T-Series Multiport VNA



- Multiport: 4 10 ports
- Independent source, measurement and reference receiver for each port
- Wide dynamic range, 123 dB typ.
- Frequency Range: 100 MHz 4 GHz
- Low trace noise 0.002 dB rms
- IF Bandwidth: 10 Hz to 100 kHz
- VISA remote control commands

When testing times are of the essence and accuracy is paramount, T-Series Multiport VNAs are the answer. T58XX can carry out parallel tests with DUTs of up to 10 ports or test multiple DUTs simultaneously. Each port has an independent source, measurement receiver and reference receiver, making this VNA fast, really fast. Individual DUTs can be assigned individual external monitors, for unambiguous test results. T-Series Multi Port VNAs offer VISA remote commands and can be easily integrated in CAM environments.

Multiport DUT



Simultaneous Testing



Models

Model	Frequency Range	Туре	Measurement Ports	System
T5840A-P04	100 MHz to 4.0 GHz	Bench-top	4	Stand-alone
T5840A-P05	100 MHz to 4.0 GHz	Bench-top	5	Stand-alone
T5840A-P06	100 MHz to 4.0 GHz	Bench-top	6	Stand-alone
T5840A-P07	100 MHz to 4.0 GHz	Bench-top	7	Stand-alone
T5840A-P08	100 MHz to 4.0 GHz	Bench-top	8	Stand-alone
T5840A-P09	100 MHz to 4.0 GHz	Bench-top	9	Stand-alone
T5840A-P10	100 MHz to 4.0 GHz	Bench-top	10	Stand-alone

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	$50 \Omega, 75 \Omega^{\scriptscriptstyle 1}$
Test port connectors	N-type (f)
Number of test ports	see table
Frequency range:	100 MHz to 4.0 GHz
Full CW frequency accuracy	+/- 5 x 10 ⁻⁶
Frequency resolution	1 Hz
Measurement points	2 to 10001
Measurement bandwidth	10 Hz to 100 kHz
Dynamic range (IFBW= 10 Hz) Dynamic range (IFBW= 3 kHz) 1 With 50 Ω to 75 Ω pad	>123dB (100 MHz to 4.0 GHz) > 95dB (100 MHz to 4.0 GHz)

Measurement Accuracy	
Trace noise magnitude	0.002 dB RMS (typ.)
Trace noise magnitude	0.02 ° RMS (typ.)
Temperature dependence	Magnitude 0.006 dB / °C Phase 0.15° / °C
Power accuracy	+/- 1.0 dB
Test Port	
Power range	-50 dBm to +10 dBm
Power resolution	0.05 dB
Max power / voltage	26 dBm / +/-35V

Effective System Data ¹		
Effective directivity	45 dB	
Effective source match	40 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

Measurement Speed	
Measurement time per point	200 μs
Source to receiver port switch overtime	< 10 ms

General Data	
Display	11.6 inch LCD touch screen
USB connectors	8 (6 USB-2.0, 2 USB-3.0)
LAN connector	10/100/1000 Base T Ethernet, 8-pin configuration
Video connectors	DVI / HDMI
Operating temperature	+5° to +40°C / (41 °F to 104 °F)
Storage temperature	-45° to +60°C (– 49 °F to 140 °F)
Humidity (max.)	90% (@ 23°C)
Atmospheric pressure	84 to 106.7 kPa
Calibration Interval	3 years
Power Supply	220V (AC), 50 Hz, +/- 10% 115V (AC), 60 Hz, +/- 10%
Power Consumption	260 W
Dimensions mm / in (W x H x D)	440 x 257 x 360 /17.3 x 10.1 x 14.2
Weight	12.5 - 15.5 kg / 27.5 - 34.0 lbs





Technical Specifications

Real Multiport Network Analyzer

T-Series vector network analyzers are real multiport systems with independent sources, independent reference receiver and independent measuring receiver for each test port.

Compared to conventional multiport test scheme that is set up with VNA and switch matrix, the T-Series multiport VNA not only eliminates the insertion loss between test port and receiver, but also eliminates the sweep test required for multiport DUT tests. This shortens the test time tremendously. With parallel signal acquisition and processing architecture, T-Series multiport VNAs can measure all A-parameters of multiport DUTs and allow to conduct real-time synchronization for multipath signals.

Overall sweep time testing multiport DUT or multiple DUTs

T-Series true multiport VNA
VNA with switch matrix

Sweep

Sweep

Sweep

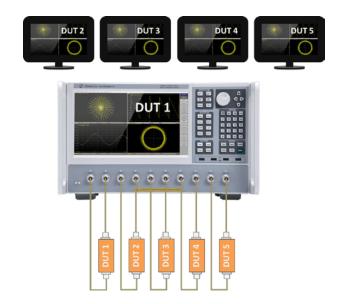
Sweep

Sweep

Sweep

Cycle time

T-Series multiport VNAs allow to assign external monitors via USB to individual DUTs. This way measurement data and results of each DUT are shown in individual monitors, supporting highest levels of immediate information and process control for and DUT.



T-Series 10-port VNA with 5 DUTs and 5 measurement monitors: 1 main screen & 4 external (via USB) $\,$



Key and control panel



T-Series 10-port VNA, interfaces and measurment modules.





Order Information

Model	Description
T5840A-P4	T-Series Vector Network Analyzer, 4-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P5	T-Series Vector Network Analyzer, 5-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P6	T-Series Vector Network Analyzer, 6-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P7	T-Series Vector Network Analyzer, 7-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P8	T-Series Vector Network Analyzer, 8-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P9	T-Series Vector Network Analyzer, 9-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
T5840A-P10	T-Series Vector Network Analyzer, 10-port, Frequncy Range 100 MHz to 4.0 GHz, 220VAC /50Hz
	Bench-top, Dimensions 440 x 231 x 360 mm / 17.3 x 9.1 x 14.2 in
TVNA-PWR115	T series VNA Power supply for 110-120VAC / 60Hz

Accessories

Model	Description
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)
TCAL9N	VNA Calibration Kit, DC - 9 GHz, 50 Ohms, N-Connectors, SHORT N(f) & N(m), OPEN N(f) & N(m), LOAD
	N(f) & N(m), THROUGH N(f)-N(f) & N(m) - N(m)
TCAB-PN6N	Phase Noise Test Cable, DC-6GHz, 50 Ohms, 1m, N(m)-N(m), VSWR 1.1:1
TCAB-PN6NS	Phase Noise Test Cable, DC-6GHz, 50 Ohms, 1m, N(m)-SMA(m), VSWR 1.1:1
TCAB-PN18N	Phase Noise Test Cable, DC-18GHz, 50 Ohms, 1m, N(m)-N(m)
TCAB-PN18NS	Phase Noise Test Cable, DC-18GHz, 50 Ohms, 1m, N(m)-SMA(m)
T5-RM	Rack Mount Kit for T-Series VNAs
T5-FH	Front Handle Kit for T-Series VNAs

