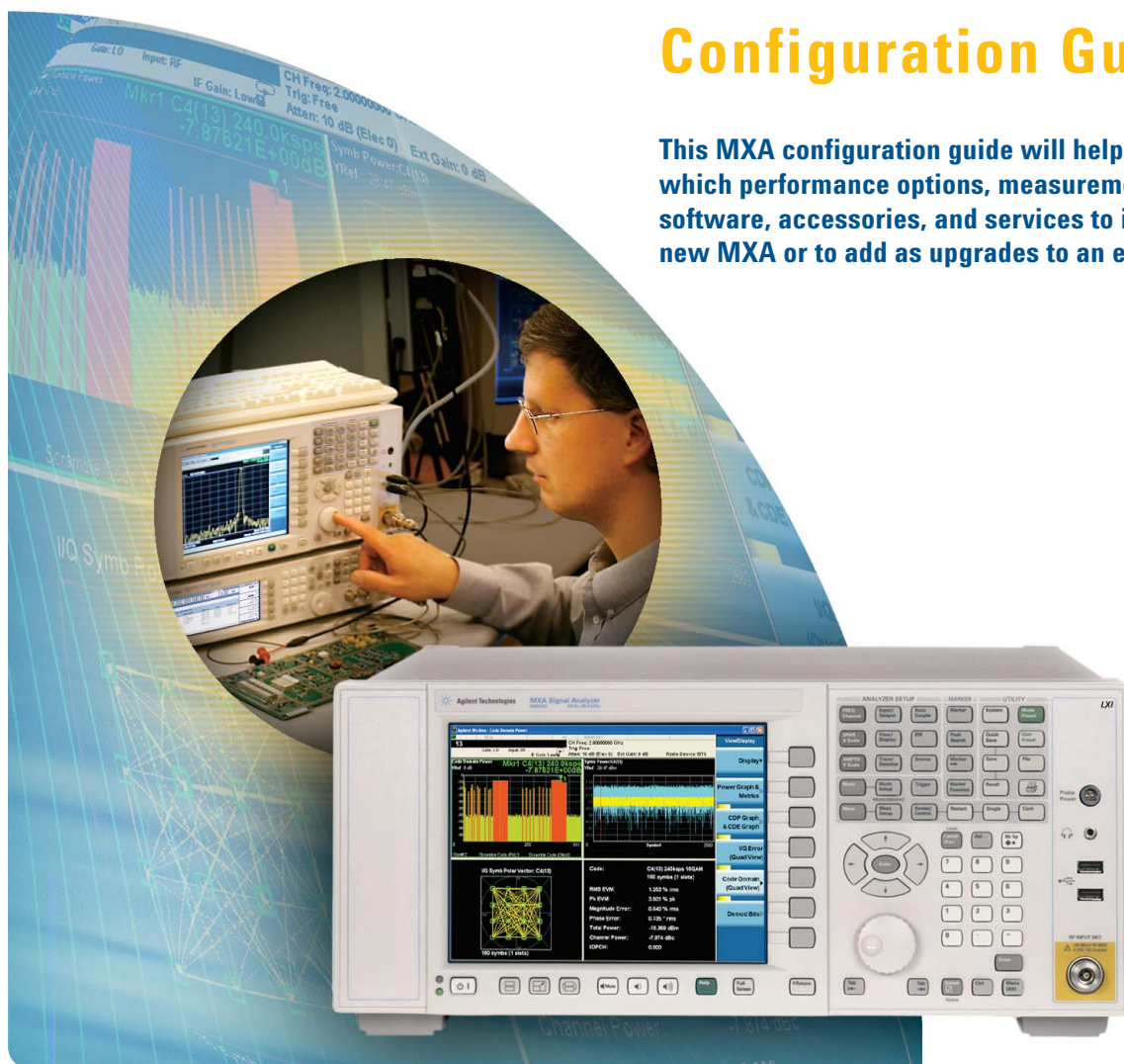


Agilent MXA Signal Analyzer N9020A

Configuration Guide

This MXA configuration guide will help you determine which performance options, measurement application software, accessories, and services to include in your new MXA or to add as upgrades to an existing MXA.



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Agilent MXA Signal Analyzer

This step-by-step process will help you configure your MXA. Capabilities that are listed as standard come with the instrument at no additional charge. Tailor the performance to meet your requirements.

Buy performance options at a lower price now or later as an upgrade. See the upgrade section for more information. For detailed specifications, refer to the MXA signal analyzer data sheet (5989-4942EN).

Step 1. Select maximum frequency range (required option; frequency range not upgradeable)

Description	Option number	Additional information
Frequency range, 20 Hz to 3.6 GHz	N9020A-503	
Frequency range, 20 Hz to 8.4 GHz	N9020A-508	
Frequency range, 20 Hz to 13.2 GHz	N9020A-513	
Frequency range, 20 Hz to 26.5 GHz	N9020A-526	Useful frequency range for testing harmonics of higher frequency signals

Step 2. Choose analysis bandwidth

Description	Option number	Additional information
10 MHz analysis bandwidth	Standard	Useful for most 2G and 3G measurement applications
25 MHz analysis bandwidth	N9020A-B25	Measure wideband signals such as WiMAX and multicarrier W-CDMA

Step 3. Choose frequency reference

Description	Option number	Additional information
Frequency reference	Standard	Aging rate: $\pm 1 \times 10^{-7}$ / year
Precision frequency reference	N9020A-PFR	Reduces frequency drift resulting in more accurate measurements Aging rate: $\pm 1 \times 10^{-6}$ / year

Step 4. Choose an attenuator

Description	Option number	Additional information
Mechanical attenuator	Standard	2 dB steps, 0 to 70 dB
Electronic attenuator up to 3.6 GHz	N9020A-EA3	Add in addition to the mechanical attenuator; 1 dB steps, 0 to 24 dB

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Step 5. Choose a preamplifier (optional)

Description	Option number	Preamplifiers improve the noise floor for low level signal detection.
		+20 dB: 100 kHz to 3.6 GHz +35 dB: 3.6 GHz to 26.5 GHz
Preamplifier, 100 kHz to 3.6 GHz	N9020A-P03	Compatible with frequency range options: N9020A-503, N9020A-508, N9020A-513, and N9020A-526
Preamplifier, 100 kHz to 8.4 GHz	N9020A-P08	Compatible with frequency range options: N9020A-508, N9020A-513, and N9020A-526
Preamplifier, 100 kHz to 13.6 GHz	N9020A-P13	Compatible with frequency range options: N9020A-513 and N9020A-526
Preamplifier, 100 kHz to 26.5 GHz	N9020A-P26	Compatible with frequency range option: N9020A-526

Step 6. Choose measurement application software

Description	Ordering number	Additional information
Spectrum analyzer measurement application	Standard	Traditional spectrum analysis; plus many new and enhanced functions; power measurements based on industry specifications; SCPI programmable
802.16 OFDMA measurement application	N9075A	Standards-based, one-button mobile WiMAX measurements; SCPI programmable
W-CDMA measurement application	N9073A-1FP	Standards-based, one-button W-CDMA measurements; SCPI programmable
HSDPA / HSUPA measurement application	N9073A-2FP	Adds HSDPA/HSUPA measurements to the W-CDMA application; requires N9073A-1FP
Phase noise measurement application	N9068A	Adds one-button measurements for analyzing phase noise in frequency domain (log plot) and time domain (spot frequency); orderable December 2006
89601A vector signal analysis (VSA) software	89601A	Add to enable complex signal analysis and trouble shooting; see the <i>89601A Vector Signal Analysis Software</i> technical overview (5989-1679EN) found at www.agilent.com/find/89600 for a complete list of ordering numbers, options, and software updates.

Step 7. Choose instrument configuration

Description	Option number	Additional information
Bench top configuration	Standard	Provides two side carrying straps, four rear feet and four bottom feet with a tilt stand; includes a front panel protective cover
Portable configuration	N9020A-PRC	Provides a convenient, pivoting carrying handle, rubber protective corners and end guards; includes a front panel protective cover. This configuration is intended for applications requiring more rugged packaging, such as in the field. See the picture at the back of this configuration guide.

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Step 8. Choose accessories

Description	Option number	Additional information
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	N9020A-MLP	50- Ω type-N male to 75 ohm BNC female adapter Frequency range: 9 MHz to 2 GHz Input/output return loss: 20 db and 11 dB Insertion loss: 5.7 dB
USB storage device (512 MB, blank)	N9020A-EFM	Enhances the usability of the Windows® XP Professional operating system
USB DVD-ROM/CD-R/RW drive	N9020A-DVR	Enhances the usability of the Windows XP Professional operating system
Mouse, USB interface	N9020A-MSE	Enhances the usability of the Windows XP Professional operating system
Keyboard, USB interface	N9020A-KYB	Enhances the usability of the Windows XP Professional operating system
Hard transit case	N9020A-HTC	Ultra-durable wheeled carrying case offers maximum protection and portability
Rack mount with handles	N9020A-1CP	Adds rack mount flanges and front handles to the MXA
Front handles	N9020A-1CN	Adds front handles to the MXA If you want to install handles and mount the MXA in a rack or cabinet, refer to Option 1CP.
Rack mount	N9020A-1CM	Adds rack mount flanges to the MXA
Rack slide	N9020A-1CR	Adds a non-tilting rack slide to the instrument
User Guides	Standard	US – English localization; all user documentation is included in the MXA embedded context sensitive help system inside the MXA and on a CD that is shipped with the instrument. In addition, printed versions of the Getting Started Guide and the User's Guide are shipped with every instrument. Alternatively, user documentation can be downloaded from: www.agilent.com/find/mxa_manuals

For more information visit: www.agilent.com/find/accessories

Step 9. Choose warranty length

Description	Ordering number	Additional information
1-year return-to-Agilent warranty and service	Standard (R-51B-001-C)	1-year warranty is included at no additional charge
3-year return-to-Agilent warranty and service	R-51B-001-3C	Recommended

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Step 10. Add calibration, technical training and support services

Description	Ordering number	Additional information
Calibration service: Agilent upfront support plan, 3-year term	R-50C-011-3	Agilent tests your instrument against its original specifications, and automatically makes adjustments if outside of specified parameters; pre- and post-adjustment measurement data reports also provided
Service: remote scheduled productivity assistance	PS-S10-100	Hourly phone-in technical support service designed to help you understand and operate your equipment through convenient phone and Web access
Service: 1-day start-up assistance	PS-S20-01	Training on how to operate your instrument effectively—recommended
Service: productivity assistance	PS-S20-100	Daily instrument and application consulting using your equipment and device-under-test
Service: custom engineering service	PS-X10-100	Application specific technical assistance

Other calibration options may be available.

For more information on calibration go to: www.agilent.com/find/calibration

For more information on training and application support services go to: www.agilent.com/find/training

Hardware Upgrades

Add additional options to your existing MXA

Fast upgrade process for performance options

1. Place an order for the upgrade with Agilent and request to receive the software entitlement certificate through email.
2. Redeem the certificate through the Web by following the instructions on the certificate.
3. Install the license file in the MXA.
4. Begin using the new capability.

Installation, calibration, and verification information is available at:
www.agilent.com/find/mxa_upgrades.

Description	Upgrade number	Requirements (instrument must already include the following)	Additional information
Increase analysis bandwidth from 10 MHz to 25 MHz	N9020AK-B25	None	
Upgrade to the precision frequency reference	N9020AK-PFR	None	
Add an electronic attenuator, 3.6 GHz	N9020AK-EA3	None	
Add preamplifier, 3.6 GHz	N9020AK-P03	None	Not compatible with P08, P13, P26
Add preamplifier, 8.4 GHz	N9020AK-P08	None	Not compatible with P03, P13, P26, 503
Add preamplifier, 13.6 GHz	N9020AK-P13	None	Not compatible with P03, P08, P26, 503, 508
Add preamplifier, 26.5 GHz	N9020AK-P26	None	Not compatible with P03, P08, P13, 503, 508, 513
USB storage device, 512 MB	N9020AK-EFM	None	
USB DVD-ROM/CD-R/RW drive	N9020AK-DVR	None	
Mouse, USB interface	N9020AK-MSE	None	
Keyboard, USB interface	N9020AK-KYB	None	
Hard transit case	N9020AK-HTC	None	
Rack mount and handle kit	N9020AK-1CP	None	Not compatible with 1CR
Front handle kit	N9020AK-1CN	None	Not compatible with 1CR
Rack mount kit	N9020AK-1CM	None	Not compatible with PRC, 1CP, 1CN, 1CR
Rack slide kit	N9020AK-1CR	None	Recommend to order Option 1CP also

Hardware Upgrades

Add additional options to your existing MXA

Description	Upgrade number	Requirements (instrument must already include the following)	Additional information
Upgrade preamplifier from 3.6 GHz to 8.4 GHz	N9020AK-308	P03 and one of the following: 508, 513, or 526	Not compatible with P08, P13, P26, 503
Upgrade preamplifier from 3.6 GHz to 13.6 GHz	N9020AK-313	P03 and 513 or 526	Not compatible with P08, P13, P26, 503, 508
Upgrade preamplifier from 3.6 GHz to 26.5 GHz	N9020AK-326	P03 and 526	Not compatible with P08, P13, P26, 503, 508, 513
Upgrade preamplifier from 8.4 GHz to 13.6 GHz	N9020AK-813	P08 and 513 or 526	Not compatible with P03, P13, P26, 503, 508
Upgrade preamplifier from 8.4 GHz to 26.5 GHz	N9020AK-826	P08 and 526	Not compatible with P03, P13, P26, 503, 508, 513
Upgrade preamplifier from 13.6 GHz to 26.5 GHz	N9020AK-13M	P13 and 526	Not compatible with P03, P08, P26, 503, 508, 513
Portable configuration	N9020AK-PRC	None	Not compatible with 1CM, 1CP, 1CN, 1CR
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	N9020AK-MLP	None	
Front panel protective cover	N9020AK-CVR	None	

Measurement Application Software Upgrades

Add measurement application software to an existing MXA signal analyzer

Fast upgrade process

1. Place an order for the upgrade with Agilent and request to receive the software entitlement certificate through email.
2. Redeem the certificate through the Web by following the instructions on the certificate.
3. Install license file in MXA.
4. Begin using the new capability.

Before installing a new measurement application license file in the MXA, it is

recommended that the MXA have the latest version of instrument software. The MXA instrument software package includes all the software that controls and operates the MXA hardware and enables it to perform spectrum analysis, and all the measurement application software. Software may be downloaded from: www.agilent.com/find/mxa_apps.

Installation and testing information is available from the following Web page: www.agilent.com/find/mxa_upgrades.

Software updates

Application software is periodically updated to add new functionality, improve performance, and to fix software issues. Major updates require a license file to activate the new functionality. Minor revisions new functionality is activated with existing license files.

Description	Ordering number
802.16 OFDMA measurement application	N9075A
W-CDMA measurement application	N9073A-1FP
HSDPA / HSUPA measurement application	N9073A-2FP
Phase noise measurement application (orderable December 2006)	N9068A

Other Information

Connectivity (standard)

Six USB type-A ports	Connect up to six USB devices to the MXA without using a hub; MXA behaves like a host controller; USB 2.0 compatible ports <ul style="list-style-type: none">• Two on front• Four on the back
One USB type-B port	MXA behaves like a USB device (client); USB 2.0 compatible port
10/100 based-T Ethernet port	
GPIB	

Standard software

Open Windows XP Professional operating system	Including Remote Desktop, Internet Explorer, File Explorer and other standard programs
Embedded web server	LXI class-C compliant
Adobe® Acrobat® Reader	

Instrument weight and dimensions

Weight	
Bench top configuration (standard)	16 kg (35 lbs)
Portable configuration (optional)	17 kg (37 lbs)
Dimensions (bench top configuration)	
Height	17.7 cm (7.0 in)
Width	42.6 cm (16.8 in)
Length	36.8 cm (14.5 in)
Display	
Diagonal	21.4 cm (8.4 in) XGA resolution

Transit case (optional) weight and dimensions

Weight (empty)	20.4 kg (45 lbs)
Dimensions	
Height	42.6 cm (16.8 in)
Width	68.5 cm (27 in)
Length	73.6 (29 in)

Accessories



Front

Portable configuration includes pivoting carrying handle and protective corner rubber guards (front protective cover comes standard) – N9020A-PRC



Angled



Hard transit case – N9020A-HTC

Literature Resources

Related literature

Publication title	Publication type	Publication number
MXA signal analyzer		
<i>Agilent MXA Signal Analyzer</i>	Data Sheet	5989-4942EN
<i>Agilent MXA Signal Analyzer</i>	Brochure	5989-5047EN
<i>Agilent MXA Signal Analyzer</i>	Product Summary Flyer	5989-4940EN
Application software		
<i>W-CDMA N9073A-1FP and HSDPA/HSUPA N9073A-2FP</i>	Technical Overview	5989-5352EN
<i>802.16 OFDMA N9075A</i>	Technical Overview	5989-5353EN
<i>Agilent 89600 Series Vector Signal Analysis Software</i>	Technical Overview	5989-1679EN
Application notes		
<i>Using Signal Analyzers for Spectrum Measurements and Troubleshooting Digitally Modulated Signals</i>	Application Note	5989-4944EN
<i>Using MXA Preselector Tuning for Amplitude Accuracy in Microwave Spectrum Analysis</i>	Application Note	5989-4946EN
<i>Maximizing Measurement Speed with the Agilent MXA Signal Analyzer</i>	Application Note	5989-4947EN
<i>Spectrum Analysis Basics</i>	Application Note 150	5952-0292EN
<i>Vector Signal Analysis Basics</i>	Application Note 150-15	5989-1121EN



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