Keysight Technologies
PXA X-Series Signal Analyzer, Multi-touch N9030B

Configuration Guide

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

KEYSIGHT TECHNOLOGIES

Configure Your Keysight Technologies PXA Signal Analyzer

This step-by-step process will help you configure your new PXA X-Series signal analyzer. Tailor the performance to meet your requirements.

Included in base product

Standard options and accessories come with the PXA base model at no additional charge and do not need to be ordered. They include:

- Spectrum analyzer measurement application
- Quad-core, high-performance processor, 16 GB RAM, removable solid-state drive
- Mechanical attenuator
- 25 MHz analysis bandwidth
- Digital processor with 2 GB capture memory
- Fast sweep capability
- LO/IM nulling
- Low frequency extension
- Noise floor extension
- Precision frequency reference
- Windows Embedded Standard 7
- Real-time link for real-time IQ data streaming up to 40 MHz
- Multi-language user interface
- User guides
- Power cord

Get More Information

For a summary of specifications, refer to the N9030B data sheet (literature number 5992-1317EN).

A full set of specifications is available in the N9030B PXA Signal Analyzer Specification Guide at www.keysight.com/find/pxa_specifications.

Step 1. Select maximum frequency range (required option)

Description	Option number	Additional information
Frequency range, 2 Hz to 3.6 GHz	N9030B-503	
Frequency range, 2 Hz to 8.4 GHz	N9030B-508	
Frequency range, 2 Hz to 13.6 GHz	N9030B-513	
Frequency range, 2 Hz to 26.5 GHz	N9030B-526	
Frequency range, 2 Hz to 44 GHz	N9030B-544	
Frequency range, 2 Hz to 50 GHz	N9030B-550	

Step 2. Add a preamplifier

Description	Option number	Additional information
Preamplifier, 100 kHz to 3.6 GHz	N9030B-P03	Compatible with frequency range options: N9030B-503, N9030B-508, N9030B-513, N9030B-526, N9030B-544, and N9030B-550
Preamplifier, 100 kHz to 8.4 GHz	N9030B-P08	Compatible with frequency range options: N9030B-508, N9030B-513, N9030B-526, N9030B-544, and N9030B-550
Preamplifier, 100 kHz to 13.6 GHz	N9030B-P13	Compatible with frequency range options: N9030B-513, N9030B-526, N9030B-544, and N9030B-550
Preamplifier, 100 kHz to 26.5 GHz	N9030B-P26	Compatible with frequency range options: N9030B-526, N9030B-544, and N9030B-550
Preamplifier, 100 kHz to 44 GHz	N9030B-P44	Compatible with frequency range option: N9030B-544
Preamplifier, 100 kHz to 50 GHz	N9030B-P50	Compatible with frequency range option: N9030B-550

Step 3. Choose an attenuator

Description	Option number	Additional information
Mechanical attenuator	Standard	2 dB steps, 0 to 70 dB; licensed as N9030B-FSA
Electronic attenuator up to 3.6 GHz	N9030B-EA3	Add in addition to the mechanical attenuator; 1 dB steps, 0 to 24 dB

Step 4. Choose analysis bandwidth

Description	Option number	Additional information
25 MHz analysis bandwidth	Standard	Licensed as Option N9030B-B25
40 MHz analysis bandwidth	N9030B-B40	Extends the analysis bandwidth from 25 to 40 MHz (Option MPB required for measurements > 3.6 GHz)
85 MHz analysis bandwidth	N9030B-B85	Extends the analysis bandwidth from 25 to 85 MHz (Option MPB required for measurements > 3.6 GHz)
160 MHz analysis bandwidth	N9030B-B1X	Extends analysis bandwidth from 25 to 160 MHz (Option MPB required for measurements > 3.6 GHz)
255 MHz analysis bandwidth	N9030B-B2X	Extends analysis bandwidth from 25 to 255 MHz (Not compatible with frequency range Option N9030B-503) (Requires Options EP0 and MPB)
510 MHz analysis bandwidth	N9030B-B5X	Extends analysis bandwidth from 25 to 510 MHz (Not compatible with frequency range Option N9030B-503) (Requires Options EP0 and MPB)
Microwave preselector bypass	N9030B-MPB	Bypass the microwave preselector for wider bandwidth IF

Step 5. Choose performance options		
Description	**Option number**	**Additional information**
Digital processor with 2 GB capture memory	Standard	Licensed as N9030B-DP2
Digital processor with 4 GB capture memory	Standard	Standard in instruments with serial number prefix es ≤ MY/SG/US5608 when Option B85, B1X, B2X or B5X is installed. licensed as N9030B-DP4
Fast sweep capability	Standard	Improves sweep speed at swept-tune mode; licensed as N9030B-FS1 and N9030B-FS2
LO/IM nulling	Standard	Minimizes the LO feed-thru and intermodulation distortion; licensed as N9030B-NUL
Noise floor extension	Standard	Improves displayed average noise level (DANL), second-generation algorithm (instrument alignment process); licensed as N9030B-NF2
Precision frequency reference	Standard	Aging rate: ± 1 x 10^{-7}/year; licensed as N9030B-PFR
Enhanced phase noise, DDS LO	N9030B-EP0	Improves phase noise; not compatible with Option B85 or B1X or frequency range Option 503; requires Option MPB or LNP
Low noise path	N9030B-LNP	Improves sensitivity (DANL) in frequency bands above 3.6 GHz
External mixing	N9030B-EXM	Provides external mixing with Keysight and third party mixers; single port[1] for LO out and IF in (SMA female)
Fast power	N9030B-FP2	Accelerates the power measurements such as ACPR; requires Option B40, B85, B1X, B2X, or B5X
APC 3.5 mm connector	N9030B-C35	3.5 mm connector on 26.5 GHz PXA (compatible with Option 526 only)
I/Q baseband inputs, analog	N9030B-BBA	Single-ended/differential, 50 Ω/1 MΩ impedance (compatible with frequency range Options 503, 508, 513, and 526; not compatible with bandwidth Option B5X)
Time domain scan	N9030B-TDS	Improves scan speed for EMC pre-compliance tests; requires N6141C EMC pre-compliance measurement application
Resolution bandwidth extended	N9030B-RBE	Extends the maximum RBW in Zero Span; requires option B85, B1X, B2X, or B5X

Step 6. Add real-time spectrum analysis		
Description	**Option number**	**Additional information**
Real-time analysis up to maximum available BW, basic detection	N9030B-RT1	Includes frequency mask trigger; minimum 17.3 µs signal duration for 100% probability of intercept (POI); requires bandwidth Option B85, B1X, B2X, or B5X which determines the maximum real-time BW
Real-time analysis up to maximum available BW, optimum detection	N9030B-RT2	Includes frequency mask trigger; minimum 3.57 µs signal duration for 100% probability of intercept (POI); requires bandwidth Option B85, B1X, B2X, or B5X which determines the maximum real-time BW
Real-time spectrum recorder and analyzer application	N9030B-RTR	Enables recording, analyzing and playback of spectrum density data over time for detecting and analyzing signal anomalies; requires Option RT1 or RT2
Real-time I/Q data streaming	N9030B-RTS	Stream gap-free 16 bit I/Q data up to 255 MHz bandwidth for offline analysis. High speed LVDS connector allows connection to third-party X-COM Systems data recorder IQC5255B. Requires N9030B-RT1 or N9030B-RT2
Frequency mask trigger, basic detection	N9030B-FT1	Enables frequency mask triggering with N9067C pulse application and 89600 VSA software to detect signals as short as 15 µs duration; included in N9030B-RT1; requires bandwidth options B85, B1X, B2X, or B5X
Frequency mask trigger, optimum detection	N9030B-FT2	Enables frequency mask triggering with N9067C pulse application and 89600 VSA software to detect signals as short as 3.6 µs duration; included in N9030B-RT2; requires bandwidth options B85, B1X, B2X, or B5X
Duplex IF RTSA	N9030B-DUA	Enables control of 2 x 255 MHz DIF for optimized frequency and time domain analysis in RTSA mode; requires Option B5X and RT1 or RT2

Step 7. Add optional features		
Description	**Option number**	**Additional information**
Basic EMI precompliance	N9030B-EMC	Perform EMI precompliance measurements with CISPR 16-1-1 detectors and bandwidths: tune and listen, and measure at marker are also available
Enhanced display package	N9030B-EDP	Includes spectrogram, trace zoom, and zone span
External source control	N9030B-ESC	External source control for Keysight EXG, MXG, and PSG signal generators; supports external mixing; includes 3 BNC cables and 1 crossover LAN cable

1. When used with the Keysight 11970 Series external mixers, an external diplexer is required. Recommended diplexer can be purchased from Keysight as N9029AE13, or from OML Inc. as DPL313B.

Step 8. Add security features		
Description	**Option number**	**Additional information**
Additional removable solid-state drive (SSD)	N9030B-SSD	Provides a fully-imaged, removable SSD in addition to the one installed in instruments
Exclude launch program	N9030B-SF1	Prevents the launching of Windows programs from the instrument application
Prohibit saving results	N9030B-SF2	Prevents instrument application from saving/recall of measurement results or user configurations to/from instrument's data storage

Step 9. Add rear panel output utilities		
Description	**Option number**	**Additional information**
Second IF output	N9030B-CR3	Wideband IF out; center frequency depends on IF path; output on Aux IF connector at rear panel
Arbitrary IF out	N9030B-CRP	IF out 10 to 75 MHz (in 500 kHz steps); output on Aux IF connector at rear panel
Y-axis video out	N9030B-YAV	Screen video (0-1 volt open circuit); log video and linear video
Aux log video out	N9030B-ALV	Fast rise time video out; output on Aux IF connector
Real-time link	Standard	The LVDS connector allows PXA to connect to the X-COM data recorder for data streaming (up to 40 MHz BW) and N5106A PXB baseband generator and channel emulator; licensed as N9030B-RTL

Step 10. Choose measurement application or software and license type

Note: The last two letters of the ordering numbers indicate the license type—FP stands for fixed perpetual, TP for transportable perpetual; it is recommended that you configure each application with the same license type; visit **www.keysight.com/find/X-Series_transportable** for more information about transportable licenses

Description	Fixed license	Transportable license	Additional information
General purpose			
Spectrum analyzer	Standard	Not available	Traditional spectrum analysis plus many new and enhanced functions; power measurements based on industry specifications; licensed as N9060C
Analog demodulation	N9063C-1FP	N9063C-1TP	Licensed as N9063C-2FP or -2TP and N9063C-3FP or -3TP. Adds one-button measurement for AM/FM/PM demodulation with metrics, tune and listen, and AF spectrum; supports audio output (output voltage proportional to frequency deviation). FM Stereo and RDS are included.
Phase noise	N9068C-2FP	N9068C-2TP	Adds one-button measurements for analyzing phase noise in frequency domain (log plot) and time domain (spot frequency), supports external mixing
Noise figure	N9069C-3FP (requires preamplifier)	N9069C-3TP (requires preamplifier)	Licensed as N9069C-1FP or -1TP and N9069C-2FP or -2TP. Adds one-button measurements for noise figure, gain, and related metrics; requires preamplifier to meet specifications; works with Keysight N400xA Series smart noise sources and 346 Series noise sources; supports U7227 USB external preamplifiers Includes the advanced NF measurement features including external LO control over GPIB/LAN/USB, multi-stage converter tests with system LO, and manual mode to simulate the legacy NF meter
Vector modulation analysis	N9054C-1FP	N9054C-1TP	One-button vector modulation analysis measurements
Pulse	N9067C-1FP	N9067C-1TP	Characterize pulsed RF signals in the time domain, with phase, frequency and statistical analysis of large pulse sets.
	N9067C-2FP	N9067C-2TP	Enables fixed and variable length gated acquisition for capturing pulses of varying pulse width and PRI; requires 4 GB capture memory Option DP4
EMI	N6141C-2FP	N6141C-2TP	Pre-compliance conducted and radiated emission measurements
Remote language analyzers	N9061C-1FP	Not available	Add capability to emulate HP/Agilent 8566/68 and 856xE/EC spectrum analyzers; licensed as N9061C-1FP and N9061C-2FP
SCPI command language compatibility	N9062C-2FP	Not available	Adds capability to emulate the R&S FSP/FSU/FSE spectrum analyzers or ESU EMI receiver.

Step 10. Choose measurement application or software and license type, continued

Description	Fixed license	Transportable license	Additional information
Cellular communications			
LTE/LTE-Advanced FDD	N9080C-1FP	N9080C-1TP	Standard-based, one-button LTE-FDD measurements
	N9080C-2FP	N9080C-2TP	Standard-based, one-button LTE-Advanced FDD measurements; requires N9080C-1FP/1TP
NB-IoT/eMTC	N9080C-3FP	N9080C-3TP	Standard-based, one-button NB-IoT/eMTC measurements
LTE/LTE-Advanced TDD	N9082C-1FP	N9082C-1TP	Standard-based, one-button LTE-TDD measurements
	N9082C-2FP	N9082C-2TP	Standard-based, one-button LTE-Advanced TDD measurements; requires N9082C-1FP/1TP
GSM/EDGE/EVO	N9071C-1FP	N9071C-1TP	Licensed as N9071C-2FP or -2TP and N9071C-3FP or -3TP. Standard-based, one-button GSM/EDGE/EDGE Evolution measurements
W-CDMA/HSPA+	N9073C-1FP	N9073C-1TP	Standard-based, one-button W-CDMA measurements; supports analog baseband analysis with Option BBA (BBIQ inputs)
	N9073C-2FP	N9073C-2TP	Adds HSPA measurements; requires 1FP/1TP
	N9073C-3FP	N9073C-3TP	Adds HSPA+ measurements; requires 1FP/1TP, 2FP/2TP
Wireless connectivity			
WLAN 802.11a/b/g/j/p/n/ac/af/ah/ax	N9077C-1FP	N9077C-1TP	Licensed as N9077C-2FP or -2TP and N9077C-3FP or -3TP; standard-based, one-button 802.11a/b/g/j/p/n measurement
	N9077C-4FP	N9077C-4TP	Adds 802.11ac; requires N9077C-1FP/1TP (licensed as N9077C-2FP/2TP and 3FP/3TP)
	N9077C-6FP	N9077C-6TP	Standard-based, one-button 802.11ah measurement
	N9077C-7FP	N9077C-7TP	Standard-based, one-button 802.11af measurement
	N9077C-8FP	N9077C-8TP	Standard-based, one-button 802.11ax single user PPDU measurement
	N9077C-MFP	N9077C-MTP	Standard-based, one-button 802.11ax multi-user PPDU measurement
Bluetooth®	N9081C-2FP	N9081C-2TP	Standard-based, one-button *Bluetooth* version 2.1+ EDR and Low Energy (BR/EDR/LE 4.0/4.2) measurements
	N9081C-3FP	N9081C-3TP	Standard-based, one-button *Bluetooth* version 5.0 measurement; requires N9081C-2FP/2TP
Short range communications	N9084C-1FP	N9084C-1TP	Standard-based, one-button 802.15.4 for ZigBee measurement
	N9084C-2FP	N9084C-2TP	Standard-based, one-button G.9959 for Z-Wave measurement
Other			
MATLAB software	N6171A-M01	Not available	Instrument Control Toolbox
	N6171A-M02	Not available	Instrument Control Toolbox Communications System Toolbox DSP System Toolbox Signal Processing Toolbox
	N6171A-M03	Not available	Instrument Control Toolbox Communications System Toolbox DSP System Toolbox Signal Processing Toolbox RF Toolbox
89600 vector signal analysis (VSA) software	Not available	89601B (transportable license is standard)	Industry-leading measurement software for evaluating and troubleshooting signals in R&D; PC-based software supporting more than 30 measurement platforms, plus more than 75 signal standards and modulation types including MIMO analysis; www.keysight.com/find/89600_VSA

Step 11. Choose accessories

Description	Option number	Additional information
User guides	Standard	US – English localization All user documentation is included in the embedded help system inside the PXA and on a DVD that is shipped with the instrument User documentation can be downloaded from: www.keysight.com/find/pxa_manuals
Power cord	Standard	Depends on the region of use
Adapter, 2.4 mm (f) to 2.4 mm (f)	Standard	Only for PXA with Option 544 or 550
Adapter, 2.4 mm (f) to 2.92 mm (f)	Standard	Only for PXA with Option 544 or 550
Rack mount	1CM113A	Adds rack mount flanges to the PXA
Front handles	1CN103A	Adds front handles to the PXA
Rack mount with handles	1CP105A	Adds rack mount flanges and handles to the PXA
Rack slide	1CR014A	Adds a non-tilting rack slide to the PXA
USB DVD-ROM/CD-R/RW drive	1DVR001A	Enhances the usability of the Windows operating system
Mouse, USB interface	1MSE001A	Enhances usability of the 89600 VSA software
US 65-key USB keyboard	1KB001A	Smaller keyboard; enhances usability of the 89600 VSA software
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	MLP001A	50 Ω type-N male to 75 Ω BNC female adapter Frequency range: 9 MHz to 2 GHz Input/output return loss: 20 and 11 dB Insertion loss: 5.7 dB
Front panel cover	N9020B-CVR	Protective cover for front panel
V-band waveguide harmonic mixer, 50 to 75 GHz	M1970V-001	Requires Option EXM; USB mixer with smart features
Extended V-band waveguide harmonic mixer, 50 to 80 GHz	M1970V-002	Requires Option EXM; USB mixer with smart features
E-band waveguide harmonic mixer, 60 to 90 GHz	M1970E	Requires Option EXM; USB mixer with smart features
W-band waveguide harmonic mixer, 75 to 110 GHz	M1970W	Requires Option EXM; USB mixer with smart features
E-band waveguide harmonic mixer, 60 to 90 GHz	M1971E-001	Requires Option EXM; USB mixer with smart features and 3 signal paths
Extended E-band waveguide harmonic mixer, 55 to 90 GHz	M1971E-003	Requires Option EXM; USB mixer with smart features and 3 signal paths
V-band waveguide harmonic mixer, 55 to 75 GHz	M1971V	Requires Option EXM; USB mixer with smart features and 3 signal paths
W-band waveguide harmonic mixer, 75 to 110 GHz	M1971W	Requires Option EXM; USB mixer with smart features and 3 signal paths
26 to 40 GHz waveguide harmonic mixer	11970A	Requires Option EXM and N9029AE13 diplexer
33 to 50 GHz waveguide harmonic mixer	11970Q	Requires Option EXM and N9029AE13 diplexer
40 to 60 GHz waveguide harmonic mixer	11970U	Requires Option EXM and N9029AE13 diplexer
50 to 75 GHz waveguide harmonic mixer	11970V	Requires Option EXM and N9029AE13 diplexer
75 to 110 GHz waveguide harmonic mixer	11970W	Requires Option EXM and N9029AE13 diplexer
LO/IF diplexer	N9029AE13	Ordering convenience; required for 11970 Series external mixers
90 to 140 GHz OML harmonic mixer	N9029AE08	Ordering convenience; requires Option EXM
110 to 170 GHz OML harmonic mixer	N9029AE06	Ordering convenience; requires Option EXM

Step 11. Choose accessories, continued		
Description	**Option number**	**Additional information**
140 to 220 GHz OML harmonic mixer	N9029AE05	Ordering convenience; requires Option EXM
220 to 325 GHz OML harmonic mixer	N9029AE03	Ordering convenience; requires Option EXM
50 to 75 GHz frequency extension module	N9029AV15	VDI signal analyzer frequency extension module; requires Option EXM
60 to 90 GHz frequency extension module	N9029AV12	VDI signal analyzer frequency extension module; requires Option EXM
75 to 110 GHz frequency extension module	N9029AV10	VDI signal analyzer frequency extension module; requires Option EXM
90 to 140 GHz frequency extension module	N9029AV08	VDI signal analyzer frequency extension module; requires Option EXM
110 to 170 GHz frequency extension module	N9029AV06	VDI signal analyzer frequency extension module; requires Option EXM
140 to 220 GHz frequency extension module	N9029AV05	VDI signal analyzer frequency extension module; requires Option EXM
220 to 330 GHz frequency extension module	N9029AV03	VDI signal analyzer frequency extension module; requires Option EXM
325 to 500 GHz frequency extension module	N9029AV02	VDI signal analyzer frequency extension module; requires Option EXM
550 to 750 GHz frequency extension module	N9029AV1B	VDI signal analyzer frequency extension module; requires Option EXM
750 to 1100 GHz frequency extension module	N9029AV01	VDI signal analyzer frequency extension module; requires Option EXM
Power supply for VDI module	N5262VDI-175	Required for the N9029AVxx VDI module
USB external preamplifier, 10 MHz to 4 GHz	U7227A	
USB external preamplifier, 0.1 to 26.5 GHz	U7227C	
USB external preamplifier, 2 to 50 GHz	U7227F	

Step 12. Add calibration, technical training, support, and upgrade services		
Description	**Option number**	**Additional information**
Commercial calibration certificate with test data	N9030B-UK6	Calibration certificate only available at time of instrument purchase; only provides measurement results
Keysight Calibration + Uncertainties + Guardbanding (accredited cal)	N9030B-AMG	Provides ISO 17025A accredited calibration from factory
ANSI Z540-1-1994 Calibration	N9030B-A6J	Provides ANSI Z540 compliant calibration from factory
Calibration Assurance Plan, Return-to-Keysight, 3 years	R-50C-011-3	Keysight 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
Calibration Assurance Plan, Return-to-Keysight, 5 years	R-50C-011-5	
Calibration Assurance Plan, Return-to-Keysight, 7 years	R-50C-011-7	
Calibration Assurance Plan, Return-to-Keysight, 10 years	R-50C-011-10	

For more information on accessories go to: www.keysight.com/find/accessories
Other calibration options may be available; for more information on calibration go to: www.keysight.com/find/calibration
For more information on training and application support services go to: www.keysight.com/find/training

Instrument Upgrades

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

1. Place an order for the upgrade with Keysight and request to receive the option upgrade entitlement certificate and a one-time software upgrade license through email
2. Redeem the certificate through the Web by following the instructions on the certificate
3. Install the license file and latest software in the PXA
4. Begin using the new capability[1, 2]

Installation and testing information is available at:
www.keysight.com/find/pxa_upgrades

Upgrades for analysis bandwidth depend on the vintage of the instrument and the options already installed. More than one option may be required to achieve desired wider analysis bandwidth. Use our web-based calculator to find the upgrade options you may need: www.keysight.com/find/BW-selector

You can upgrade!

Options can be added after your initial purchase.

UP GRADE

All of our X-Series application options are license-key upgradeable.

Description	Upgrade number	Requirements (PXA must already include the following)	Additional information
Increase frequency from 3.6 to 8.4 GHz	N9030BU-F01	503	
Increase frequency from 3.6 to 13.6 GHz	N9030BU-F02	503	
Increase frequency from 3.6 to 26.5 GHz	N9030BU-F03	503	
Increase frequency from 3.6 to 44 GHz	N9030BU-F04	503	Not compatible with Option BBA, B2X or B5X
Increase frequency from 3.6 to 50 GHz	N9030BU-F05	503	Not compatible with Option BBA, B2X or B5X
Increase frequency from 8.4 to 13.6 GHz	N9030BU-F06	508	
Increase frequency from 8.4 to 26.5 GHz	N9030BU-F07	508	
Increase frequency from 8.4 to 44 GHz	N9030BU-F08	508	Not compatible with Option BBA, B2X or B5X
Increase frequency from 8.4 to 50 GHz	N9030BU-F09	508	Not compatible with Option BBA, B2X or B5X
Increase frequency from 13.6 to 26.5 GHz	N9030BU-F10	513	
Increase frequency from 13.6 to 44 GHz	N9030BU-F11	513	Not compatible with Option BBA, B2X or B5X
Increase frequency from 13.6 to 50 GHz	N9030BU-F12	513	Not compatible with Option BBA, B2X or B5X
Increase frequency from 26.5 to 44 GHz	N9030BU-F13	526	Not compatible with Option BBA, B2X or B5X
Increase frequency from 26.5 to 50 GHz	N9030BU-F14	526	Not compatible with Option BBA, B2X or B5X
Increase frequency from 44 to 50 GHz	N9030BU-F15	544	Includes 50 GHz preamp

1. At the time of manufacture, the hardware related to many of these options was fully adjusted and the option performance was verified to be within its warranted specifications. Within one year of the initial calibration date of the analyzer, this option is fully calibrated with no further adjustment or verification testing.
2. If this analyzer has been adjusted as part of a repair or calibration during its first year, or if the analyzer is more than one year old, additional adjustment and performance verification tests are required to ensure that some newly installed options are functioning properly. However, the completion of these tests does not guarantee that the analyzer meets all warranted specifications.

Description	Upgrade number	Requirements (PXA must already include the following)	Additional information
Increase analysis bandwidth from 25 to 40 MHz	N9030BU-B40	MPB	Also enables 40 MHz per channel baseband bandwidth if Option BBA is installed
Increase analysis bandwidth from 40 to 160 MHz	N9030BU-BU3	MPB, B40	Includes additional hardware; not compatible with EP0
Increase analysis bandwidth from 25 to 85 MHz	N9030BU-B85	MPB	Includes additional hardware; not compatible with EP0
Increase analysis bandwidth from 25 to 160 MHz	N9030BU-B1X	MPB	Includes additional hardware; not compatible with EP0
Increase analysis bandwidth from 85 to 160 MHz	N9030BU-BU7	MPB, B85	
Increase analysis bandwidth from 25 or 40 MHz to 255 MHz (for RF and microwave PXA)	N9030BU-B2X	MPB, 508, 513, or 526	Includes EP0 and additional hardware; not compatible with Option 503, 544, or 550
Increase analysis bandwidth from 25 or 40 MHz to 255 MHz (for RF and microwave PXA)	N9030BU-BUQ	MPB, EP0, 508, 513, or 526	Includes additional hardware; not compatible with Option 503, 544, or 550
Increase analysis bandwidth from 85 or 160 MHz to 255 MHz (for RF and microwave PXA)	N9030BU-BU8	MPB, B85 or B1X, and 508, 513, or 526	Includes EP0 and additional hardware which replaces B85 or B1X; not compatible with Option 503, 544, or 550
Increase analysis bandwidth from 25 or 40 MHz to 510 MHz (for RF and microwave PXA)	N9030BU-B5X	MPB, 508, 513, or 526	Includes EP0 and additional hardware; not compatible with Option BBA or Option 503, 544, or 550
Increase analysis bandwidth from 25 or 40 MHz to 510 MHz (for RF and microwave PXA)	N9030BU-BUR	MPB, EP0, 508, 513, or 526	Includes additional hardware; not compatible with Option BBA or Option 503, 544, or 550
Increase analysis bandwidth from 85 or 160 MHz to 510 MHz (for RF and microwave PXA)	N9030BU-BU9	MPB, B85 or B1X, and 508, 513, or 526	Includes EP0 and additional hardware which replaces B85 or B1X; not compatible with Option BBA or Option 503, 544, or 550
Increase analysis bandwidth from 255 to 510 MHz (for RF and microwave PXA)	N9030BU-BUF	MPB, EP0, B2X, 508, 513, or 526	Includes additional hardware; not compatible with Option BBA, or Option 503, 544, or 550
Increase analysis bandwidth from 25 or 40 MHz to 510 MHz (for millimeter-wave PXA)	N9030BU-BUG	MPB, B25 or B40 and 544 or 550	Includes EP0 and additional hardware; not compatible with Option 503, 508, 513, 526
Increase analysis bandwidth from 85 or 160 MHz to 510 MHz (for millimeter-wavee PXA)	N9030BU-BUJ	MPB, B85 or B1X, and 544 or 550	Includes EP0 and additional hardware which replaces B85 or B1X; not compatible with Option 503, 508, 513, 526
Digital processor with 4 GB capture memory	N9030BU-DP4	B85, B1X, or B2X	Includes hardware and license key for instruments with serial number prefixes < MY/SG/US5608
Real-time analysis up to maximum available BW, basic detection	N9030BU-RT1	B85, B1X, B2X or B5X (Analysis BW option determines maximum real-time BW)	Includes frequency mask trigger; minimum 17.3 µs signal duration for 100% POI.
Real-time analysis up to maximum available BW, optimum detection	N9030BU-RT2	B85, B1X, B2X or B5X (Analysis BW option determines maximum real-time BW)	Includes frequency mask trigger; minimum 3.57 µs signal duration for 100% POI.
Duplex IF RTSA	N9030BU-DUA	B5X and RT1 or RT2	
Frequency mask trigger, basic detection	N9030BU-FT1	B85, B1X, B2X, or B5X	
Frequency mask trigger, optimum detection	N9030BU-FT2	B85, B1X, B2X, or B5X	
Real-time I/Q data streaming	N9030BU-RTS	RT1 or RT2	Includes additional hardware
Enhanced phase noise, DDS LO (for RF and microwave PXA)	N9030BU-EP0	MPB or LNP, 508, 513, or 526	Includes additional hardware; not compatible with frequency range Options 503, 544, or 550 or bandwidth Options B85 or B1X
Add time domain scan capability	N9030BU-TDS	N6141C	For EMC pre-compliance tests only
Add resolution bandwidth extended	N9030BU-RBE	B85, B1X, B2X or B5X	

Description	Upgrade number	Requirements (PXA must already include the following)	Additional information
Add an electronic attenuator, 3.6 GHz	N9030BU-EA3	None	
Add preamplifier, 3.6 GHz	N9030BU-P03	550, 544, 526, 513, 508, or 503	
Add preamplifier, 8.4 GHz	N9030BU-P08	550, 544, 526, 513, or 508	
Add preamplifier, 13.6 GHz	N9030BU-P13	550, 544, 526, or 513	
Add preamplifier, 26.5 GHz	N9030BU-P26	550, 544, or 526	
Add preamplifier, 44 GHz	N9030BU-P44	544	Not compatible with Option 550
Add preamplifier, 50 GHz	N9030BU-P50	550	
Add APC 3.5 mm connector	N9030BU-C35	526	Includes additional hardware; not compatible with Option 503, 508, 513, 544 or 550
Add I/Q baseband inputs, analog	N9030BU-BBA	526, 513, 508, or 503	Includes additional hardware; not compatible with Option 544, 550 or B5X
Add removable solid-state drive (SSD)	N9030BU-SSD	None	Provides additional removable solid-state drive
Add external mixing	N9030BU-EXM	None	Includes additional hardware
Add second IF output	N9030BU-CR3	None	Provides wideband IF out, output center frequency depends on IF path
Add microwave preselector bypass	N9030BU-MPB	LNP	
Add low noise path	N9030BU-LNP	MPB	
Add preselector bypass and low noise path on uW instruments	N9030BU-HL1	526, 513, or 508	Includes additional hardware; installs both Options MPB and LNP when neither are previously installed; for instruments with frequency range ≤ 26.5 GHz
Add preselector bypass and low noise path on mmW instruments	N9030BU-HL2	544 or 550	Includes additional hardware; installs both Options MPB and LNP when neither are previously installed; for instruments with frequency range ≥ 44 GHz
Add Y-axis video output	N9030BU-YAV	None	
Arbitrary IF output	N9030BU-CRP	None	Provides user-programmable IF out (10 to 75 MHz, at 500 kHz step)
Add auxiliary log video out	N9030BU-ALV	None	
Add fast power	N9030BU-FP2	B40, B85, B1X, B2X, or B5X	Accelerates power measurements such as ACPR
Add precompliance EMI features	N9030BU-EMC	None	Compliant with CISPR 16-1-1 2007 detectors and BWs
Add enhanced display package	N9030BU-EDP	None	
Add external source control	N9030BU-ESC	None	Adds feature to control the Keysight EXG, MXG, and PSG signal generators for scalar stimulus/response measurements. Ships with 3 BNC cables and 1 cross-over LAN cable.
Add security features, exclude launch program	N9030BU-SF1	None	Prevents the launching of Windows programs from the instrument application
Add security features, prohibit saving results	N9030BU-SF2	None	Prevents instrument application from saving /recall of measurement results or user configurations to/from instrument's data storage
USB DVD-ROM/CD-R/RW drive	1DVR001A	None	Includes additional hardware
65-key USB keyboard	1KBD001A	None	Small keyboard; includes additional hardware
Rack mount and handle kit	1CP105A	None	Includes additional hardware
Rack slide kit	1CR014A	None	Includes additional hardware
Front handle kit	1CN103A	None	Includes additional hardware
Rack mount kit	1CM113A	None	Rack mount flanges; not compatible with Options 1CP, 1CN; includes additional hardware
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	MLP001A	None	50 Ω type-N male to 75 Ω BNC female adapter; frequency range: 9 MHz to 2 GHz; input/output return loss: 20 and 11 dB; insertion loss: 5.7 dB; includes additional hardware

Description	Upgrade number	Requirements (PXA must already include the following)	Additional information
Korean version of Getting Started Guide	N9030BU-AB1	None	
Chinese version of Getting Started Guide	N9030BU-AB2	None	
Spanish version of Getting Started Guide	N9030BU-ABE	None	
French version of Getting Started Guide	N9030BU-ABF	None	
Japanese version of Getting Started Guide	N9030BU-ABJ	None	
Russian version of Getting Started Guide	N9030BU-AKT	None	

Related Literature

Keysight PXA signal analyzers

Publication title	Publication number
Brochure	5992-1316EN
Data Sheet	5992-1317EN
X-Series Measurement Applications Brochure	5990-8019EN

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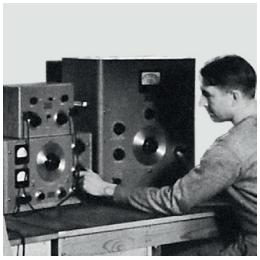

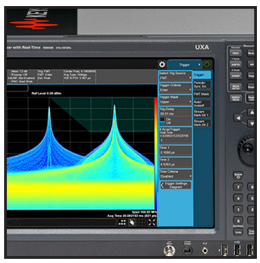

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