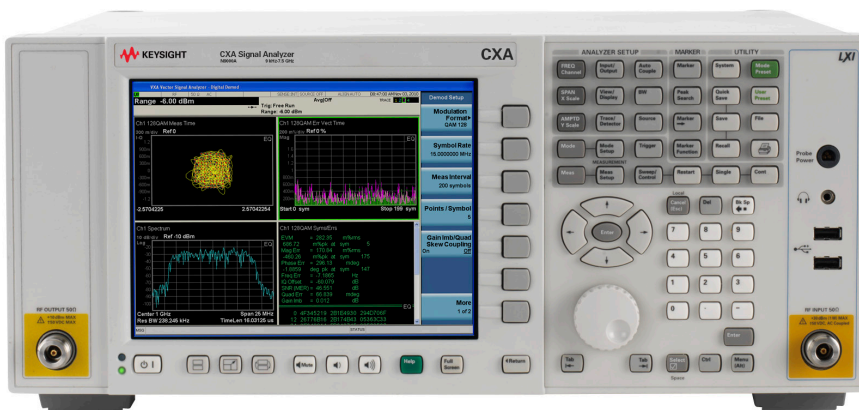


CXA X-Series Signal Analyzer N9000A



Configure Your Keysight CXA Signal Analyzer

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

This step-by-step process will help you custom-configure your CXA signal analyzer. Capabilities that are listed as standard come with the instrument at no additional charge. Tailor the performance, exterior, and service packages to meet your requirements. Ordering optional capabilities at time of purchase provides the lowest overall cost.

For detailed specifications, refer to the CXA Signal Analyzer Specification Guide (N9000-90016). For a summary of specifications, refer to the CXA Signal Analyzer Data Sheet (5990-4327EN).

Step 1. Select maximum frequency range (required option; frequency range not upgradeable)		
Description	Option number	Additional information
Frequency range, 9 kHz to 3.0 GHz	N9000A-503	
Frequency range, 9 kHz to 7.5 GHz	N9000A-507	
Frequency range, 9 kHz to 13.6 GHz	N9000A-513	
Frequency range, 9 kHz to 26.5 GHz	N9000A-526	
Step 2. Add a preamplifier		
Description	Option number	Additional information: Preamplifiers improve the noise floor for low-level signal detection; +20 dB: 100 kHz to 26.5 GHz
Preamplifier, 100 kHz to 3.0 GHz	N9000A-P03	Compatible with N9000A-503, N9000A-507, N9000A-513, and N9000A-526
Preamplifier, 100 kHz to 7.5 GHz	N9000A-P07	Compatible with N9000A-507, N9000A-513, and N9000A-526
Preamplifier, 100 kHz to 13.6 GHz	N9000A-P13	Compatible with N9000A-513 and N9000A-526
Preamplifier, 100 kHz to 26.5 GHz	N9000A-P26	Compatible with N9000A-526
Step 3. Choose frequency reference		
Description	Option number	Additional information
Frequency reference	Standard	Aging rate: $\pm 1 \times 10^{-6}$ /year
Precision frequency reference	N9000A-PFR	Reduces frequency drift for more accurate measurements; aging rate: $\pm 1 \times 10^{-7}$ /year
Step 4. Choose an attenuator		
Description	Option number	Additional information
Mechanical attenuator	Standard	10 dB steps, 0 to 50 dB, for N9000A-503 and N9000A-507 10 dB steps, 0 to 70 dB, for N9000A-513 and N9000A-526
Fine resolution step attenuator	N9000A-FSA	Allows 2 dB steps for the full range of the attenuator
Step 5. 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	N9000A-B25	Extends the analysis (demod) bandwidth from 10 to 25 MHz
Step 6. Add a tracking generator		
Description	Option number	Additional information
Tracking generator, 9 kHz to 3.0 GHz	N9000A-T03	Compatible with N9000A-503, N9000A-507 only
Tracking generator, 9 kHz to 6.0 GHz	N9000A-T06	Compatible with N9000A-507 only

Configure Your Keysight CXA Signal Analyzer (Continued)

Step 7. Choose performance

Description	Option number	Additional information
Enhanced phase noise	Standard ¹	Installed as N9000A-EP4

Step 8. Add instrument features

Note: Keysight offers 4 license types for the measurement applications and instrument features, in 2 license terms: Perpetual or Time-based.

License types:

- **Node-locked:** Allows you to use the license on one instrument/computer at a time
- **Transportable:** Allows you to use the license on one instrument/computer at a time. This license may be transferred to another instrument/computer using Keysight's online tool
- **Floating:** Allows you to access the license on the networked instruments/computers from a server, one at a time. For concurrent access, multiple licenses may be purchased
- **USB Portable:** Allows you to access the license from one instrument/computer to another by end-user only with certified USB dongle, purchased separately

License terms:

- **Perpetual:** License can be used in perpetuity. For perpetual license holders, a separate support contract is required to access Keysight technical support and software updates
- **Time-based:** License is time limited to a defined period, such as 12-months. A valid support contract is included in the pricing for time-based licenses.

For detailed information, we strongly recommend you visit the X-Series measurement application collection page: www.keysight.com/find/xseriesapps

Description	Model number	Additional information
Enhanced display package	N90EMEDPA	Includes spectrogram, trace zoom, and zone span
Basic precompliance EMI	N90EMEMCA	Perform EMI precompliance measurements with CISPR 16-1-1 detectors and bandwidths; tune and listen, and measure at marker are also available
External source control	N90EMESCA	External source control for Keysight Technologies, Inc. EXG and MXG signal generators; compatible with N9000A-503 and N9000A-507 only

Step 9. Choose operating system

Description	Option number	Additional information
Windows Embedded Standard 7	Standard	Installed as N9000A-W7X

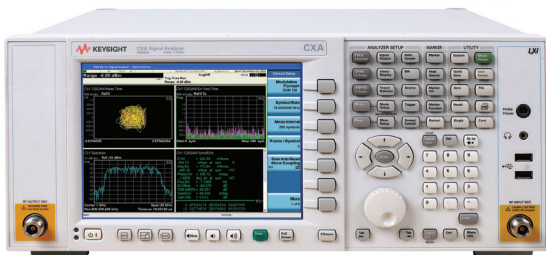
Step 10. Add security features

Description	Option number	Additional information
Additional, removable solid-state drive	N9000A-SSD	Provides a fully-imaged, removable solid-state drive in addition to the one installed in the instrument, with Windows 7 operating system
Exclude launch program	N9000A-SF1	Prevents the launching of Windows programs from the instrument application
Prohibit saving results	N9000A-SF2	Prevents the saving/recall of measurement results or user configurations to/from instrument's data storage

Step 11. Add rear panel output utilities

Description	Option number	Additional information
Second IF output	N9000A-CR3	Wideband IF out; output on Aux IF connector at rear panel; compatible with N9000A-503 and N9000A-507 only

1. RF CXA (option 503 or 507) with serial number prefix break of MY/SG/US5423 (shipped after June 2014) are installed with the N9000A-EP4 for the enhanced phase noise performance. All microwave CXA (option 513 or 526) are installed with the N9000A-EP4. The N9000A-EP4 is not upgradable.



Configure Your Keysight CXA Signal Analyzer (Continued)

Step 12. Choose measurement application or software

Note: Keysight offers 4 license types for the measurement applications and instrument features, in 2 license terms: Perpetual or Time-based.

License types:

- **Node-locked:** Allows you to use the license on one instrument/computer at a time
- **Transportable:** Allows you to use the license on one instrument/computer at a time. This license may be transferred to another instrument/computer using Keysight's online tool
- **Floating:** Allows you to access the license on the networked instruments/computers from a server, one at a time. For concurrent access, multiple licenses may be purchased
- **USB Portable:** Allows you to access the license from one instrument/computer to another by end-user only with certified USB dongle, purchased separately

License terms:

- **Perpetual:** License can be used in perpetuity. For perpetual license holders, a separate support contract is required to access Keysight technical support and software updates
- **Time-based:** License is time limited to a defined period, such as 12-months. A valid support contract is included in the pricing for time-based licenses.

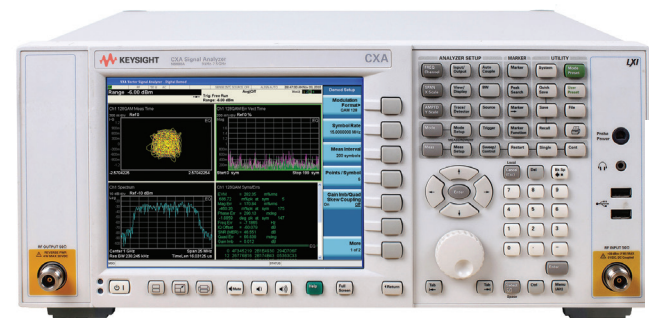
For detailed information, we strongly recommend you visit the X-Series measurement application collection page: www.keysight.com/find/xseriesapps

Description	Model number	Additional information
General purpose		
Spectrum analyzer	Standard	Traditional spectrum analysis plus many new and enhanced functions; power measurements based on industry specifications; licensed as N9060EM1D
Analog demodulation	N9063EM0D	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	N9068EM0D	Adds one-button measurements for analyzing phase noise in frequency domain (log plot) and time domain (spot frequency), supports external mixing
Noise figure	N9069EM0D (requires preamplifier)	Adds one-button measurements for noise figure, gain, and related metrics; requires preamplifier to meet specifications; works with Keysight U1831C USB noise source, 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
VXA Vector Signal Analysis	N9064EM0D	Vector signal analysis; high-resolution, FFT-based spectrum and time-domain measurements, time gating, AM/FM/PM demodulation, statistical measurements; flexible digital modulation analysis; general purpose digital modulation for 2-16FSK, 2-8PSK, and 16-1024QAM, as well as more than 15 additional formats
EMI	N6141EM0D	Performs pre-compliance conducted and radiated emission measurements
SCPI command language compatibility	N9062EM0D	Adds capability to emulate the R&S FSP/FSU/FSE/FSL/FSV spectrum analyzers or ESU EMI receiver
MATLAB software	N6171A	
89600 vector signal analysis (VSA) software	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
Cellular communications		
GSM/EDGE/Evo	N9071EM0D	Standard-based, one-button GSM/EDGE/EDGE Evolution measurements
cdma2000	N9072EM0D	Standard-based, one-button cdma2000 and cdmaOne measurements
W-CDMA/HSPA+	N9073EM0D	Standard-based, one-button W-CDMA, HSPA and HSPA+ measurements
1xEV-DO	N9076EM0D	Standard-based, one-button 1xEV-DO Rel 0, Rev A, and Rev B measurements
TD-SCDMA/HSPA	N9079EM0D	Standard-based, one-button TD-SCDMA/HSPA/8PSK measurements
LTE/LTE-Advanced FDD	N9080EM0D	Standard-based, one-button LTE/LTE-Advanced FDD measurements
LTE/LTE-Advanced TDD	N9082EM0D	Standard-based, one-button LTE/LTE-Advanced TDD measurements
Multi-Standard Radio (MSR)	N9083EM0D	Standard-based, one-button MSR measurements on any combination of LTE-FDD, LTE-TDD, W-CDMA/HSPA/HSPA+, GSM/EDGE/EDGE Evo, cdma2000, 1xEV-DO and TD-SCDMA signals

Configure Your Keysight CXA Signal Analyzer (Continued)

Wireless connectivity		
Mobile WiMAX™	N9075EM0D	Standard-based, one-button Mobile WiMAX measurements
WLAN 802.11a/b/g/j/p/n/af/ah	N9077EM0D	Standard-based, one-button 802.11a/b/g/j/p/n/af/ah measurement
Bluetooth®	N9081EM0D	Standard-based, one-button Bluetooth (BR/EDR, Low Energy 4.0/4.2 and Bluetooth 5) measurements
Digital video		
Digital Cable TV	N6152EM0D	Standard-based, one-button DVB-C (J.83 Annex A/C) and J.83 Annex B measurements
DVB-T/H/T2/T2-Lite	N6153EM0D	Standard-based, one-button DVB-T/H, DVB-T2/T2-Lite measurements
ISDB-T/Tmm	N6155EM0D	Standard-based, one-button ISDB-T, ISDB-T _B , ISDB-T _{SB} , and ISDB-Tmm measurements
DTMB(CTTB)	N6156EM0D	Standard-based, one-button DTMB (CTTB) measurements

Step 13. Choose physical 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; a front panel protective cover is included
Portable configuration	N9000A-PRC	Provides a convenient, pivoting carrying handle as well as rubber protective corners and end guards; this configuration is intended for applications requiring more rugged packaging, such as in the field



CXA bench top configuration



Portable configuration includes pivoting carrying handle and protective corner rubber guards (front protective cover comes standard) – N9000A-PRC

Configure Your Keysight CXA Signal Analyzer (Continued)

Step 14. Choose accessories		
Description	Option number	Additional information
Mouse, USB interface	Standard	Every CXA is shipped with a USB mouse which enhances the usability of the Windows 7 operating system
User guide	Standard	<ul style="list-style-type: none"> – US – English localization – All user documentation is included in the CXA's embedded, context-sensitive help system and on a CD that is shipped with the instrument – User documentation can be downloaded from: www.keysight.com/find/cxa_manuals
Front-panel protective cover	Standard	
Power cord	Standard	Dependent upon region of use
Rack mount	N9000A-1CM	Adds rack mount flanges to the CXA
Front handles	N9000A-1CN	Adds front handles to the CXA
Rack mount with handles	N9000A-1CP	Adds rack mount flanges and handles to the CXA
Rack slide	N9000A-1CR	Adds a non-tilting rack slide to the CXA
Accessory pouch	N9000A-BAG	Easily store and carry the N9000A-KB2 keyboard and USB mouse in this attachable pouch
USB DVD-ROM/CD-R/RW drive	N9000A-DVR	Enhances the usability of the Windows XP Professional operating system
Hard transit case	N9000A-HTC	Ultra-durable, wheeled carrying case offers maximum protection and portability
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	N9000A-MLP	<ul style="list-style-type: 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
Step 15. Choose localized Getting Started guides		
Description	Option number	
Getting started guide CXA Korean localization	N9000A-AB1	
Getting started guide CXA Chinese localization	N9000A-AB2	
Getting started guide CXA German localization	N9000A-ABD	
Getting started guide CXA French localization	N9000A-ABF	
Getting started guide CXA Japanese localization	N9000A-ABJ	
Getting started guide CXA Russian localization	N9000A-AKT	

For more information on accessories go to: www.keysight.com/find/MTA

Configure Your Keysight CXA Signal Analyzer (Continued)

Step 16. Add calibration, technical training, support, and upgrade services		
Description	Option number	Additional information
Commercial calibration certificate with test data	N9000A-UK6	Calibration certificate only available at time of instrument purchase; only provides measurement results
Keysight Cal + uncertainties + guardbanding (accredited cal)	N9000A-AMG	Provides ISO 17025A accredited calibration from factory
ANSI Z540-1-1994 calibration	N9000A-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
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.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 CXA
4. Begin using the new capability ^{1,2}

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

Description	Upgrade number	Requirements CXA must already include the following)	Additional information
Increase analysis bandwidth from 10 to 25 MHz	N9000AK-B25	None	
Add preamplifier, 3 GHz	N9000AK-P03	None	
Add preamplifier, 7.5 GHz	N9000AK-P07	507, 513 or 526	Not compatible with Option 503
Add preamplifier, 13.6 GHz	N9000AK-P13	513 or 526	Not compatible with Option 503 or 507
Add preamplifier, 26.5 GHz	N9000AK-P26	526	Not compatible with Option 503, 507, or 513
Add fine resolution step attenuator	N9000AK-FSA	None	
Upgrade to the precision frequency reference	N9000AK-PFR	None	For instruments with serial number greater than MY/SG/US 51080000 only
Upgrade to the precision frequency reference	N9000AK-HL5	None	Requires hardware and license key; for instruments with serial number less than MY/SG/US 51080000 only
Add tracking generator, 3 GHz	N9000AK-T03	None	Requires hardware and license key; not compatible with Options 513 or 526
Add tracking generator, 6 GHz	N9000AK-T06	None	Requires hardware and license key; not compatible with Options 503, 513, or 526
Add basic EMI precompliance features	N9000AK-EMC	None	Also orderable at N90EMEMCA; Requires F/W revision A.21.04 onward
Add external source control	N9000AK-ESC	None	Adds feature to control the Keysight EXG and MXG (N5171B/N5181B/N5181A/N5182A) for scalar stimulus/response measurements; not compatible with Options 513 or 526. Also orderable at N90EMESCA; Requires F/W revision A.21.04 onward
Add second IF output	N9000AK-CR3	None	Requires hardware and license key; not compatible with Options 513 or 526
Add enhanced display package	N9000AK-EDP	None	Also orderable at N90EMEDPA; Requires F/W revision A.21.04 onward
Add security features, exclude launch program	N9000AK-SF1	None	Prevents the launching of Windows programs from the instrument application
Add security features, prohibit saving results	N9000AK-SF2	None	Prevents the saving/recall of measurement results or user configurations to/from instrument's data storage

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.

Instrument Upgrades (Continued)

Description	Upgrade number	Requirements (CXA must already include the following)	Additional information
Upgrade operating system to Windows 10			
From old processors	N9094AK-W10 ¹ N9094AK-PC7 ¹	PC1, PC3 or PC5	Upgrade to a dual-core 64-bit performance processor, 8 GB RAM, with removable solid-state drive and Windows 10 operating system
Upgrade to dual core 64-bit performance processor, 8 GB RAM, removable solid state drive			
With Windows 10 operating system	N9094AK-W10 ¹ N9094AK-PC7 ¹	PC1, PC3 or PC5	Upgrade to a dual-core 64-bit performance processor, 8 GB RAM, with removable solid-state drive and Windows 10 operating system
Add removable solid state drive			
With Windows 10 operating system	N9094AK-W10 ¹ N9094AK-SSD ¹	PC7	For Windows 10 operating system provides additional data storage
Upgrade to multi-touch user interface			
From other processor	N9000AK-MTP	None	Allows signal analyzer to run multi-touch applications and upgrades to a dual-core 64-bit performance processor, 8 GB RAM; Requires series number prefix break no less than MY/SG/US5423
Portable configuration	N9000AK-PRC	None	Not compatible with Options 1CM, 1CP, 1CN, 1CR
Front panel protective cover	N9000AK-CVR	None	
USB DVD-ROM/CD-R/RW drive	N9000AK-DVR	None	
Hard transit case	N9000AK-HTC	None	
Keyboard, USB interface	N9000AK-KYB	None	Enhances the usability of the Windows XP Professional operation system (Note: Does not fit N9000AK-BAG accessory pouch)
US 65-key USB keyboard	N9000AK-KB2	None	Compact design fits in N9000A-BAG accessory pouch for convenient storage
Mouse, USB interface	N9000AK-MSE	None	
Accessory pouch	N9000AK-BAG	None	Easily store and carry the N9000AK-KB2 keyboard and USB mouse in this attachable pouch
Minimum loss pad, 50 to 75 Ω (type-N to BNC)	N9000AK-MLP	None	
Rack mount kit	N9000AK-1CM	None	Not compatible with Options PRC, 1CP, 1CN
Front handle kit	N9000AK-1CN	None	Not compatible with Options PRC, 1CP, 1CM
Rack mount and handle kit	N9000AK-1CP	None	Not compatible with Options PRC, 1CM, 1CN
Rack slide kit	N9000AK-1CR	None	Not compatible with Option PRC

1. Must be ordered under N9000AK.

For more information on accessories go to: www.keysight.com/find/MTA

Instrument Upgrades (Continued)

Description	Upgrade number
Getting started guide CXA Korean	N9000AK-AB1
Getting started guide CXA Chinese	N9000AK-AB2
Getting started guide CXA German	N9000AK-ABD
Getting started guide CXA French	N9000AK-ABF
Getting started guide CXA Japanese	N9000AK-ABJ
Getting started guide CXA Russian	N9000AK-AKT

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

Note: It is recommended to order measurement applications with the model numbers listed at Step 12. Alternatively, you can use the ordering numbers in this table to add the measurement applications. 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
Cellular communications			
LTE/LTE-Advanced	W9080B-1FP	W9080B-1TP	Standard-based, one-button LTE-FDD measurements; requires W7X or W10
FDD	W9080B-2FP	W9080B-2TP	Standard-based, one-button LTE-Advanced FDD measurements; requires W7X or W10, and W9080B-1FP/1TP
LTE/LTE-Advanced	W9082B-1FP	W9082B-1TP	Standard-based, one-button LTE-TDD measurements; requires W7X or W10
TDD	W9082B-2FP	W9082B-2TP	Standard-based, one-button LTE-Advanced TDD measurements; requires W7X or W10, and W9082B-1FP/1TP
Multi-Standard Radio (MSR)	W9083A-1FP	W9083A-1TP	Standard-based, one-button MSR measurements on any combination of LTE-FDD, W-CDMA/HSPA/HSPA+, GSM/EDGE/EDGE Evo signals
W-CDMA/HSPA+	W9073A-1FP	W9073A-1TP	Standard-based, one-button W-CDMA measurements
	W9073A-2FP	W9073A-2TP	Adds HSPA measurements; requires 1FP/1TP
	W9073A-3FP	W9073A-3TP	Adds HSPA+ measurements; requires 1FP/1TP, 2FP/2TP
GSM/EDGE/EVO	W9071A-2FP	W9071A-2TP	Standard-based, one-button GSM/EDGE measurements
	W9071A-3FP	W9071A-3TP	Adds EDGE Evolution (EGPRS2) measurements; requires 2FP/2TP
TD-SCDMA/HSPA	W9079A-1FP	W9079A-1TP	Standard-based, one-button TD-SCDMA measurements
	W9079A-2FP	W9079A-2TP	Adds HSPA/8PSK measurements, requires 1FP/1TP
1xEV-DO	W9076A-1FP	W9076A-1TP	Standard-based, one-button 1xEV-DO Rel 0, Rev A, and Rev B measurements
cdma2000®/cdmaOne	W9072A-2FP	W9072A-2TP	Standard-based, one-button cdma2000 and cdmaOne measurements
Wireless connectivity			
Mobile WiMAX™	W9075A-2FP	W9075A-2TP	Standard-based, one-button Mobile WiMAX measurements
WLAN 802.11 a/b/g/n/af/ah	W9077A-2FP	W9077A-2TP	Standard-based, one-button 802.11a/b/g measurement
	W9077A-3FP	W9077A-3TP	Adds 802.11n; requires 2FP/2TP, supports 11n measurements up to 20 MHz (requires Option B25)
	W9077A-6FP	W9077A-6TP	Adds 802.11ah measurements
	W9077A-7FP	W9077A-7TP	Adds WLAN 802.11af measurements
Bluetooth®	W9081A-2FP	W9081A-2TP	Standard-based, one-button Bluetooth version 2.1+ EDR and Low Energy (LE) measurements
	W9081A-3FP	W9081A-3TP	Standard-based, one-button Bluetooth® 5 measurement; requires W9081A-2FP/2TP

Measurement Application (continued)

Description	Fixed license	Transportable license	Additional information
Digital video			
CMMB	W6158A-2FP	W6158A-2TP	Standard-based, one-button CMMB measurements
Digital cable TV	W6152A-2FP	W6152A-2TP	Standard-based, one-button DVB-C (J.83 Annex A/C) measurements
	W6152A-3FP	W6152A-3TP	Standard-based, one-button J.83 Annex B measurements
DTMB (CTTB)	W6156A-2FP	W6156A-2TP	Standard-based, one-button DTMB (CTTB) measurements
DVB-T/H/T2	W6153A-2FP	W6153A-2TP	Standard-based, one-button DVB-T/H measurements
	W6153A-3FP	W6153A-3TP	Adds DVB-T2 measurements; requires 2FP/2TP
ISDB-T/Tmm	W6155A-2FP	W6155A-2TP	Standard-based, one-button ISDB-T, ISDB-T _B , and ISDB-T _{SB} measurements
	W6155A-3FP	W6155A-3TP	Adds ISDB-Tmm measurements; requires 2FP/2TP
General purpose			
Analog demodulation	W9063A-2FP	W9063A-2TP	One-button AM/FM/PM demodulation with metrics, tune and listen, and AF spectrum
	W9063A-3FP	W9063A-3TP	Adds FM Stereo and RDS; requires 2FP/2TP
Phase noise	W9068A-2FP	W9068A-2TP	One-button phase noise measurements in frequency domain (log plot) and time domain (spot frequency)
Noise figure	W9069A-1FP (requires preamplifier)	W9069A-1TP (requires preamplifier)	One-button noise figure, gain, and related measurements; requires preamplifier to meet specifications; works with Keysight N400xA Series smart noise sources and 346 Series noise sources; supports U7227 USB external preamplifiers
	W9069A-2FP	W9069A-2TP	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; requires 1FP/1TP
VXA vector signal analysis	W9064A-1FP	W9064A-1TP	Vector signal analysis; high-resolution, FFT-based spectrum and time-domain measurements, time gating, AM/FM/PM demodulation, statistical measurements
	W9064A-2FP	W9064A-2TP	Adds flexible digital modulation analysis; general purpose digital modulation for 2-16FSK, 2-8PSK, and 16-1024QAM, as well as more than 15 additional formats; requires 1FP/1TP
EMC	W6141A-2FP	W6141A-2TP	Pre-compliance conducted and radiated emission measurements
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
SCPI command language compatibility	W9062A-2FP	Not available	Adds capability to emulate the R&S FSP/FSU/FSE spectrum analyzers
89600 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; transportable between instruments and PCs; www.keysight.com/find/89600vsa

Related Literature

Keysight CXA signal analyzers

Publication title	Publication number
X-Series Measurement Applications - Brochure	5989-8019EN
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