emulator pack for Keysight, R&S, Anapico & Holzworth
W-Rack	Rack mount kit