

S3085A Vector Network Analyzer

Datasheet



The document applies to the vector network analyzer of the following models:

- S3085A Vector network analyzer (10MHz – 8.5GHz, 2 or 4 ports)

Standard Accessories of S3085 Series Vector network analyzer

Item	Name	Qty
1	Main Machine(Includes test software and license software)	1 Set
2	Power Cord	1 pcs
3	User Manual	1 pcs
4	CD or U disk	1 pcs

Options of the S3085 Series Vector network analyzer

Part No.	Name	Description
S3085A-400	Four-port Measurement	Four port option for S3085A VNA
S3085A-H01	N Type Calibration Kit	DC - 9GHz, Male
S3085A-H02	N Type Calibration Kit	DC - 9GHz, Female
S3085A-H03	N Type Calibration Kit	DC - 9GHz, Kit
S3085A-H04	3.5mm Calibration Kit	DC- 9GHz, Male
S3085A-H05	3.5mm Calibration Kit	DC - 9GHz, Female
S3085A-H06	3.5mm Calibration Kit	DC - 9GHz, Kit
S3085A-H07	3.5mm Adapter	3.5mm, Male
S3085A-H08	3.5mm Adapter	3.5mm, Female
S3085A-H09	N Type Adapter	N Type, Male
S3085A-H10	N Type Adapter	N Type, Female
S3085A-H11	Phase stable test cable	18GHz, 80cm, N Type (M to M)
S3085A-H12	Phase stable test cable	18GHz, 80cm, SAM (M to M)
S3085A-H13	Phase stable test cable	18GHz, 80cm, SAM - N (M to M)
S3085A-H14	Phase stable test cable	18GHz, 60cm, N Type(M to M)
S3085A-H15	Phase stable test cable	18GHz, 60cm, SAM(M to M)
S3085A-H16	Phase stable test cable	18GHz, 60cm, SAM-N(M to M)

Part No.	Name	Description
S3085A-H17	Torque Wrench	8mm-0.9Nm (3.5mm)
S3085A-H18	Torque Wrench	19mm-1.35Nm (N Type)
S3085A-S01	RTL - 2*2 Port	VNA Lic-2*2 Port Test and analyze licensed software V1.0; Enables the VNA to virtually test 2 2-port sub-instruments in parallel
S3085A-S02	VNA -TDR	VNA -TDR Test and analyze licensed software V1.0; Equips the VNA with time domain reflection analysis

Preface

Thanks for choosing S3085A vector network analyzer produced by Saluki Technology Inc.

Document No.

S3085A

Version

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Saluki Technology

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The warranty period of the product is 36 months from the date of delivery.

Product Quality Certificate

The product meets the indicator requirements of the document at the time of delivery. Calibration and measurement are completed by the measuring organization with qualifications specified by the state, and relevant data are provided for reference.

Quality/Environment Management

Research, development, manufacturing and testing of the product comply with the requirements of the quality and environmental management system.

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1 Overview

S3085A vector network analyzer with a frequency range of 10MHz to 8.5GHz, with 2-port and 4-port options. It is suitable for mobile communication, satellite, radar and other fields, and can provide customers with accurate measurements in the R&D and production of radio frequency components such as filters, antennas, circulators, isolators, amplifiers, switches, etc.

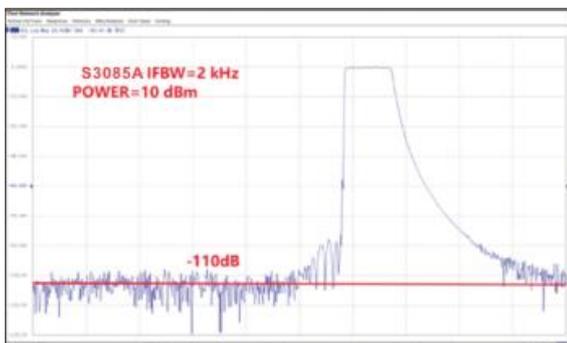
S3085A vector network analyzer has leading performance in the same type of instrument. Its dynamic range, measurement speed and trace noise are better than similar products in the market. Its high temperature stability, high calibration consistency and high reliability ensure long-term operation. Precise measurement results.

S3085A vector network analyzer has complete measurement and calibration functions such as limit test, port extension, fixture simulation, etc. It is compatible with existing mainstream calibration components and software interfaces, enabling customers to smoothly migrate existing calibration components, equipment software, tools and matrix switches.

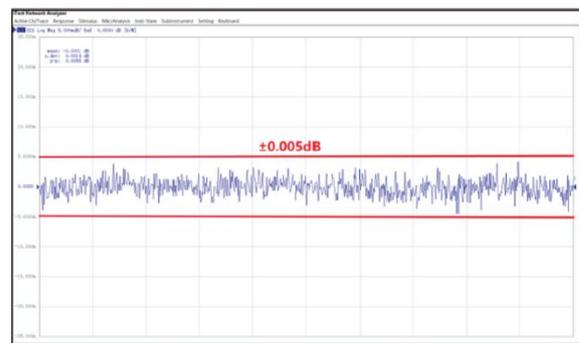
S3085A vector network analyzer is an integrated design of buttons for desktop instruments and 10.4-inch touch screen, and the menu design is consistent with industry usage habits, which is convenient and easy to use.

Key Features

- Frequency Range: 10MHz to 8.5 GHz
- Dynamic Range: 130 dB
- Ultra-low trace noise: <0.005dB RMS (IFBW=70 kHz)
- Ultra-high temperature stability: <0.01 dB/°C
- Support TDR Time Domain Impedance Test
- Perfect calibration algorithm (including SOLT, SOLR, TRL, Response calibration, etc.)
- Supports major mechanical and electronic calibration kits
- Support automatic port extension
- Compatible with control interfaces such as VISA and SCPI of mainstream products, and compatible with customers' existing test software
- Compatible with the software UI of mainstream products, in line with the user's operating habits
- Supports fixture simulation (de-embedding, port matching, impedance conversion, baluns, etc.)
- 10.4-inch touch screen, clearly display test data, effectively improve application efficiency



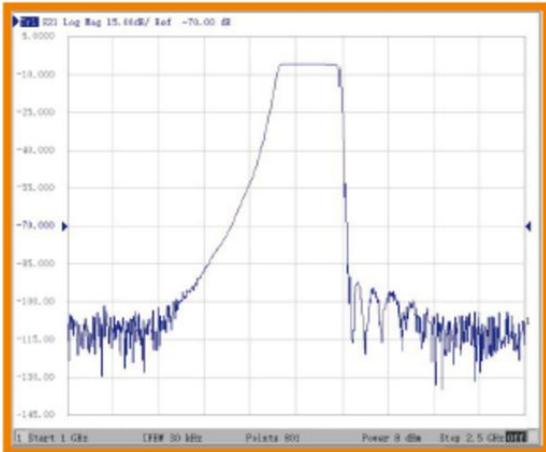
S3085A Dynamic Range



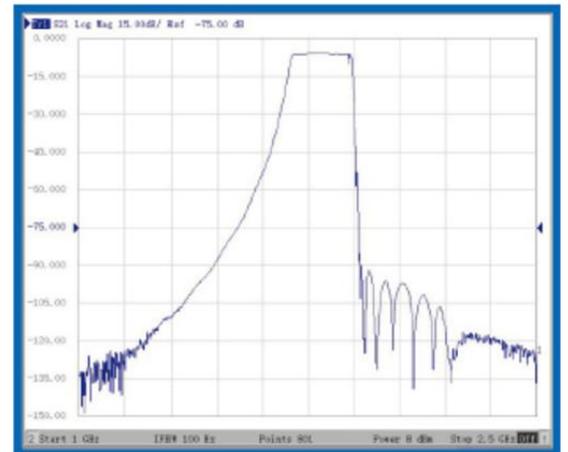
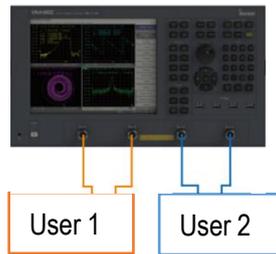
Ultra-low trace noise: <0.005dB RMS (IFBW=70 kHz)

Multi-user sub-instrument function that saves investment for customers

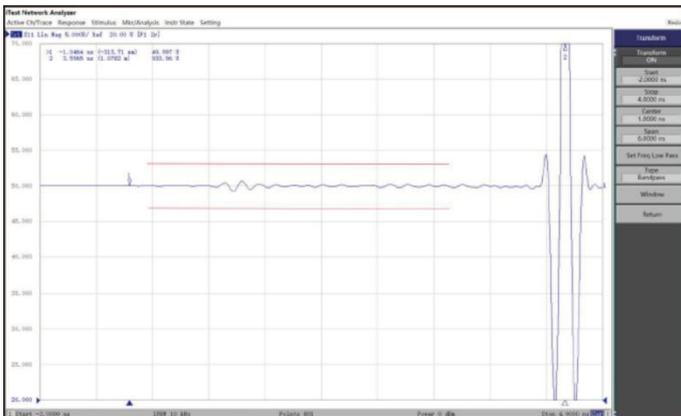
- A four-port S3085A can be assigned to two users to use at the same time, and each user uses two ports, and it does not affect each other when the two users set different IF bandwidths. It is truly used as two 2-port network analyzers.



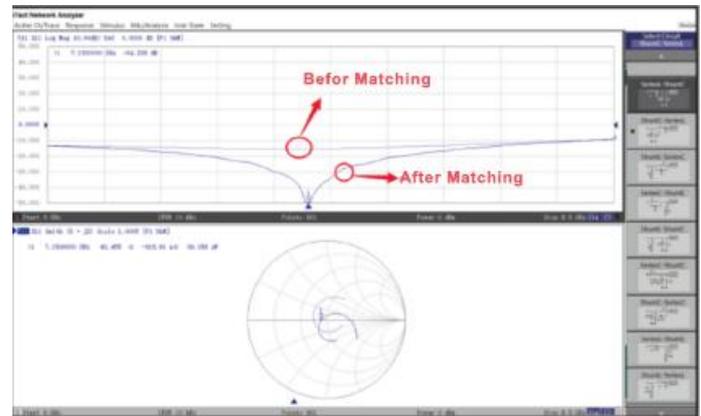
IFBW set by user 1 is 30KHz



IFBW set by user 2 is 100Hz



TDR time domain impedance test effect



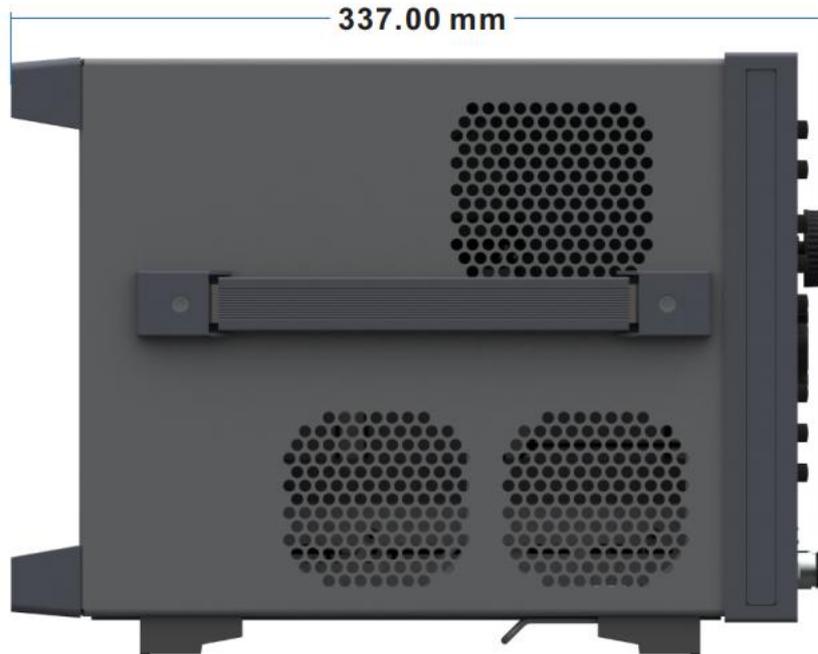
The virtual impedance matching function helps customers to complete impedance testing and impedance matching simulation in one-stop on vector network

Panel Description

➤ Front panel



➤ Side panel



2 Technical Specifications

2.1 System Measurement Range

Module	S3085A	
System Impedance	50 Ω (75 Ω via adapter)	
Test Port Connector Type	N-Type, Female	
Number of Test Ports	2 or 4	
Frequency Range	10MHz to 8.5GHz	
Frequency Setting Resolution	1Hz	
Output Power Range	10MHz to 8.5GHz	-55dBm to +10dBm
Power Setting Resolution	0.05dB	
Number of Measurement Points	1 to 20,001	
System Bandwidth(IFBW)	10Hz to 1.5MHz	
System Dynamic Range: (RF Range Fixed Mode=OFF) @IFBW=10Hz	10MHz to 6GHz	128db
	6GHz to 8.5GHz	122dB
Cross Talk	10MHz to 6GHz	-120dB
	6GHz to 8.5GHz	-100dB

2.2 Measurement Accuracy(Uncertainty)

Parameters	Specifications
Trace Noise:	
Transmission	5mdB rms (IFBW=70kHz)
Reflection	6mdB rms (IFBW=70kHz)
Temperature Stability	
10MHz to 3GHz	Typ. 0.005 dB/°C
3GHz to 6GHz	Typ.0.01 dB/°C
6GHz to 8.5GHz	Typ.0.04 dB/°C

2.3 Corrected System Effective Data

Parameters	Specifications		
Description	10MHz to 3GHz	3GHz to 6GHz	6GHz to 8.5GHz
Directivity	44 dB	38 dB	38 dB
Source Match	40 dB	37 dB	36 dB
Load Match	44 dB	38 dB	38 dB

2.4 Uncorrected System Raw Data

Parameters	Specifications		
Description	10MHz to 3GHz	3GHz to 6GHz	6GHz to 8.5GHz
Directivity	20 dB	20 dB	15 dB
Source Match	20 dB	20 dB	15 dB
Load Match	15 dB	12 dB	10 dB

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