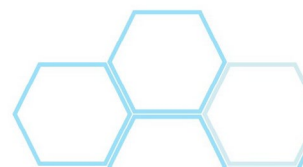
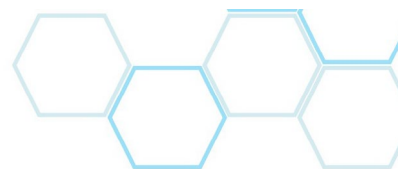


TRANSCOM INSTRUMENTS

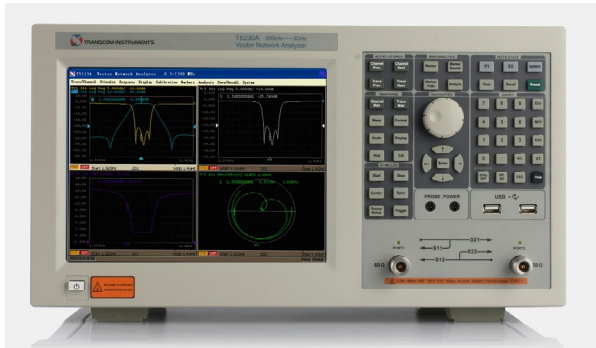
Product Brochure

Transcom Instruments
Product Brochure



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Vector Network Analyzer T5113A/T5230A/T5280A/T5480A



Overview

Transcom T5000 Series 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 Features

- 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

Measurement Range

Product Model	T5480A	T5280A	T5230A	T5113A
Impedance	50 Ω	50 Ω	50 Ω , 75 Ω ¹	50 Ω , 75 Ω 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	$\pm 5 \times 10^{-6}$			
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

¹Use 75 connector via adapter

Effective System Data¹

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

¹Applies over the temperature range of 23°C \pm 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	
One-Path Two-Port Calibration (300kHz~1.3GHz)	NA									9ms	31ms	60ms	235ms
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 \pm 3 dB (T5480A) BNC female; 10 MHz; 2 dBm \pm 2 dB (T5280A/T5230A/T5113A)
External Reference Output	BNC female; 10 MHz; 3 dBm \pm 2 dB (T5480A) BNC female; 10 MHz; 2 dBm \pm 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 \pm 22 V (AC), 50 Hz
Power Consumption	60W
Dimensions (W \times H \times D) mm	440 \times 231 \times 360
Weight	13kg(T5480A) 12.5 kg (T5280A/T5230A) 10kg (T5113A)

Keep innovating for excellence!

About Transcom

Shanghai Transcom Instrument Co., Ltd. (NEEQ: 831961), established in 2005, independently research and develop high-end radio frequency communication testing instruments and is a professional provider of overall testing solutions. Starting from 2009, Transcom, titled as National High-Tech Enterprise and the fostered enterprise by Shanghai Little Giant Project, has undertaken the tasks of development for National "New-Generation Broadband Wireless Mobile Communication Network" and the construction of Shanghai Engineering Research Center for Wireless Communication Testing Instruments.

In 2015, Transcom officially announced its new five-year development strategy "1+3". In detail, Transcom will continue to enhance its potential to be the national team for domestic wireless communication instruments, and develop security software for mobile communication network (network communication/data mining), wireless signal (spectrum monitoring/situation analysis) and Beidou navigation (signal monitoring for satellite navigation/mobile anti-jam verification platform). The strategy has now been implemented systematically with progressive achievements in Shanghai, Guangdong and other cities.

Keep innovating for excellence!



ISO9001



ISO14001

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