



## The document applies to the instruments of the following models:

- S3331A handheld spectrum analyzer (9kHz-3.6GHz).
- S3331B handheld spectrum analyzer (9kHz-7.5GHz).

## Standard Accessories of S3331 handheld spectrum analyzer

Item	Name	Qty
1	Main Machine	1 Set
2	AC/DC Adaptor	1 pcs
3	Battery	1pcs
4	CD	1 pcs

## Options of the S3331 handheld spectrum analyzer:

Option Number	Item
S3331-01	Tracking signal source 1.5/3.2GHz (1.5GHz tracking source for S3331A, 3.2GHz tracking source for S3331B)
S3331-02	FFT 1Hz RBW
S3331-03	Audio demodulation & measurement
S3331-04	EMI near field probe
S3331-05	Kit bag
S3331-06	Portable soft package
S3331-07	Backup battery
S3331-09	PC Software

## 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.

S3331-01-01

## Version

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Saluki Technology

## Authorization

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## Product Quality Assurance

The warranty period of the product is 18 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.

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## Content

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

## 1. Overview

S3331 handheld spectrum analyzer is designed for field use. It has a low weight, compact structure and a good performance. S3331 can be operated in field for 4 hours with battery power supply. It also provides telecommunication ports such as USB and LAN for remote data collection and remote control. Optional tracking source is provided as an option for test need stimulus signal.

### Key Features

- Frequency range from 9kHz - 7.5GHz
- Sensitive, best DANL <-160dBm
- Low weight, small size, large bright screen, suitable for field use
- Standard LAN and USB interface, support SCPI
- Standard AM,FM demodulation functions. Optional tracking source function

## 2. Specification Details

### 2.1. Frequency

	S3331A	S3331B
Frequency range	9kHz~3.6GHz	9kHz~7.5GHz
Resolution	1Hz	1Hz
Frequency readout accuracy	$\pm$ ( frequency indication $\times$ frequency reference+1% $\times$ span+10% $\times$ RBW+0.5 $\times$ [span/ ( number of sweep points-1) ]+1Hz)	$\pm$ ( frequency indication $\times$ frequency reference+1% $\times$ span+10% $\times$ RBW+0.5 $\times$ [span/ ( number of sweep points-1) ]+1Hz)
Aging Rate	$\pm$ 1ppm/year	$\pm$ 1ppm/year
Temperature stability	$\pm$ 0.5ppm (15°C ~ 35°C)	$\pm$ 0.5ppm (15°C ~ 35°C)

### 2.2. Amplitude

		S3331A	S3331B	
<b>Amplitude</b>				
Maximum safe input level	Average continuous power	+27dBm	+23dBm	
	DC voltage	50Vdc maximum	50Vdc maximum	
Input attenuator range		0 ~ 39dB, Steps of 3 dB	0 ~ 30dB, Steps of 1 dB	
1dB compression		+7dBm	+10dBm	
<b>Amplitude Accuracy (20°C ~ 30°C)</b>				
Comprehensive amplitude accuracy (90%)	Input range: 0dBm to -50dBm	$\pm$ 1.5dB	Input range: 0dBm to -50dBm	$\pm$ 1.5dB

## 2. 3. Input /Output

		S3331A	S3331B
RF Input/Output		Type -N female (50Ω)	Type -N female (50Ω)
USB		USB 1.1 B plug	USB 1.1 B plug
LAN		10/100 Base-T, RJ-45 Connectivity	10/100 Base-T, RJ-45 Connectivity
AF Output		3.5mm mini jack for headphones	3.5mm mini jack for headphones
Reference input/output	10MHz, BNC female	Input level 0dBm ~ +10dBm	Input level 0dBm ~ +10dBm
		Output level 0dBm±2dB	Output level 0dBm±2dB
Trig input	BNC female	5V TTL (±10V,100mA maximum)	5V TTL (±10V,100mA maximum)

## 2. 4. RBW

	S3331A	S3331B
Range	1Hz - 500kHz, 1MHz, 3MHz	1Hz - 500kHz, 1MHz, 3MHz
Resolution filter shape factor(60dB/3dB)	<5: 1 (Typ.)	<5: 1 (Typ.)
Accuracy	<5% (Typ.)	<5% (Typ.)
Video bandwidth (VBW)	10Hz - 3MHz	10Hz - 3MHz

## 2. 5. DANL

Frequency	S3331A		S3331B	
	Preamp off	Preamp on	Preamp off	Preamp on
100kHz ~ 1MHz	<-100dBm-3×(f/100kHz)dB	<-120dBm-3×(f/100kHz)dB	<-95dBm-3×(f/100kHz)dB	<-110dBm-3×(f/100kHz)dB
1MHz ~ 10MHz	<-130dBm	<-150dBm	<-125dBm	<-140dBm
10MHz ~ 1GHz	<-135dBm	<-155dBm	<-133dBm	<-148dBm
1GHz ~ 3.4GHz	<-130dBm	<-148dBm	<-130dBm	<-143dBm
3.4GHz ~ 3.6GHz	<-130dBm	<-148dBm	<-130dBm	<-143dBm
3.6GHz ~ 5GHz	-	-	<-133dBm	<-145dBm
5GHz ~ 7.5GHz	-	-	<-127dBm	<-138dBm

## 2. 6. Phase Noise

	S3331A		S3331B	
<b>SSB phase noise (RBW=1kHz, Sample detector, Trace average≥10)</b>				
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

	S3331A	S3331B
<b>Sweep time</b>		
Full Span	3ms ~ 3000s	3ms ~ 3000s
zero span	1ms ~ 3000s	1ms ~ 3000s
Sweep mode	Continuous, single	Continuous, single

## 2. 8. Spurious Response

		S3331A	S3331B
TOI	>30MHz	+13dBm	+15dBm
SHI		+30dBm	+40dBm
Input related spurious		<-60dBc	<-60dBc
Inherent residual response		<-85dBm	<-85dBm

## 2. 9. Tracking Generator (Option)

	S3331A	S3331B
Frequency range	100kHz - 1.5GHz	100kHz - 3.2GHz
Output level	-30dBm To 0dBm Stepped by 1 dB	-30dBm To 0dBm Stepped by 1 dB
Output flatness	±3dB	±3dB

## 2. 10. General

		S3331A		S3331B	
Display		6.5 inch TFT LCD		6.5 inch TFT LCD	
		Resolution 600*480		Resolution 600*480	
Dimensions		288(H)×182(W)×142(D)mm		288(H)×182(W)×142(D)mm	
Weight		2.8kg (Including battery)		3kg (Including battery)	
Operating Temperature range		0°C to 50°C		0°C to 50°C	
Storage Temperature range		-20°C to +70°C		-20°C to +70°C	
Power	Battery	Capacity	7.4V 6600mAh	Capacity	7.4V 6600mAh
		Supply time	About 4 hours	Supply time	About 3.5 hours
		Charging time	About 4 hours	Charging time	About 4 hours
	Power adapter	Input Voltage	100V~240V 50/60Hz 1.5A	Input Voltage	100V~240V 50/60Hz 1.5A
		Output Voltage	9V 4000mA	Output Voltage	9V 4000mA

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