



Top 3 Reasons to Migrate from the ESA-L Series Spectrum Analyzers to the CXA X-Series Signal Analyzers



The new Agilent CXA signal analyzer, the most affordable member of the Agilent X-Series signal analyzer family, is a perfect replacement for the ESA-L spectrum analyzer. With more powerful performance, sophisticated analysis capabilities, and faster measurement speeds, the CXA brings you a versatile essential signal characterization toolset available at a lower price point than ever before.



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1. Better performance

With advances in RF design and digital IF technologies, the CXA signal analyzers offer dramatic performance improvements over the ESA-L spectrum analyzers.

Table 1. ESA-L and CXA key specifications comparison

RF performance		ESA-L	CXA
Available frequency ranges		9 kHz to 1.5 GHz	
		9 kHz to 3.0 GHz	9 kHz to 3.0 GHz
		9 kHz to 26.5 GHz	9 kHz to 7.5 GHz
Resolution bandwidths	-3 dB	1 kHz to 5 MHz in 1/3 sequence 100 Hz, 300 Hz optional	1 Hz to 3 MHz (10% steps), 4, 5, 6, 8 MHz
	-6 dB	9 kHz, 120 kHz 200 Hz optional	200 Hz, 9 kHz, 120 kHz, 1 MHz optional
TOI	1 GHz	+7.5 dBm	+13 dBm
DANL	1 GHz	-124 dBm, 100 Hz RBW	-145 dBm, preamplifier OFF -159 dBm, preamplifier ON
	4 GHz	-120 dBm, 100 Hz RBW	-136 dBm, preamplifier OFF -154 dBm, preamplifier ON
Phase noise (at 1 GHz)	10 kHz offset	-90 dBc/Hz	-98 dBc/Hz
RBW	100 to 300 Hz	5:1	4.1:1
Selectivity (60 dB/3 dB)	1 kHz to 5 MHz	15:1	4.1:1
Analysis bandwidth		NA	10 MHz

3. Faster speed

Whether on the bench or in a system, the CXA signal analyzer is optimized to perform with superior measurement speed. It helps you reduce time to market and boost throughput with much-improved measurement and data transfer speeds – The CXA is up to 90 times faster than the ESA-L.

Table 3. ESA-L and CXA measurement speed comparison ¹

Measurement throughput	ESA-L (msec)	CXA (msec)
Local measurement and display update rate	21	11
Remote measurement and transfer rate	32	6
Marker peak search	454	5
Center frequency tune and transfer (RF)	121	22
Measurement/mode switching	N/A	75

1. Speed specifications are nominal and subject to change

2. More applications

With the common library of shared X-Series measurement applications, the CXA signal analyzers have increased their measurement coverage substantially beyond the ESA-L Series to meet increasingly advanced measurement needs. Measurement capabilities range from general-purpose spectrum analysis with one-button PowerSuite measurements to completion of specific tasks such as phase noise, noise figure and analog demodulation measurements. The 89600 VSA software running inside the CXA helps you reach even deeper into the signals in the time, frequency and modulation domains.

Table 2. ESA-L and CXA key measurement applications comparison

Applications/Options	ESA-L	CXA
PowerSuite	Standard	Standard
I/Q analyzer	N/A	Standard
Basic EMC functionality	N/A	Option EMC
Analog demodulation	N/A	W9063A
Phase noise	N/A	W9068A
Noise figure	N/A	W9069A
89600A VSA software	N/A	Runs internally or on external PC
Flexible digital demodulation	N/A	89601X VXA
Custom analysis using MATLAB	N/A	Internal or external PC operation
Tracking generator	Option BTG	Future, contact Agilent
CATV	E4411B only	Future, contact Agilent

For more information, please visit

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