

M8920A PXIe Radio Test Set

100 kHz to 3.8/6 GHz

Unlock the Future of Radio Test

Field radios are a vital lifeline for public safety, firefighters and peacekeepers. That's why the new Keysight M8920A is designed to deliver the excellence you expect from your radio. All along your lifecycle, we open up capabilities that ranges from deep analysis in design to fast testing in production.



Accelerate Radio Manufacturing

Digital 2-way radios being developed for the radio market bring new testing challenges and hurdles to overcome for manufacturers and depot testing. Radio technologies are requiring wider bandwidths, higher frequencies, and multiple radio format capabilities.



Figure 1. M8920A PXIe radio test set

Product description

Keysight's M8920A PXIe Radio Test Set supports many formats by combining PXI hardware with application-specific software in a single flexible and scalable chassis, providing broad multi-format coverage for next-generation radio testing.

With Keysight's new Radio Test Measurement Application (N9093), you can access and control multiple instruments on one screen while viewing a variety of critical measurements at the same time. Keysight can help deliver the operational excellence you expect from your radio.

Applications

- Cover all necessary analog AM and FM modulation test requirements.
- Test APCO P1/P2, TETRA1, DMR, dPMR, and custom modulation formats.
- Test commercial connectivity formats including WLAN, LTE, *Bluetooth*[®], etc.
- All measurements can be performed with one click of a button.
- Test analog Avionics Radios, and your Avionics Databus with optional Databus modules.

Technical Specifications

Definitions and conditions

Specifications describe the warranted performance of calibrated instruments. Data represented in this document are specifications under the following conditions unless otherwise noted.

- Specifications are valid from 40° to 65 °C for individual module temperature, as reported by the module, and 20° to 35 °C for environment temperature unless otherwise noted
- Calibrated instrument has been stored for a minimum of 2 hours within the allowed operating range
- If instrument has previously been stored at a temperature range inside the allowed storage range, but outside the allowed operating range, instrument must have been stored for a minimum of 2 hours within the allowed operating range before turn-on
- 30-minute warm-up time
- Calibration cycle maintained
- The RF, IF, and Source Alignments have been run within the previous 7 days
- An ALL Alignment has been run within the previous 8 hours
- If the temperature has changed more than 5 °C from the previous ALL Alignment

Typical describes additional product performance information that is not covered by the product warranty. It is performance beyond specifications that 80% of the units exhibit with a 95% confidence level. This data, shown in italics, does not include measurement uncertainty, and is valid only at room temperature (approximately 25 °C) after alignment within the stated alignment time and temperature limits.

Nominal values indicate expected performance or describe product performance that is useful in the application of the product but are not covered by the product warranty.

Recommended best practices in use

- Use slot blockers and EMC filler panels in empty module slots to ensure proper operating temperatures. Keysight chassis and slot blockers optimize module temperature performance and reliability of test.
- Set chassis fan to high at environmental temperatures above 45 °C.

RF analyzer technical specifications and characteristics

Frequency range

Option 504	100 kHz to 3.8 GHz	
Option 506	100 kHz to 6 GHz	

Analysis bandwidth ¹

Option B40 (standard)	100 kHz – 1 MHz	50 kHz
	1 MHz – 10 MHz	500 kHz
	10 MHz – 20 MHz	5 MHz
	20 MHz – 60 MHz	10 MHz
	60 MHz – 80 MHz	20 MHz
	80 MHz – 6 GHz	40 MHz
Option B10	100 kHz – 230 MHz 230 MHz – 6 GHz	Same as Option B40 80 MHz
Option B1X	100 kHz – 400 MHz 400 MHz – 6 GHz	Same as Option B10 160 MHz

Frequency resolution

RF analyzer	0.01 Hz (nominal)
Resolution bandwidth (RBW)	Auto, 1 Hz to 8 MHz, I/Q analyzer up to 20 MHz

Frequency accuracy

Same as accuracy of internal timebase or external reference input

Internal timebase accuracy ²	\pm [(time since last adjustment x aging rate) \pm temperature effects \pm calibration accuracy]
Yearly aging rate	$< \pm 0.1$ ppm/year ($\pm 1 \times 10^{-7}$)
Achievable initial calibration accuracy	$\pm 4 \times 10^{-8}$
Residual FM	≤ 0.25 Hz p-p in 20 ms nominal
Temperature effects 20 to 30 °C	$< \pm 1.5 \times 10^{-8}$

Triggering

Trigger	Free run, external 1, external 2, RF burst, video, line, periodic
Trigger delay range	-15 to 500 ms

Amplitude range and accuracy specifications (RF T/R port and antenna port)

Antenna input port	100 kHz to 1 MHz	± 0.6 dB typical
Range: -70 dBm to +23 dBm	1 MHz to 3.9 GHz	± 1 dB, ± 0.55 dB typical
	3.9 GHz to 6 GHz	± 1.5 dB, ± 0.95 dB typical
T/R port high power attenuation ON	100 kHz to 1 MHz	± 0.8 dB Typical
Range: -30 dBm to +47 dBm	1 MHz to 3.9 GHz	± 1 dB, ± 0.85 dB Typical
	3.9 GHz to 6 GHz	± 1.4 dB, ± 0.95 dB Typical
T/R port high power attenuation OFF	100 kHz to 1 MHz	± 0.8 dB Typical
Range: -50 dBm to +30 dBm	1 MHz to 3.9 GHz	± 1 dB, ± 0.85 dB Typical
	3.9 GHz to 6 GHz	± 1.45 dB, ± 0.95 dB Typical

Maximum RMS safe power input

T/R port high power attenuation ON	+47 dBm (50 W)	T/R port high power attenuation OFF	+33 dBm (2 W)
RF antenna port	+30 dBm (1 W)		

Maximum RMS RF specified performance level

T/R port high power attenuation ON	+47 dBm (50 W) (< 30 °C ambient), 30 W or 5 minutes on 5 minutes off (> 30 and < 45 °C ambient)
RF antenna port	+23 dBm

1. Instantaneous bandwidth (1 dB 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. Calibration accuracy depends on how accurately the frequency standard was adjusted to 10 MHz. If the adjustment procedure is followed, the calibration accuracy is given by the specification. Achievable Initial Calibration Accuracy.

TX post-demod audio filters

Low pass filter	300 Hz ¹ , 3 kHz, 15 kHz, 30 kHz, 80 kHz, 100 kHz, or 300 kHz
High pass filters	20 Hz, 50 Hz, 300 Hz, or 400 Hz ²
Band pass filters (weighted)	CCITT (ITU-T Rec. 041, ITU-T Rec. P.53), A-weighted (ANSI-IEC "A" weighted, per IEC Rec 179), C-weighted (IEEE Std 743-1995), C-message (C-Message per IEEE743), CCIR-1k weighted (CCIR Rec 468), CCIR-2k weighted (Dolby 2 K), CCIR unweighted (CCIR Rec 468)
Manual select filter	For either LPF or HPF User Defined ³

1. 2-pole Butterworth filter to match same filter in HP8920/8903/8901/8902.
2. 10-pole Butterworth filter to attenuate sub-audible signaling tones. Matching the filter on HP8920/8903/8901/8902.
3. 5-pole Butterworth filter, a general-purpose filter. The 3-dB cutoff frequency can be selected for the User-defined audio filters.

Phase noise sidebands RF T/R ⁴ port and antenna port (CF = 500 MHz)

1 kHz offset	-107 dBc/Hz typical
10 kHz offset	-111 dBc/Hz typical
100 kHz offset	-108 dBc/Hz typical
1 MHz offset	-133 dBc/Hz typical

4. T/R port high power attenuation OFF

Spurious responses - Residual response in specified frequency ranges⁵

Frequency range	Antenna input port ranged to -70 dBm	T/R port high power attenuation OFF, ranged to -70 dBm	T/R port high power attenuation ON, ranged to 0 dBm
< 200 MHz	-77 dBm typical	-90 dBm typical	-90 dBm typical
200 MHz to 6 GHz	-95 dBm typical	-90 dBm typical	-80 dBm typical

5. Except at 100 MHz, 5 GHz, and 5.5 GHz

Input related spurs

Input set to -10 dBm range	<-62 dBm typical
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Display Average Noise Level (DANL) with analyzer ranged to -70 dBm

Frequency range	Antenna input port	T/R port high power attenuation OFF	T/R port high power attenuation ON
100 kHz to 1 MHz	-142 dBm typical	-135 dBm typical	-120 dBm typical
1 MHz to 200 MHz	-155 dBm, -160 dBm typical	-129 dBm, -144 dBm typical	-114 dBm, -127 dBm typical
200 MHz to 900 MHz	-157 dBm, -161 dBm typical	-144 dBm, -149 dBm typical	-126 dBm, -131 dBm typical
900 MHz to 2.1 GHz	-154 dBm, -158 dBm typical	-140 dBm, -145 dBm typical	-122 dBm, -127 dBm typical
2.1 GHz to 3.2 GHz	-148 dBm, -153 dBm typical	-134 dBm, -139 dBm typical	-116 dBm, -121 dBm typical
3.2 GHz to 4.8 GHz	-151 dBm, -156 dBm typical	-137 dBm, -142 dBm typical	-119 dBm, -124 dBm typical
4.8 GHz to 6 GHz	-145 dBm, -150 dBm typical	-129 dBm, -134 dBm typical	-114 dBm, -119 dBm typical

Input voltage standing wave ratio (VSWR) (Attenuator = 0 dB)

RF T/R port	< 1.4:1 (nominal)
Antenna port	< 1.8:1 (nominal)
Triggering	
Trigger	Free run, external 1, external 2, RF burst, video, line, periodic
IQ analyzer	
Trigger delay range	-15 to 500 ms
Resolution	0.1 μ s
Range of FFT points	512K

RF generator technical specifications and characteristics

Frequency range		
Option 504	100 kHz to 3.8 GHz	
Option 506	100 kHz to 6 GHz	
Arb baseband bandwidth		
Option B40 (standard)	100 kHz – 60 MHz	8 MHz
	60 MHz – 220 MHz	20 MHz
	220 MHz – 340 MHz	40 MHz
	340 MHz – 6 GHz	40 MHz
Option B10	100 kHz – 230 MHz	Same as Option B40
	230 MHz – 340 MHz	40 MHz
	340 MHz – 6 GHz	80 MHz
Option B1X	100 kHz – 400 MHz	Same as Option B10
	400 MHz – 6 GHz	160 MHz
Frequency resolution		
RF Generator	0.1 Hz (nominal)	
Frequency accuracy		
Same as accuracy of internal time base or external reference input		
Internal timebase		
Accuracy ¹	$\pm [(\text{time since last adjustment} \times \text{aging rate}) \pm \text{temperature effects} \pm \text{calibration accuracy}]$	
Frequency stability internal timebase		
Yearly Aging rate	$< \pm 0.1 \text{ ppm/year } (\pm 1 \times 10^{-7})$	
Achievable initial calibration accuracy	$\pm 4 \times 10^{-8}$	
Residual FM	$\leq 0.25 \text{ Hz p-p in 20 ms nominal}$	
Temperature effects		
20 to 30 °C	$< \pm 1.5 \times 10^{-8}$	

1. Calibration accuracy depends on how accurately the frequency standard was adjusted to 10 MHz. If the adjustment procedure is followed, the calibration accuracy is given by the specification. Achievable Initial Calibration Accuracy

Amplitude level accuracy ¹

Selected port levels	100 kHz to 1 MHz	1 MHz to 3.6 GHz	3.6 GHz to 6 GHz
Generator port			
> 0 dBm	± 0.8 dB typical	± 1.5 dB, ± 0.8 dB typical	± 1.65 dB, ± 1.2 dB typical
0 dBm to -60 dBm	± 0.65 dB typical	± 1.1 dB, ± 0.7 dB typical	± 1.45 dB, ± 0.85 dB typical
-60 dBm to -110 dBm	± 0.65 dB typical	± 1.25 dB, ± 0.95 dB typical	± 1.6 dB, ± 1.0 dB typical
< -110 dBm	± 0.55 dB nominal	± 0.95 dB nominal	± 1.0 dB nominal
T/R port high power attenuation ON			
> -40 dBm	± 0.65 dB typical	± 1.4 dB, ± 0.8 dB typical	± 1.75 dB, ± 1.4 dB typical
-40 dBm to -100 dBm	± 0.9 dB typical	± 1.4 dB, ± 0.9 dB typical	± 1.75 dB, ± 1.5 dB typical
< -100 dBm	± 1.5 dB nominal	± 1.0 dB nominal	± 1.5 dB nominal
T/R port high power attenuation OFF			
> 0 dBm	± 0.75 dB typical	± 1.2 dB, ± 0.6 dB typical	± 1.35 dB, ± 0.7 dB typical
0 dBm to -60 dBm	± 0.55 dB typical	± 1.4 dB, ± 0.75 dB typical	± 1.4 dB, ± 0.85 dB typical
-60 dBm to -110 dBm	± 1.2 dB typical	± 1.3 dB, ± 1.0 dB typical	± 1.5 dB, ± 0.85 dB typical
< -110 dBm	± 1.5 dB nominal	± 1.0 dB nominal	± 1.5 dB nominal

1. Specifications apply when input port is set to Antenna IN.

Phase noise, (CF = 500 MHz)

Gen port (+10 dBm output); T/R port (0 dBm output)	
1 kHz offset	< -115 dBc/Hz typical
10 kHz offset	< -112 dBc/Hz typical
100 kHz offset	< -118 dBc/Hz typical
1 MHz offset	< -137 dBc/Hz typical

Harmonics (T/R port and Gen port)

Frequency Range	Generator port at +10 dBm	T/R port high power attenuation ON at 0 dBm	T/R port high power attenuation OFF at -15 dBm
100kHz to 60MHz	-34 dBc, -40 dBc nominal	-35 dBc, -40 dBc nominal	-40 dBc nominal
60 MHz to 6 GHz	-30 dBc, -36 dBc nominal	-30 dBc, -38 dBc nominal	-40 dBc nominal

Non-Harmonics (T/R port and Gen port)

Frequency Range	Generator port at +10 dBm	T/R port high power attenuation ON at 0 dBm	T/R port high power attenuation OFF at -15 dBm
100kHz to 60MHz	-65 dBc nominal	-63 dBc nominal	-65 dBc nominal
60 MHz to 6 GHz	-70 dBc nominal	-70 dBc nominal	-70 dBc nominal

Sub-harmonics

Frequency Range	Generator port at +10 dBm	T/R port high power attenuation ON at 0 dBm	T/R port high power attenuation OFF at -15 dBm
> 3GHz	-40 dBc nominal	-40 dBc nominal	-40 dBc nominal

Input voltage standing wave ratio (VSWR)

RF T/R port	< 1.6:1 (nominal)
Generator port	< 1.8:1 (nominal)

Noise floor

RF T/R port and Gen port (at -40 dBm output)	100 kHz to 60 MHz: -155 dBm typical; 60 MHz to 6 GHz < -160 dBm typical
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Generator output level range

RF T/R port	
100 kHz to 6 GHz (T/R port high power attenuation OFF)	-130 to +3 dBm
100 kHz to 6 GHz (T/R port high power attenuation ON)	-130 to -20 dBm, settable to -15 dBm
RF Gen port	
100 kHz to 6 GHz	-130 to +3 dBm
100 kHz to 6 GHz (Option M8920A-1EA)	-130 to +13 dBm, settable to +15 dBm

Generator resolution

Power	0.02 dB (nominal)
Frequency	0.10 Hz (nominal)

Generator maximum reverse power protection (RPP)

RF Gen port	10 W for 15 sec. with alarm
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Other signaling capabilities

Signaling selection	Sine, Square, Rectangle, Triangle, Dual Sine (2-tone, CTCSS, DTMF), Ramp Up, Ramp Down, and Pulse
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Audio module technical specifications and characteristics

M9260A PXI module	Audio generator output performance	Audio analyzer input performance
Channels	2 – Audio Gen Outputs	2 – Audio Analyzer Inputs
Build-in Waveforms	Sine, Dual Sine	Sine, Dual Sine
Impedance	50 Ω and 600 Ω	50 Ω , 600 Ω , and 1 M Ω
Audio frequency range	5 Hz to 79.8 kHz	10 Hz to 80 kHz
Audio frequency resolution	363.8 μ Hz	363.8 μ Hz
Audio frequency accuracy ¹	\pm (2ppm + 100 μ Hz) nominal	\pm (2ppm + 100 μ Hz) nominal
Voltage range	10 μ Vp to 10 Vp	10 μ Vp to 46Vp
Amplitude resolution	1 μ V	1 μ V
Coupling	AC, DC	AC, DC
Channels per module	2 – BNC output channels	2 – BNC input channels
Max voltage amplitude	10 Vp output	46 Vp Input
AC accuracy	\pm 1.0% at 1 kHz	\pm 1.0% at 1 kHz
AC flatness (at 1 kHz), 5 Hz to 80 kHz BW	+/- 1% (+/-0.086 dB), all ranges	+/- 1% (+/-0.086 dB), all ranges
SINAD measurement		
Frequency range		50 Hz to 20 kHz
Range		0 dB to 50 dB (nominal), usable up to 90 dB
Resolution		0.1 dB
Accuracy		\pm 1 dB (nominal)
Voltage range		1 mV to 10 V, usable up to 46V (32 Vrms)
Distortion measurement		
Frequency range		50 Hz to 20 kHz
Accuracy		\pm 0.05% (nominal)
Measurement Range		1% to 50% (nominal)
Resolution		1% (nominal)
Voltage range		1 mV to 10 V, usable up to 46V (32 Vrms)
Hum and noise measurement		
Frequency		50 Hz to 20 kHz (nominal)
Range		-90 dB to 0 dB (nominal)
Resolution		0.1 dB (nominal)
Signal to Noise Ratio (SNR) measurement ²		
Frequency		50 Hz to 20 kHz (nominal)
Range		0 dB to 80 dB (nominal)
Accuracy		\pm 1 dB (nominal)

1. Stated frequency accuracy specification is achievable depending on the PXI chassis 10 MHz system clock accuracy or the applied external clock reference accuracy.

2. Using two-step RMS Ratio method. Refer to M8920A Measurement Guide, Measuring RX FM Hum and Noise. For noisier signals, built-in SNR estimate method is not as accurate.

Audio module RX audio filters

RX audio filters	
Low pass filter	3 kHz, 15 kHz, 30 kHz, 80 kHz
High pass filters	20 Hz, 50 Hz, 300 Hz, or 400 Hz
Band pass filters (weighted)	CCITT (ITU-T Rec. 041, ITU-T Rec. P.53), A-weighted (ANSI-IEC "A" weighted, per IEC Rec 179), C-message (C-Message per IEC 743), CCIR-1k weighted (CCIR Rec 468), CCIR-2k weighted (Dolby 2 K)
Manual select filter	Manual user defined LPF filter ¹

1. The 3-dB cutoff frequency can be selected for the User-defined audio filters.

Radio test application software specifications

N9093EM0E basic analog modulation/demodulation application key specifications

	ARB generator modulation performance	Analyzer demodulation performance
Frequency modulation		
FM deviation	100 Hz to 100 kHz (settable to 1 Hz)	Peak Dev 1 kHz to 100 kHz
FM deviation accuracy	± 0.2% (nominal)	± 0.1% (nominal) rate < 20 kHz ± 1.2% (nominal) rate 20 kHz to 40 kHz
FM Deviation Resolution	1 Hz	1 Hz
FM rate (settable range)	10 Hz to 40 kHz	10 Hz to 40 kHz
Residual distortion	0.6% (nominal)	± 0.45% (nominal) rate < 20 kHz ± 1.3% (nominal) rate 20 kHz to 40 kHz
Residual FM		1 Hz
Amplitude modulation		
AM depth	1% to 90%	1% to 99%
AM depth accuracy	± 0.2% (nominal) depth 30% to 90% ± 2.2% (nominal) depth < 30% or > 90%	± 0.9 (nominal) depth 10% to 95%
AM Depth Resolution	1%	1%
AM rate (settable range)	10 Hz to 40 kHz	10 Hz to 40 kHz
Residual distortion	± 0.1% (nominal) depth 30% to 90% ± 1.0% (nominal) depth < 30% or > 90%	1.5% (nominal) depth 10% to 95%
Single sideband modulation (USB/LSB)		
SSB depth	1% to 90%	1% to 99%
SSB depth Resolution	1%	1%
SSB rate range	10 Hz to 40 kHz	10 Hz to 40 kHz
SSB offset Range		300 Hz to 3 kHz
SSB residual distortion		1.5% (nominal) depth 10% to 95%
SSB carrier suppression (SSB-SC)	> 80 dB (SSB-SC)	
Phase modulation		
PM deviation	0.1 to 10 rad	0.2 to 10 rad
PM deviation accuracy	± 0.3% (nominal) 0.3 to 10 radians	± 0.3% (nominal) rate 500 Hz to 4 kHz ± 3.0% (nominal) rate < 500 Hz
PM resolution	0.01 rad	0.01 rad
PM rate (settable range)	10 Hz to 40 kHz	10 Hz to 4 kHz
Residual distortion	0.4% (nominal) 0.3 to 10 radians	0.5% (nominal) dev > 1 radian 3% (nominal) dev < 1 radian

SINAD measurement

Frequency	60 Hz to 6 kHz (nominal)
Measurement range	0 dB to 50 dB (nominal)
Accuracy	± 1 dB (nominal)

Distortion measurement

Frequency	60 Hz to 6 kHz (nominal)
Measurement range	1% to 50% (nominal)
Resolution	1% (nominal)

Hum and noise measurement

Frequency	60 Hz to 6 kHz (nominal)
Range	-90 dB to 0 dB (nominal)
Resolution	0.1 dB (nominal)

Signal to noise ratio (SNR) measurement ¹

Frequency	60 Hz to 6 kHz (nominal)
Range	0 dB to 80 dB (nominal)
Accuracy	± 1 dB (nominal)

1. Using two-step RMS Ratio method. Refer to M8920A Measurement Guide, Measuring TX FM Hum and Noise. For noisier signals, built-in SNR estimate method is not as accurate.

N9093EM1E basic digital demodulation measurement application key specifications

	Modulation performance	Demodulation performance
EVM	± 0.5% typical	± 0.6% typical
Mag error	± 0.3% typical	± 1.3% typical
FSK error	± 0.3% typical	± 1.0% typical
Deviation error	± 0.1% typical	± 1.0% typical

Connectivity test application software specifications

WLAN 802.11ac

EVM at antenna input port	-44.5 dB typical at -20 dBm input power BW 80 MHz
	-42.5 dB typical at -20 dBm input power BW 160 MHz
EVM at generator port	-47 dB typical at -5 to -15 dBm output BW 80 MHz
	-45 dB typical at -10 to -15 dBm output BW 160 MHz

LTE-FDD/TDD (Specifications from 700 MHz to 2.6 GHz)

EVM at antenna input port	0.8% typical, 0.6% nominal at -10 dBm input power BW 20 MHz
ACP at antenna input port	-56 dBc typical at -10 dBm input downlink
	-57 dBc typical at -10 dBm input uplink
Composite EVM at generator port	0.8% typical at -10 dBm output power BW 20 MHz
ACP at generator port	-60 dBc typical at -10 dBm output power downlink
	-60 dBc typical at -10 dBm output power Uplink

Bluetooth

DEVm at generator port	1% nominal at 0 dBm output
EDR floor at antenna input port	0.6% typical at 0 dBm input power

Front panel M9470A RF interface module connections

RF connections

RF T/R port	SMA female, 50 Ω nominal
RF antenna	SMA female, 50 Ω nominal
RF Gen port	SMA female, 50 Ω nominal

Other connections

Frequency reference input	10 MHz, -5 to +10 dBm, nominal, SMB female, 50 Ω nominal
Frequency reference output	10 MHz, \pm (10 MHz x frequency reference accuracy), > 0 dBm, SMB female, 50 Ω nominal

General specifications

I/O characteristics M9037A controller module

Front panel connections:	
USB	Four USB 2.0 (type A), Two USB 3.0 ports
Ethernet	Two 10/100/1000BASE-T (RJ45)
Video	Dual Mode DisplayPort+ (DVI-D, VGA, HDMI with an adapter)
GPIO	Micro-D 25-pin
PCIe connector	x8 PCIe connector
PXI trigger	SMB (programmable direction)

Data storage (M9037A controller)

Internal	240 GB removable solid-state drive
External	Supports USB 2.0 or 3.0 compatible memory devices
ARB Memory Depth information	Opt. M05, 512 Msa; with a 14-bit DAC; memory requires 4 bytes per sample
Data Sampling information	Max sampling rate is 200Msa/s, Max sampling rate for 40 MHz BW is 50 Msa/s (40*1.25).

Temperature range

Operating	+5 to 45 °C
Storage	-40 to 70 °C

EMC

Complies with European EMC Directive 2014/30/EU

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

This ISM device complies with Canadian ICES-001

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

Environmental stress

Samples of this product have been type tested in accordance with the Keysight 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 MILPRF-28800F Class 3.

Power requirements (10-slot chassis)

Voltage/Frequency/Power (low-line)	100 to 120 V, 50/60/400 Hz, 735 W (nominal)
Voltage/Frequency/Power (high-line)	220 to 240 V, 50/60 Hz, 1300 W, (nominal)

Weight (M9010A 10-slot chassis with basic modules)

Net	17.5 kg (38.7 lbs), nominal
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Dimensions (M9010A 10-slot chassis)

Height	194.8 mm (with feet installed)
Width	322.5 mm
Length	552.5 mm

Warranty

The M8920A Radio Test Set is supplied with a Standard one- year warranty

Calibration cycle

The recommended calibration cycle is one year; calibration services are available through Keysight service centers

Related Literature

For more detailed product and specification information refer to the following literature and web pages:

Publication title	Publication number
M8920A PXIe Radio Test Set Technical Overview	5992-2821EN
M8920A PXIe Radio Test Set Configuration Guide	5992-2800EN
M8920A PXIe Radio Test Set Getting Started Guide	M8920-90001
M9470A PXIe 50W Interface Module Data Sheet	5992-3140EN
M9421A VXT PXIe Vector Transceiver Data Sheet	5992-1646EN
M9260A PXIe Audio Analyzer Data Sheet	5992-1918EN
KS8312xA Technical Overview for Automated Radio Testing	5992-3511EN
PXIe Chassis Spec Guide	M9019-90015
PC Tested Configurations with PXIe Chassis Technical Overview	5990-7632EN
M9037A PXIe Embedded Controller Spec Guide	M9037-90015
Interface Modules and Adapters for PXIe Systems	5992-0377EN
M924XA InfiniiVision PXIe Modular Oscilloscopes Data Sheet	5992-2003EN
6.5 Digit PXI Digital Multimeter Data Sheet	5992-2757EN
PXIe Vector Network Analyzer Configuration Guide	5991-4885EN
PXI Avionics Bus Interface Cards Configuration Guide	5992-2448EN
89600 VSA Software Configuration Guide	5990-6386EN

Additional Information

Product webpages:

www.keysight.com/find/M8920A

www.keysight.com/find/N9093

www.keysight.com/find/PXI

X-Series measurement applications:

www.keysight.com/find/X-Series_Apps

Signal Studio Software:

www.keysight.com/find/signalstudio

89600 VSA Software:

www.keysight.com/find/89600

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