

XWF-50G Millimeter Wave Signal Analyzer



Signal analyzer is an experimental and research tool used for deep analysis of electrical signals, providing spectrum, time domain, and modulation analysis. It is widely used in wireless communication, scientific research and teaching fields, and can accurately measure parameters such as signal frequency, power, modulation quality, etc., to assist in system optimization and debugging.

The XWF-50G signal analyzer covers a measurement range of 10MHz~50GHz, with a maximum analysis bandwidth of 800M, and supports 5G FR1 \ FR2 frequency bands. Flexible configuration and comprehensive functionality in the field of vector signal demodulation, capable of meeting the needs of research and development, production, maintenance, science and education, and other related fields.

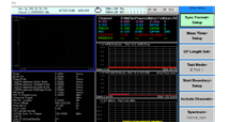
Product Highlights

Comprehensive Functionality

- **High precision measurement.** Supporting multi-mode and multi frequency bands, providing accurate measurements of signal strength, frequency, phase, and modulation quality to verify the performance of base station and terminal equipment transmitters, ensuring the quality and stability of millimeter wave communication links.
- **Real time spectrum analysis.** Implement fast and real-time spectrum scanning and monitoring functions, which can capture transient signals and perform complex spectrum analysis, including identifying interference sources, decoding modulation formats, etc
- **5G NR protocol compliance testing.** Support comprehensive protocol consistency testing of 5G NR physical layer parameters to ensure device compliance with 3GPP standard requirements.
- **MIMO and beamforming analysis.** Analytical capability of multiple input multiple output (MIMO) systems and beamforming is crucial for evaluating and optimizing the performance of millimeter wave antenna array systems.



NR demodulation



LTE demodulation



NB-IoT demodulation

Independent Research and Development

- **Independent and controllable core technology.** The product relies on an independent research and development team, masters the core technology of millimeter wave signal analysis, has independent intellectual property rights, ensures high performance and reliability of the product, and meets diverse and in-depth testing needs.

Easy To Use

- **Portability and remote control.** Compact design with remote control and data synchronization capabilities, supporting automated testing script writing and execution, facilitating joint testing and data analysis both inside and outside the laboratory.
- **Function Expansion.** Modular design, which can expand functional modules according to different testing needs, allowing users to analyze millimeter wave signals in different frequency bands more comprehensively, which is conducive to adapting to the development of 5G millimeter wave technology.

Reliable Service

- **Full technical support.** From pre-sales consultation, solution design, equipment installation and debugging, operation training to after-sales maintenance, system upgrades, etc., one-stop comprehensive technical support provides a stable, durable and trustworthy service experience.

Specifications

Items	Sub item	XWF-50G
Frequency	Frequency range	10MHz ~ 50GHz
	Frequency resolution	1Hz
Range	Input attenuator	0 ~ 72dB
	Adjustable step size for attenuator	2dB
Spectrum purity	Phase noise	-120dBc/Hz, @1GHz, 10k
	RBW	1Hz ~ 10MHz
Vector analysis	Maximum analysis bandwidth	800M
	64QAM	0.28% Typical values
	256QAM	0.35% Typical values
	1024QAM	0.40% Typical values
Appearance	IO interface	USB, LAN
	Monitor	10.1 Inch, TFT LCD
	Weight	23kg
	Dimensions	435*452*195mm (with anti-collision blocks and handles)

Functions

Type	Features
Spectrum Analysis Mode	Frequency (center frequency, starting frequency, ending frequency)
	Basic control
	Span(Scan width range, full scan width, zero scan width)
	AMPTD (reference level, attenuation, scale)
	Scan Settings
	BW (resolution bandwidth RBW, video bandwidth VBW, aspect ratio VBW/RBW)
	Trace (Select Trace, Trace Type, Detector)
	Sweep (scanning mode, scanning time, and time gate settings)
	Cursor settings
	Peak → intermediate frequency
	Peak value → next peak point
	Peak value → previous peak point
	Peak value → Set peak search range (threshold)
	Select Marker (Select Marker)
Normal (reselect tag)	
Delta (bandwidth, power difference)	
Mark Noise(Mark Noise)	

XWF series Millimeter Wave Signal Analyzer

Type	Features	
Spectrum analysis mode	Basic control	Frequency (center frequency, starting frequency, ending frequency)
	Measurement settings	Mode (Spectrum, W-CDMA, LTE, NB-IoT, NR-5G)
		Channel Power (Power, power spectral density)
		Occupied BW (Bandwidth occupied by power)
		ACP (Main channel power, adjacent channel power)
		Spectrum Emission Mask (Spectrum emission template)
CCDF (Complementary Cumulative Density Function Diagram)		
Vector signal analysis mode	NR Demodulation	ModeSetup configuration (uplink and downlink configuration, bandwidth and subcarrier spacing settings)
		MeasSetup configuration for uplink CPE/MS (DMRS configuration, frame format configuration, configuration ID, specified time slot and symbol demodulation, RB configuration, spectrum flipping configuration, phase compensation configuration, synchronous Slot position configuration, frequency offset compensation configuration)
	LTE Demodulation	ModeSetup configuration (uplink and downlink configuration, bandwidth and RB number settings)
		MeasSetup configuration (synchronous mode configuration, specified time slot and symbol demodulation, CP configuration, test mode configuration, demodulation length configuration, Channels configuration, spectrum flipping configuration)
	NB_IOT Demodulation	ModeSetup configuration
MeasTup configuration (PCI configuration, bandwidth type configuration, physical cell ID configuration, wireless network identifier rnti configuration, CP mode configuration, synchronization mode configuration, demodulation length configuration, power configuration, configuration of multi carrier filter)		
W-CDMA Demodulation	ModeSetup configuration	
	M EasySetup configuration (HoldNum configuration, synchronization mode configuration, scrambling code configuration, test mode configuration, capture data length configuration, spectrum flipping configuration)	

Application scenarios

Research and Education

- For education and research, XWF-50G can be used to guide students in understanding the principles of millimeter wave communication, support teachers and researchers in conducting cutting-edge research on next-generation wireless communication technology, new material electromagnetic performance testing, millimeter wave radar system development, and other cutting-edge topics .



Construction and Optimization of Communication Networks

- In the deployment, network planning, and fault diagnosis process of radio base stations, especially 5G FR2 and microwave products, XWF-50G can be used to accurately measure and analyze signal characteristics in frequency bands such as millimeter waves, helping engineers determine the optimal base station settings, link budget, and optimize the performance of wireless access networks.



Product Design and Validation

- Can be used for RF performance testing of communication related products such as millimeter wave transceiver modules, front-end components, and overall systems to ensure the stability and consistency of product transmission and reception signals.

