

TRANSCOM INSTRUMENTS

Product Brochure

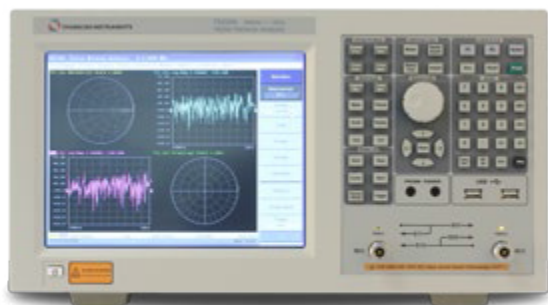
Transcom Instruments
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T5000 Series Bench-top Vector Network Analyzer

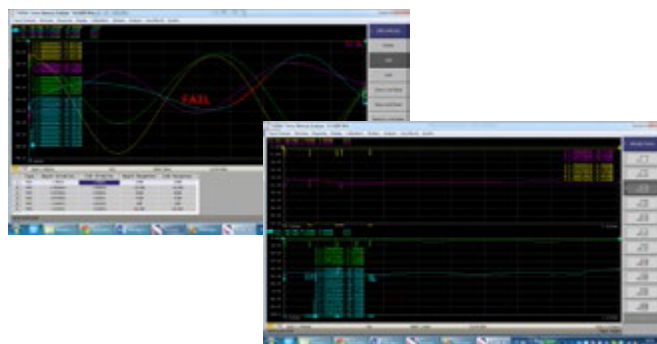


Overview

T5000 Series bench-top vector network analyzer offers the high RF performance, wide frequency range and versatile functions. The T5000 series 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~1.3GHz/3GHz/8GHz (T5113A/ T5230A/ T5280A) 100kHz~8GHz (T5480)
- Dynamic Range: >125 dB (IFBW=10 Hz), 130 dB typical
- Low Noise Level: <-120 dB (IFBW=10 Hz)
- Low Trace Noise: 1 mdB rms (IFBW=3 kHz)
- High Measurement Speed: 100 μ s/point (IFBW=30 kHz)
- High Effective Directivity: >45 dB
- Remote Control: LAN/GPIB/USB
- Very Low Power Consumption: 60W
- “One-Key-Test” Solution



Innovative Features & Benefits



- Multiple analysis options
- Design of efficient communication interface for multi-types testing instruments
- Simplified testing manipulation

Specifications

Measurement Range												
Product Model	T5480A			T5280A			T5230A			T5113A		
Impedance	50Ω			50Ω			50Ω, 75Ω ¹			50Ω, 75Ω ¹		
Test Port Connector	N-type, female											
Number of Test Ports	4			2								
Frequency range	100kHz~8.0GHz			300kHz~8.0GHz			300kHz ~ 3.0GHz			300kHz~1.3GHz		
Full CW Frequency Accuracy	±5×10-6											
Frequency Resolution	1Hz											
Number of Measurement Points	2 ~ 10001									2 ~ 1601		
Measurement Bandwidths	1Hz to 30kHz (in 1 / 1.5 / 2 / 3 / 5 / 7 steps)									1Hz to 30kHz (in 1 / 3 steps)		
Dynamic Range	115 dB, typ. 125 dB (100kHz~300kHz) 135 dB, typ. 140 dB (300kHz~8GHz)			125dB, typ.130dB								
Measurement Parameters	S11, S21, S31, S41, S12, S22, S32, S42, S13, S23, S33, S43, S14, S24, S34, S44			S11, S21, S12, S22			S11, S21, S12, S22			S11, S21		

¹ Use 75 connector via adapter

Effective System Data ¹												
Product Model	T5480A			T5280A			T5230A			T5113A		
Effective Directivity	46			45 dB								
Effective Source Match	40			40 dB								
Effective Load Match	46			45 dB						NA		

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 Accuracy												
Product Model	T5480A			T5280A			T5230A			T5113A		
Accuracy of Transmission Measurements (magnitude / phase)												
+5dB to +15dB				0.2dB/2°						0.2dB/2° (+10dB to +13dB)		
-50dB to +5dB				0.1dB/1°						0.1dB/1° (-50dB to +10dB)		
-70dB to -50dB	1.5 dB/10°(100kHz~300kHz) 0.2dB/2°(300kHz~8GHz)						0.2dB/2°					
-90dB to -70dB	1.0dB/6°(300kHz~8GHz)						1.0dB/6°					
Accuracy of Reflection Measurements (magnitude / phase)												
-15dB to 0dB							0.4dB/3°					
-25dB to -15dB	1.0dB/6°						1.0dB/6°			1.5 dB/7°		
-35dB to -25dB	3.0dB/20°						3.0dB/20°			4.0 dB/22°		
Trace stability												
Trace Noise Magnitude (IF bandwidth 3 kHz)	1m dBrms (100kHz~300kHz) 1m dBrms (300kHz~8GHz)						1m dB rms			2 m dB rms		
Temperature Dependence (per one degree of temperature variation)							0.02dB					

Measurement Speed												
Product Model	T5048A			T5280A			T5230A			T5113A		
Measurement Time Per Point	100ms						125ms			150 ms		
Source to Receiver Port Switchover Time	< 10ms						< 10ms			NA		
Typical Cycle Times Versus Number of Measurement Points (IFBW 30kHz)	51	201	401	1601	51	201	401	1601	51	201	401	1601

Uncorrected (300kHz~10MHz)	13.1ms	51.3ms	102.3ms	408.3ms	13ms	52ms	104ms	413ms	NA
Full Two-Port Calibration (300kHz~10MHz)	45.5ms	122.0ms	230.5ms	840.5ms	46ms	123ms	226ms	844ms	NA
Uncorrected (10MHz~3GHz/8GHz)	6.5ms	21.1ms	40.5ms	157.7ms	7ms	27ms	53ms	207ms	NA
Full Two-Port Calibration (10MHz~3GHz/8GHz)	32.4ms	61.7ms	100.3ms	333.0ms	34ms	73ms	125ms	434ms	NA

Test Port Output

Product Model	T5480A	T5280A	T5230A	T5113A
Match (W/O System Error Correction)	18dB		15dB	20dB
Power Range				
300kHz~1.3GHz/3GHz/6GHz	-60dBm to +10dBm (100kHz~6GHz)	-60dBm to +10dBm	-55dBm to +10dBm	-55 dBm to +3 dBm
6GHz~8GHz	-60dBm to +5dBm	-60dBm to +5dBm	NA	NA
Power Accuracy	±1.5 dB	±1.5dB	±1.0dB	±1.5 dB
Power Resolution	0.05dB			

Test Port Input

Product Model	T5480A	T5280A	T5230A	T5113A
Match (W/O System Error Correction)	18 dB		25dB	30dB
Damage Level	+26dBm			
Damage DC Voltage	+35V			
Noise Level (IF Bandwidth 10 Hz)	-105dBm(100kHz~300kHz) -125dBm (300kHz~8GHz)	< -125dBm	< -120dBm	< -127dBm

General Data

Display	10.4 inch TFT color LCD, touch screen
External Trigger Input Connector	BNC female, Input level range: 0 to +5 V
External Reference Input	BNC female; 10 MHz; 2 dBm ± 3 dB (T5480A) BNC female; 10 MHz; 2 dBm ± 2 dB (T5280A/T5230A/T5113A)
External Reference Output	BNC female; 10 MHz; 3 dBm ± 2 dB (T5480A) BNC female; 10 MHz; 2 dBm ± 2 dB (T5280A/T5230A/T5113A)
VGA Video Output	15-pin mini D-Sub; female; driving the VGA compatible monitors
GPIB Connector (Optional)	24-pin D-Sub (type D-24), female; compatible with IEEE-488
USB Connector	Female; provides connection to printer, ECal module, USB storage
LAN Connector	10/100/1000 Base T Ethernet, 8-pin
Operating Temperature Range	+5°C ~ +40°C
Storage Temperature Range	-45°C ~ +55°C
Humidity	90% (25°C)
Atmospheric Pressure	84 to 106.7 kPa
Calibration Interval	3 yr
Power Supply	220 ± 22 V (AC), 50 Hz
Power Consumption	60W
Dimensions (W × H × D) mm	440 × 231 × 360
Weight	13kg(T5480A) 12.5 kg (T5280A/T5230A) 10kg (T5113A)

Ordering List

Model	Description
T5113A	2 Ports 300kHz~1.3GHz Vector Network Analyzer
T5230A	2 Ports 300kHz~3GHz Vector Network Analyzer
T5280A	2 Ports 300kHz~8GHz Vector Network Analyzer
T5480A	4 Ports 300kHz~8GHz Vector Network Analyzer

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

Headquarter

Add: 6F,Buliding29,No.69 Guiqing Road,Xuhui District,SHANGHAI,PRC.200233
Tel: +86 21 6432 6888
Fax: +86 21 6432 6777
Mail: sales@transcomwireless.com
Web: www.transcomwireless.com



Company Profile