

# TRANSCOM INSTRUMENTS

## Product Brochure

Transcom Instruments  
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# T4 USB Vector Network Analyzer

## Overview



T4 USB Vector Network Analyzer offers wide dynamic range, low noise level, high resolution scanning with laboratory and research grade performance. T4 covers frequency range of 1MHz to 4GHz with 2-port and 2-pass that competitive with most of the bench-top VNAs on the market. The T4 provides measurement convenience by offering end user excellent performance and attractive pricing. T4 suitable for laboratory, manufacturing and many other safety testing environment.

## Key Facts

- Frequency Range: 1MHz~4GHz
- Dynamic Range: >120 dB (IFBW=10 Hz), 123dB typical
- Low Noise Level: <-120 dB (IFBW=10 Hz)
- Low Trace Noise: 10 mdB rms (IFBW=3 kHz)
- High Measurement Speed: 250  $\mu$ s/point (IFBW=30 kHz)
- High Effective Directivity: >42 dB
- Remote Control: LabView
- 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

# Control Elements



# Specifications

Testing Range	Description
Impedance	50Ω
Test port connector	N-type, female
Number of test port	2
Frequency range	100MHz~4GHz; (Low range option: 1~100MHz)
Frequency accuracy	5ppm
Frequency resolution	10Hz
Number of measurement points	2 ~ 10001
Measurement bandwidths	10Hz to 100kHz
Dynamic range (IFBW 10Hz)	120dB, typ.123 dB
Measurement parameters	S11, S21, S12, S22
Testing Accuracy	
Transmission measurement accuracy(magnitude/phase)	
+5 dB to +10 dB	0.2dB/2°
-50 dB to +5 dB	0.1dB/1°
-70dB to -50dB	0.5 dB/3°
-90dB to -70dB	2.5 dB/11°
Reflection measurement accuracy(magnitude/phase)	
-15dB to 0dB	0.4dB/3°
-25dB to -15dB	1.0dB/6°
-35dB to -25dB	3.0dB/20°
Trace stability	
Trace noise magnitude (IF bandwidth 3kHz)	10 mdB rms
Temperature dependence(per one degree of temperature variation)	0.02dB

Effective System Data <sup>1</sup>	
Effective directivity	42 dB
Effective source match	40 dB
Effective load match	42 dB

<sup>1</sup>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	-30 dBm to +5 dBm
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(IF bandwidth 10Hz)	-115 dBm
General Data	
External reference input	SMA female; 10 MHz; 2 dBm ± 3 dB
External reference output	SMA female; 10 MHz; 3 dBm ± 2 dB
Operating temperature range	+5°C ~ +40°C
Storage temperature range	-45°C ~ +55°C
Operating humidity	90% (25°C)
Operating atmospheric pressure	84 to 106.7 kPa
Calibration interval	3 years
Power supply	110/220 ± 22 V (AC), 50 Hz
Power consumption	18W
Dimensions(W × H × D) mm	180 ×50×290
Weight	2.3 kg

## Ordering List

Model	Description
Main unit	
T4	2 port USB vector network analyzer
Option unit	
T4/LF-1	1M low frequency range option

*Keep innovating for excellence!*

## About us

Transcom Instrument Co., Ltd. founded in 2005 and headquartered in Shanghai, is a leading manufacturer and provider of RF and wireless communication testing instruments and overall solutions in China. Based on its independent brands and a wide range of core patented technologies, Transcom became national high-tech enterprise with independent intelligent property rights and has been listed into Shanghai Enterprise Recognition Award for High Growth SMEs in Technology.

Transcom is backed by a experienced and dedicated research team in mobile communication, radio frequency and microwave, and network optimization testing instrument. Through "Industry-University-Research" cooperation with universities, Transcom founded Southeast University-Transcom Electronic Measurement Technology Center at Southeast University to further ensure technology and talent reserve, and secure future visionary and sustainable technology development.

Transcom's product portfolios focus 4 areas: cellular network critical communication planning/maintenance/optimization, Manufacturing testing solution, educational instrument/equipment, spectrum monitoring sensor for system integration.



ISO14001



ISO9001

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Company Profile