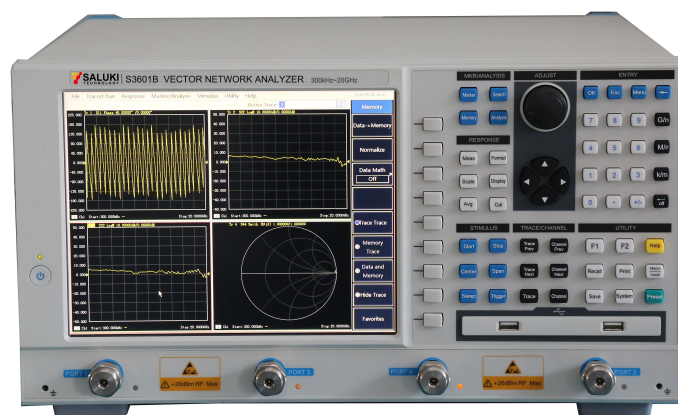


S3601B Series Vector Network Analyzer Datasheet



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

- S3601B Vector network analyzer (100kHz – 8.5GHz).

Standard Accessories of S3601B Vector network analyzer

Item	Name	Qty
1	Main Machine	1 Set
2	Power Cord	1 pcs
3	User Manual	1 pcs
4	CD or U disk	1 pcs

Options of the S3601B Vector network analyzer

Part No.	Name	Description
S3601B-02	N-type testing cable	GORE-OSZKUZZKU0240, dual male, 60cm
S3601B-03	N-type testing cable	GORE-OSZKUZZKV0240, female-male, 60cm
S3601B-07	Economical stable phase testing cable	Saluki-N/J.SMA/J.197C-800, N-type to 3.5mm connector, dual male, 80cm
S3601B-08	Economical stable phase testing cable	Saluki-N/J.N/K.197C-800, N-type connector, female-male, 80cm
S3601B-09	Economical stable phase testing cable	Saluki-N/J.N/J.197C-800, N-type connector, dual male, 80cm
S3601B-11	20402 Electronic calibration kit	300kHz - 18GHz, N -type (female to male), 2 port
S3601B-12	20403 Electronic calibration kit	10MHz - 26.5GHz, 3.5mm (female to male), 2 port
S3601B-13	20405 Electronic calibration kit	10MHz - 20GHz, 3.5mm (female), 4 port
S3601B-16	Aluminum carrying case	\
S3601B-18	2813A 4-port test equipment	Need option S3601B-29
S3601B-19	Cabinet	Easy to build system
S3601B-21	20201 N-type calibration kit	DC - 9GHz
S3601B-22	20202 3.5mm calibration kit	DC - 9GHz
S3601B-23	32111 waveguide calibration kit	1.72GHz - 2.61GHz
S3601B-24	32112 waveguide calibration kit	2.6GHz - 3.95GHz

Part No.	Name	Description
S3601B-25	32113 waveguide calibration kit	3.94GHz - 6.0GHz
S3601B-26	32114 waveguide calibration kit	4.64GHz - 7.05GHz
S3601B-27	32115 waveguide calibration kit	5.88GHz - 8.17GHz
S3601B-28	32116 waveguide calibration kit	7.0GHz - 10.0GHz
S3601B-29	Front panel jumper	Supports 4-port extension and receiver through test

Preface

Thanks for choosing S3601B vector network analyzer produced by Saluki Technology Inc.

Document No.

S3601-02-01

Version

Rev04 2019.04

Saluki Technology

Document Authorization

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Product Quality Assurance

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

S3601B vector network analyzer is suitable for industries like wireless communication, CATV, automotive and education. S3601B is capable to do amplitude, phase, group delay S parameter measurement of filters, amplifiers, antennas, cables, connectors etc. S3601B uses Window XP system and provide multi display format, multi calibration types, multi window display and flexible interfaces.

Definitions

Instrument specifications listed in this datasheet applies to all different configurations S3601B VNA unless options are clearly noted.

Specification (Spec.)

Specifications describe the performance of parameters within the warranty of the instrument. Product specifications applies under the following conditions:

- 90 min warming up
- Environmental temperature of 25°C ($\pm 5^\circ\text{C}$) with less than 1°C deviation from the calibration temperature
- Specifications include measurement uncertainties

Data in this document are Spec. unless otherwise noted.

Typical (typ.)

Typical data is not guaranteed by instrument warranty. It describes additional product performance information that 80 percent of the units' exhibit. Typical data only valid at 25°C. Typical performance does not include measurement uncertainty.

Nominal(nom.)

Nominal values indicate expected performance, or describe product performance that is useful in the application of the product, but are not covered by the product warranty.

Calibration Kit

Corrected system in this document is calibrated with following calibration kit:

- SAV20205 N Type Mechanical Calibration Kit (DC – 3GHz)
- SAV20201 N Type Mechanical Calibration Kit (DC – 9GHz)

2 Specifications

2.1 Frequency

	S3601B	
Frequency Range	100KHz - 8.5GHz	
Frequency Resolution	1Hz	
Frequency Accuracy	5×10^{-6} , (23°C±3°C)	

2.2 Test Port Specification

2.2.1 Power Setting Range

	S3601B	
Output Power Range (Full Frequency)	-55 to +10dBm	

2.2.2 Power Resolution

	S3601B	
Power Resolution	0.01dB	

2.2.3 Damage Level

	S3601B	
Damage Level	+26dBm	

2.2.4 Output Harmonics

	S3601B	
Output Harmonics (Output Power +5dBm)	≤-18dBc	
Non Harmonics (Output Power +5dBm, 1kHz offset)	≤-20dBc	

2.3 Network Specifications

2.3.1 System Dynamic Range

			S3601B		
			Frequency range	IF=10Hz(dB)	IF=3KHz(dB)

			100KHz - 20MHz	110dB	80dB
			20MHz - 3GHz	125dB	95dB
			3GHz - 6GHz	123dB	93dB
			6GHz - 8.5GHz	118dB	88dB

2.3.2 Noise Floor

- IFBW=10Hz

		Frequency range	S3601B
		100KHz - 20MHz	-95dBm
		20MHz - 3GHz	-115dBm
		3GHz - 6GHz	-115dBm
		6GHz - 8.5GHz	-115dBm

2.3.3 Corrected System Performance

Measurement environmental temperature 23° ±3 °C, with < 1 °C deviation from calibration temperature.

- Test cables

SCAVNA18MM-(N/N)	Saluki N Type test cable
SCAVNA18MF-(N/N)	Saluki N Type test cable

- Calibration Kit

SAV20201 N type mechanical calibration kit (DC – 9GHz)

SAV20205 N type mechanical calibration kit (DC – 3GHz)

		S3601B	
		Frequency	Figure
Effective Directionality		100kHz - 3GHz	46 dB
		3GHz - 6GHz	40 dB
		6GHz - 8.5GHz	38 dB
Effective Source Match		100kHz - 3GHz	36 dB

			S3601B		
			3GHz - 6GHz	35 dB	
			6GHz - 8.5GHz	33 dB	
	Effective Load Match			100kHz - 3GHz	44 dB
				3GHz - 6GHz	40 dB
		6GHz - 8.5GHz	36 dB		
Reflection Tracking			100kHz - 3GHz	±0.03 dB	
			3GHz - 6GHz	±0.04 dB	
			6GHz - 8.5GHz	±0.05 dB	
Transmission Tracking			100kHz - 3GHz	±0.03 dB	
			3GHz - 6GHz	±0.04 dB	
			6GHz - 8.5GHz	±0.05 dB	

2.3.5 Trace Noise

	S3601B		
		Frequency range	Figure
Magnitude Trace Noise (IF = 3kHz)		100kHz - 10MHz	0.03dB
		10MHz - 3GHz	0.001 dB
		3GHz - 8.5GHz	0.002 dB
Phase Trace Noise (IF = 3kHz)		100kHz - 10MHz	0.3°
		10MHz - 3GHz	0.01°
		3GHz - 8.5GHz	0.06°

2. 4 General

Measurement Domain	Frequency & Time
Measurement Format	<ul style="list-style-type: none"> ● Rectangular coordinate format: Log, Lin, phase, group delay, SWR, real, image ● Smith chart ● Polar coordinate
Channel	Max. 64 independent channels
Display window	Max 32 windows Max 8 traces per window
IF Bandwidth	1Hz - 5MHz (Stepping by 1,2,3,5,7)
Sweep Type	Linear Frequency, Logarithmic frequency, Power sweep, CW sweep, Segment sweep
Sweep Point	1 - 16001
Average Factor	1 - 1024
Magnitude Display Resolution	0.001dB/div
Phase display Resolution	0.01°/div
Reference Level Magnitude	-500 ~ +500dB
Input Reference Phase Range	-500 ~ +500°
Port Connector Type	N type (Female), 50 Ω impedance / Optional 75Ω
Measurement of Ports	2 port Standard
Peripheral Interface	USB, GPIB, VGA, LAN
Operating System	Windows xp/ 7
Dimension (LxHxW)	435 x 233 x 348 (W x H x D)
The Maximum Power Consumption	150W
Maximum Weight	16kg

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