YNA-320 Series

YNA-320-20G Vector Network Analyzer

At a Glance

The YNA-320-20G is a 5U benchtop vector network analyzer covering 300kHz to 20GHz, with a 12.1-inch multi-touch front-panel display. Two measurement ports are standard; the YNA-320-20G-400 option enables four-port measurement.

Time-domain analysis is standard. Automatic fixture removal and advanced time-domain analysis are optional.



Product Overview

The YNA-320-20G vector network analyzer can be used in the fields of wireless communication, cable TV, education, and automotive electronics for measuring the performance of **RF components** such as filters, amplifiers, antennas, cables, and cable TV taps.

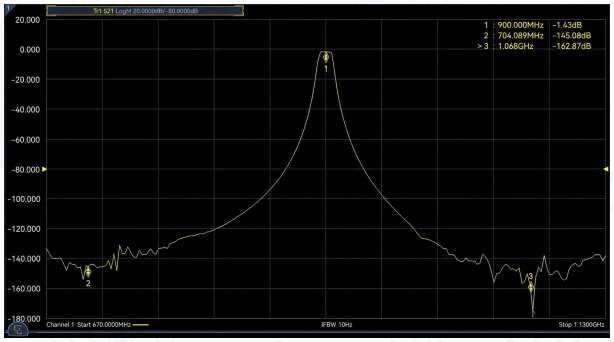
The product has such functions as error calibration, time domain, fixture simulator, automatic fixture removal, advanced time domain analysis, with many display formats such as logarithm magnitude, linear magnitude, standing wave, phase, group delay, Smith pie chart, polar coordinates, etc. for **multi-channel and multi-window display**, as well as many interfaces such as USB, LAN, HDMI and DP. It can quickly and accurately measure the amplitude, phase, and group delay characteristics of the S-parameter of the DUT, and has efficient and powerful error correction capability.

Time-domain analysis is standard. Automatic fixture removal and advanced time-domain analysis are **optional**.

Main Features

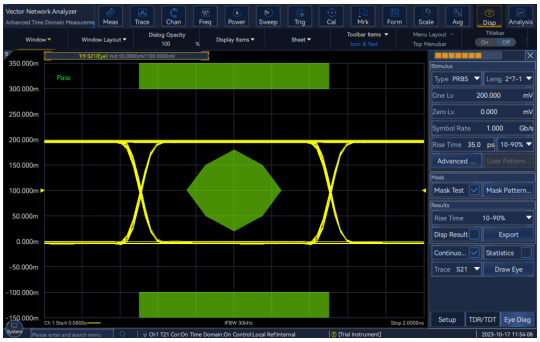
Wide dynamic range

Up to 140dB dynamic range at 10Hz IF bandwidth supports devices with high rejection ratio.



Eye-diagram analysis

Optional advanced time-domain analysis supports TDR time-domain impedance testing and eye-diagram analysis, including pre-defined Pass/Fail templates.



12.1-inch touch screen

The 5U benchtop model provides a **12.1-inch front-panel touch screen** for simultaneous multi-parameter display and multi-touch operation.

Model table

Model	YNA-320-20G
Configuration	5U benchtop, touch screen
Frequency Range	300kHz to 20GHz
Measured ports	Standard: 2 ports YNA-320-20G-400 option: 4 ports

Measurement and automation

The test speed is **4 µs/point**. Data-analysis functions include ripple, bandwidth and limit testing. LAN and USB interfaces support remote control and system integration. SCPI instructions can be recorded synchronously, and scripts generated with one click.

With the **four-port option**, dual-source excitation and eight-channel IF receivers support parallel scanning. Scan port groups allow simultaneous testing of two two-port devices under test with identical test settings.

Four-port option

The **YNA-320-20G-400** option provides dual-source four-port measurement from 300kHz to 20GHz. A single connection measures all 16 S-parameters of a four-port network and supports balanced-parameter measurement.

Production test of wireless communication products

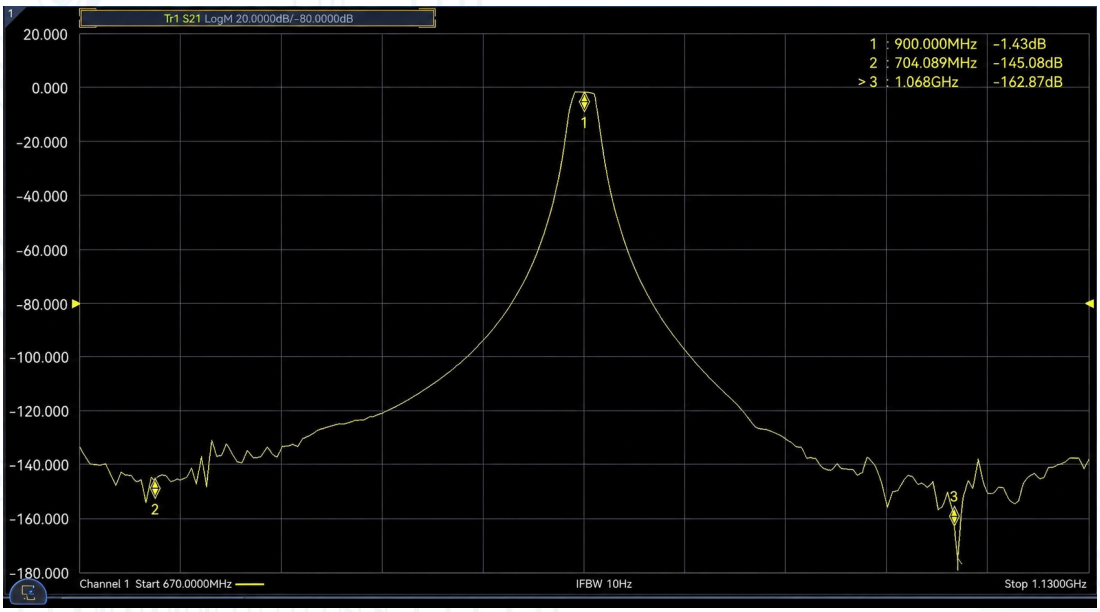
The frequency range of the YNA-320-20G vector network analyzer can meet the production and testing needs of mobile communication products. It has the characteristics of fast sweep, large dynamic range, small size, etc., which can be applicable to the **mass production test** of the factory, and test of RF components such as filters, amplifiers, antennas, and cables.

Four-port and balanced-device measurements

With the YNA-320-20G-400 option, a single connection measures **all 16 S-parameters** of a four-port network. This supports mass-production testing of multi-port devices and balanced-parameter measurement.

Wide Dynamic Range

It has a dynamic range of up to **140dB (IFBW=10Hz)** for accurate measurement of devices with high rejection ratio.

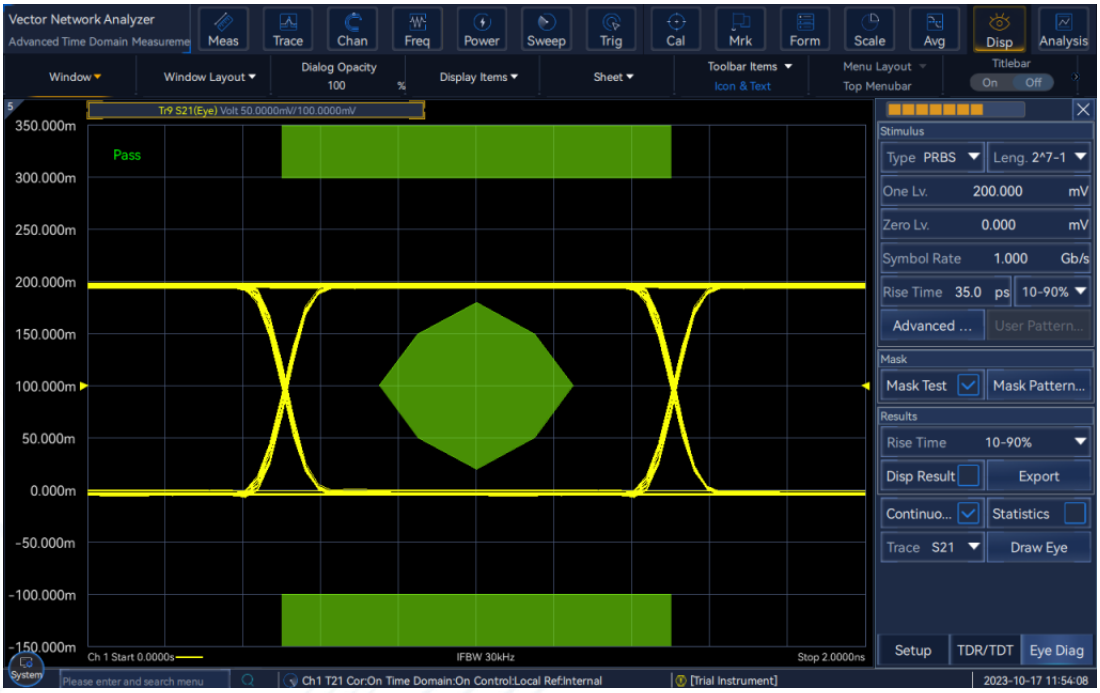


English-localized UI illustration.

Fast Analysis of Signal Integrity

Advanced time-domain analysis is **optional**.

It has the function of generating and analyzing virtual eye diagram based on network parameters. Depending on the standard of high-speed digital communication, it can perform efficient **Pass/Fail testing** using a pre-defined eye diagram template. It can apply jitter, noise and other interference on the simulated eye diagram, and simulate the simulated eye diagram of different positions of high-speed link in real environment by adding correction algorithms such as pre-weighting and equalization.



Technical specification

Category	Parameter	YNA-320-20G
Frequency characteristics	Frequency Range	300kHz to 20GHz
	Frequency Resolution	0.1Hz
	Frequency Accuracy	$\pm 5\times10^{-6}$ (23°C±3°C)
Port power characteristics	Maximum Output Power	10dBm (300kHz to 14GHz) 0dBm (14GHz to 20GHz)
Network parameter characteristics	System Dynamic Range	95dB (300kHz to 18MHz) 140dB (18MHz to 6GHz) 130dB (6GHz to 9GHz) 120dB (9GHz to 14GHz) 110dB (14GHz to 20GHz) *
	Effective Directivity	42dB (300kHz to 3GHz) 38dB (3GHz to 6GHz) 36dB (6GHz to 20GHz) *

Category	Parameter	YNA-320-20G
Network parameter characteristics	**Effective Source Match**	34dB (300kHz to 3GHz) 31dB (3GHz to 6GHz) 26dB (6GHz to 20GHz) *
	Effective Load Match	42dB (300kHz to 3GHz) 38dB (3GHz to 6GHz) 36dB (6GHz to 20GHz) *
	Reflection Tracking	±0.050dB (300kHz to 3GHz) ±0.050dB (3GHz to 6GHz) ±0.080dB (6GHz to 20GHz) *
	Transmission Tracking	±0.050dB (300kHz to 3GHz) ±0.080dB (3GHz to 6GHz) ±0.100dB (6GHz to 20GHz) *
Trace noise	**Amplitude Trace Noise** **IFBW=100Hz (300kHz to 10MHz)** **IFBW=1kHz (10MHz to 20GHz)**	0.0300dBrms (300kHz to 10MHz) 0.0030dBrms (10MHz to 3GHz) 0.0050dBrms (3GHz to 9GHz) 0.0080dBrms (9GHz to 18GHz) 0.0120dBrms (18GHz to 20GHz)
	Phase Trace Noise **IFBW=100Hz (300kHz to 10MHz)** **IFBW=1kHz (10MHz to 20GHz)**	0.300°dBrms (300kHz to 10MHz) 0.045°dBrms (10MHz to 3GHz) 0.050°dBrms (3GHz to 9GHz) 0.080°dBrms (9GHz to 18GHz) 0.120°dBrms (18GHz to 20GHz)
	IFBW	1Hz to 5MHz
	Amplitude Display Resolution	0.001dB/div
	Phase Display Resolution	0.001°/div

* Frequency-band transition: endpoint inclusion is not separately specified. No separate point value is assigned.

General characteristics

Model	YNA-320-20G
Configuration	5U benchtop, touch screen
Port Connector Type	3.5 NMD, system impedance 50 ohms
Measured ports	Standard: 2 ports YNA-320-20G-400 option: 4 ports
Peripheral Interface	USB, LAN, HDMI, DP
Display	12.1-inch front-panel touch screen
Dimensions	435.5mm × 235mm × 302mm
Max. Power Consumption	200W
Power Supply	110VAC - 220VAC, 50/60Hz
Max. Weight	13.5kg

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