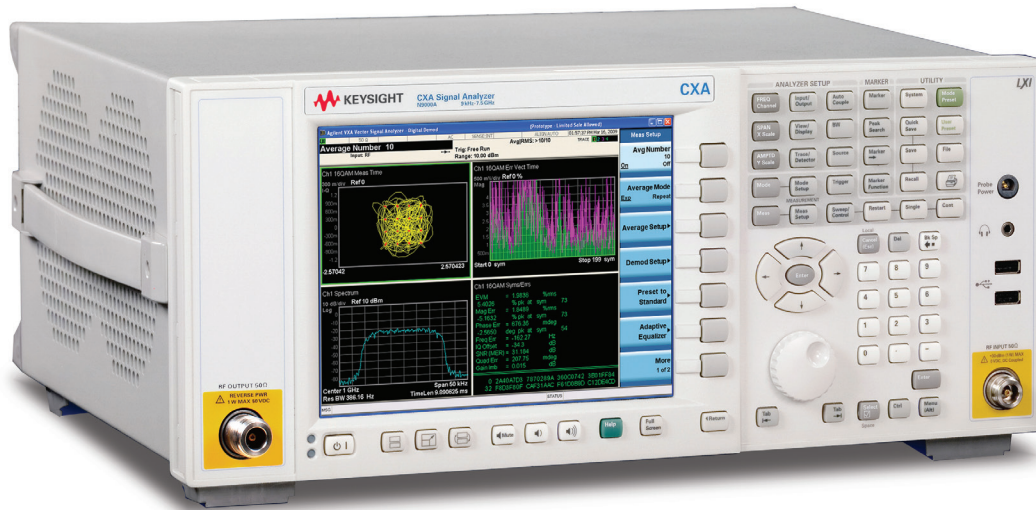


Keysight Technologies Top 3 Reasons to Migrate from the ESA-L Series Spectrum Analyzers to the CXA X-Series Signal Analyzers

The Keysight Technologies, Inc. CXA signal analyzer, the most affordable member of the Keysight 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.



1. Better performance

With advances in RF and microwave 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

Performance	ESA-L	CXA
Available frequency ranges	9 kHz to 1.5 GHz (E4411B) 9 kHz to 3.0 GHz (E4403B) N/A N/A 9 kHz to 26.5 GHz (E4408B)	N/A 9 kHz to 3.0 GHz (Option 503) 9 kHz to 7.5 GHz (Option 507) 9 kHz to 13.6 GHz (Option 513) 9 kHz to 26.5 GHz (Option 526)
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	+7.5 dBm	Up to +17 dBm
DANL	1 GHz -130 dBm, 100 Hz RBW	-150 dBm, preamplifier OFF -163 dBm, preamplifier ON
	26.5 GHz -122 dBm, 100 Hz RBW	-129 dBm, preamplifier OFF -147 dBm, preamplifier ON
Phase noise (at 1 GHz)	10 kHz offset -94 dBc/Hz	-102 dBc/Hz
RBW Selectivity (60 dB/3 dB)	100 to 300 Hz 5:1 1 kHz to 5 MHz 15:1	4:1:1 4:1:1
Analysis bandwidth	NA	10 MHz standard, 25 MHz optional

2. More applications

With the common library of more than 25 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
EMC	N/A	W6141A
Wireless connectivity	N/A	802.16 OFDMA, Bluetooth® ¹
Cellular communications	N/A	Supports 2G, 3G and 4G standards ¹
89600A VSA software	N/A	Runs internally or on external PC
Vector signal and WLAN modulation analysis	N/A	W9064A
Custom analysis using MATLAB	N/A	Internal or external PC operation
CATV	E4411B only	Digital video measurement applications ¹
Tracking generator	Option BTG	Option T03 or T06 ¹
75 Ω input impedance	E4411B only	Option C75 ¹
Battery and charger	E1779A/B	N/A. See Keysight FieldFox and HSA handheld spectrum analyzers

1. Not compatible with Option 513 or 526.

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 comparison¹

Measurement throughput	ESA-L (ms)	CXA (ms)
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	121	22
Measurement/mode switching	N/A	75

1. Speed specifications are nominal and subject to change

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