MXG X-Series Signal Generators
N5181B Analog & N5182B Vector

Configuration Guide

This configuration guide will help you determine which performance options, software applications, accessories, and services to include with your new MXG or to add as upgrades to an existing MXG.

Anticipate ___*Accelerate* ___*Achieve*

Agilent Technologies

Configure Your MXG X-Series Signal Generator

This step-by-step process will help you configure your MXG signal generator. Tailor the performance to meet your requirements. For detailed specifications, refer to the MXG signal generator data sheet (5991-0038EN).

N5181B MXG X-Series RF Analog Signal Generator

Configure your new MXG analog signal generator

Step 1. Select maximum frequency range (required option; frequency range not upgradeable)		
Description	**Option number**	**Additional information**
Frequency range from 9 kHz to 3 GHz	N5181B-503	Not compatible with 506
Frequency range from 9 kHz to 6 GHz	N5181B-506	Not compatible with 503

Step 2. Choose connector configuration		
Description	**Option number**	**Additional information**
Move all connectors to rear panel	N5181B-1EM	Not upgradable

Step 3. Choose performance enhancement options		
Description	**Option number**	**Additional information**
AM, FM, phase modulation	N5181B-UNT	
Low phase noise	N5181B-UNX	Not compatible with UNY, not upgradable
Enhanced low phase noise	N5181B-UNY	Not compatible with UNX, not upgradeable
Fast switching	N5181B-UNZ	
Narrow pulse modulation	N5181B-UNW	
Pulse train generator	N5181B-320	Requires UNW
Multifunction generator	N5181B-303	
Instrument security and removable memory card	N5181B-006	
High output power	N5181B-1EA	
Low specified power (<-110 dBm)	N5181B-1EQ	
Flexible reference input (1-50 MHz)	N5181B-1ER	
Expanded license key upgradability	N5181B-099	Option 099 is recommended for anyone considering future upgrades. Option 099 simplifies the upgrade process by enabling upgrades via a license key for Options 1EA, 1EQ, and UNZ. Without Option 099, upgrades for these options require purchase and installation of hardware in a field retrofit kit. For more information, visit **www.agilent.com/find/SSupgrades.**

Step 4. Choose accessory and documentation options

Description	Option number
Rack slide kit	1CR012A
Front handle kit	1CN006A
Rack mount flange kit	1CM010A
Rack mount flange kit with front handles	1CP004A
Hard transit case	N5181B-AXT
CD-ROM containing English documentation set	N5181B-CD1
Service documentation, assembly and component	N5181B-0BW

Step 5. Choose warranty and calibration options

Description	Option number
Return-to-Agilent warranty, 3 years	Standard
Return-to-Agilent warranty, 5 years	R-51B-001-5C
Onsite warranty – 1 year	R-51C-001-1CU
Onsite warranty – 3 year	R-51C-001-3CU
MXG analog ANSI Z540-1-1994 calibration	N5181B-A6J
MXG analog Agilent Cal + uncertainties + guardbanding (accredited cal)	N5181B-AMG
Commercial calibration certificate with test data	N5181B-UK6
Calibration Assurance Plan, Return-to-Agilent, 5 years	R-50C-011-5

Step 6. Choose startup assistance service options

Description	Option number
Remote scheduled assistance 1- 999 hours	PS-S10
Daily productivity assistance	PS-S20
Signal generator and source basics; half-day, maximum of eight students on site	PS-T10-ASG
Custom services to be qualified by Agilent	PS-X10

Upgrade your existing MXG analog signal generator

Fast license-key upgrades for options that do not require additional hardware:

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 using Agilent License Manager
4. Begin using the new capability

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

You Can Upgrade!

Options can be added after your initial purchase.

UP GRADE

Most X-Series options are license-key upgradeable.

Description	Upgrade number	Requirements	Additional information
Service documentation, assembly and component	N5181BU-0BW	None	Printed copy of service guide
Instrument security and removable memory card	N5181BU-006	None	Hardware and license key upgrade
Expanded license key upgradability	N5181BU-099	None	Hardware and license key upgrade
High output power	N5181BU-1EA	099	Customer installable - software, license key
Low specified power (<-110 dBm)	N5181BU-1EQ	099	Customer installable - software, license key
Flexible reference input (1-50 MHz)	N5181BU-1ER	None	Customer installable - software, license key
Multifunction generator	N5181BU-303	None	Customer installable - software, license key
Pulse train generator	N5181BU-320	UNW	Customer installable - software, license key
Hard transit case	N5181BU-AXT	None	
CD-ROM containing English documentation set	N5181BU-CD1	None	
Commercial calibration certificate with test data	N5181BU-UK6	None	
AM, FM, phase modulation	N5181BU-UNT	None	Customer installable - software, license key
Narrow pulse modulation	N5181BU-UNW	None	Customer installable - software, license key
Fast switching	N5181BU-UNZ	099	Customer installable - software, license key
Rack slide kit	1CR012A	None	Hardware
Front handle kit	1CN006A	None	Hardware
Rack mount flange kit	1CM010A	None	Hardware
Rack mount flange kit with front handles	1CP004A	None	Hardware

N5182B MXG X-Series RF Vector Signal Generator

Configure your new MXG vector signal generator

Step 1. Select maximum frequency range (required option; frequency range not upgradeable)		
Description	**Option number**	**Additional information**
Frequency range from 9 kHz to 3 GHz	N5182B-503	Not compatible with 506
Frequency range from 9 kHz to 6 GHz	N5182B-506	Not compatible with 503

Step 2. Choose connector configuration		
Description	**Option number**	**Additional information**
Move all connectors to rear panel	N5182B-1EM	Not upgradable
Differential I/Q outputs	N5182B-1EL	

Step 3. Choose performance enhancement options		
Description	**Option number**	**Additional information**
AM, FM, phase modulation	N5182B-UNT	
Enhanced dynamic range	N5182B-UNV	Requires 656
Narrow pulse modulation	N5182B-UNW	
Low phase noise	N5181B-UNX	Not compatible with UNY, not upgradeable
Enhanced low phase noise	N5182B-UNY	Not compatible with UNX, not upgradeable
Fast switching	N5182B-UNZ	
Pulse train generator	N5182B-320	Requires UNW
Multifunction generator	N5182B-303	
Instrument security and removable memory card	N5182B-006	
Internal solid-state memory	N5182B-009	
High output power	N5182B-1EA	
Low specified power (<-110 dBm)	N5182B-1EQ	
Flexible reference input (1-50 MHz)	N5182B-1ER	
LO in/out for phase coherency	N5182B-012	
Expanded license key upgradability	N5182B-099	Option 099 is recommended for anyone considering future upgrades. Option 099 simplifies the upgrade process by enabling upgrades via a license key for Options 1EA, 1EQ, UNV, and UNZ. Without Option 099, upgrades for these options require purchase and installation of hardware in a field retrofit kit. For more information, visit **www.agilent.com/find/SSupgrades.**

Step 4. Choose baseband generator options

Description	Option number	Additional information
ARB baseband generator (80 MHz RF bandwidth, 32 MSa)	N5182B-656	
Upgrade baseband generator from 80 to 160 MHz RF bandwidth	N5182B-657	Requires 656
Upgrade baseband generator memory from 32 to 512 MSa	N5182B-022	Requires 656
Upgrade baseband generator memory from 32 to 1 GSa	N5182B-023	Requires 656
Upgrade baseband generator with real-time capability	N5182B-660	Requires 656
Digital output connectivity with the N5102A	N5182B-003	Requires 656
Digital input connectivity with the N5102A	N5182B-004	Requires 656

Step 5. Choose Signal Studio and embedded software

Note: The following software can be added at purchase or as an upgrade. To configure Signal Studio applications, refer to the configuration assistant at: www.agilent.com/find/signalstudio. For more information on Signal Studio configuration and licenses, go to www.agilent.com/find/SS_licensing.

Product number	Description	Hardware requirements	Recommended hardware options
Cellular communications			
N7600B	Signal Studio for W-CDMA/HSPA+ (ARB and real-time)	656 660 for real-time	660, 503, UNV, 403
N7601B	Signal Studio for cdma2000/1xEV-DO (ARB and real-time)	656 660 for real-time	660, 503, 403, UNV
N7602B	Signal Studio for GSM/EDGE/Evo (ARB and real-time)	656 660 for real-time	660, 503, 403, UNV, UNZ
N7612B	Signal Studio for TD-SCDMA/HSDPA	656	503, 403, UNV
N7624B	Signal Studio for LTE/LTE-Advanced FDD (ARB and real-time)	656 660 for real-time	657, 660, 506, 403, UNV
N7625B	Signal Studio for LTE/LTE-Advanced TDD (ARB and real-time)	656 660 for real-time	657, 660, 506, 403, UNV
Wireless connectivity			
N7606B	Signal Studio for Bluetooth®	656	506, 403, UNV
N7615B	Signal Studio for Mobile WiMAX	656	506, 403, UNV
N7617B	Signal Studio for WLAN 802.11a/b/g/j/p/n/ac	656	657, 506, 403, UNV
Audio/video broadcasting			
N7623B	Signal Studio for digital video (ARB and real-time)	656 660 for real-time	660, 506, 403, 023, UNV
N7611B	Signal Studio for broadcast radio	656	506, 403, UNV
Detection, positioning, tracking, and navigation			
N7609B	Signal Studio for Global Navigation Satellite Systems (GNSS) (real-time)	656 660 for real-time	660, 503, 023, 403
General purpose			
N5182B-403	Calibrated AWGN	656	
N5182B-430	Multitone and two-tone	656	
N5182B-431	Custom digital modulation	656	
N5182B-432	Phase noise impairment	656	
N7622B	Signal Studio toolkit – free utility	656	503, UNV
N5182B 221-229	Waveform license 5-pack 1 to 9 (purchase up to 9 packs for 45 Signal Studio waveforms)	656	503, UNV
N5182B 250-259	Waveform license 50-pack 1 to 10 (purchase up to 10 packs for 500 Signal Studio waveforms)	656	503, UNV
N6171A	MATLAB software		656, 503, UNV

Step 6. Choose accessory and documentation options

Description	Option number
Rack slide kit	1CR012A
Front handle kit	1CN006A
Rack mount flange kit	1CM010A
Rack mount flange kit with front handles	1CP004A
Hard transit case	N5182B-AXT
CD-ROM containing English documentation set	N5182B-CD1
Service documentation, assembly and component	N5182B-0BW

Step 7. Choose warranty and calibration options

Description	Option number
3-year warranty (return to Agilent)	Standard, included
Warranty Assurance Plan, Return to Agilent, 5 years	R-51B-001-5C
Onsite warranty – 1 year	R-51C-001-1CU
Onsite warranty – 3 year	R-51C-001-3CU
Agilent Calibration + Uncertainties + Guardbanding (accredited cal)	N5182B-AMG
Agilent Calibration + Uncertainties + Guardbanding, 3 years	R-50C-016-3
Agilent Calibration + Uncertainties + Guardbanding, 5 years	R-50C-016-5
Commercial calibration certificate with test data	N5182B-UK6
ANSI Z540-1-1994 Calibration	N5182B-A6J
ANSI Z540-1-1994 Calibration, 3 years	R-50C-021-3
ANSI Z540-1-1994 Calibration, 5 years	R-50C-021-5
Calibration Assurance Plan, Return to Agilent, 5 years	R-50C-011-5

Step 8. Choose startup assistance service options

Description	Option number	Additional information
Remote scheduled assistance 1- 999 hours	PS-S10	
Daily productivity assistance	PS-S20	
Signal generator and source basics; half-day, maximum of eight students on site	PS-T10-ASG	
Custom services to be qualified by Agilent	PS-X10	

Upgrade your existing MXG vector signal generator

Fast license-key upgrades for options that do not require additional hardware:

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 using Agilent License Manager
4. Begin using the new capability

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

You Can Upgrade!

Options can be added after your initial purchase.

Most X-Series options are license-key upgradeable.

UP GRADE

Description	Upgrade number	Requirements	Additional information
Service documentation, assembly and component	N5182BU-0BW	None	Printed copy of service guide
Instrument security and removable memory card	N5182BU-006	None	Hardware and license key upgrade
Internal solid-state memory	N5182BU-009	None	Customer installable – software, license key
LO in/out for phase coherency	N5182BU-012	None	Hardware and license key upgrade
Upgrade baseband generator memory from 32 to 512 MSa	N5182BU-022	656	Customer installable – software, license key
Upgrade baseband generator memory from 32 MSa to 1 GSa	N5182BU-023	656	Customer installable – software, license key
Upgrade baseband generator memory from 512 MSa to 1 GSa	N5182BU-043	022 and 656	Customer installable – software, license key
Expanded license key upgradability	N5182BU-099	None	Hardware and license key upgrade
High output power	N5182BU-1EA	099	Customer installable – software, license key
Differential I/Q outputs	N5182BU-1EL	None	Customer installable – software, license key
Low specified power (<-110 dBm)	N5182BU-1EQ	099	Customer installable – software, license key
Flexible reference input (1-50 MHz)	N5182BU-1ER	None	Customer installable – software, license key
5-pack waveform license	N5182BU-221	656	Customer installable – software, license key
50-pack waveform license	N5182BU-250	656	Customer installable – software, license key
Multifunction generator	N5182BU-303	None	Customer installable – software, license key
Pulse train generator	N5182BU-320	UNW	Customer installable – software, license key
Calibrated AWGN	N5182BU-403	656	Customer installable – software, license key
Multitone and two-tone	N5182BU-430	656	Customer installable – software, license key
Custom digital modulation	N5182BU-431	656	Customer installable – software, license key
Phase noise impairment	N5182BU-432	656	Customer installable – software, license key
ARB baseband generator (80 MHz RF bandwidth, 32 MSa)	N5182BU-656	None	Customer installable – software, license key
Upgrade baseband generator from 80 to 160 MHz RF bandwidth	N5182BU-657	656	Customer installable – software, license key
Upgrade baseband generator with real-time capability	N5182BU-660	656	Hardware and license key upgrade

Digital output connectivity with the N5102A	N5182BU-003	None	Requires 656
Digital input connectivity with the N5102A	N5182BU-004	None	Requires 656
Hard transit case	N5182BU-AXT	None	Hard transit case
CD-ROM containing English documentation set	N5182BU-CD1	None	CD
AM, FM, phase modulation	N5182BU-UNT	None	Customer installable – software, license key
Enhanced dynamic range	N5182BU-UNV	099, 656	Customer installable – software, license key
Narrow pulse modulation	N5182BU-UNW	None	Customer installable – software, license key
Fast switching	N5182BU-UNZ	099	Customer installable – software, license key
Rack slide kit	1CR012A	None	Hardware
Front handle kit	1CN006A	None	Hardware
Rack mount flange kit	1CM010A	None	Hardware
Rack mount flange kit with front handles	1CP004A	None	Hardware

Related Literature

Agilent MXG signal generators

Brochure 5990-9957EN

Data Sheet 5991-0038EN

myAgilent

www.agilent.com/find/myagilent
A personalized view into the information most relevant to you.

www.lxistandard.org

LAN eXtensions for Instruments puts the power of Ethernet and the Web inside your test systems. Agilent is a founding member of the LXI consortium.

Three-Year Warranty

www.agilent.com/find/ThreeYearWarranty
Beyond product specification, changing the ownership experience.
Agilent is the only test and measurement company that offers three-year warranty on all instruments, worldwide

Agilent Assurance Plans

www.Agilent.com/find/AssurancePlans
Five years of protection and no budgetary surprises to ensure your instruments are operating to specifications and you can continually rely on accurate measurements.

www.agilent.com/quality

Agilent Electronic Measurement Group
DEKRA Certified ISO 9001:2008
Quality Management System

Agilent Channel Partners

www.agilent.com/find/channelpartners
Get the best of both worlds: Agilent's measurement expertise and product breadth, combined with channel partner convenience.

WiMAX™ is a trademark of the WiMAX Forum®.

Bluetooth® and the Bluetooth logos are trademarks owned by Bluetooth SIG, Inc, U.S.A. and licensed to Agilent Technologies, Inc.

Agilent Technologies