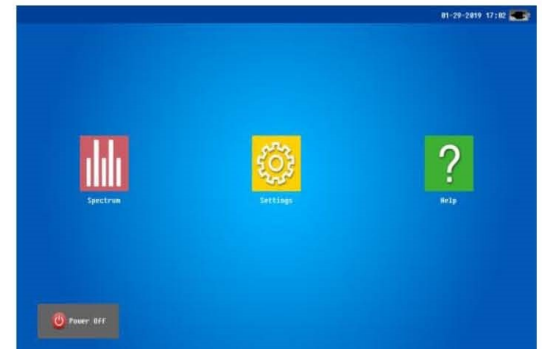


FSA-100 Series Spectrum Analyzer

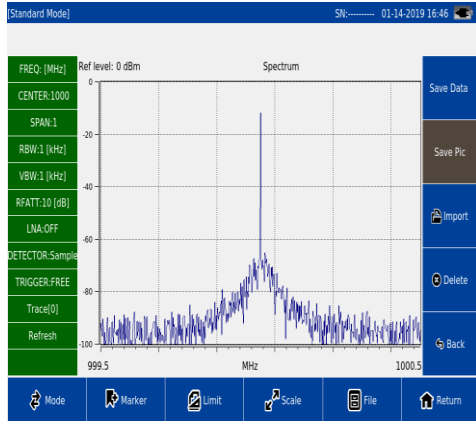
Features

- ◆ All-digital IF technology
- ◆ Frequency range : 9KHz to 6GHz
- ◆ Minimum display noise level (DANL) up to -165dBm/Hz
- ◆ Power dynamic range up to 100dB and maximum continuous input power \geq 27dBm
- ◆ SSB phase noise -90dBc/Hz @10kHz offset (typical)
- ◆ Minimum RBW is 1Hz
- ◆ RF Attenuator Range : 0~55dB, 5dB step
- ◆ Support ACPR, channel power, transmit bandwidth, occupied bandwidth, C/I measurement
- ◆ Support AM, FM, FFT, IQ demodulation at zero bandwidth
- ◆ 7 inch color touch screen LCD, high resolution 1024*600
- ◆ Strong file management ability: batch edit/delete/filter supported
- ◆ Support normal, black and white, night vision, highlighting and other display modes
- ◆ More than 4.5 hours working time

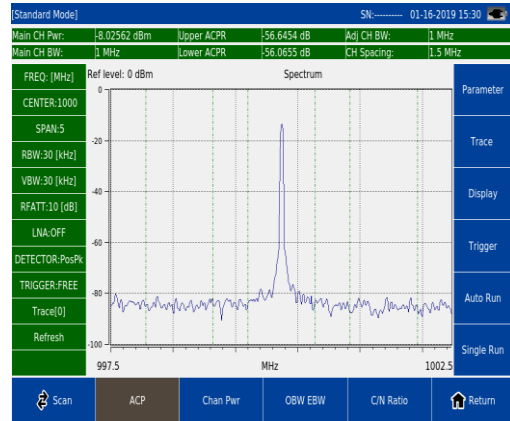


ShinewayTech® FSA-100 series 6GHz spectrum analyzer are widely used in 2G/3G/4G/5G etc. FSA-100 series have the industry's rare high receiver sensitivity performance with a minimum display average noise level of -165dBm/Hz. Power measurement dynamic range up to 100dB, maximum RF input power exceeds 27dBm. FSA-100 series are equipped with a 7" ultra-large capacitive touch screen (resolution 1024*600). Excellent user experience.

The FSA-100 series combine high performance, high portability and maneuverability with excellent engineering design, making it small in size and light in weight. At the same time, with more than 4.5 hours of working time, it can meet all kinds of complex environment signal measurement. The FSA-100 series are an essential measurement tool for the construction, upgrading and maintenance of next-generation wireless networks.



Measurement (Sweep Mode)



Measurement (ACPR)

➤ **Specifications**

Model	FSA-100A
Measurement Mode	
Sweep mode	frequency sweep, adjacent channel power ratio, channel power, OBW/EBW, carrier-to-noise ratio
Zero bandwidth mode	AM, FM, FFT, IQ Demodulation
Frequency	
Frequency Range	9 kHz to 6GHz
Counter resolution	1 Hz
Frequency Range	0Hz, 100 Hz ~6GHz
Frequency Resolution	1 Hz
Frequency Reference Source	
Master Frequency	100 MHz
Initial Accuracy (15°C to 35°C)	<±1 ppm
Temperature Stability	<±0.5 ppm
Aging Rate	<1.5 ppm/ year
SSB Phase Noise @1GHz	
10 kHz Carrier offset	<-90 dBc/Hz (Typ.)
100 kHz Carrier offset	<-100 dBc/Hz (Typ.)
1 MHz Carrier offset	<-115 dBc/Hz (Typ.)
Bandwidth	
Resolution Bandwidth RBW (-3dB)	1 Hz to 3 MHz, 1-3-10 step
Filter Shape Factor (60dB:3dB)	<5
Video Bandwidth VBW (-3 dB)	1 Hz to 3 MHz, 1-3-10 step
Amplitude	
Amplitude Range	Displayed Average Noise Level (DANL) to +27 dBm
Amplitude Accuracy	±1.5dB
Reference Level Range	-160dBm - +40dBm
RF Attenuator Range	0dB-55dB,5dB step

Amplitude Units	dBm/dBv/dBmV/dBuV/V/mV/uV/W/mW/uW/nW/pW	
Maximum DC Voltage	50 V	
Maximum damage level	CW Signal: +28 dBm (50MHz~6GHz)	
	Pulse Signal: +31 dBm (50MHz~6GHz)	
	Note: RF attenuation is 30dB	
	+10 dBm (9kHz~50MHz)	
Displayed Average Noise Level (DANL)		
Test conditions:		
Reference level -40dBm, RF attenuation 0 dB, trace the average number≥ 50, normalized to 1 Hz, 20°C to 30°C, input impedance 50 Ω		
Preamplifier Off	9 kHz to 10MHz	<-143 dBm (Typ.)
	10MHz to 1GHz	<-157 dBm (Typ.)
	1 GHz to 2 GHz	<-156 dBm (Typ.)
	2GHz to 3 GHz	<-152 dBm (Typ.)
	3 GHz to 4 GHz	<-152 dBm (Typ.)
	4 GHz to 5 GHz	<-146 dBm (Typ.)
	5 GHz to 6 GHz	<-145 dBm (Typ.)
Preamplifier On	9 kHz to 10MHz	<-147 dBm (Typ.)
	10MHz to 1GHz	<-165 dBm (Typ.)
	1 GHz to 2 GHz	<-165 dBm (Typ.)
	2GHz to 3 GHz	<-163 dBm (Typ.)
	3 GHz to 4 GHz	<-164 dBm (Typ.)
	4 GHz to 5 GHz	<-159 dBm (Typ.)
	5 GHz to 6 GHz	<-155dBm (Typ.)
Display Function		
Display		
Display Grid	1,2,3,5,10,15,20dB	
Points		
Normal Bandwidth	551(Typ.)	
Zero Bandwidth	1024	
Trace		
Number	4	
Function	Max. Hold, Min. Hold, Video Average, Power Average, Freeze, Refresh	
Display Mode	Only memory, Only data, Data And Memory, Data +/- Memory, Data to Memory	
RF Input VSWR		
Test Condition: (RF attenuation ≥ 10 dB)		
VSWR	300 kHz to 3 GHz	<2 (Nominal Value)
	3 GHz to 6 GHz	<2 (Nominal Value)
Nonlinear Index		
Second Harmonic Distortion	Test conditions: RF attenuation 10 dB, Input -30 dBm	
10MHz - 1.5GHz	<-60dBc	
1.5GHz - 3GHz	No	
Third Order Intermodulation	Test conditions: RF attenuation 10dB, Input -20dBm, Frequency Interval 1MHz	

30 - 3000MHz	+12dBm	
3000 - 6000MHz	+10dBm	
Spurious Response		
Vestigial Spurious	<-90dBm, RF attenuation 0dB	
Input Correlation Spurious	<-80dbc Test conditions: RF attenuation 0dB, Input -20 dBm	
Medium Frequency Feed Through	<-55dBc; Medium Frequency =25MHz	
Image Rejection	<-60dbc @ F1±250MHz (F1: Input Frequency)	
Scan		
Scan time	Scan width ≥ 100 Hz	1 ms to 2,000 s
	Zero Scan	80µs to 300 s
Scan mode	Auto, Single	
Trigger		
Free to trigger		
Video trigger	Threshold editable	
Detection		
Detection methods	Positive Peak, Negative Peak, Sample, RMS, Standard	
Connector		
Radio-Frequency Signal Input	Impedance	50 Ω
	Connector	N type Female
Reference Source		
Internal Reference Clock	Frequency	100 MHz, ±1 ppm
External Reference Clock Input	Frequency	100 MHz
	Input Level	0 dBm to +10 dBm
	Impedance	50 Ω
	Connector	SMA (F)
Communication Interface		
USB 1	Connector	Type A
USB 2	Connector	Type B
LAN Port	Connector	10/100M, RJ-45
AC Adapter		
Input Voltage Range	100 V to 240 V AC, 50~60Hz	
output voltage range	16 V DC/3.75A	
General Specification		
Language	Chinese, English	
Display Screen	7 inch Capacitive Touch screen, 1024x600 Pixels	
Internal Storage	16GB SD Card	
Battery	11.8V, 7800 mAh lithium battery	
Power consumption	16 W (Typ.)	
Environment		
Temperature	Operating Temp. Range	-10°C to 55°C
	Storage Temp. Range	-40°C to 70°C
Humidity	0°C to 30°C	≤ 95%
	30°C to 40°C	≤ 75%

Altitude	Operation Altitude	≤ 2000 Metres
Dimensions		
(LxWx H)	290 mm x 175 mm x 75 mm	
Weight		
Weight (Including Battery)	2. 8 kg	

**** Specifications subject to change without notice;**

Notes:

(1) Specifications apply to the following conditions: the instrument is in the calibration cycle, stored at 0 °C to 55 °C for at least two hours, and preheating for 40 minutes. The data in this manual is a technical indicator containing measurement uncertainty unless otherwise stated.

(2) Typ.: Represents the typical performance that can be achieved with 80% of the test results at room temperature (about 25 °C). This data is not guaranteed data and does not include measurement uncertainty.

(3) Nominal Value: Represents the expected average performance or design performance characteristics, such as a 50Ω Connector. This data is not guaranteed and is measured at room temperature (about 25 °C).

(4) Measurement value: Represents performance characteristics measured during the design phase, which can be compared with expected performance, such as amplitude drift over time. This data is not guaranteed and is measured at room temperature (about 25 °C).

(5) Unless otherwise stated, all the charts in the manual are derived from the results measured by multiple instruments at room temperature.

➤ **Order Information**

Standard:

Host, Quick Reference, AC Adapter, Lithium Battery, Carrying Case, Test Cable