



S3601D Vector Network Analyzer

Datasheet

Saluki Technology Inc.

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

- S3601D vector network analyzer (300kHz - 20GHz).

Standard Accessories of S3603D 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 S3603D Vector network analyzer

Part No.	Name	Description
S3601D-12	20403 Electronic calibration kit	10MHz - 26.5GHz, 3.5mm (female to male), 2 port
S3601D-13	20405 Electronic calibration kit	10MHz - 20GHz, 3.5mm (female), 4 port
S3601D-19	Cabinet	Easy to build system
S3601D-30	3.5mm calibration kit	DC - 26.5GHz
S3601D-31	3.5NMD/3.5mm-KJ testing cable	\
S3601D-32	3.5NMD/3.5mm-KK testing cable	\
S3601D-33	3.5mm testing cable	GORE-FB0HA0HB025.0
S3601D-34	3.5mm testing cable	GORE-FB0HA0HC025.0
S3601D-35	2-port option	\
S3601D-37	4-port option	\
S3601D-38	Aluminum carrying case	\

Preface

Thanks for choosing S3601D vector network analyzer produced by Saluki Technology Inc.

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Version

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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

S3601D is a powerful and efficient Vector Network Analyzer widely used in industries like wireless communications, cable TV, automotive electronics etc. S3601D is capable to do an accurate measurement to filters, amplifiers, antenna, cable etc. S3601D has a LCD screen and a friendly GUI. It also supports various interfaces such as USB, LAN, GPIB and VGA to build a measurement system.

S3601D Vector Network Analyzer has powerful functions such as time domain and frequency domain, and provide multiple display in formats such as logarithm magnitude, linear magnitude, standing-wave ratio (SWR), phase, group delay, Smith circle diagram Smith chart and polar coordinates as well as multiple calibrations including the calibration of response, single port, response isolation and enhanced response, the calibration of full double ports and the electric calibration.

Definitions

Instrument specifications listed in this datasheet applies to all different configurations S3603D 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.

2 Specifications

2.1 Frequency

	S3601D
Frequency Range	300kHz - 20GHz
Frequency Resolution	1Hz
Frequency Accuracy	$\pm 1 \times 10^{-6}$, (23°C ± 3 °C)

2.2 Network Specifications

2.2.1 System Dynamic Range

- Setting: IF bandwidth: 10Hz

Frequency range	2-port	4-port
300kHz - 100MHz	95dB	90dB
100MHz - 1GHz	110dB	100dB
1GHz - 6GHz	120dB	115dB
6GHz - 8GHz	117dB	110dB
8GHz - 10GHz	115dB	105dB
10GHz - 15GHz	110dB	100dB
15GHz - 20GHz	100dB	90dB

2.2.2 Reflection Track

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

Frequency range	Specification
300kHz - 10MHz	± 0.03 dB
10MHz - 3GHz	± 0.04 dB
3GHz - 20GHz	± 0.05 dB

2.2.3 Transmission Track

Frequency range	Specification
300kHz - 10MHz	±0.03dB
10MHz - 3GHz	±0.04dB
3GHz - 6GHz	±0.10dB
6GHz - 20GHz	±0.15dB

2.2.4 Effective Directivity

Frequency range	Specification
300kHz - 10MHz	46dB
10MHz - 3GHz	42dB
3GHz - 6GHz	38dB
6GHz - 20GHz	36dB

2.2.5 Effective Source Match

Frequency range	Specification
300kHz - 10MHz	37dB
10MHz - 3GHz	37dB
3GHz - 6GHz	31dB
6GHz - 20GHz	28dB

2.2.6 Effective Load Match

Frequency range	Specification
300kHz - 10MHz	44dB
10MHz - 3GHz	42dB

3GHz - 6GHz	38dB
6GHz - 20GHz	36dB

2.3 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 to +500dB
Input Reference Phase Range	-500 to +500°
Port Connector Type	3.5mm (male), 50 Ω impedance
Number of Test Ports	2/4
Number of Test Receivers	2/4
Time-base Reference Output	Output frequency: 10MHz, Output level: +10dBm ± 4dB
Peripheral Interface	USB, GPIB, VGA, LAN
Operating System	Windows xp/ Windows 7

Dimension (W x H x D)	436*236.5*410
The Maximum Power Consumption	150W
Weight	18kg
Display	10.4-inch high brightness LCD
Power Supply	50Hz single phase 220V or 50Hz/60Hz single phase 110V AC

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