Datasheet

T-Series USB Vector Network Analyzers

- Freqency Range: 1 MHz to 6.5 GHz
- Fast: 120 us / point
- Wide dynamic range, 121 dB typ.
- Low noise level: < 120 dBc
- Low trace noise: 0.01 dB rms
- Remote control: UI and LabView environment

When challenging testing requirements have to be conducted under budgetary limitations: T-Series USB Vector Network Analyzers (VNAs) are the answer. These USB VNAs, designed by Transcom, offer excellent performance at a very attractive price.

These fast and very powerful systems are well suited for R&D, manufacturing, QA and educational use. T-Series USB Vector Network Analyzers (VNAs) are remote controlled via USB and can be operate via a standard UI panel or allow integration in LabView system environments. They are available for 6.5 GHz measurement frequency.

Models

Model	Frequency Range	Type	Measurement Ports	System
T6-USB	1 MHz to 6.5 GHz	Bench-top	2	USB PC ccntrolled

RF & Microwave Technology

AWT-Global provides advanced telecommunication technology products and analyzers for a variety of RF and Microwave applications.

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Technical Specifications

Measurement Range	
Impedance	50 Ω
Test port connectors	N-type (f)
Number of test ports	2
Frequency range:	1 MHz to 6.5 GHz
Full CW frequency accuracy	+/- 5 x 10^{-6}
Frequency resolution	1 Hz
Measurement points	2 to 10001
Measurement bandwidth	1 Hz to 50 kHz
Dynamic range (IFBW= 10 Hz)	>117 dB (typ. > 121 dB)
Measurement parameters	S11, S21, S12, S22

Measurement Accuracy	
Transmission masurement accuracy (magnitude / phase)	
+ 5 dB to +10 dB	0.2 dB / 2.0 deg
- 50 dB to + 5 dB	0.1 dB / 1.0 deg
- 70 dB to - 50 dB	0.5 dB / 3.0 deg
- 90 dB to - 70 dB	2.5 dB / 11.0 deg
Reflection masurement accuracy (magnitude / phase)	
- 15 dB to + 0 dB	0.4 dB / 3.0 deg
- 25 dB to - 15 dB	1.0 dB / 6.0 deg
- 35 dB to - 25 dB	3.0 dB / 20.0 deg
Trace stability	
Trance noise magnitude	0.01 dB RMS (IF bandwidth 3kHz)
Temperature dependencies	0.02 dB / °C

Measurement Speed	
Measurement time per point	120 uS

Effective System Data[1]	
Effective directivity	42 dB
Effective source match	40 dB
Effective load match	42 dB

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

Test Port Output	
Match (w/o system error correction)	18 dB
Power range	-50 dBm to +5 dBm
Power accuracy	+/- 1.5 dB
Power resolution	0.05 dB

Test Port Input	
Match (w/o system error correction)	18 dB
Max power	23 dB
Max voltage	+/- 35V
Noise level	< -115dBm (IF bandwidth 10 Hz)

General Data	
USB connector	1, USB-2.0
External reference input	SMA(f), 10 MHz, 2 dB +/- 3dB
External reference output	SMA(f), 10 MHz, 3 dB +/- 2dB
Operating temperature	+5° to +40°C / (41 °F to 104 °F)
Storage temperature	-45° to +55°C (– 49 °F to 131 °F)
Humidity (max.)	90% (@ 23°C)
Power Supply	110 / 220 VAC, 50/60 Hz, +/- 10%
Power Consumption	18 W
Dimensions mm / in (W x H x D)	180 x 50 x 290 / 7.1 x 2.0 x 11.4
Weight	2.3 kg / 5.1 lbs
Calibration Interval	3 years

Order Information

Model	Description
T6-USB	T-Series USB Vector Network Analyzer, 2-port, Frequncy Range 1 MHz to 6.5 GHz, 110/220 VAC, 50/60 Hz, Bench-top, Dimensions 180 x 50 x 290 mm / 7.1 x 2.0 x 11.4 in
TCAL6N	VNA Calibration Kit, DC-6 GHz, N-Connectors, 50 Ohms, SOL N(f), SOL N(m), THROUGH N(f)-N(f), THROUGH N(m)-N(m)
TCAB-PN6N	Phase Noise Test Cable, DC to 6.0 GHz, 50 Ohms, 1m, N(m)-N(m), VSWR 1.1:1
TCAB-PN6NS	Phase Noise Test Cable, DC to 6.0 GHz, 50 Ohms, 1m, N(m)-SMA(m), VSWR 1.1:1