Transcom Instruments
Product Brochure

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AWT Global
Advanced Microwave Technology

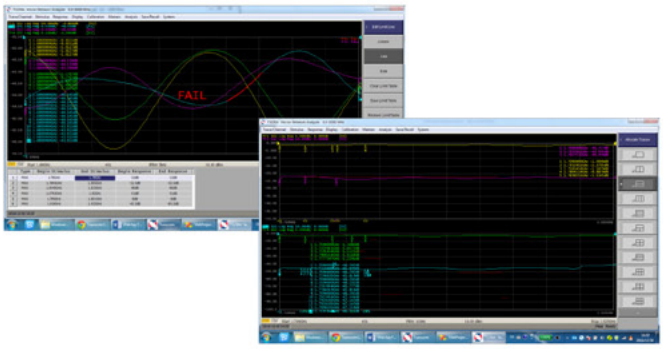
T5000 Series Bench-top Vector Network Analyzer

Overview

T5000 Series Bench-top Vector Network Analyzer offers the high RF performance, wide frequency range and versatile functions. The T5000 Series VNA is the economic solution for manufacturing and R&D engineers evaluating RF components and circuits for frequency range up to 8GHz.

Key Facts

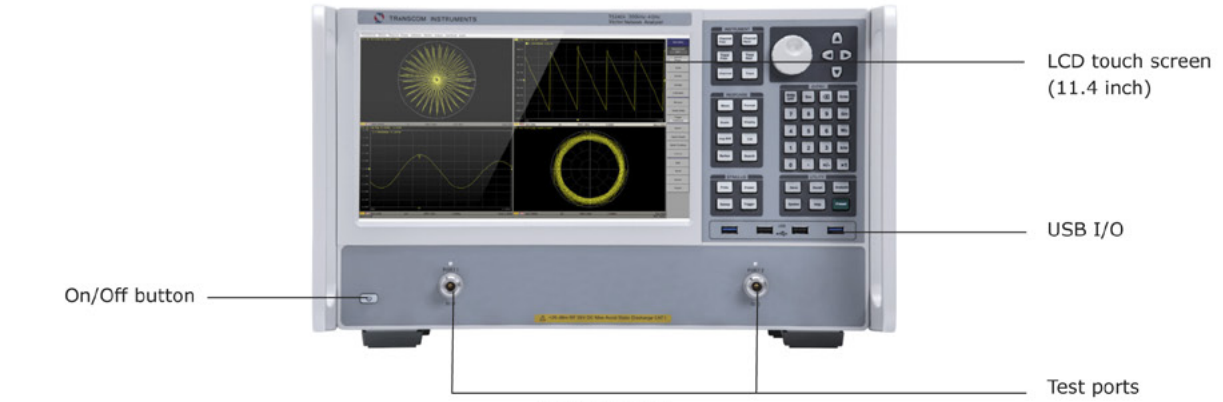
- Frequency Range: 300kHz to 8GHz (T5280A)
  500kHz to 4GHz/6.5GHz (T5240A/T5260A)
- Dynamic Range：117 dB (IFBW=10 Hz),121 dB typical
- Low Noise Level：<-120 dBm (IFBW=10 Hz)
- Low Trace Noise：1 mdB rms (IFBW=3 kHz)
- High Measurement Speed：120μs/point
- High Effective Directivity：>45 dB
- Remote Control： LAN
- Very Low Power Consumption：60W



Innovative Features & Benefits

- Multiple analysis options
- Efficient communication interface for multi-types testing instruments
- Simplified testing manipulation
- Support expanding to 4 ports

Control Elements (T5240A/T5260A)

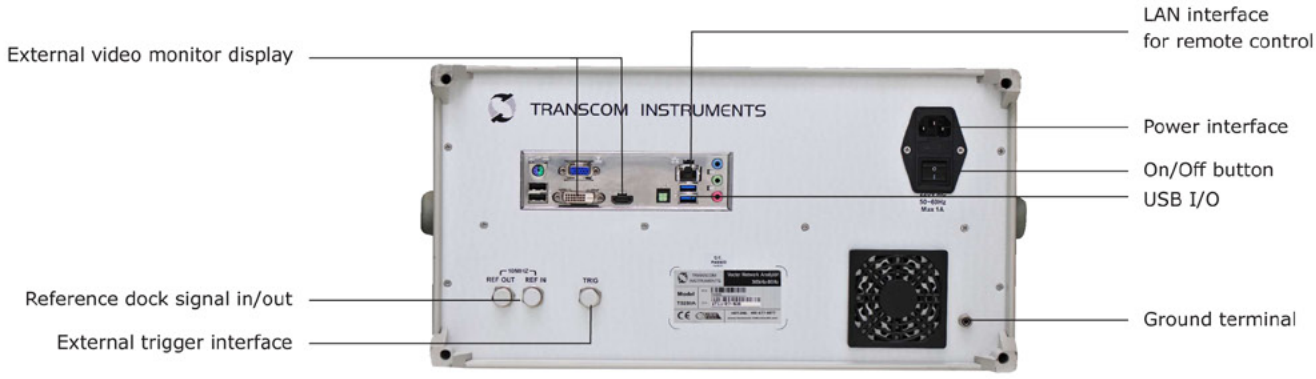


T5240A/T5260A

T5240A/T5260A

Control Elements (T5280A)

T5280A



T5280A

Specifications

Measurement Range			
Product Model	T5240A	T5260A	T5280A
Impedance	50Ω	50Ω	50Ω
Test Port Connector		N-type, female	
Number of Test Ports	2	2 ①	2
Frequency Range	500kHz to 4GHz	500kHz to 6.5GHz	300kHz to 8GHz
Low Noise Level		< -120dBm (IFBW=10 Hz)	
Full CW Frequency Accuracy		±5ppm	
Frequency Resolution	1Hz	1Hz	1Hz
Number of Measurement Points		2 to 10001	
Measurement Bandwidths	1Hz to 50kHz	1Hz to 50kHz	1Hz to 30kHz
Dynamic Range	117dB, typ.121dB	117dB, typ.121dB	125dB, typ.130dB
Measurement Parameters	S11, S21, S12, S22	S11, S21, S12, S22	S11, S21, S12, S22

① Can extend to 4/6 ports

Effective System Data ②			
Product Model	T5240A	T5260A	T5280A
Effective Directivity	42 dB	42 dB	45 dB
Effective Source Match		40 dB	
Effective Load Match	42 dB	42 dB	45 dB

② 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 Accuracy			
Product Model	T5240A	T5260A	T5280A
Accuracy of Transmission Measurements (magnitude / phase)			
+5dB to +15dB	0.2dB/2°	0.2dB/2°	0.2dB/2°
-50dB to +5dB	0.1dB/1°	0.1dB/1°	0.1dB/1°
-70dB to -50dB	0.5dB/3°	0.5dB/3°	0.2dB/2°
-90dB to -70dB	2.5dB/8°	2.5dB/8°	1.0dB/6°
Accuracy of Reflection Measurements (magnitude / phase)			
-15dB to 0dB	0.4dB/3°	0.4dB/3°	0.4dB/3°
-25dB to -15dB	1.0dB/6°	1.0dB/6°	1.0dB/6°
-35dB to -25dB	3.0dB/20°	3.0dB/20°	3.0dB/20°
Trace Stability			
Trace Noise Magnitude (IF bandwidth 3 kHz)	10dB rms	10dB rms	1mdB rms
Temperature Dependence (per one degree of temperature variation)		0.02dB	
Measurement Speed			
Product Model	T5240A	T5260A	T5280A
Measurement Time Per Point	120us	120us	100us
Source to Receiver Port Switchover Time	< 10ms	< 10ms	< 10ms
Typical Cycle Times Versus Number of Measurement Points (IFBW 30kHz) (Unit: ms)	51 201 401 601	51 201 401 601	51 201 401 601
Uncorrected(300kHz to 10MHz) (Unit: ms)	51 points: 13 201 points: 52 401 points:104 601 points: 413	51 points: 13 201 points: 52 401 points:104 601 points: 413	51 points: 13.1 201 points: 51.3 401 points:102.3 601 points: 408.3
Full Two-Port Calibration (300kHz to 10MHz) (Unit: ms)	51 points: 46 201 points: 123 401 points:226 601 points: 844	51 points: 46 201 points: 123 401 points:226 601 points: 844	51 points: 45.5 201 points: 122.0 401 points:230.5 601 points: 840.5

Uncorrected(10MHz to 3GHz/4GHz/6GHz/8GHz) (Unit: ms)	51 points: 7 201 points: 27 401 points:53 601 points: 207	51 points: 7 201 points: 27 401 points:53 601 points: 207	51 points: 7 201 points: 27 401 points:53 601 points: 207
Full Two-Port Calibration (10MHz to 3GHz/4GHz/6GHz/8GHz) (Unit: ms)	51 points: 34 201 points: 73 401 points:125 601 points: 434	51 points: 34 201 points: 73 401 points: 125 601 points: 434	51 points: 32.4 201 points: 61.7 401 points:100.3 601 points: 333.0
Test Port Output			
Product Model	T5240A	T5260A	T5280A
Match (W/O System Error Correction)	18dB	18dB	18dB
Power Range			
300kHz to 4GHz/6GHz	-50dBm to +5dBm		-55dBm to +10dBm
6GHz to 8GHz	NA		-60dBm to +5dBm
Power Accuracy	±1.5 dB		
Power Resolution	0.05dB		
Test Port Input			
Product Model	T5240A	T5260A	T5280A
Match (W/O System Error Correction)	18dB	18dB	18dB
Damage Level	+23 dBm	+23 dBm	+26 dBm
Damage DC Voltage	+35 V		

General Data	
Display	T5240A/T5260A: 11.4 inch TFT color LED, touch screen T5280A: 10.4 inch TFT color LCD, touch screen
External Trigger Input Connector	BNC female, Input level range: 0 to +5 V
External Trigger Ouput Connector&External Reference Input	BNC female; 10 MHz; 2 dBm ± 2 dB
Video Output	DVI/HDMI
USB Connector	Female; provides connection to printer, USB storage
LAN Connector	10/100/1000 Base T Ethernet, 8-pin
Operating Temperature Range	+5°C to +40°C
Storage Temperature Range	-45°C to +55°C
Humidity	90% (25°C)
Atmospheric Pressure	84 to 106.7 kPa
Calibration Interval	3 year
Power Supply	220 ± 22 V (AC), 50 Hz
Power Consumption	60W
Dimensions (W × H × D) mm	T5280A: 440 x 231 x 360 T5240A/T5260A: 440 ×230 ×360
Weight	T5280A: 12.5 kg T5240A/T5260A: 15.5kg

Ordering List

Main Unit Model	
T5240A	2 Ports 500kHz to 4GHz Vector Network Analyzer
T5260A	2 Ports 500kHz to 6.5GHz Vector Network Analyzer
T5280A	2 Ports 300kHz to 8GHz Vector Network Analyzer
Optional Accessories	
Cables	
T5_RFCAB-NmNm_18101	High Precision Test Cable - DC to 18GHz, 50Ω, N(m)-N(m) , 1m
T5_RFCAB-NmSMAm_18102	High Precision Test Cable - DC to 18GHz, 50Ω, N(m)-SMA(m), 1m
T5_RFCAB-NmNm_60101	Precision Test Cable - DC to 6GHz, 50Ω, N(m)-N(m), VSWR<1.1, IL<1.2dB
T5_RFCAB-NmSMAm_60102	Precision Test Cable - DC to 6GHz, 50Ω, N(m)-SMA(m), VSWR<1.1, IL<1.2dB
Connectors	
T9-SMA-KKG	SMA(f) to SMA(f) Connecter-DC to 9GHz, 50Ω SMA(f) to SMA(f), VSWR<1.1
T9-SMA-JKG	SMA(f) to SMA(m) Connecter-DC to 9GHz, 50Ω SMA(f) to SMA(m), VSWR<1.1
T9-SMA-JJG	SMA(m) to SMA(m) Connecter-DC to 9GHz, 50Ω SMA(m) to SMA(m), VSWR<1.1
T9-N-KKG	N(f) to N(f) Connecter-DC to 9GHz, 50Ω N(f) to N(f), VSWR<1.1
T9-N-JKG	N(f) to N(m) Connecter-DC to 9GHz, 50Ω N(f) to N(m), VSWR<1.1
T9-N-JJG	N(m) to N(m) Connecter-DC to 9GHz, 50Ω N(m) to N(m), VSWR<1.1
T9-N/SMA-KKG	SMA(f) to N(f) Connecter-DC to 9GHz, 50Ω SMA(f) to N(f), VSWR<1.1
T9-N/SMA-JKG	SMA(f) to N(m) Connecter-DC to 9GHz, 50Ω SMA(f) to N(m), VSWR<1.1
T9-N/SMA-KJG	SMA(m) to N(f) Connecter-DC to 9GHz, 50Ω SMA(m) to N(f), VSWR<1.1
T9-N/SMA-JJG	SMA(m) to N(m) Connecter-DC to 9GHz, 50Ω SMA(m) to N(m), VSWR<1.1
Calibration Kits	
5901N50	High Precision, DC to 9GHz, 50Ω, N-type Calibration Kit Set
SK-CAL-Set6	High Precision, DC to 6.0GHz, 50Ω, N-type Calibration kit Set, case included
5301N50	High Precision, DC to 3.0GHz, 50Ω, N-type Calibration kit Set, case included
5302N50-H	Economical, DC to 3.0GHz, 50Ω, N-type Male Calibration kit Set, case included
5302N50-F	Economical, DC to 3.0GHz, 50Ω, N-type Calibration kit Set, case included

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 futher 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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