

LA19-15-04 Signal Generator

300 kHz to 8 GHz

Data Sheet

New

- +17 dBm Output
- 45 μ s Settling
- 0.1 Hz Resolution
- FM & AM Modulation
- 30 dB Amplitude control
- PLL Lock alarm
- ALC Lock alarm
- -90 dBc/Hz Phase noise at 4 GHz
- User applications supported with DLL library



The LA19-15-04 is a fast, general purpose multi-decade signal generator with a wide range of useful features. The instrument is conveniently housed in a small case that includes a mains power supply.

The signal generator is controlled by a host PC through a USB port. The user software provides a comprehensive list of features including linear and arbitrary (list mode) frequency sweep modes as well as frequency and phase hop modes.



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LA19-15-04 Specification

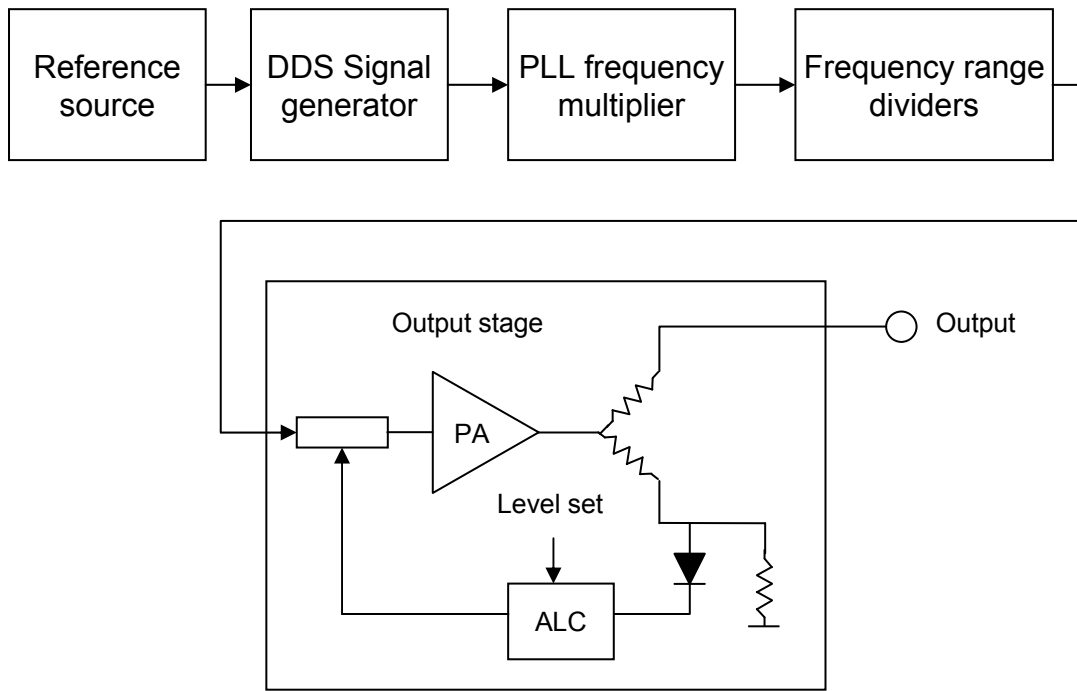
Parameter	Units	Min	Typ	Max	
Frequency range	MHz	0.3	-	8192	
Resolution (Freq > 4 GHz)	Hz	20	-	-	
Resolution (Freq < 4 GHz) ⁵	Hz	10	-		
Maximum output power	dBm	+15	+17	-	
Minimum output power	dBm	-	-20	-15	
Frequency settling time (within 10ppm)	µs	-	40	45	
Phase noise at 10 kHz offset	2 GHz	dBc/Hz	-	-96	-94
	4 GHz	dBc/Hz		-90	-88
	8 GHz	dBc/Hz		-85	-83
Harmonics ¹	dBc	-	-26	-20	
Sub-harmonics ¹	dBc	-	-46	-40	
Spurious ¹	dBc	-	-60	-50	
Internal reference stability	ppm	-	-	2.5	
Internal reference accuracy ²	ppm	-	-	1.5	
Internal 10 MHz reference output ⁴	dBm	-3	0	+3	
External 10 MHz reference input ⁴	dBm	-6	0	+6	
External reference lock range	ppm	-8	-	+8	
Trigger input threshold voltage	V	0.5	1.4	2.5	
Trigger output voltage low/high level	V	0 / 3.6	-	0.5 / 5.2	
Trigger output rise and fall times ⁶	ns	-	-	40	
External AM and FM modulation frequency response bandwidth	kHz	dc	-	10	
Case dimensions (W x D x H)	mm	173 x 232 x 56			
Mains power supply requirements	VAC	85	-	250	
	VA	15	-	20	
Operating case temperature range	°C	0		+45	
Programming interface		USB			

- Notes:**
1. Output set to +10 dBm
 2. Case temperature at 25°C
 4. BNC Connector
 5. Resolution is 0.1 Hz below 125 MHz
 6. 1 kΩ in parallel with 50pF load

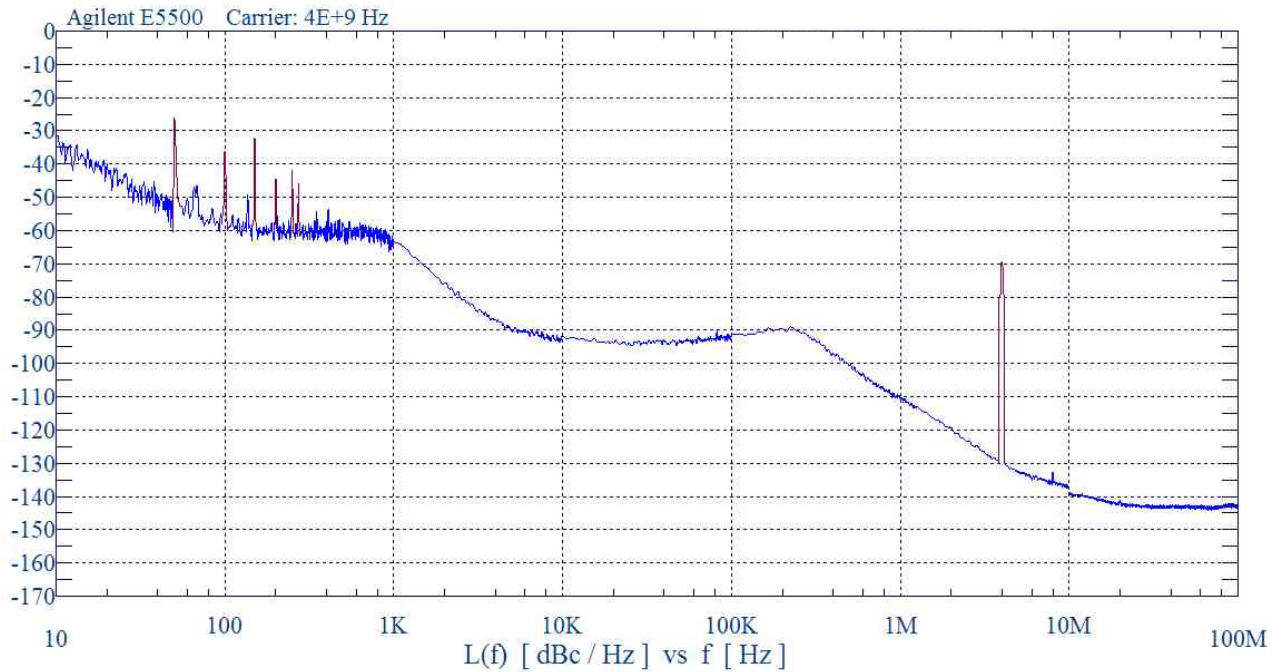


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Simplified block diagram of the LA19-15-04 signal generator



Measured phase noise at 4 GHz



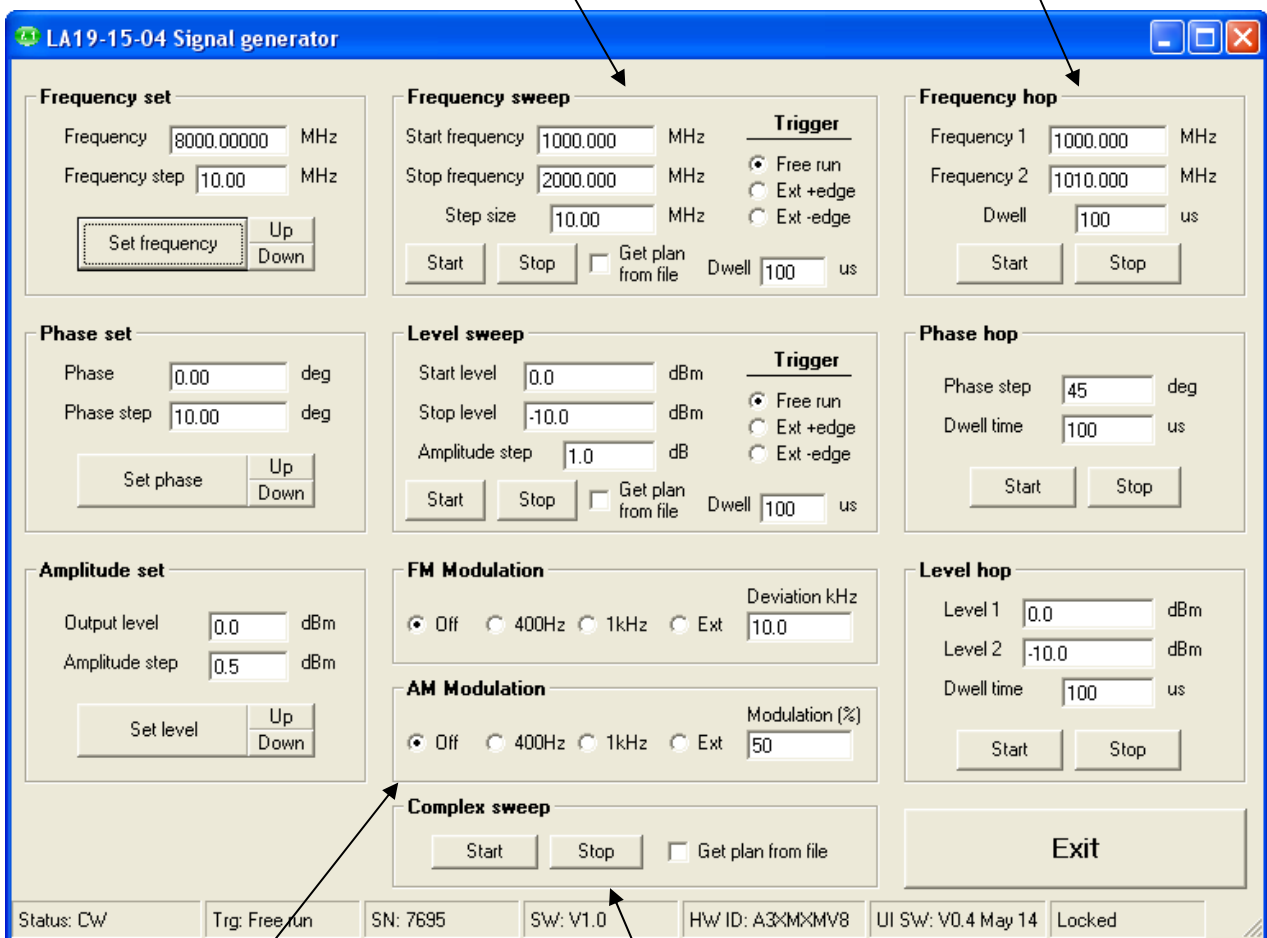
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UI software

The signal generator is provided with user interface (UI) software that provides a wide range of features including support for complex sweep (phase and amplitude), external AM and FM modulation extending down to dc, and frequency and level sweeps, both triggered or free running.

Frequency and level sweeps include list mode and trigger synchronisation

Phase, frequency and level hop modes include adjustable dwell time



FM and AM modulation includes external, with a modulation bandwidth from DC to 10kHz.

Complex sweep can emulate modulation schemes such as QPSK.



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LA19-15-04 Rear panel connections



Trigger input: rising or falling edge trigger modes

USB connection: to host PC

Mains input: 85 to 250 VAC

Trigger output: 0 V to +5 V output levels. Rising edge is start of sweep



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