





Keysight N9041B | UX Signal Analyzer; 2 Hz to 110 GHz

- Analysis Bandwidth to 1 GHz for 5G, 802.11ad & 802.11 be and Automotive Radar
- DANL of -150 dBm/Hz >50 GHz
- Dual RF Inputs: 2.4 mm to 50 GHz, 1.0 mm to 110 GHz
- Real-time Streaming up to 40 MHz



Rohde & Schwarz FSW26 | Signal and Spectrum Analyzer; 2 to 26.5 GHz

- Analysis Bandwidth to 2 GHz
- Advanced Radar Analysis Functions
- DANL of -159 dBm/Hz @ 2 GHz
- Phase Noise: -140 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Popular Model with Over 50 Configurations



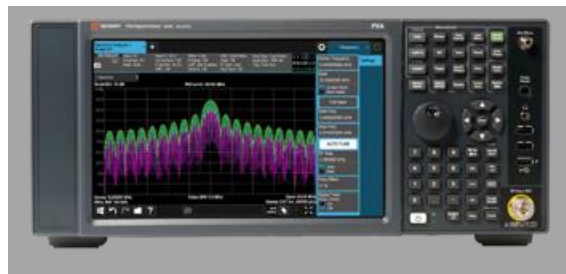
Keysight N9021B | MXA Signal Analyzer; 10 Hz to 50 GHz

- Real-time I/Q Data Streaming
- Analysis Bandwidth to 510 MHz
- Phase Noise: -136 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)



Rohde & Schwarz FSV3044 | Signal and Spectrum Analyzer; 10 Hz to 44 GHz

- Analysis Bandwidth of 200 MHz
- DANL < -162 dBm
- Phase Noise: -114 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)



Keysight N9030B | PXA Signal Analyzer

- Frequency Ranges: 2 Hz to 3.6, 8.4, 13.6, 26.5, 44, 50 GHz
- Analysis Bandwidth to 510 MHz
- Phase Noise: -136 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Popular Model with Over 100 Configurations



Keysight N9032B | PXA Signal Analyzer; 2 Hz to 26.5 GHz

- Analysis Bandwidth to 2 GHz
- LNA with Preamp for Low-Level Signals and Noise Figure
- Low DANL (-174 dBm) for better EVM sensitivity
- Preconfigured with 5G NR, and PowerSuite Measurements



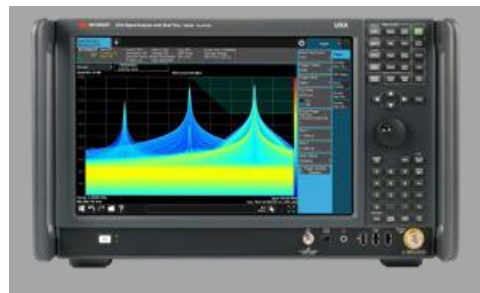
Keysight N9020B | MXA Signal Analyzer

- Frequency Ranges: 2 Hz to 3, 8, 13, 26.5, 32, 44, 50 GHz
- Analysis Bandwidth of 160 MHz
- Phase Noise: -114 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Popular Model with Over 70 Configurations



Keysight N9000B | CXA Signal Analyzer

- Economy Version of X-Series Signal Analyzers
- Frequency Ranges: 9 kHz to 3, 7.5, 26.5 GHz
- Tracking Generator Option



Keysight N9040B | UX Signal Analyzer; 2 Hz to 50 GHz

- Real-time I/Q Data Streaming
- Analysis Bandwidth to 2 GHz
- Phase Noise: -136 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Over 50 Configurations available.



Rohde & Schwarz FSW50 | Signal and Spectrum Analyzer; 2 Hz to 50 GHz

- DANL of -129 dBm at 50 GHz
- Full Band 50 GHz Preamp Available
- Phase Noise: -140 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Multiple Software Options Available for Rental



Keysight N5245B | PNA-X Microwave Network Analyzer; 900 Hz/10 MHz to 50 GHz

- 2-Port and 4-Port Versions with Configurable Test Sets
- Second Source, Pulse Modulators, Receiver Attenuator Configurations Available
- Separate Noise Receiver Available with Vector Correction
- Compatible E-Cal Calibration Kits Available



Rohde & Schwarz ZNA26 | Vector Network Analyzer; 10 MHz to 26.5 GHz

- 2-Port and 4-Port Versions with Configurable Test Sets
- Up to 4 Sources Available
- High Dynamic Range 147 dB with Receiver Attenuators
- Internal Pulse Modulators and Pulse Generators
- Wide Range of Software Options Available for Rental



Keysight N5225B | PNA Microwave Network Analyzer, 10 MHz to 50 GHz

- 2 and 4-Port Version with Configurable Test Set
- Dynamic Range > 127 dB with High Output Power +13 dBm
- Optional Bias-Tees, Pulse Generators and Modulators



Keysight N5242B | PNA-X Microwave Network Analyzer, 10 MHz to 26.5 GHz 2-Port

- Dynamic Range of 130 dB @ 20 GHz
- Output Power +13 dBm
- Multiple Software Options Available for Rental



Keysight N5244B | PNA-X Microwave Network Analyzer, 10 MHz to 43.5 GHz

- 2-Port and 4-Port Versions with Configurable Test Sets
- Optional Second Source, Pulse Modulators, Receiver Attenuators
- Separate Noise Receiver Available with Vector Correction
- High Dynamic Range: 134 dB at 20 GHz at Test Port
- Multiple Software Options Available for Rental



Rohde & Schwarz ZVA67 | Vector Network Analyzer; Four Ports, Four Sources, 67 GHz

- High Output Power up to +18 dBm
- Receiver and Generator Attenuators and Pulse Modulators / Generators
- Wide Dynamic Range >140 dB for Fast and Accurate Measurements
- Virtual and True Differential Measurement Modes
- Simultaneous Measurement of Noise Figure And S-Parameters



Keysight E5080B | ENA Series Network Analyzer

- 2 and 4-Port Versions
- Maximum Frequency of 9, 20 and 53 GHz
- Low Trace Noise of 0.0015 dB rms
- TDR Options for Signal Integrity Testing



Keysight E5061B | ENA Series Network Analyzer / Impedance Analyzer, 100 kHz to 3 GHz

- 3 GHz Network Analyzer and Impedance Analyzer in One Unit
- Gain-Phase Test Port, 5 Hz to 30 MHz for Impedance Measurements
- Compatible with Keysight Component Measurement Fixtures



Rohde & Schwarz ZNA43 | Vector Network Analyzer, 4 ports, 10 MHz to 43.5 GHz

- Up to 4 Sources Available with Attenuators
- High Dynamic Range 147 dB with Receiver Attenuators
- Internal Pulse Modulators and Pulse Generators
- Full Touchscreen Interface



Rohde & Schwarz ZNB26 | Vector Network Analyzer

- 2-Port and 4-Port Versions
- Wide dynamic range of up to 140 dB
- Short sweep times of 4 ms for 401 points
- Wide power sweep range of 98 dB

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PRODUC

The NEW ENA-X Series Vector Network

Keysight E5081A ENA-X Vector Network Analyzer

Accelerate 5G and satellite communication component characterization with the Keysight E5081A ENA-X VNA. This new VNA series includes a 20 GHz and 44 GHz frequency range and provides options for low-noise receivers for noise figure measurements. Keysight's new spectral correlation technique allows fast EVM measurements on a mid-priced VNA.





- Keysight N4692D** | Electronic Calibration Module (ECal); 2.92 mm, 2-Port, 40 GHz
- Available in Male/Male (Option M0M), Female/Female (Option F0F), and Male/Female (Option M0F) Connector Configurations
 - Frequency Coverage from 10 MHz to 40 GHz or DC to 40 GHz (Option ODC)
 - Rentals Include Torque Wrenches for Properly Connecting Standards



- Keysight 85092C** | RF Electronic Calibration Module (ECal); Type N, 2 Port, 300 kHz to 9 GHz
- Fast Full 2-Port Calibration with a Single Connection
 - Simple Non-Insertable Device Calibration
 - USB Interface for Direct Control with PNA and ENA Series of Network Analyzers
 - Rentals Include Torque Wrenches for Properly Connecting Standards



- Rohde & Schwarz ZN-Z54** | Calibration Unit; 2 Ports, 2.92 mm, Female, 9 kHz to 40 GHz
- Automatically Detected Via USB Connection
 - Rentals Include Torque Wrenches for Properly Connecting Standards



- Keysight N4693D** | Electronic Calibration Module (ECal); 2.4 mm, 2-Port, 50 GHz
- Available in Male/Male (Option M0M), Female/Female (Option F0F), and Male/Female (Option M0F) Connector Configurations
 - Frequency Coverage from 10 MHz to 50 GHz or DC to 50 GHz (Option ODC)
 - Rentals Include Torque Wrenches for Properly Connecting Standards

Calibration Kits

Model	OEM	Description	Connector	Frequency	Rental Torque Wrenches
85032F	Keysight	Standard Mechanical Calibration Kit	N-Type	9 GHz	No
85033E	Keysight	Standard Mechanical Calibration Kit	3.5 mm	9 GHz	Yes
85052D	Keysight	Economy Mechanical Calibration Kit	3.5 mm	26.5 GHz	Yes
ZN-Z52	Rohde & Schwarz	Calibration Unit, 4-Port	3.5 mm	26.5 GHz	Yes
85056D	Keysight	Economy Mechanical Calibration Kit	2.4 mm	50 GHz	Yes
85059B	Keysight	Precision Calibration Kit	1.0 mm	120 GHz	Yes



- Keysight E8257D** | PSG Analog Signal Generator
- Popular Model with Over 250 Configurations
 - Frequency Range: 250 kHz to 20, 40, 50 and 67 GHz
 - Low Phase Noise: -138 dBc/Hz @ 1 GHz Carrier (10 kHz Offset) to Address Doppler Radar, ADC and Receiver-Blocking Tests
 - High Power Options Available for +30 dBm Output
 - Characterize Devices and Circuits by Adding AM, FM, ϕ M and Pulse Modulation to Your Signal



- Rohde & Schwarz SMA100B** | Signal Generator
- Frequency Range: 8 kHz to 3, 6, 12.75, 20, 31.8, 40, 50 and 67 GHz
 - Exceptionally Low Harmonics
 - Maximum Output Power Exceeds +30 dBm Across Wide Frequency Range



- Keysight N5183B** | Signal Generator
- Frequency Options: 20, 31.8 and 40 GHz
 - Phase Noise: -130 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
 - Settable range +3- to -135dBm (with options 1E1 and 1EA)
 - Modulation Types Available: AM, FM, ϕ M and Pulse



- Rohde & Schwarz SMA100A** | Signal Generator
- Frequency Range: 100 kHz to 12.75, 20, 31.8 and 40 GHz
 - SSB Phase Noise of -108 dBc/Hz (typ.) at 10 GHz and 20 kHz Offset
 - Analog Modulations with AM, FM, ϕ M and Pulse Modulation Supported



- Rohde & Schwarz SMB100B** | Signal Generator
- Frequency Range: 8 kHz to 1 GHz, 3 or 6 GHz
 - Very Low Wideband Noise of < -153 dBc (typ.) at 15 MHz < f $\leq$ 6 GHz and an Offset of 30 MHz
 - Ultra-high Output Power of +34 dBm at 1 GHz



- Keysight N5186A** | MXG Vector Signal Generator
- Frequency range of 9 kHz to 8.5 GHz
 - Output Power @1 GHz of +27 dBm
 - Harmonics @1 GHz of -35 dBc
 - Phase Noise @1 GHz (20 kHz offset) of -147 dBc/Hz (10 kHz offset)
 - Delivers 960 MHz RF modulation bandwidth using DDS technology



Keysight E8267D | PSG Vector Signal Generator

- Frequency Ranges: 20, 32, 44 GHz
- Ultra-Low Phase Noise Options Delivers -143 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Vector Support for Cellular, Wi-Fi, Video Broadcasting, SATCOM and More
- Popular Model with Over 125 Configurations



Rohde & Schwarz SMW200A | Vector Signal Generator

- Multiple RF Paths with Frequency Ranges: 3, 6, 20, 40, 44 GHz
- Low Phase Noise Options Delivers -150 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Popular Model with Over 125 Configurations
- Modulation Bandwidths up to 2 GHz



Keysight N5182B | MXG Series Vector Signal Generator

- Frequency Range: 9 kHz to 3, 6 GHz
- Low Phase Noise Options Delivers -146 dBc/Hz @ 1 GHz Carrier (20 kHz Offset)
- Output Power of +27 dBm, Low EVM of 0.4% (802.11ac/LTE)
- Real-time Signal Simulation Options
- Popular Model with over 125 Configurations



Rohde & Schwarz SMBV100B | Vector Signal Generator

- Frequency Range: 8 kHz to 3, 6 GHz
- High Power Option to +33 dBm
- Generation of Communications Signals: 5G NR, LTE, WLAN
- GNSS with Constellation Simulation



Keysight N5172B | EXG Series Vector Signal Generator

- Frequency Range: 9 kHz to 3, 6 GHz
- Phase Noise Options Delivers -122 dBc/Hz @ 1 GHz Carrier (20 kHz Offset)
- Output Power of +27 dBm, Low EVM of 0.4% (802.11ac/LTE)
- Modulation Bandwidth of 160 MHz



Tektronix AWG70002B | Arbitrary Waveform Generator; 2 Channels at 25 Gs/s

- 10-bit Vertical Resolution, 16 GS Waveform Memory Per Channel
- Generate Wideband RF Signals Up To 20 GHz
- Suitable for Radar with Options for Pulsed Waveforms and Impairments



Keysight UXR-Series | Infiniium UXR Real-Time Oscilloscope; Up to 4 Channels, 5 to 110 GHz

- Up to 2G Memory with 256 GS/s on All Channels
- 1mm Input Connectors on 4 Phase-Coherent Channels
- Real-time Digital Down Conversion with 2.16 GHz Bandwidth
- Applications: USB4 v2, PCIe Gen5/6, DDR4/5, Phase Noise



Rohde & Schwarz RTP164 | High Performance Digital Oscilloscope; 4 Channel, 16 GHz

- Sample Rate: 40 GS/s with 2G Record Length
- Real Time De-Embedding with S-Parameters in Hardware
- Software Options for: USB3.2, 10G Ethernet, MIPI D-PHY, DDR3/4, Automotive Ethernet



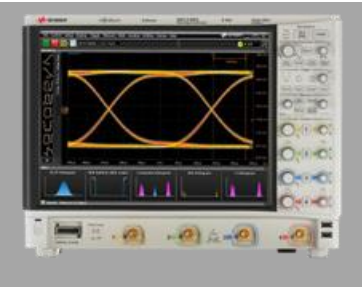
Keysight MXR608A | Infiniium MXR-Series Real-Time Oscilloscope; 8 Channels, to 6 GHz

- Sample Rate: 16 GS/s on 8 Channels, 200M Record Length per Channel
- 10-Bit ADC with 16-Bits in High Resolution Mode
- Low Noise: 1mV/div 43 μ V, Low Jitter: 120 fs rms
- Real Time Spectrum Analysis on 8 Scope Channels



Tektronix MSO68B | Mixed Signal Oscilloscope; 8 Channel to 10 GHz

- Frequency Range: 1, 4, 6, 8, 10 GHz Models
- Low Noise Inputs: < 1.25 mV of Noise at 50 mV/div at 10 GHz
- Built-In FFT Spectrum Analysis on all Channels
- 50 GS/s on 2-Channels, 25 GS/s on 4-Channels

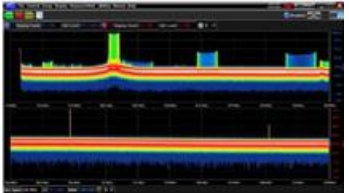


Keysight MSOS804A | Infiniium S-Series Digital Oscilloscope; 4-Channels, 8 GHz

- Sample Rate: 20 GS/s with 100 M/Chan, upgradeable up to 400 M/Chan
- 10-Bit ADC with 16-Bits in High Resolution Mode
- 260 μ V Full Bandwidth Noise Floor

Scopes As RF Test Equipment?

Absolutely. As oscilloscope technology advances, they see far more use in RF labs. Bandwidth increases alone earn them an important role in demodulating signals for 5G, 6G and SATCOM communications.



With additional unique capabilities, including digital downconversion, real-time spectrum analysis, and multi-channel FFTs, scopes have earned their place here. If you don't see what you need, give us a call. We have models for every application.



Tektronix MSO58B | Mixed Signal Oscilloscope; 8-Channel

- Frequency Range: 350, 500 MHz, 1, 2 GHz Models
- Record Length: 500 M
- Built-In FFT Spectrum Analysis on all Channels
- Serial Decode Trigger Support for: I2C, SPI, USB 2.0, Ethernet, CAN, LIN,
- Perform RF Measurements: Channel Power, ACPR, OBW



Rohde & Schwarz RTO2064 | Digital Oscilloscope; 4 Channels, 6 GHz

- Record Length: 2 G sample @ 20 GS/s
- Digital Triggering on 16-Bit High-Definition Signals
- Real Time De-embedding with S-Parameters in Hardware



Rohde & Schwarz RTO64 | Digital Oscilloscope; 4 Channels

- Frequency Range: 4, 6 GHz
- Sample Rate: 20 GS/s, 1 M Waveforms per Second
- Digital Triggering on 16-Bit High-Definition Signals
- Software Options Include: Power Analysis, Jitter Analysis, De-embedding, TDR



Tektronix DPS75004SX | ATI Performance Oscilloscope System, 33/50 GHz

- 2 Channels @ 50 GHz 200 GS/s, or 4 x 33 GHz 100 GS/s
- > 25 GHz Edge Trigger
- Software Available for PCIe Gen 5/6 Debugging and Compliance Testing



Keysight E5055A | SSA-X Signal Source Analyzer, 10 MHz to 8 GHz

- Fast Cross Correlation Measurements
- Phase Noise: -169 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Software Options Include: Pulsed Analysis, Spectrum Analysis
- Two Built-in Isolated DC Voltage Channels



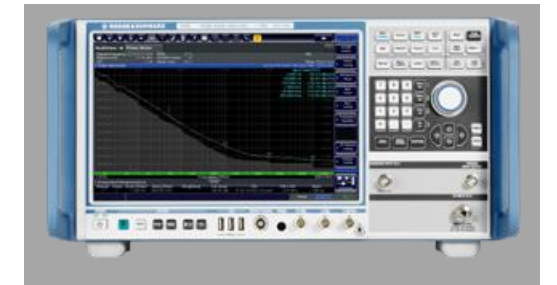
Keysight E5058A | SSSA-X Signal Source Analyzer 1 MHz to 54 GHz

- Offset Frequency Range 1 MHz to > 1 GHz
- Phase Noise: -171 dBc/Hz (RF=16 GHz @1 MHz offset, typ.)
- Built-in reference source
- Transient/RF Transient Measurements for Frequency, RF Power, Phase



Rohde & Schwarz FSWP50 | Phase Noise Analyzer; 1 MHz to 50 GHz

- Full-featured Phase Noise Analyzer and Spectrum Analyzer
- Phase Noise: -166 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Low Phase Noise Internal LO, Needs No External Sources
- Phase Noise @ 50 GHz: -138 dBc/Hz (10 kHz Offset)



Rohde & Schwarz FSPN26 | Phase Noise Analyzer and VCO Tester; 1 MHz to 26.5 GHz

- Cross-Correlation and High-Speed for VCOs, OXCOs, DROs
- Phase Noise: -163 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Offset Frequency Range: 1 μ Hz to 1 GHz

FEATURE

NI PXIe-5841 | Vector Signal Transceiver

- Frequency Ranges: 500 MHz, 6, 21 GHz
- Signal Analyzer and Vector Generator
- 1 GHz Bandwidth
- Test wireless standards: 5G NR, Wi-Fi



FEATURE

The Rohde & Schwarz Noise Portfolio

High sensitivity, speed, and versatility

The Rohde & Schwarz phase noise analyser portfolio offers high-end, ultra-high-sensitivity solutions with advanced measurement modes and affordable options with high sensitivity and fast measurement. Ideal for phase noise analysis and VCO tests, these instruments provide two-path phase noise analysis with real-time cross-correlation and fast VCO characterisation using built-in low-noise DC sources.





Keysight N1914A | EPM Series Dual-Channel Power Meter

- Average Power Measurements
- Compatible with all N8480, 8480, U2000 Series and E-series Sensors (except the E9320 family)
- Configurations Available with Calibrator



Rohde & Schwarz NRX | RF Power Meter

- Presets for All Mobile Standards Including: 3GPP LTE, 3GPP WDCMA, WLAN, Bluetooth
- Automatic Statistics for CCDF, CDF, PDF
- Touch Interface with LAN, USB and Optional GPIB Interfaces



Keysight N1912A | P-Series Single-Channel Power Meter

- 100 MS/s, 30 MHz Video Bandwidth
- Predefined Formats for Cellular, Wi-Fi
- Internal Zero and Calibration with DUT Connection
- Compatible with P-Series Sensors, E-Series Sensors, 8480 and N8480 Sensors



Rohde & Schwarz NRP2 | RF Power Meter

- Supports Up to Four NRP-Zxx Power Sensors
- Automatic Statistics for CCDF, CDF, PDF
- LAN, USB, GPIB Interfaces Standard

Power Sensors

Model	OEM	Description	Frequency Range	Power	Connector
N1921A	Keysight	P-Series Wideband Power Sensor	50 MHz to 18 GHz	-30 to +20 dBm	N-Type
U2001A	Keysight	USB Power Sensor	10 MHz to 6 GHz	-60 to +20 dBm	N-Type
U2002A	Keysight	USB Power Sensor	50 MHz to 24 GHz	-60 to +20 dBm	3.5 mm
NRP-Z81	Rohde & Schwarz	Wideband Power Sensor	50 MHz to 18 GHz	-60 to +20 dBm	N-Type
NRP-Z85	Rohde & Schwarz	Wideband Power Sensor	50 MHz to 40 GHz	-60 to +20 dBm	2.92 mm
NRP-Z27	Rohde & Schwarz	Power Sensor Module	DC to 18 GHz	-24 to +26 dBm	N-Type
NRP33S	Rohde & Schwarz	3-Path Diode Power Sensor	10 MHz to 33 GHz	-70 to +23 dBm	3.5 mm
NRP50S	Rohde & Schwarz	3-Path Diode Power Sensor	50 MHz to 50 GHz	-70 to +23 dBm	2.4 mm
U2022XA	Keysight	USB Peak and Average Power Sensor	50 MHz to 40 GHz	-30 to +20 dBm	2.4 mm
U2049XA	Keysight	LAN Peak and Average Power Sensor	10 MHz to 33 GHz	-70 to +20 dBm	3.5 mm
U2054XA	Keysight	USB Wide Dynamic Range Average Power Sensor	10 MHz to 40 GHz	-70 to +20 dBm	2.92 mm
U2043XA	Keysight	USB Wide Dynamic Range Sensor	10 MHz to 18 GHz	-70 to +26 dBm	N-Type
8481A	Keysight	Power Sensor	10 MHz to 18 GHz	-30 to +20 dBm	N-Type
8485D	Keysight	Diode Power Sensor	50 MHz to 26.5 GHz	-70 to +20 dBm	3.5 mm
8487A	Keysight	Power Sensor	50 MHz to 50 GHz	-30 to +20 dBm	2.4 mm



Keysight N991xA/B | FieldFox RF Combination Analyzer

- Several Models Covering: 30 kHz to 4, 6.5, 18, 26.5 GHz
- B Version: 120 MHz of Real-Time Bandwidth
- Performs Over-the-air Measurements of 5G NR and LTE
- Software Upgrades Available for 2-Port VNA Operation, Real-time Spectrum Analysis, Vector Voltmeter, Noise Figure and More
- Multiple Software Options Available for Rental



Keysight N9952B | FieldFox Microwave Combination Analyzer

- Cable and Antenna Analyzer, Network Analyzer and Spectrum Analyzer
- 120 MHz of Real-Time Bandwidth
- Performs Over-the-air Measurements of 5G NR and LTE in FR2 Bands
- Software Upgrades Available for 2-Port VNA Operation, Real-time Spectrum Analysis



Rohde & Schwarz FPH | Spectrum Rider Handheld Spectrum Analyzer

- Frequency Ranges: 5 kHz to 2, 4, 13, 26.5 GHz
- Low DANL: -163 dBm
- Software Applications Include: AM/FM Modulation Analysis, Signal Strength Mapping, Interference Analysis, Receiver Mode



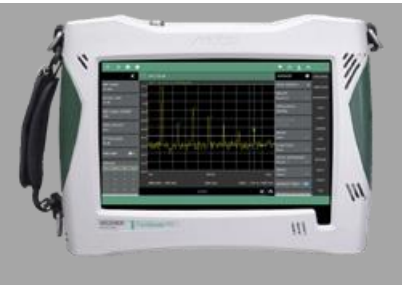
Rohde & Schwarz ZVH | Handheld Cable and Antenna Analyzer

- Frequency Ranges: 100 kHz to 3.6, 8 GHz
- 2-Port Unit with Both One Port and Two Port Functions
- Measurements Include: DTF, Reflection/Transmission, 2-Port VNA, Spectrum and Spectrogram, Vector Voltmeter



Anritsu MS2720T | Spectrum Master Spectrum and Interference Analyzer

- Frequency Ranges: 9 kHz to 9, 20, 43 GHz
- Low DANL: -164 dBm
- Interference Analyzer: Spectrogram, Signal Strength, RSSI, Coverage Mapping
- PIM Analysis & Hunting



Anritsu MS2090A | Field Master Pro Handheld Spectrum Analyzer

- Frequency Ranges: 9 kHz to 9, 44 GHz
- Low DANL: -164 dBm
- 110 MHz Analysis Bandwidth with RTSA
- 5G NR, LTE FDD/TDD, RF and Modulation Quality Measurements

