



S3532 Series Spectrum Analyzer

Datasheet



Saluki Technology Inc.

The document applies to the instruments of the following models:

- S3532A spectrum analyzer (9kHz-3.6GHz).
- S3532B spectrum analyzer (9kHz-7.5GHz).

Standard Accessories of S3532 spectrum analyzer

| Item | Name | Qty |
|------|--------------|-------|
| 1 | Main Machine | 1 Set |
| 2 | Power Cord | 1 pcs |
| 3 | CD | 1 pcs |

Options of the S3532 spectrum analyzer:

| Option No. | Item | Description |
|------------|----------------------------|----------------------------------|
| S3532-01 | Field Strength Measurement | / |
| S3532-02 | Near Field Probe Kit | / |
| S3532-03 | Frequency Identity Module | / |
| S3532-04 | Directional Antenna | Frequency range: 600MHz - 8GHz |
| S3532-05 | Omnidirectional Antenna | Frequency range: 300MHz - 7.5GHz |
| S3532-06 | SWR Bridge | Frequency range: 10MHz - 3.6GHz |
| S3532-07 | USB Power Sensor | Frequency range: 10MHz - 6GHz |
| S3532-08 | RF Demonstration Kit | / |

Preface

Thanks for choosing Saluki Technology Inc instrument. 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.

Document No.

S3532-02-01

Version

Rev02 2019.05

Saluki Technology

Authorization

The information contained in this datasheet is subject to change without notice. The power to interpret the contents of and terms used in this Document rests with Saluki.

Saluki Tech owns the copyright of this datasheet which should not be modified or tampered by any organization or individual, or reproduced or transmitted for the purpose of making profit without its prior permission, otherwise Saluki will reserve the right to investigate and affix legal liability of infringement.

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.

Contacts

Service Tel: 886.909 602 109

Website: www.salukitec.com

Email: sales@salukitec.com

Address: No. 367 Fuxing N Road, Taipei 105, Taiwan (R.O.C.)

Content

| | |
|--|---|
| 1. Overview..... | 5 |
| 2. Specification Details..... | 5 |
| 2.1. Frequency..... | 5 |
| 2.2. Amplitude..... | 6 |
| 2.3. Input /Output..... | 6 |
| 2.4. RBW..... | 6 |
| 2.5. DANL (0dB attenuation, RBW=1Hz) | 7 |
| 2.6. Phase Noise..... | 7 |
| 2.7. Sweep Time..... | 7 |
| 2.8. Spurious Response..... | 8 |
| 2.9. Tracking Generator..... | 8 |
| 2.10. General..... | 8 |

1. Overview

S3532 series spectrum analyzer covers a frequency range up to 7.5GHz. It provides a good performance with a low cost. S3532 is a good choice for RF product manufacturing and maintenance. S3532 has rich measurement functions, including spectrum analysis, network measurement, field strength measurement, channel scanning, analog demodulation, and template alarm settings. Standard tracking source is provided for test need stimulus signal. It also provides telecommunication ports such as USB and LAN for remote data collection and remote control. Using the standard SCPI command set, user can quickly set up and upgrade an integrated test system for measurement.

S3532 series handheld spectrum analyzer has compact structure and a good performance. S3532 can be used in aerospace, microwave communication, satellite navigation, radar monitoring, electronic detection and countermeasures, precision guidance and other fields.

Key Features

- Frequency range: 9kHz - 3.6GHz / 7.5GHz
- Resolution bandwidth: 1Hz -3MHz
- Sensitive, standard pre-amplifier, best DANL < -160dBm
- Multi-window, multi-trace, clear display
- Dual signal source (tracking source and normal source)
- Standard LAN and USB interface, support SCPI
- Standard AM,FM demodulation functions
- Standard FFT 1Hz resolution bandwidth function
- Standard 3.2GHz / 3.6GHz tracking source function
- Support field strength measurement, frequency discrimination test, Pass-fail, S11 and S21, channel measurement, etc. Functions

2. Specification Details

2. 1. Frequency

| | S3532A | S3532B |
|-----------------------------------|---|---------------|
| Frequency range | 9kHz - 3.6GHz | 9kHz - 7.5GHz |
| Resolution | 1Hz | 1Hz |
| Frequency readout accuracy | $\pm (\text{frequency indication} \times \text{frequency reference} + 1\% \times \text{span} + 10\% \times \text{RBW} + 0.5 \times [\text{span}/(\text{number of sweep points}-1)] + 1\text{Hz})$ | |
| Aging Rate | $\pm 1\text{ppm/year}$ | |

| | |
|-----------------------|-----------------------|
| Temperature stability | ±0.5ppm (15°C ~ 35°C) |
|-----------------------|-----------------------|

2. 2. Amplitude

| | S3532A | S3532B |
|---|-------------------------------------|--|
| Amplitude | | |
| Measurement Range (fc≥10MHz) | DANL to +27dBm | DANL to +20dBm |
| Maximum Safe Input Level | +27dBm | +23dBm |
| Maximum DC Voltage | 50Vdc | 50Vdc |
| Input Attenuator Range | 0 - 39dB, Steps of 3 dB | 0 - 30dB, Steps of 1 dB |
| Test Port VSWR | < 2.0:1 | 9kHz – 3.4GHz: < 2.0:1 3.4GHz – 7.5GHz: < 2.5:1 |
| Reference Level Range | -80dBm to +30dBm, step in 1dB | -80dBm to +30dBm, step in 1dB |
| 1dB compression | +7dBm | +10dBm |
| Amplitude Accuracy (20°C - 30°C) | | |
| Comprehensive amplitude accuracy (90%) | Input range: 0dBm to -50dBm, ±1.5dB | |

2. 3. Input /Output

| | S3532A | S3532B |
|------------------------|-----------------------------------|------------------------------|
| RF Input/Output | Type -N female (50Ω) | |
| USB | USB 1.1 B, USB 2.0 A | |
| LAN | 10/100 Base-T, RJ-45 Connectivity | |
| AF Output | 3.5mm mini jack for headphones | |
| Reference input/output | 10MHz: Input level 0dBm to +10dBm | |
| | BNC female: Output level 0dBm±2dB | |
| Trig input | BNC female | 5V TTL (±10V, 100mA maximum) |
| VGA | 800*600, 60Hz 15 D-SUB pin (f) | |
| RS232 | 9 D-SUB pin (M) | |

2. 4. RBW

| | S3532A | S3532B |
|--|--------|--------|
|--|--------|--------|

| | |
|---|--|
| Range | 1Hz - 500kHz (in 1 to 10 step), 1MHz, 3MHz |
| Resolution filter shape factor(60dB/3dB) | <5:1 (Typ.) |
| Accuracy | <5% (Typ.) |
| Video bandwidth (VBW) | 10Hz - 3MHz |

2. 5. DANL (0dB attenuation, RBW=1Hz)

| S3532A | | | S3532B | | |
|---------------|-------------------------------|-----------------------------|---------------|-----------------------------|-------------------------------|
| Frequency | Preamp off | Preamp on | Frequency | Preamp off | Preamp on |
| 100kHz - 1MHz | <-100dBm-3×(f/100kHz) z)dB | <-120dBm-3×(f/100kHz) dB | 100kHz - 1MHz | <-95dBm-3×(f/100kHz))dB | <-110dBm-3×(f/100kHz) z)dB |
| 1MHz - 10MHz | <-130dBm | <-150dBm | 1MHz - 10MHz | <-125dBm | <-140dBm |
| 10MHz - 1GHz | <-135dBm | <-155dBm | 10MHz - 2GHz | <-133dBm | <-148dBm |
| 1GHz - 3.6GHz | <-130dBm | <-148dBm | 2GHz - 3.4GHz | <-130dBm | <-143dBm |
| | | | 3.4GHz - 5GHz | <-133dBm | <-145dBm |
| | | | 5GHz - 7.5GHz | <-127dBm | <-138dBm |

2. 6. Phase Noise

| | S3532A | | S3532B | |
|---|-----------------------|------------|-----------------------|------------|
| SSB phase noise (RBW=1kHz, Sample detector, Trace average ≥10) | | | | |
| CF=500MHz | Carrier offset 30kHz | -90dBc/Hz | Carrier offset 30kHz | -80dBc/Hz |
| | Carrier offset 100kHz | -100dBc/Hz | Carrier offset 100kHz | -90dBc/Hz |
| | Carrier offset 1MHz | -110dBc/Hz | Carrier offset 1MHz | -110dBc/Hz |

2. 7. Sweep Time

| | S3532A | S3532B |
|------------------------------------|--------------------|--------|
| Sweep time | | |
| Full Span | 3ms - 3000s | |
| Zero Span | 1ms - 3000s | |
| Sweep Mode | Continuous, single | |
| Best Sweep Time (Full Span) | <50ms | <100ms |

2. 8. Spurious Response

| | S3532A | S3532B |
|-------------------------------------|---------|--------|
| TOI (>30MHz) | +10dBm | +13dBm |
| SHI (>10MHz) | +30dBm | +40dBm |
| Input related spurious (>10MHz) | <-60dBc | |
| Inherent residual response (>10MHz) | <-85dBm | |

2. 9. Tracking Generator

| | S3532A | S3532B |
|-----------------|--------------------------------|-----------------|
| Frequency range | 100kHz - 3.6GHz | 100kHz - 3.2GHz |
| Output level | -30dBm To 0dBm Stepped by 1 dB | |
| Output flatness | ±3dB | |

2. 10. General

| | S3532A | S3532B |
|-----------------------------|-------------------------------------|------------------------|
| Display | 8.4 inch TFT LCD | 8.4 inch TFT LCD |
| Detector | Sample, Peak, Negative peak, Normal | |
| Marker Counter Resolution | 1Hz, 10Hz, 100Hz, 1kHz | |
| Limit Line | Available | |
| Dimensions | 390(H)×182(W)×230(D)mm | 390(H)×182(W)×230(D)mm |
| Weight | 6.5Kg | 6.5Kg |
| Operating Temperature range | 0°C to 40°C | 0°C to 40°C |
| Storage Temperature range | -20°C to +70°C | -20°C to +70°C |
| Power | Input Voltage | 100V-240V AC |
| | Input Frequency | 40Hz - 60Hz |
| | Consumption | Max.30W |

- End of Document -