# BN100 USB Vector Network Analyzer

Overview

BN100 USB Vector Network Analyzer offers wide dynamic range, low noise level, high resolution scanning with laboratory and research grade performance. BN100 covers frequency range from 1MHz to 6.5GHz with 2-port and 2-path that competitive with most of the bench-top VNAs on the market. BN100 USB VNA provides measurement convenience by offering end user excellent performance and attractive price. BN100 VNA is suitable for laboratory, manufacturing and many other safety testing environment.

Key Facts

- Frequency Range: 1MHz to 6.5GHz
- Large dynamic range: >117dB (IFBW=10Hz), 121dB typ.
- Low Noise Level：<-120 dBm (IFBW=10 Hz)
- Low Trace Noise：10 mdB rms (IFBW=3 kHz)
- High Measurement Speed：120 μs/point (IFBW=30 kHz)
- Effective directivity: >42dB
  Support standard VISA
  Low Power Consumption：18W
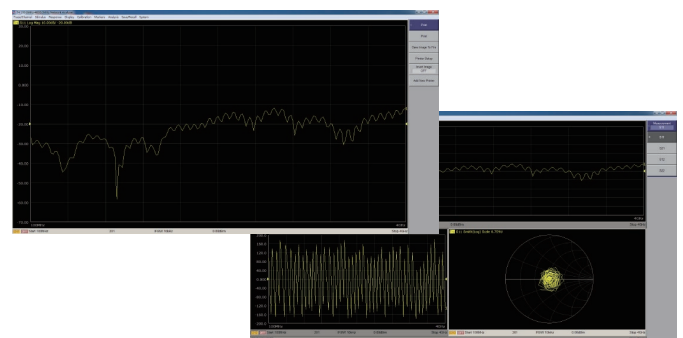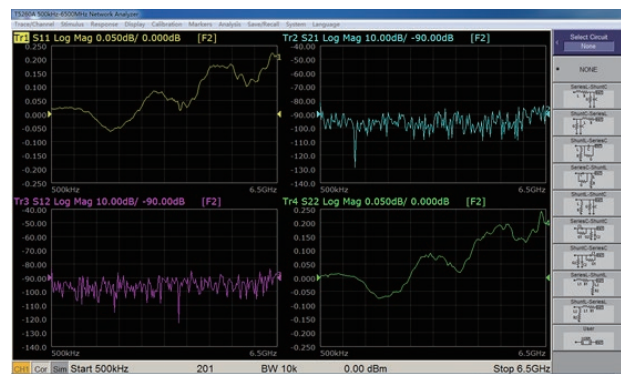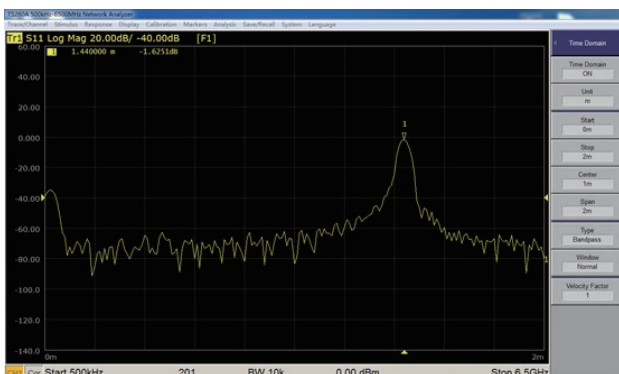
Innovative Features & Benefits

- Capable of replacing bench-top VNA
- Minimum budget requirement
- Suitable for laboratory, manufacturing and research and development purposes
- Compact design, implementation simplicity and various system upgrade

Applications

Benefits from its attractive price and compact design, T6 USB VNA is suitable for price sensitive users, also it has attracted attention from system integrator. In China, one of the most famous university, Nanjing University of Aeronautics and Astronautics (NUAA) has purchased T6 for different applications: for its small size, It's quite easy for professors to do demonstration to students how to use VNA, and also they tried to integrate T6 into their application.

Innovative Features & Benefits

- Multiple analysis options（such as time domain analysis and circuit simulation function）
- Support standard VISA communication protocol
- Efficient communication interface for multi-types testing instruments

Control Elements

Test port

Specifications

Testing Range	Description
Impedance	50Ω
Test port connector	N-type, female
Number of test port	2
Frequency range	1MHz to 6.5GHz
Noise Level	< -120dBm (IFBW=10 Hz)
Frequency accuracy	5ppm
Frequency resolution	10Hz
Number of measurement points	2 to 10001
Measurement bandwidths	1Hz to 50kHz
Dynamic range（IFBW 10Hz)	117dB, typ121dB
Measurement parameters	S11, S21, S12, S22
Testing Accuracy	
Transmission measurement accuracy(magnitude/phase)	
+5 dB to +10 dB	0.2dB/2º
-50 dB to +5 dB	0.1dB/1º
-70dB to -50dB	0.5 dB/3º
-90dB to -70dB	2.5 dB/8º
Reflection measurement accuracy(magnitude/phase)	
-15dB to 0dB	0.4dB/3º
-25dB to -15dB	1.0dB/6º
-35dB to -25dB	3.0dB/20º
Trace stability	
Trace Noise(IFBW 3kHz)	10mdB rms
Temperature Stability	0.02dB/°C
Effective System Data[1]	
Effective directivity	42dB
Effective source match	40dB
Effective load match	42dB

[1]Applied over them temperature range of 23 ° C ± 5 ° C after 40 minutes of warming-up, with less than 1 ° deviation from the full two-port calibration temperature, at output power of -5dBm and IF bandwidth 10Hz.

Test port output	Description
Match(W/O system error correction)	18 dB
Power range	-50dBm to +5dBm
Power accuracy	±1.5 dB
Power resolution	0.05dB
Test port input	
Match(W/O system error correction)	18 dB
Max input level	+23 dBm
Max input voltage	+35 V
Noise level	-120 dBm

General Data	
External reference input	SMA female; 10 MHz; 2 dBm $\pm$ 3 dB
External reference output	SMA female; 10 MHz; 3 dBm $\pm$ 2 dB
Operating temperature range	+5° C to +40° C
Storage temperature range	-45° C to +55° C
Operating humidity	90% (25° C)
Operating atmospheric pressure	84 to 106.7 kPa
Calibration interval	3 years
Power supply	110/220 $\pm$ 22 V (AC), 50 Hz
Power consumption	18W
Dimensions(W $\times$ H $\times$ D) mm	180$\times$50$\times$290
Weight	2.3 kg
Guarantee	1 year

Ordering List

Model	Description
BN100	2 port USB vector network analyzer (1MHz to 6.5GHz)
Option	Description
BN100/TW-1	Extention guarantee for 3 years