



Agilent PXA Signal Analyzer N9030A

Data Sheet

Preliminary

LXI class C certified

Available frequency ranges

N9030A-503	3 Hz to 3.6 GHz
N9030A-508	3 Hz to 8.4 GHz
N9030A-513	3 Hz to 13.6 GHz
N9030A-526	3 Hz to 26.5 GHz



Agilent Technologies

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Agilent’s future-ready PXA signal analyzer is the evolutionary replacement for your current high-performance analyzer. It helps you sustain past achievements, enhance current designs and accelerate future innovations.

Its performance, flexibility, capability and compatibility enable you to address demanding applications in aerospace, defense, commercial communications and more.

- Reveal new levels of signal detail with outstanding RF performance
- Increase test throughput and protect your system investments
- Refresh legacy systems with a highly compatible replacement

Preliminary

Definitions and Conditions

Specifications describe the performance of parameters covered by the product warranty and apply to temperature ranges 0 to 55 °C for the solid-state drive (Option SSD), or 5 to 50 °C for the hard disk drive (standard), unless otherwise noted.

95th percentile values indicate the breadth of the population (approx. 2σ) 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 < 10 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 PXA signal analyzer data sheet is a summary of the complete specifications and conditions. The complete PXA Signal Analyzer Specification Guide can be obtained from the web at: www.agilent.com/find/pxa_manuals

Frequency range	DC coupled	AC coupled
Option 503	3 Hz to 3.6 GHz	10 MHz to 3.6 GHz
Option 508	3 Hz to 8.4 GHz	10 MHz to 8.4 GHz
Option 513	3 Hz to 13.6 GHz	10 MHz to 13.6 GHz
Option 526	3 Hz to 26.5 GHz	10 MHz to 26.5 GHz

Band	LO Multiple (N)	DC coupled
0	1	3 Hz to 3.6 GHz
1	1	3.5 to 8.4 GHz
2	2	8.3 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 x aging rate) + temperature stability + calibration accuracy]
Aging rate	$\pm 1 \times 10^{-7}$ /year $\pm 1.5 \times 10^{-7}$ /2 years
Temperature stability	
20 to 30 °C	$\pm 1.5 \times 10^{-8}$ ($\pm 1 \times 10^{-8}$)
5 to 50 °C	$\pm 5 \times 10^{-8}$
Achievable initial calibration accuracy	$\pm 4 \times 10^{-8}$
Example frequency reference accuracy one year after last adjustment 20 to 30 °C	$= \pm (1 \times 10^{-7} + 1.5 \times 10^{-8} + 4 \times 10^{-8}) = \pm 1.55 \times 10^{-7}$
Residual FM Center frequency = 1 GHz 10 Hz RBW, 10 Hz VBW	$\leq (0.25 \text{ Hz} \times N)$ p-p in 20 ms nominal See band table above for N (LO Multiple)

Frequency readout accuracy (start, stop, center, marker)	
	\pm (marker frequency x frequency reference accuracy + 0.10% x span + 5% x RBW + 2 Hz + 0.5 x horizontal resolution*)
* Horizontal resolution is span/(sweep points – 1)	

Marker frequency counter	
Accuracy	\pm (marker frequency x frequency reference accuracy + 0.100 Hz)
Delta counter accuracy	\pm (delta frequency x frequency reference accuracy + 0.141 Hz)
Counter resolution	0.001 Hz

Frequency span (FFT and swept mode)

Range	0 Hz (zero span), 10 Hz to maximum frequency of instrument	
Resolution	2 Hz	
Accuracy		
Swept	± (0.10% x span + horizontal resolution)	
FFT	± (0.10% x span + horizontal resolution)	

Sweep time and triggering

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

Time gating

Gate methods:	Gated LO; Gated video; Gated FFT
Gate length range (except method = FFT):	1 µs 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 40,001
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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)	RBW range	
	1 Hz to 750 kHz	± 0.5% (± 0.022 dB)
	820 kHz to 1.2 MHz (< 3.6 GHz CF)	± 2.0% (± 0.088 dB)
	1.3 to 2.0 MHz (< 3.6 GHz CF)	± 0.07 dB nominal
	2.2 to 3 MHz (< 3.6 GHz CF)	± 0.15 dB nominal
	4 to 8 MHz (< 3.6 GHz CF)	± 0.25 dB nominal
Bandwidth accuracy (-3.01 dB)	RBW range	
	1 Hz to 1.3 MHz	± 2% nominal
Selectivity (-60 dB/-3 dB)	4.1:1 nominal	
EMI bandwidths (CISPR compliant)	200 Hz, 9 kHz, 120 kHz, 1 MHz	(Opt EMC required)
EMI bandwidths (MIL STD 461E compliant)	10 Hz, 100 Hz, 1 kHz, 10 kHz, 100 kHz, 1 MHz	(Opt EMC required)

Analysis bandwidth¹

Maximum bandwidth	
Standard	10 MHz
Option B25	25 MHz
Option B40	40 MHz
Option B1X	140 MHz

Video bandwidth (VBW)

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

Measurement speed²

Local measurement and display update rate	11 ms (90/s) nominal
Remote measurement and LAN transfer rate	15 ms (66/s) nominal
Marker peak search	2.6 ms nominal
Center frequency tune and transfer (1 to 2 GHz)	44 ms nominal
Center frequency tune and transfer (4 to 5 GHz)	71 ms nominal
Measurement/mode switching	150 ms nominal

1. 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.
2. Sweep points = 101

Amplitude range

Measurement range	Displayed average noise level (DANL) to maximum safe input level	
Input attenuator range (3 Hz to 26.5 GHz)	0 to 70 dB in 2 dB steps	

Electronic attenuator (Option EA3)

Frequency range	3 Hz to 3.6 GHz	
Attenuation range		
Electronic attenuator range	0 to 24 dB, 1 dB steps	
Full attenuation range (mechanical + electronic)	0 to 94 dB, 1 dB steps	

Maximum safe input level

Average total power	+30 dBm (1 W)	With or without preamp
Peak pulse power < 10 μ s pulse width, < 1% duty cycle and input attenuation \geq 30 dB	+50 dBm (100 W)	
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 μ V, dBmA, dB μ A, V, W, A	

Frequency response

(10 dB input attenuation, 20 to 30 °C, preselector centering applied at 3.6 GHz and above)

	3 Hz to 1 MHz	± 0.55 dB
	1 MHz to 3.6 GHz	± 0.4 dB
	3.5 to 8.4 GHz	± 1.3 dB
	8.3 to 13.6 GHz	± 1.3 dB
	13.5 to 22.0 GHz	± 1.5 dB
	22.0 to 26.5 GHz	± 1.8 dB
Preamp on (Option P03, P08, P13, P26)	100 kHz to 50 MHz	± 0.8 dB
attenuation 0 dB	50 MHz to 3.6 GHz	± 0.65 dB
	3.5 to 8.4 GHz	± 2 dB
	8.3 to 13.6 GHz	± 1.6 dB
	13.5 to 17.1 GHz	± 2 dB
	17.0 to 22.0 GHz	± 2 dB
	22.0 to 26.5 GHz	± 2.9 dB

Input attenuation switching uncertainty

Relative to 10 dB and preamp off	50 MHz (reference frequency)	± 0.20 dB	± 0.08 dB typical
	attenuation > 2 dB		± 0.3 dB nominal
	3 Hz to 3.6 GHz		
	3.5 to 8.4 GHz		± 0.5 dB nominal
	8.3 to 13.6 GHz		± 0.7 dB nominal
	13.5 to 26.5 GHz		± 0.7 dB nominal

Total absolute amplitude accuracy

(10 dB attenuation, 20 to 30 °C, 1 Hz ≤ RBW ≤ 1 MHz, input signal -10 to -50 dBm, all settings auto-coupled except Auto Swp Time = Accy, any reference level, any scale, σ = nominal standard deviation)

	At 50 MHz	± 0.24 dB
	At all frequencies < 3.6 GHz	± (0.24 dB + frequency response)
		± 0.19 dB (95th percentile approx. 2 σ)
Preamp on (Option P03, P08, P13, P26)	At all frequencies	± (0.36 dB + frequency response)

Input voltage standing wave ratio (VSWR) (≥ 10 dB input attenuation)

	50 MHz	< 1.07:1 nominal
	10 MHz to 3.6 GHz	< 1.2:1 nominal
	3.6 to 8.4 GHz	< 1.5:1 nominal
	8.4 to 13.6 GHz	< 1.6:1 nominal
	13.6 to 26.5 GHz	< 1.9:1 nominal
Preamp on (Option P03, P08, P13, P26)	10 MHz to 3.6 GHz	< 1.7:1 nominal
	3.6 to 8.4 GHz	< 1.8:1 nominal
	8.4 to 13.6 GHz	< 2.0:1 nominal
	13.6 to 26.5 GHz	< 2.0:1 nominal

Resolution bandwidth switching uncertainty (referenced to 30 kHz RBW)

1 Hz to 1.5 MHz RBW	± 0.03 dB
1.6 MHz to 3 MHz RBW	± 0.05 dB
4, 5, 6, 8 MHz RBW	± 1.0 dB

Reference level

Range	
Log scale	–170 to +30 dBm in 0.01 dB steps
Linear scale	707 pV to 7.07 V with 0.11% (0.01 dB) resolution
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	± 0.07 dB
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Trace detectors

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

Preamplifier

Frequency range ¹	Option P03	9 kHz to 3.6 GHz
	Option P08	9 kHz to 8.4 GHz
	Option P13	9 kHz to 13.6 GHz
	Option P26	9 kHz to 26.5 GHz
Gain	≤ 3.6 GHz	+20 dB nominal
	3.6 to 26.5 GHz	+35 dB nominal
Noise figure	≤ 3.6 GHz	11 dB nominal
	3.6 to 8.4 GHz	9 dB nominal
	8.4 to 13.6 GHz	10 dB nominal
	13.6 to 26.5 GHz	15 dB nominal

1. Below 100 kHz, only 95th percentile (approx. 2 σ) value for frequency response is provided.

1 dB gain compression (two-tone)

20 to 30 °C	Tone spacing 100 kHz	Total power at input mixer
	40 to 500 MHz	-1 dBm
	500 MHz to 3.6 GHz	+3 dBm
	3.6 to 26.5 GHz	+3 dBm
Preamp on (Option P03, P08, P13, P26)	10 MHz to 3.6 GHz	-10 dBm nominal
	3.6 to 26.5 GHz	
	Tone spacing 100 kHz to 20 MHz	- 26 dBm nominal
	Tone spacing > 70 MHz	- 16 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)

		Normal ¹ /LNP enabled ²	Normal ¹ /LNP enabled ²
Preamp off	9 kHz to 1 MHz		-130 dBm/NA nominal
	1 to 10 MHz	-156 dBm/NA	
	10 MHz to 2.1 GHz	-154 dBm/NA	
	2.1 to 3.6 GHz	-152 dBm/NA	
	3.6 to 8.4 GHz	-151 dBm/-155 dBm	
	8.4 to 13.6 GHz	-149 dBm/-155 dBm	
	13.6 to 16.9 GHz	-145 dBm/-152 dBm	
	16.9 to 20.0 GHz	-143 dBm/-151 dBm	
	20.0 to 26.5 GHz	-138 dBm/-150 dBm	
Preamp on (Option P03, P08, P13, P26)	100 kHz to 1 MHz		-149 dBm/NA nominal
Option P03, P08, P13, P26	1 to 10 MHz	-165 dBm/NA	
Option P03, P08, P13, P26	10 MHz to 2.1 GHz	-165 dBm/NA	
Option P03, P08, P13, P26	2.1 to 3.6 GHz	-163 dBm/NA	
Option P08, P13, P26 ³	3.6 to 8.4 GHz	-163 dBm/NA	
Option P13, P26 ³	8.4 to 13.6 GHz	-163 dBm/NA	
Option P26 ³	13.6 to 16.9 GHz	-162 dBm/NA	
Option P26 ³	16.9 to 20.0 GHz	-159 dBm/NA	
Option P26 ³	20.0 to 26.5 GHz	-156 dBm/NA	

1. with the NFE (Noise Floor Extension) "Off".

2. LNP (Low Noise Path) requires option LNP.

3. At higher frequency bands (beyond 3.6 GHz), Preamp "On" supersedes "LNP enabled".

DANL with Noise Floor Extension (NFE)		NFE is defaulted "On"	
		95th Percentile	
Improvement for noise-like signals		Preamp Off	Preamp On
Band 0, f > 20 MHz		8.5 dB	8.5 dB
Band 1		4 dB	7 dB
Band 2		7.5 dB	7 dB
Band 3		7 dB	7.5 dB
Band 4		6 dB	6 dB
Examples of effective DANL	Preamp Off/On	Preamp Off/On	
Frequency	20 to 30 °C	Typical	
1.8 GHz	-159 dBm/-170 dBm	-162 dBm/-173 dBm	
5.95 GHz	-157 dBm/-169 dBm	-161 dBm/-172 dBm	
10.95 GHz	-156 dBm/-168 dBm	-159 dBm/-171 dBm	
15.3 GHz	-152 dBm/-166 dBm	-155 dBm/-169 dBm	
21.75 GHz	-143 dBm/-159 dBm	-147 dBm/-163 dBm	

Residues, images, and spurious responses		
Residual responses (Input terminated and 0 dB attenuation)	200 kHz to 8.4 GHz Zero span or FFT or other frequencies	-100 dBm -100 dBm nominal
Image responses	10 MHz to 3.6 GHz	-80 dBc
	3.6 to 13.6 GHz	-78 dBc
	13.6 to 17.1 GHz	-74 dBc
	17.1 to 22 GHz	-70 dBc
	22 to 26.5 GHz	-68 dBc
Spurious responses		
First RF order (f ≥ 10 MHz from carrier) Mixer level at -10 dBm	-80 dBc + 20log(N*)	Includes IF feedthrough, LO harmonic mixing responses
Higher RF order (f ≥ 10 MHz from carrier) Mixer level at -40 dBm	-80 dBc + 20log(N*)	Includes higher order mixer responses
LO-related spurious responses (200 Hz ≤ f < 10 MHz from carrier), Mixer level at -10 dBm	-73 dBc** + 20log(N*)	
Line-related spurious responses		-60 dBc** + 20log(N*) (nominal)

*: N is the LO multiplication factor. Refer to page 4 for the N value versus frequency ranges.

** : Nominally -40 dBc under large magnetic (0.38 Gauss rms) or vibrational (0.24 g rms) environmental stimuli.

Second harmonic distortion (SHI)				
		Mixer level	Distortion*	SHI*
	10 MHz to 1.8 GHz	-15 dBm	-60 dBc/NA	+45 dBm/NA
	1.8 to 7.0 GHz	-15 dBm	-80 dBc/-90 dBc	+65 dBm/+75 dBm
	7.0 to 11.0 GHz	-15 dBm	-70 dBc/-80 dBc	+55 dBm/+65 dBm
	11.0 to 13.25 GHz	-15 dBm	-65 dBc/-75 dBc	+50 dBm/+60 dBm
Preamp on (Option P03, P08, P13, P26)		Preamp level	Distortion	SHI
	10 MHz to 1.8 GHz	-45 dBm	-78 dBc nominal	+33 dBm nominal
	1.8 to 13.25 GHz	-50 dBm	-60 dBc nominal	+10 dBm nominal

*: Normal path/LNP enabled (requires Option LNP)

Third-order intermodulation distortion (TOI)		
(two -16 dBm tones at input mixer with tone separation > 5 times IF prefilter bandwidth, 20 to 30 °C)		
		TOI
	10 to 100 MHz	+14 dBm
	100 to 400 MHz	+17.5 dBm
	400 to 700 MHz	+19 dBm
	700 MHz to 1.7 GHz	+21 dBm
	1.7 to 3 GHz	+22 dBm
	3 to 3.6 GHz	+21 dBm
	3.6 to 4 GHz	+20 dBm
	4 to 8.4 GHz	+18 dBm
	8.4 to 13.6 GHz	+15 dBm
	13.6 to 26.5 GHz	+11 dBm
Preamp on (Option P03, P08, P13, P26)	10 to 500 MHz	+4 dBm nominal
(two -45 dBm tones at preamp input)	500 MHz to 3.6 GHz	+5 dBm nominal
	3.6 to 26.5 GHz	-15 dBm nominal

Phase noise		
Noise sidebands	Offset	
(20 to 30 °C, CF = 1 GHz)	100 Hz	-94 dBc/Hz
	1 kHz	-120 dBc/Hz
	10 kHz	-128 dBc/Hz
	100 kHz	-125 dBc/Hz
	1 MHz	-145 dBc/Hz
	10 MHz	-154 dBc/Hz

Option MPB, microwave preselector bypass ¹	
Frequency range	
N9030A-508	3.6 to 8.4 GHz
N9030A-513	3.6 to 13.6 GHz
N9030A-526	3.6 to 26.5 GHz

1. When Option MPB is installed and enabled, some aspects of the analyzer performance change. Please refer to the PXA specification guide for more details.

Channel power

Amplitude accuracy, W-CDMA or IS95 ± 0.62 dB (± 0.20 dB 95th percentile)
(20 to 30 °C, attenuation = 10 dB)

Occupied bandwidth

Frequency accuracy \pm [span/1000] nominal

Adjacent channel power

W-CDMA (ACLR)

Dynamic range (typical)	Adjacent channel	Alternate channel
Without noise correction	-80 dB	-86 dB
With noise correction	-83 dB	-88 dB

Offset channel pairs measured 1 to 6

Multiple number of carriers measured Up to 12

Power statistics CCDF

Histogram resolution 0.01 dB

Harmonic distortion

Maximum harmonic number	10th
Results	Fundamental power (dBm), relative harmonics power (dBc), total harmonic distortion in %

Intermod (TOI)

Measure the third-order products and intercepts from two tones

Burst power

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

Temperature range

Operating	5 to 50 °C 0 to 55 °C (with Option SSD)
Storage	-40 to +65 °C -40 to +70 °C (with Option SSD)

Altitude

3,000 meters (approx 10,000 feet)
4,500 meters (approx 14,760 feet)
(with Option SSD)

EMC

Complies with European EMC Directive 2004/108/EC

- IEC/EN 61326-1 or IEC/EN 61326-2-1
- CISPR Pub 11 Group 1, class A
- AS/NZS CISPR 11:2002
- ICES/NMB-001

This ISM device complies with Canadian ICES-001.

Cet appareil ISM est conforme a la norme NMB-001 du Canada

Safety

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

- IEC/EN 61010-1 2nd Edition
- Canada: CSA C22.2 No. 61010-1
- USA: UL 61010-1 2nd Edition

Audio noise

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

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.

Power requirements

Voltage and frequency (nominal)	100 to 120 V, 50/60/400 Hz 220 to 240 V, 50/60 Hz
Power consumption	
On	450 W (fully loaded with options)
Standby	40 W

Display

Resolution	1024 x 768, XGA
Size	213 mm (8.4 in.) diagonal (nominal)

Data storage

Internal	160 GB nominal (Removable hard disk drive) 32 GB nominal with Option SSD (Removable solid state drive)
External	Supports USB 2.0 compatible memory devices

Weight (without options)

Net	22 kg (48 lbs) nominal
Shipping	34 kg (75 lbs) nominal

Dimensions

Height	177 mm (7.0 in)
Width	426 mm (16.8 in)
Length	556 mm (21.9 in)

Warranty

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

Calibration cycle

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

Preliminary

Inputs and Outputs

Front panel

RF input Connector	
Standard	type-N female, 50 Ω 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
Headphone jack	miniature stereo audio jack (3.5 mm, also known as “ $\frac{1}{8}$ inch”)

Rear panel

10 MHz out	
Connector	BNC female, 50 Ω nominal
Output amplitude	\geq 0 dBm nominal
Frequency	10 MHz \pm (10 MHz x frequency reference accuracy)
Ext Ref In	
Connector	BNC female, 50 Ω nominal
Input amplitude range	– 5 to +10 dBm nominal
Input frequency	1 to 50 MHz nominal
Frequency lock range	5×10^{-6} of specified external reference input frequency
Trigger 1 and trigger 2 inputs	
Connector	BNC female
Impedance	$>$ 10 k Ω nominal
Trigger level range	– 5 to +5 V
Trigger 1 and trigger 2 outputs	
Connector	BNC female
Impedance	50 Ω nominal
Level	5 V TTL nominal
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)	
Connector	BNC female
Output voltage	On 28.0 ± 0.1 V (60 mA maximum) Off $<$ 1 V
SNS series noise source	For use with the Agilent Technologies SNS Series noise sources
Digital bus (reserved for future use)	
Connector	MDR-80

Rear panel (continued)

Analog out Connector	BNC female
USB 2.0 ports Master (4 ports) Standard Connector Output current	Compatible with USB 2.0 USB Type-A female 0.5 A nominal
Slave (1 port) Standard Connector Output current	Compatible with USB 2.0 USB Type-B female 0.5 A nominal
GPIB interface Connector GPIB codes GPIB mode	IEEE-488 bus connector SH1, AH1, T6, SR1, RL1, PP0, DC1, C1, C2, C3, C28, DT1, L4, C0 Controller or Device
LAN TCP/IP interface Standard Connector	1000Base-T RJ45 Ethertwist
IF output Connector Impedance	SMA female, shared by Opts CR3, CRP, and ALV 50 Ω nominal

2nd IF output, Option CR3

Center frequency SA Mode or I/Q analyzer w/IF BW \leq 25 MHz	322.5 MHz
w/Option B40	250 MHz
w/Option B1X	300 MHz
Conversion gain	-1 to +1 dB (nominal) plus frequency response
Bandwidth Low band High band w/preselector	160 MHz (nominal) asymmetric Depends on center frequency (30 to 70 MHz, nominal)
w/preselector bypassed	Visibility limited by mixing products and folding around zero hertz

Arbitrary IF output, Option CRP

Center frequency Range Resolution	10 to 75 MHz (user selectable) 0.5 MHz
Conversion gain	-1 to +1 dB (nominal) plus frequency response
Bandwidth Output at 70 MHz Low band or High band w/Preselector bypassed	40 MHz (nominal)
Preselected band Lower output frequencies	Depends on center frequency Subject to folding

For more information, refer to PXA Signal Analyzer Configuration Guide (5990-3953EN)

Hardware	
N9030A	PXA signal analyzer
N9030A-503	Frequency range, 3 Hz to 3.6 GHz
N9030A-508	Frequency range, 3 Hz to 8.4 GHz
N9030A-513	Frequency range, 3 Hz to 13.6 GHz
N9030A-526	Frequency range, 3 Hz to 26.5 GHz
N9030A-B25	Analysis bandwidth, 25 MHz
N9030A-B40	Analysis bandwidth, 40 MHz
N9030A-B1X	Analysis bandwidth, 140 MHz
N9030A-MPB	Microwave preselector bypass
N9030A-EA3	Electronic attenuator, 3.6 GHz
N9030A-LNP	Low noise path
N9030A-P03	Preamplifier, 3.6 GHz
N9030A-P08	Preamplifier, 8.4 GHz
N9030A-P13	Preamplifier, 13.6 GHz
N9030A-P26	Preamplifier, 26.5 GHz
N9030A-HDD	Additional removable hard drive
N9030A-SSD	Removable solid state drive substitution
N9030A-CR3	Connector rear, 2nd IF output
N9030A-CRP	Connector rear, Arbitrary IF output
N9030A-YAV	Y-axis video output
N9030A-ALV	Auxiliary log video output

Optional features	
N9030A-EMC	Basic precompliance EMI features

Applications	
<p>Note: The last two letters of ordering numbers indicate the license type. FP stands for Fixed Perpetual, TP for Transportable Perpetual. It is recommended you configure each application with the license type. Visit www.agilent.com/find/xseries_transportable for more information about transportable licensing.</p>	
N9061A-1FP	Remote language compatibility for 8566/68 (included with PXA shipment)
N9061A-2FP	Remote language compatibility for 856xE/EC (included with PXA shipment)
N9068A-2FP or -2TP	Phase noise measurement application
N9069A-1FP or -1TP	Noise figure measurement application (requires preamplifier)
N9051A-2FP	Pulse measurement software
89601A	89600 Vector Signal Analysis VSA software
89601X	VXA vector signal analyzer measurement application
89601XFP-205 or 89601XTP-205	VXA Basic VSA-Lite (required option at initial order of 89601X)
89601XFP-333 or 89601XTP-333	VXA X-Series connectivity (required option at initial order of 89601X, requires Option 205)
89601XFP-AYA or 89601XTP-AYA	VXA vector modulation analysis (requires Options 205 and 333)
89601XFP-B7R or 89601XTP-B7R	VXA WLAN modulation analysis (requires Options 205 and 333)
N6171A-M01	MATLAB® - Basic Signal Analysis Package
N6171A-M02	MATLAB - Standard Signal Analysis Package
N6171A-M03	MATLAB - Advanced Signal Analysis Package

Accessories

N9030A-KYB	Keyboard
N9030A-KB2	US 65 key USB keyboard
N9030A-EFM	USB flash drive, 4 GB
N9030A-DVR	USB DVD-ROM/CD-R/RW drive
N9030A-MLP	Minimum loss pad, 50 to 75 Ω
N9030A-1CP	Rack mount and handle kit
N9030A-1CM	Rack mount kit
N9030A-1CN	Front handle kit

Warranty and service

Standard warranty is one year	
R-51 B-001-3C	1 year return-to-Agilent warranty extended to 3 years

Calibration¹

N9030A-UK6	Commercial calibration certificate with test data
N9030A-1A7	ISO 17025 compliant calibration
N9030A-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. Options not available in all countries

Additional information, including literature, can be found at the Agilent website:

www.agilent.com/find/PXA
www.agilent.com/find/xseries_apps

Preliminary

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LXI is the LAN-based successor to GPIB, providing faster, more efficient connectivity. Agilent is a founding member of the LXI consortium.

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