

# Agilent EXA Signal Analyzer N9010A

## Data Sheet



### Available frequency range

N9010A-503	9 kHz to 3.6 GHz
N9010A-507	9 kHz to 7.0 GHz
N9010A-513	9 kHz to 13.6 GHz
N9010A-526	9 kHz to 26.5 GHz



LXI class C certified



Agilent Technologies

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## Eliminate the compromise between speed and price

The Agilent EXA is the industry's fastest economy-class signal analyzer. Its speed and accuracy, coupled with its unprecedented performance and application coverage, provides development and manufacturing engineers with the capabilities to cost-effectively troubleshoot new designs, increase manufacturing throughput, or analyze complex and time-varying signals.

The EXA seamlessly integrates a broad range of standards-based measurements with Agilent's industry-leading 89600 vector signal analysis (VSA) software—all in a single instrument. In addition to the use of an open Windows® XP Professional operating system, the EXA provides an advanced signal analysis user interface. All measurement features and functions are intuitively grouped and accessible from the front panel or via a USB keyboard and mouse.

Optional measurement application software provides preconfigured test routines for 802.16e Mobile WiMAX™, W-CDMA, HSDPA/HSUPA, GSM/EDGE, and more. See page 19 or visit [www.agilent.com/find/xseries\\_apps](http://www.agilent.com/find/xseries_apps) for more information. Running the Agilent 89600 VSA software application in the EXA enables advanced signal demodulation analysis and troubleshooting of more than 50 demodulation formats including: 2G, 3G, 3.5G, WiMAX, WLAN, and Private Mobile Radio.

## Definitions and Conditions

Specifications describe the performance of parameters covered by the product warranty and apply over 5 to 50 °C unless otherwise noted. 95th percentile values indicate the breadth of the population ( $\approx 2\sigma$ ) of performance tolerances expected to be met in 95 percent of the cases with a 95 percent confidence, for any ambient temperature in the range of 20 to 30 °C. In addition to the statistical observations of a sample of instruments, these values include the effects of the uncertainties of external calibration references. These values are not warranted. These values are updated occasionally if a significant change in the statistically observed behavior of production instruments is observed. Typical describes additional product performance information that is not covered by the product warranty. It is performance beyond specifications that 80 percent of the units exhibit with a 95 percent confidence level over the temperature range 20 to 30 °C. Typical performance does not include measurement uncertainty. Nominal values indicate expected performance, or describe product performance that is useful in the application of the product, but is not covered by the product warranty.

The analyzer will meet its specifications when:

- The analyzer is within its calibration cycle.
- Under auto couple control, except that Auto Sweep Time Rules = Accy.
- For signal frequencies < 20 MHz, DC coupling applied.
- The analyzer has been stored at an ambient temperature within the allowed operating range for at least two hours before being turned on, if it had previously been stored at a temperature range inside the allowed storage range but outside the allowed operating range.
- The analyzer has been turned on at least 30 minutes with Auto Align set to normal, or if Auto Align is set to off or partial, alignments must have been run recently enough to prevent an Alert message. If the Alert condition is changed from Time and Temperature to one of the disabled duration choices, the analyzer may fail to meet specifications without informing the user.

This EXA signal analyzer data sheet is a summary of the complete specifications and conditions, which are available in the *EXA Signal Analyzer Specification Guide*. The *EXA Signal Analyzer Specification Guide* can be obtained on the web at: [www.agilent.com/find/exa\\_manuals](http://www.agilent.com/find/exa_manuals).

## Frequency and Time Specifications

Frequency range	DC Coupled	AC Coupled
Option 503	9 kHz to 3.6 GHz	10 MHz to 3.6 GHz
Option 507	9 kHz to 7.0 GHz	10 MHz to 7.0 GHz
Option 513	9 kHz to 13.6 GHz	10 MHz to 13.6 GHz
Option 526	9 kHz to 26.5 GHz	10 MHz to 26.5 GHz

Band	LO Multiple (N)	Required options
0	1	9 kHz to 3.6 GHz
1	1	3.5 to 7.0 GHz Option 507
1	1	3.5 to 8.4 GHz Options 513, 526
2	2	6.9 to 13.6 GHz
3	2	13.5 to 17.1 GHz
4	4	17 to 26.5 GHz

### Frequency reference

Accuracy	$\pm [(time\ since\ last\ adjustment\ \times\ aging\ rate) + temperature\ stability + calibration\ accuracy]$	
Aging rate	Option PFR $\pm 1 \times 10^{-7}$ / year $\pm 1.5 \times 10^{-7}$ / 2 years	Standard $\pm 1 \times 10^{-6}$ / year
Temperature stability 20 to 30 °C 5 to 50 °C	Option PFR $\pm 1.5 \times 10^{-8}$ $\pm 5 \times 10^{-8}$	Standard $\pm 2 \times 10^{-6}$ $\pm 2 \times 10^{-6}$
Achievable initial calibration accuracy	Option PFR $\pm 4 \times 10^{-8}$	Standard $\pm 1.4 \times 10^{-6}$
Example frequency reference accuracy (with Option PFR) 1 year after last adjustment	$= \pm(1 \times 1 \times 10^{-7} + 5 \times 10^{-8} + 4 \times 10^{-8})$ $= \pm 1.9 \times 10^{-7}$	
Residual FM Option PFR Standard	$\leq (0.25\ Hz \times N)$ p-p in 20 ms nominal $\leq (10\ Hz \times N)$ p-p in 20 ms nominal See band table above for N (LO Multiple)	

### Frequency readout accuracy (*start, stop, center, marker*)

$\pm (\text{marker frequency} \times \text{frequency reference accuracy} + 0.25\% \times \text{span} + 5\% \times \text{RBW} + 2\ Hz + 0.5 \times \text{horizontal resolution}^1)$

1. Horizontal resolution is span/(sweep points – 1)

### Marker frequency counter

Accuracy	$\pm (\text{marker frequency} \times \text{frequency reference accuracy} + 0.100\ Hz)$
Delta counter accuracy	$\pm (\text{delta frequency} \times \text{frequency reference accuracy} + 0.141\ Hz)$
Counter resolution	0.001 Hz

## Frequency and Time Specifications (continued)

### Frequency span (FFT and swept mode)

Range	0 Hz (zero span), 10 Hz to maximum frequency of instrument	
Resolution	2 Hz	
Accuracy		
Swept	$\pm(0.25\% \times \text{span} + \text{horizontal resolution})$	
FFT	$\pm(0.10\% \times \text{span} + \text{horizontal resolution})$	

### Sweep time and triggering

Range	Span = 0 Hz Span $\geq$ 10 Hz	1 $\mu$ s to 6000 s 1 ms to 4000 s
Accuracy	Span $\geq$ 10 Hz, swept Span $\geq$ 10 Hz, FFT Span = 0 Hz	$\pm 0.01\%$ nominal $\pm 40\%$ nominal $\pm 0.01\%$ nominal
Trigger	Free run, line, video, external 1, external 2, RF burst, periodic timer	
Trigger delay	Span = 0 Hz or FFT Span $\geq$ 10 Hz, swept Resolution	-150 to +500 ms 1 $\mu$ s to 500 ms 0.1 $\mu$ s

### Time gating

Gate methods:	Gated LO; Gated video; Gated FFT
Gate length range (except method = FFT):	100.0 ns to 5.0 s
Gate delay range:	0 to 100.0 s
Gate delay jitter:	33.3 ns p-p nominal

### Sweep (trace) point range

All spans	1 to 20001
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### Resolution bandwidth (RBW)

Range (-3.01 dB bandwidth)	1 Hz to 3 MHz (10% steps), 4, 5, 6, 8 MHz	
Bandwidth accuracy (power)	1 Hz to 750 kHz	$\pm 1.0\%$ ( $\pm 0.044$ dB)
RBW range	820 kHz to 1.2 MHz (< 3.6 GHz CF)	$\pm 2.0\%$ ( $\pm 0.088$ dB)
	1.3 to 2.0 MHz (< 3.6 GHz CF)	$\pm 0.07$ dB nominal
	2.2 to 3 MHz (< 3.6 GHz CF)	$\pm 0.15$ dB nominal
	4 to 8 MHz (< 3.6 GHz CF)	$\pm 0.25$ dB nominal
Bandwidth accuracy (-3.01 dB)	1 Hz to 1.3 MHz	$\pm 2\%$ nominal
RBW range		
Selectivity (-60 dB/-3 dB)	4.1:1 nominal	

## Frequency and Time Specifications (continued)

### Analysis bandwidth<sup>2</sup>

Maximum bandwidth	10 MHz, Standard
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2. Analysis bandwidth is the instantaneous bandwidth available around a center frequency over which the input signal can be digitized for further analysis or processing in the time, frequency, or modulation domain.

### Video bandwidth (VBW)

Range	1 Hz to 3 MHz (10% steps), 4, 5, 6, 8 MHz and wide open (labeled 50 MHz)
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Accuracy	±6% nominal
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### Measurement speed

Local measurement and display update rate	11 ms (90/s) nominal	Sweep points = 1001
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Remote measurement and LAN transfer rate	4 ms (250/s) nominal	Sweep points = 1001
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Marker peak search	5 ms nominal
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Center frequency tune and transfer (RF)	51 ms nominal
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Center frequency tune and transfer ( $\mu$ W)	86 ms nominal
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Measurement/mode switching	75 ms nominal
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# Amplitude Accuracy and Range Specifications

## Amplitude range

Measurement range	Displayed average noise level (DANL) to +23 dBm
Input attenuator range (9 kHz to 26.5 GHz)	
Standard	0 to 60 dB in 10 dB steps
Option FSA	0 to 60 dB in 2 dB steps

## Electronic attenuator (Option EA3)

Frequency range	9 kHz to 3.6 GHz
Attenuation range	
Electronic attenuator range	0 to 24 dB, 1 dB steps
Full attenuation range (mechanical + electronic)	0 to 84 dB, 1 dB steps

## Maximum safe input level

Average total power (with and without preamp)	+30 dBm (1 W)
Peak pulse power	< 10 $\mu$ s pulse width, < 1% duty cycle +50 dBm (100 W) and input attenuation $\geq$ 30 dB
DC volts	
DC coupled	$\pm$ 0.2 Vdc
AC coupled	$\pm$ 70 Vdc

## Display range

Log scale	0.1 to 1 dB/division in 0.1 dB steps 1 to 20 dB/division in 1 dB steps (10 display divisions)
Linear scale	10 divisions
Scale units	dBm, dBmV, dB $\mu$ V, dBmA, dB $\mu$ A, V, W, A

## Amplitude Accuracy and Range Specifications (continued)

### Frequency response (10 dB input attenuation, 20 to 30 °C, preselector centering applied, $\sigma$ = nominal standard deviation)

	Specification	95 <sup>th</sup> Percentile ( $\approx 2\sigma$ )
9 kHz to 10 MHz	$\pm 0.8$ dB	$\pm 0.4$ dB
10 MHz to 3.6 GHz	$\pm 0.6$ dB	$\pm 0.3$ dB
3.5 to 7.0 GHz	$\pm 2.0$ dB	
6.9 to 13.6 GHz	$\pm 2.5$ dB	
13.5 to 22.0 GHz	$\pm 3.0$ dB	
22.0 to 26.5 GHz	$\pm 3.2$ dB	
Preamp on (Option P03) attenuation 0 dB	100 kHz to 3.6 GHz	$\pm 0.28$ dB

### Input attenuation switching uncertainty

50 MHz (reference frequency) attenuation > 2 dB, preamp off	$\pm 0.20$ dB	$\pm 0.08$ dB typical
9 kHz to 3.6 GHz		$\pm 0.3$ dB nominal
3.5 to 7.0 GHz		$\pm 0.5$ dB nominal
6.9 to 13.6 GHz		$\pm 0.7$ dB nominal
13.5 to 26.5 GHz		$\pm 0.7$ dB nominal

### Total absolute amplitude accuracy (10 dB attenuation, 20 to 30 °C, $1 \text{ Hz} \leq \text{RBW} \leq 1 \text{ MHz}$ , input signal $-10$ to $-50$ dBm, all settings auto-coupled except Auto Swp Time = Accy, any reference level, any scale, $\sigma$ = nominal standard deviation)

At 50 MHz	$\pm 0.40$ dB
At all frequencies	$\pm(0.40 \text{ dB} + \text{frequency response})$
9 kHz to 3.6 GHz	$\pm 0.30$ dB (95th Percentile $\approx 2\sigma$ )
Preamp on (Option P03)	100 kHz to 3.6 GHz $\pm(0.39 \text{ dB} + \text{frequency response})$

### Input voltage standing wave ratio (VSWR) ( $\geq 10$ dB input attenuation)

10 MHz to 3.6 GHz	< 1.2:1 nominal
3.6 to 7.0 GHz	< 1.5:1 nominal
7.0 to 13.6 GHz	< 1.6:1 nominal
13.6 to 26.5 GHz	< 1.9:1 nominal
Preamp on (Option P03) (0 dB attenuation)	10 MHz to 3.6 GHz < 1.7:1 nominal

## Amplitude Accuracy and Range Specifications (continued)

### Resolution bandwidth switching uncertainty (referenced to 30 kHz RBW)

1 Hz to 1.5 MHz RBW	±0.08 dB
1.6 MHz to 3 MHz RBW	±0.10 dB
4, 5, 6, 8 MHz RBW	±1.0 dB

### Reference level

Range	
Log scale	–170 to +23 dBm in 0.01 dB steps
Linear scale	Same as Log (707 pV to 3.16 V)
Accuracy	0 dB

### Display scale switching uncertainty

Switching between linear and log	0 dB
Log scale/div switching	0 dB

### Display scale fidelity

Between –10 dBm and –80 dBm input mixer level	±0.15 dB total
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### Trace detectors

Normal, peak, sample, negative peak, log power average, RMS average, and voltage average

### Preamplifier

Frequency range	Option P03	100 kHz to 3.6 GHz
Gain	100 kHz to 3.6 GHz	+20 dB nominal
Noise figure	100 kHz to 3.6 GHz	11 dB nominal

# Dynamic Range Specifications

## 1 dB gain compression (two-tone)

		Total power at input mixer
	20 MHz to 26.5 GHz	+9 dBm nominal
Preamp on (Option P03)	10 MHz to 3.6 GHz	-10 dBm nominal

## Displayed average noise level (DANL)

(Input terminated, sample or average detector, averaging type = Log, 0 dB input attenuation, IF Gain = High, 20 to 30 °C)

		Specification	Typical
Preamp off	1 to 10 MHz	-145 dBm	-149 dBm
	10 MHz to 2.1 GHz	-146 dBm	-150 dBm
	2.1 to 3.6 GHz	-144 dBm	-148 dBm
	3.6 to 7.0 GHz	-144 dBm	-149 dBm
	7.0 to 13.6 GHz	-143 dBm	-147 dBm
	13.6 to 17.1 GHz	-137 dBm	-142 dBm
	17.1 to 20.0 GHz	-137 dBm	-142 dBm
Preamp on (Option P03)	20.0 to 26.5 GHz	-134 dBm	-140 dBm
	10 MHz to 2.1 GHz	-160 dBm	-162 dBm
	2.1 to 3.6 GHz	-159 dBm	-160 dBm

## Spurious responses

Residual responses (Input terminated and 0 dB attenuation)	200 kHz to 8.4 GHz (swept)	-100 dBm
	Zero span or FFT or other frequencies	-100 dBm nominal
Image responses	10 MHz to 3.6 GHz	-80 dBc (-103 dBc typical)
	3.6 to 13.6 GHz	-75 dBc (-87 dBc typical)
	13.6 to 17.1 GHz	-71 dBc (-85 dBc typical)
	17.1 to 22 GHz	-68 dBc (-82 dBc typical)
	22 to 26.5 GHz	-66 dBc (-78 dBc typical)
LO related spurious (f > 600 MHz from carrier)	10 MHz to 3.6 GHz	-90 dBc typical
Other spurious		
First RF order		
f ≥ 10 MHz from carrier	-68 dBc	
Higher RF order		
f ≥ 10 MHz from carrier	-80 dBc	

# Dynamic Range Specifications (continued)

## Second harmonic distortion (SHI)

	Mixer level	SHI
10 MHz to 1.8 GHz	-15 dBm	+45 dBm
1.8 to 7.0 GHz	-15 dBm	+65 dBm
7.0 to 11.0 GHz	-15 dBm	+55 dBm
11.0 to 13.25 GHz	-15 dBm	+50 dBm

**Third-order intermodulation distortion (TOI)** (two -30 dBm tones at input mixer with tone separation > 5 times IF prefilter bandwidth, 20 to 30 degC, see Specifications Guide for IF prefilter bandwidths)

	Distortion	TOI	Typical
100 to 400 MHz	-80 dBc	+10 dBm	+14 dBm
400 MHz to 1.7 GHz	-82 dBc	+11 dBm	+15 dBm
1.7 to 3.6 GHz	-86 dBc	+13 dBm	+17 dBm
3.6 to 7.0 GHz	-82 dBc	+11 dBm	+15 dBm
7.0 to 13.6 GHz	-82 dBc	+11 dBm	+15 dBm
13.6 to 26.5 GHz	-78 dBc	+ 9 dBm	+14 dBm

Preamp on (Option P03)	30 MHz to 3.6 GHz	0 dBm nominal	(two -45 dBm tones at preamp input)
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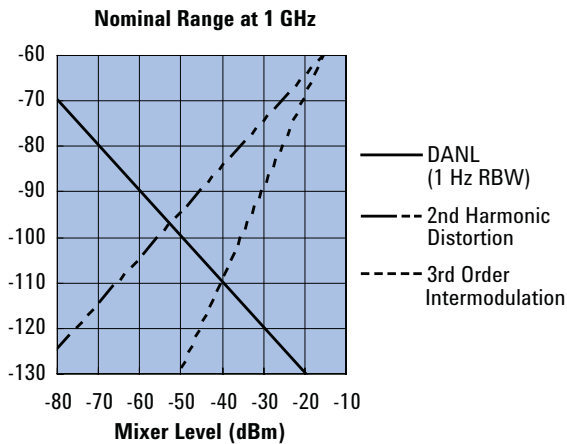


Figure 1. Nominal dynamic range – Band 0, for second and third order distortion, 9 kHz to 3.6 GHz

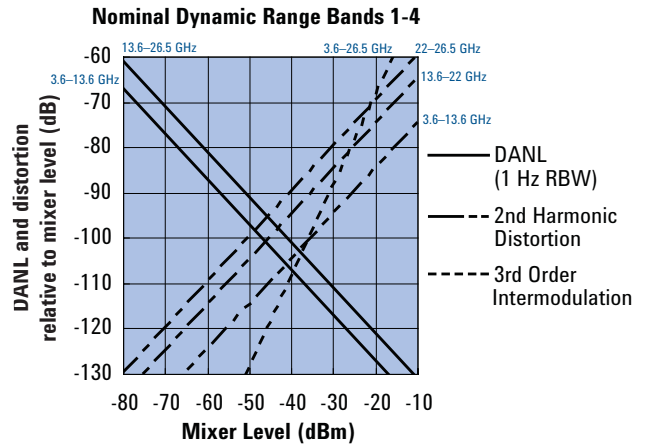


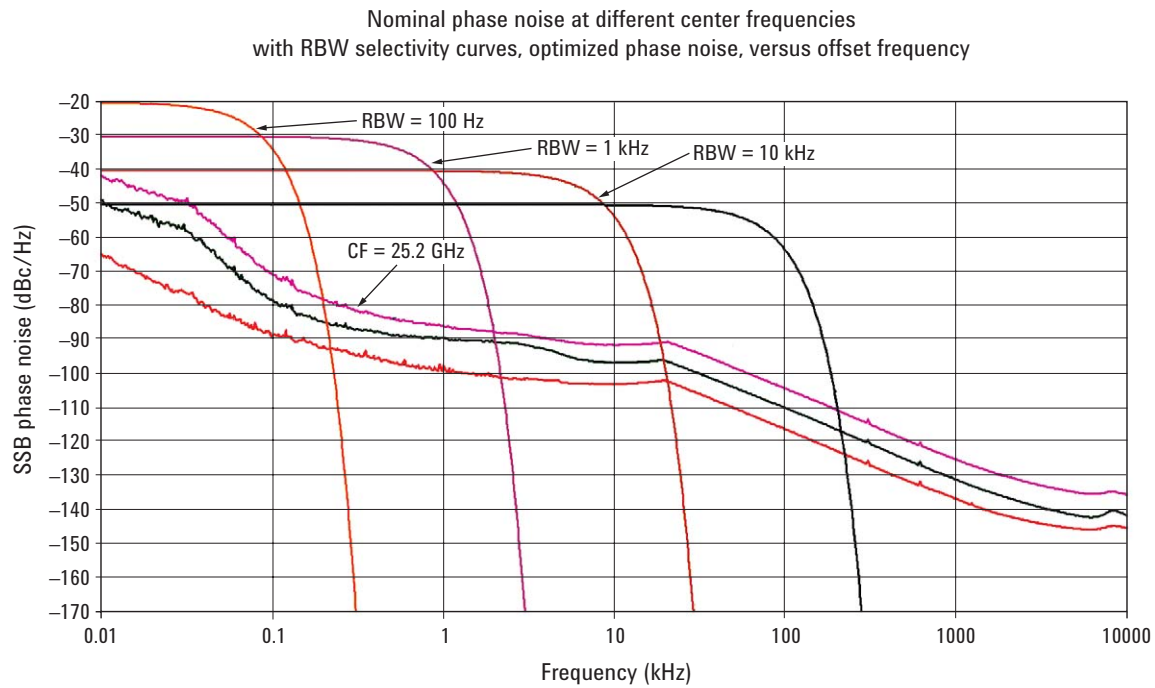
Figure 2. Nominal dynamic range – Bands 1 to 4, second and third order distortion, 3.6 GHz to 26.5 GHz

## Dynamic Range Specifications (continued)

### Phase noise<sup>3</sup>

Noise sidebands (20 to 30 °C, CF = 1 GHz)	Offset	Specification	Typical
	100 Hz	-84 dBc/Hz	- 88 dBc/Hz
	1 kHz		- 97 dBc/Hz nominal
	10 kHz	-99 dBc/Hz	-103 dBc/Hz
	100 kHz	-111 dBc/Hz	-114 dBc/Hz
	1 MHz	-130 dBc/Hz	-134 dBc/Hz
	10 MHz		-143 dBc/Hz nominal

3. For nominal values, refer to Figure 3.



**Figure 3. Nominal phase noise at different center frequencies**

# Power Suite Measurement Specifications

## Channel power

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Amplitude accuracy, W-CDMA or IS95 (20 to 30 °C, attenuation = 10 dB)       $\pm 0.94$  dB ( $\pm 0.30$  dB 95th percentile)

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## Occupied bandwidth

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Frequency accuracy       $\pm$  [span/1000] nominal

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## Adjacent channel power

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Accuracy, W-CDMA (ACLR) (at specific mixer levels and ACLR ranges)

	Adjacent	Alternate
MS	$\pm 0.22$ dB	$\pm 0.34$ dB
BTS	$\pm 1.07$ dB	$\pm 1.00$ dB

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Dynamic range (typical)

Without noise correction	-68 dB	-74 dB
With noise correction	-73 dB	-76 dB

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Offset channel pairs measured      1 to 6

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ACP speed (fast method). Data measurement and transfer time      14 ms nominal ( $\sigma = 0.2$  dB)

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Multiple number of carriers measured      Up to 12

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## Power statistics CCDF

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Histogram resolution      0.01 dB

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## Power Suite Measurement Specifications (continued)

### Burst power

Methods	Power above threshold, power within burst width
Results	Single burst output power, average output power, maximum power, minimum power within burst, burst width

### Spurious emission

#### W-CDMA (1 to 3.6 GHz)

Table driven spurious signals; search across regions.

Dynamic range	93.1 dB (98.4 dB typical)
Absolute sensitivity	-79.4 dBm (-85.4 dBm typical)

### Spectrum emission mask (SEM)

#### cdma2000® (750 kHz offset)

Relative dynamic range (30 kHz RBW)	74.0 dB (81.0 dB typical)
Absolute sensitivity	-94.7 dBm (-100.7 dBm typical)
Relative accuracy	±0.11 dB

#### 3GPP W-CDMA (2.515 MHz offset)

Relative dynamic range (30 kHz RBW)	76.5 dB (83.9 dB typical)
Absolute sensitivity	-94.7 dBm (-100.7 dBm typical)
Relative accuracy	±0.12 dB

# General Specifications

## Temperature range

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Operating	5 to +50 °C
Storage	-40 to +65 °C

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## EMC

Complies with European EMC Directive 89/336/EEC, amended by 93/68/EEC

- IEC/EN 61326
  - CISPR Pub 11 Group 1, class A
  - AS/NZS CISPR 11:2002
  - ICES/NMB-001
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## Safety

Complies with European Low Voltage Directive 73/23/EEC, amended by 93/68/EEC

- IEC/EN 61010-1
  - Canada: CSA C22.2 No. 61010-1
  - USA: UL 61010-1
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## Audio noise

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Acoustic noise emission	Geraeuschemission
LpA <70 dB	LpA <70 dB
Operator position	Am Arbeitsplatz
Normal position	Normaler Betrieb
Per ISO 7779	Nach DIN 45635 t.19

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## Environmental stress

Samples of this product have been type tested in accordance with the Agilent Environmental Test Manual and verified to be robust against the environmental stresses of storage, transportation and end-use; those stresses include but are not limited to temperature, humidity, shock, vibration, altitude and power line conditions. Test methods are aligned with IEC 60068-2 and levels are similar to MIL-PRF-28800F Class 3.

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## General Specifications (continued)

### Power requirements

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Voltage and frequency (nominal)	90 to 132 V, 47 to 440 Hz 195 to 250 V, 47 to 66 Hz
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### Power consumption

On	< 260 watts
Standby	< 20 watts

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### Data storage

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Internal	40 GB nominal
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External	Supports USB 2.0 compatible memory devices
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### Weight (without options)

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Net	16 kg (35 lbs) nominal
Shipping	28 kg (62 lbs) nominal

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### Dimensions

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Height	177 mm (7.0 in)
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Width	426 mm (16.8 in)
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Length	368 mm (14.5 in)
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### Warranty

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The EXA signal analyzer is supplied with a one-year warranty.

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### Calibration cycle

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The recommended calibration cycle is one year. Calibration services are available through Agilent service centers.

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# Inputs and Outputs

## Front panel

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RF input	
Connector	Type-N female, 50 $\Omega$ nominal
Probe power	
Voltage/current	+15 Vdc, $\pm 7\%$ at 150 mA max nominal -12.6 Vdc, $\pm 10\%$ at 150 mA max nominal
USB 2.0 ports	
Master (2 ports)	
Standard	Compatible with USB 2.0
Connector	USB Type-A female
Output current	0.5 A nominal

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## Rear panel

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10 MHz out	
Connector	BNC female, 50 $\Omega$ nominal
Output amplitude	$\geq 0$ dBm nominal
Frequency	10 MHz $\pm$ (10 MHz x frequency reference accuracy)
Ext Ref In	
Connector	BNC female, 50 $\Omega$ nominal
Input amplitude range	-5 to +10 dBm nominal
Input frequency	10 MHz nominal
Frequency lock range	$\pm 5 \times 10^{-6}$ of specified external reference input frequency
Trigger 1 and trigger 2 inputs	
Connector	BNC female
Impedance	$> 10$ k $\Omega$ nominal
Trigger level range	-5 to +5 V
Trigger 1 and trigger 2 outputs	
Connector	BNC female
Impedance	50 $\Omega$ nominal
Level	5 V TTL nominal

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## Inputs and Outputs (continued)

### Rear panel (continued)

Sync (reserved for future use)	
Connector	BNC female
Monitor output	
Connector	VGA compatible, 15-pin mini D-SUB
Format	XGA (60 Hz vertical sync rates, non-interlaced) Analog RGB
Resolution	1024 x 768
Noise source drive +28 V (pulsed) (reserved for future use)	
Connector	BNC female
SNS series noise source (reserved for future use)	
Digital bus (reserved for future use)	
Connector	MDR-80
Analog out (reserved for future use)	
Connector	BNC female
USB 2.0 ports	
Master (4 ports)	
Standard	Compatible with USB 2.0
Connector	USB Type-A female
Output current	0.5 A nominal
Slave (1 port)	
Standard	Compatible with USB 2.0
Connector	USB Type-B female
Output current	0.5 A nominal
GPIB interface	
Connector	IEEE-488 bus connector
GPIB codes	SH1, AH1, T6, SR1, RL1, PP0, DC1, C1, C2, C3, C28, DT1, L4, C0
LAN TCP/IP interface	
Standard	100-Based-T
Connector	RJ45 Ethertwist

## EXA Signal Analyzer Ordering Information

For further information, refer to *EXA Signal Analyzer Configuration Guide (5989-6531EN)*

### Hardware

N9010A	EXA signal analyzer
N9010A-503	Frequency range, 9 kHz to 3.6 GHz
N9010A-507	Frequency range, 9 kHz to 7.0 GHz
N9010A-513	Frequency range, 9 kHz to 13.6 GHz
N9010A-526	Frequency range, 9 kHz to 26.5 GHz
N9010A-FSA	Fine step attenuator
N9010A-PFR	Precision frequency reference
N9010A-EA3	Electronic attenuator, 3.6 GHz
N9010A-P03	Preamplifier, 3.6 GHz

### Applications

N9061A-2FP	Remote language compatibility for 856xE/EC
N9063A	Analog demodulation measurement application
N9068A	Phase noise measurement application
N9069A	Noise figure measurement application (requires preamplifier)
N9071A-2FP	GSM/EDGE measurement application
N9071A-XFP	Single acquisition combined GSM/EDGE measurement (requires N9071A-2FP)
N9072A	cdma2000 measurement application
N9073A-1FP	W-CDMA measurement application
N9073A-2FP	HSDPA/HSUPA measurement application (requires N9073A-1FP)
N9073A-XFP	Single acquisition combined W-CDMA measurement (requires N9073A-1FP)
N9075A 802.16	OFDMA measurement application
N9076A	1xEV-DO measurement application
N9079A-1FP	TD-SCDMA measurement application
N9079A-2FP	HSPA/8PSK measurement application (requires N9079A-1FP)
N9080A	LTE measurement application
89601A	Vector signal analysis software
89601X	VXA vector signal analyzer measurement application
89601XFP-205	VXA Basic VSA-Lite (required option at initial order of 89601X)
89601XFP-333	VXA X-Series connectivity (required option at initial order of 89601X)
89601XFP-AYA	VXA vector modulation analysis (required Options 205/333)
N6171A-M01	MATLAB - Basic Signal Analysis Package
N6171A-M02	MATLAB - Standard Signal Analysis Package
N6171A-M03	MATLAB - Advanced Signal Analysis Package

## EXA Signal Analyzer Ordering Information (continued)

For further information, refer to *EXA Signal Analyzer Configuration Guide (5989-6531EN)*

### Accessories

N9010A-CPU	Instrument security, additional CPU/HDD
N9010A-KYB	Keyboard <sup>1</sup>
N9010A-KB2	US 65 key USB keyboard
N9010A-BAG	Accessory pouch
N9010A-EFM	USB flash drive, 1 GB
N9010A-DVR	USB DVD-ROM/CD-R/RW drive
N9010A-MLP	Minimum loss pad, 50 to 75 $\Omega$
N9010A-PRC	Portable configuration
N9010AK-CVR	Front panel cover, additional
N9010A-1CP	Rack mount and handle kit
N9010A-1CM	Rack mount kit
N9010A-1CN	Front handle kit
N9010A-1CR	Rack slide kit
N9010A-HTC	Hard transit case

### Warranty and service

Standard warranty is one year.

R-51B-001-3C	1 year return-to-Agilent warranty extended to 3 years
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### Calibration<sup>2</sup>

N9010A-UK6	Commercial calibration certification with test data
N9010A-1A7	ISO 17025 compliant calibration
N9010A-A6J	ANSI Z540 compliant calibration
R-50C-011-3	Inclusive calibration plan, 3 year coverage
R-50C-013-3	Inclusive calibration plan and cal data, 3 year coverage

1. Does not fit N9010A-BAG accessory pouch

2. Options not available in all countries

## Literature Resources

<b>Publication title</b>	<b>Publication number</b>
<b>Agilent MXA Signal Analyzer</b>	
<i>Agilent MXA Signal Analyzer, Brochure</i>	5989-5047EN
<i>Agilent MXA Signal Analyzer, Data Sheet</i>	5989-4942EN
<i>Agilent MXA Signal Analyzer, Configuration Guide</i>	5989-4943EN
<b>Agilent EXA Signal Analyzer</b>	
<i>Agilent EXA Signal Analyzer, Brochure</i>	5989-6527EN
<i>Agilent EXA Signal Analyzer, Data Sheet</i>	5989-6529EN
<i>Agilent EXA Signal Analyzer, Configuration Guide</i>	5989-6531EN
<b>Agilent X-Series Signal Analyzers</b>	
<i>Agilent X-Series Signal Analyzer (MXA/EXA), Demonstration Guide</i>	5989-6126EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) W-CDMA, HSDPA/HSUPA, Technical Overview</i>	5989-5352EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) 802.16 OFDMA, Technical Overview</i>	5989-5353EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Phase Noise, Technical Overview</i>	5989-5354EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) GSM/EDGE, Technical Overview</i>	5989-6532EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) cdma2000, 1xEV-DO Technical Overview</i>	5989-6533EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) TD-SCDMA Technical Overview</i>	5989-6534EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Analog Demodulation Technical Overview</i>	5989-6535EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Noise Figure Technical Overview</i>	5989-6536EN
<i>Agilent X-Series Signal Analyzers (MXA/EXA) Remote Language Compatibility, Technical Overview</i>	5989-6539EN
<i>Using Agilent X-Series Signal Analyzers (MXA/EXA) for Measuring and Troubleshooting Digitally Modulated Signals, Application Note</i>	5989-4944EN
<i>Using Agilent X-Series Signal Analyzers (MXA/EXA) Preselector Tuning for Amplitude Accuracy in Microwave Spectrum Analysis, Application Note</i>	5989-4946EN
<i>Maximizing Measurement Speed with Agilent X-Series Signal Analyzers (MXA/EXA), Application Note</i>	5989-4947EN
<b>VXA Vector Signal Analyzer Measurement Application</b>	
<i>VXA Vector Signal Analyzer Measurement Application, Technical Overview</i>	5989-7463EN
<i>Option AYA Vector Modulation Analysis, Technical Overview</i>	5989-7464EN



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