

XWS Series Vector Signal Generator



Vector signal generator can accurately generate and control the amplitude, phase, and frequency of complex electrical signals, especially suitable for analog QAM and other digital modulation signals. By independently controlling the I/Q component of the signal, it can comprehensively describe the signal vector characteristics and is used in equipment research and development, production, and fault detection in wireless communication, radar, and other fields. Its main uses include simulating real wireless environments, testing receiver and transmitter performance, etc.

The XWS series vector signal generator adopts a unique low phase noise frequency synthesis and vector modulation algorithm to ensure accurate measurement and analysis of 3G/4G/5G signals, and is at the forefront of 5G modulation technology in the industry.

Product Highlights

Independent Research and Development

- Equipped with a unique and independently developed low phase noise frequency synthesizer, it can provide high stability and pure output signals, which is conducive to accurately evaluating receiver sensitivity and bit error rate Key performance indicators such as system capacity.

Vector Modulation Capability

- With advanced vector modulation algorithms and fully supporting multiple communication standards such as 3G/4G/5G, it can accurately simulate and generate various complex wireless communication signals. Its level and frequency stability performance are industry-leading, meeting the strict requirements for various communication systems and terminal equipment in the research and development, testing, and verification processes.

Multi Standard Compatibility

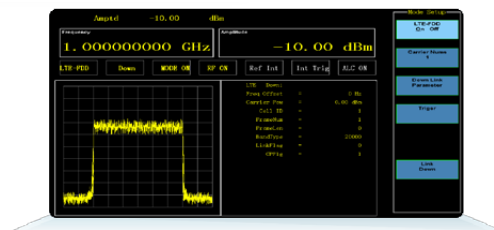
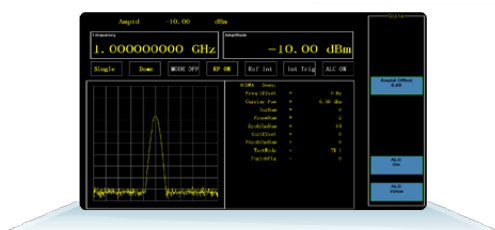
- Implementing support for different communication standards such as 3G, 4G LTE, and 5G NR on the same device greatly improves testing efficiency and saves costs.

High precision simulation

- Through precise signal processing and real-time synchronization technology, various scenarios under actual network conditions can be accurately simulated and dynamically displayed in real time, such as multipath propagation, power control, MIMO, etc., to verify the performance of the tested equipment in complex environments.

Flexibility and Programmability

- Users can easily configure and control signal parameters based on their actual needs through intuitive graphical interfaces or remote programming interfaces, achieving highly customized signal generation and and greatly improving testing efficiency.



Efficiency and Convenience

- Integrating compact hardware design and intelligent software management, it not only meets professional level applications in terms of performance, but also performs well in terms of operational convenience and space occupation, suitable for laboratory environments and on-site testing needs.

Excellent Service Guarantee

- Provide comprehensive technical support and services, including professional and comprehensive after-sales technical consultation, regular software upgrades to achieve new features and performance improvements, fast and effective troubleshooting and maintenance services, etc.

Specifications

Items	Sub items	Parameter
Frequency	Range	XWS-6G: 10MHz ~ 6GHz; XWS-8G: 10MHz ~ 8GHz
	Frequency resolution	0.05Hz
	Single Tone Frequency Switching Speed	100ms
Output	Power	-120 ~ +17dBm
	Accuracy	±0.55db
	VSWR	< 1.8
I/Q Modulation	Modulation bandwidth	100M
	64QAM EVM	0.25% Typical values
	256QAM EVM	0.4% Typical values
Spectrum purity	phase noise	-124dBc/Hz, @1GHz, 100k
	Harmonic (1GHz, 0dBm)	> 30dBc
Appearance	IO Interface	USB, LAN
	Monitor	8 Inch, TFT LCD
	Weight	13.52kg
	Dimensions	360*350*170mm (Without handles and feet)

Functions

Type	Features
Frequency parameter setting	Set output frequency
	Set scanning parameters
Signal amplitude setting	Set signal amplitude
	Set frequency offset
	Set ALC status
Modulation signal transmission mode selection	Mono Mode
	WCDMA Mode (Signal transmission, carrier number configuration, downlink parameter configuration, uplink parameter configuration, trigger signal, uplink and downlink configuration)
	LTE Mode (Signal transmission, carrier number configuration, downlink parameter configuration, uplink parameter configuration, trigger signal, uplink and downlink configuration)
	NB-IoT Mode (Signal transmission, carrier number configuration, downlink parameter configuration, uplink parameter configuration, trigger signal, uplink and downlink configuration)
	NR-5G Mode (Signal transmission, downlink parameter configuration, uplink parameter configuration, trigger signal)
	AWGN Mode (Bandwidth, waveform length)
Pulse emission	Multi Tone Mode (Number of carriers, frequency interval)
	Pulse period pulse width

Application scenarios

Research and Education

- In universities and research institutions, it is used for experimental teaching and scientific research in related fields such as wireless communication and signal processing, such as research on new modulation methods, channel model simulation, MIMO system testing, etc.



Production Quality Control and Validation

- Functional verification and performance testing of communication equipment, communication chips, and RF front-end modules to ensure compliance with communication standards and normal operation are key tools in the field of high-end communication testing.



Certification and Compliance Testing

- It can serve as an important testing tool for third-party testing agencies in the process of wireless communication equipment type approval and certification. It comprehensively tests the RF indicators of the equipment in accordance with relevant international and national standards to ensure compliance with regulatory requirements.

