



## S3631 Series Vector Network Analyzer Datasheet



Saluki Technology Inc.

### The datasheet applies to the vector network analyzer below:

- S3631C Vector Network Analyzer (300kHz-3GHz).
- S3631D Vector Network Analyzer (300kHz-8GHz).

## Preface

Thanks for choosing S3631 vector network analyzer produced by Saluki Technology Inc. We devote ourselves to meeting your demands, providing you high-quality measuring instrument and the best after-sales service. We persist with “superior quality and considerate service”, and are committed to offering satisfactory products and service for our clients.

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## Authorization

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## Product Quality Assurance

The warranty period of the product is 36 months from the date of delivery. The instrument manufacturer will repair or replace damaged parts according to the actual situation within the warranty period. The user should return the product to the manufacturer and prepay mailing costs. The manufacturer will return the product and such costs to the user after maintenance.

## 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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## Content

1. Overview.....	5
2. Specification Details.....	5
2.1. Frequency.....	5
2.2. Network Parameter.....	5
2.3. Test Port Output.....	6
2.4. Test Port Input.....	6
2.5. Sweep Feature.....	6
2.6. Typical Circle Time (IFBW 30kHz).....	7
2.7. Measurement Capabilities.....	7
2.8. General.....	8

## 1. Overview

Saluki S3631 Series vector network analyzer is an economic series VNA products. S3631 covers a frequency range from 300kHz - 8GHz and provides good noise level, dynamic range specifications. S3631 is positioned as an economic VNA solution for manufacturing and R&D of RF components and circuits.

### Key Features

- Frequency Range: 300kHz~1.3GHz/3GHz/8GHz
- Dynamic Range: >125 dB (IFBW=10 Hz), 130 dB typical
- Low Noise Level: <-120 dB (IFBW=10 Hz)
- Low Trace Noise: 1 m dB rms (IFBW=3 kHz)
- High Measurement Speed: 100  $\mu$  s/point (IFBW=30 kHz)
- High Effective Directivity: >45 dB
- Remote Control: LAN/GPIB/USB
- Low Power Consumption: 60W

## 2. Specification Details

### 2.1. Frequency

	S3631C	S3631D
Frequency range	300 kHz - 3.0 GHz	300kHz - 8GHz
Frequency accuracy	$\pm 5 \times 10^{-6}$	$\pm 5 \times 10^{-6}$
Frequency resolution	1Hz	1Hz

### 2.2. Network Parameter

	S3631C	S3631D
Dynamic range (IF bandwidth 10 Hz)	125dB 130dB(typ.)	
Effective directivity	45 dB	45 dB
Effective source match	40 dB	40 dB
Effective load match	45 dB	45 dB

## 2. 3. Test Port Output

	S3631C	S3631D
Power range	-55dBm to +10dBm	-60dBm to +10dBm ( 300 kHz to 6.0 GHz ) -60dBm to +5dBm ( 6.0 GHz to 8.0 GHz )
Power accuracy	±1.0dB	±1.5dB
Power resolution	0.05dB	0.05dB
Harmonics distortion	< -30dBc	< -25dBc
Non harmonics distortion	< -30dBc	< -30dBc

## 2. 4. Test Port Input

	S3631C	S3631D
Damage level	+ 26dBm	+ 26dBm
Damage DC voltage	+ 35V	+ 35V
DANL (IFBW=10 Hz)	- 120dBm	- 120dBm
Magnitude Trace noise (IFBW 3 kHz)	1m dB rms	1m dB rms

## 2. 5. Sweep Feature

	S3631C	S3631D
Sweep Point	2 -10001	2 -10001
Sweep type	Linear, logarithmic, segment, power.	
Power Sweep Range	-55dBm- +3dBm, resolution 0.05dB	-60dBm- +10dBm, resolution 0.05dB
Trigger Mode	continuous, single, hold	
Measurement time per point	125ms	100ms
Source to receiver port switchover time	< 10ms	< 10ms

## 2. 6. Typical Circle Time (IFBW 30kHz)

Calibration Type	Point	S3631C	S3631D
		Cycle Time (ms)	
One-path two-port calibration (300 kHz - 1.3 GHz)	51	13	13.1
	201	52	51.3
	401	104	102.3
	1601	413	408.3
Full two-port calibration (300kHz - 10MHz)	51	46	45.5
	201	123	122
	401	226	230.5
	1601	844	840.5
Uncorrected (10MHz - Max. Freq)	51	7	6.5
	201	27	21.1
	401	53	40.5
	1601	207	157.7
Full two-port calibration (10MHz - Max. Freq)	51	34	32.4
	201	73	61.7
	401	125	100.3
	1601	434	333

## 2. 7. Measurement Capabilities

	S3631C	S3631D
Measured parameters	S11, S12, S21 & S22	S11, S12, S21 & S22
Number of measurement channels	16 channels	16 channels
Data traces	16 traces / channel	16 traces / channel
Memory traces	16 traces	16 traces
Data display formats	Logarithmic magnitude, linear magnitude, phase, expanded phase, group delay, SWR, real and imaginary parts, Smith chart diagram and polar diagram.	

## 2. 8. General

	<b>S3631C</b>	<b>S3631D</b>
Display	10.4 inch TFT color LCD, touch screen	
External trigger input connector	BNC female, Input level range: 0 to +5V	
External reference frequency	BNC female; 10 MHz; 2 dBm ± 2 dB	
Interfaces	VGA, GPIB(option), USB, LAN	
Operating temperature range	+5°C to +40°C	
Storage temperature range	-45°C to +55°C	
Humidity	90% (25°C)	
Calibration interval	2 years	3 years
Power supply	220 ± 22 V (AC), 50 Hz Battery.11000mAH,12V,DC-AC adapter	
Power consumption	60W	
Dimensions (W x H x D) in mm	440 x 231 x 360	
Weight	12.5 kg	12.5 kg

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