

# E8000A Handheld Spectrum Analyzer

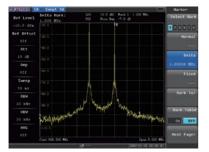
#### Overview

E8000A handheld spectrum analyzer is an ideal testing instrument for engineer working at the wireless base station for 2G/3G/4G, WiFi and broadcast installation and maintenance.

E8000A covers frequency range: 9 kHz  $\sim$  3000 MHz and has tracking generator option.

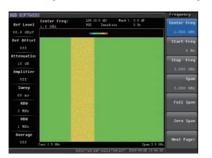
#### Large Dynamic Range Spectrum Analysis

E8000A series covers wide frequency range: 9 kHz ~3000 MHz and provide +15 dBm IP3 and lower noise.



#### **Interference Signals Analysis**

E8000A provides features such as signal strength indication, spectrogram and fluorogram to find out interference signals.



E8000A supports FM/AM demodulation and then distinguishes noise.

12) 33F, 033			01
Ref Level	Center Freq: 1.5 GEz	105 10.0 48/ POS Inn+diate	Res Di 3 Mile
98.8 dBµV			Auto Hano
Ref Offset			Wideo EV 1 Mile
Attenuation 10 dB			Video Au
Amplifier Off			On Off Sweep Tim
Sweep 60 m.s		ការជាបាយប្រាស់ស្មានដែរ សេចានសំណាន់សំភាពទាំងពោះទាំងពោះទាំង	
RBV 3 KHz			HIGH Detector) 705
UBW 1 Mile			Trace >
Average	Cent 1.5 GHz		Next Page)



#### Fast Sweep Speed

E8000A provides 1 ms minimum sweep time to detect any complex interference signals.

activities 🛃	til Swept SA		Frequency
Ref Level	Span:	100 10.0 48/ PCS Frist Ban	Center Free
			100.000 Mile
Dff Dffset			Sp av
			10.0000 MH
10 48			Start Free
Anp			475.000 HHz
			Stop Fred
Sueep	-60.0		\$25.000 mm
REW JOD kHz	Ath. Mrs	. MW-den had a dee	Tull Spar
VBW 300 XHE	h Kahkir V	W Is also have Week	NAV AND Zero Spar
AUG DEE	-100.0		Spar. 50.00 PMr

### **RF Signals Analysis Function**

E8000A provides one-button measurement for channel power, OBW and adjacent channel power.

TRACTICE SE			Amplitude
Ref Level	Attenuation: 200 10.0.48/ 5 dD AVG Free Bas		Ref Leup]
	-41.0 Proceeding of the second s		
Ref Dffset	51 0 		Attenuation
	March and March and Mark and March		Auto Hanu
	-n • y		
Anp	-11.0		
	-91.0 Y		Ref Bait>
Sueep 500 mm	wind	how	dla Fre Ang
REV	-111.8		Fre and
	-121.0		06 011
VEV 300 KHE	-15.0		Ref Gifset 0.0 d3 0a Off
AUG DEE	Channel Power Power Spectral Den: -44.0 dBm / 1.250 HHz -104.9 dBm / Hz		
	Cent 836 500 Mtz Span	1.076 882	
		00 16:50	

#### **GPS** Receiver Option

GPS receiver option provides location (longitude, latitude, altitude) and Universal Time (UT) information. For the E8000A series, all measurement results can be saved with location and time information.

Wireless Communication | DEVISER

## Specifications

1	
Frequency	
Frequency Range	9 kHz ~ 3000 MHz
Frequency Reference	
Aging	± 1 ppm per year
Stability	± 1 ppm
Temperature Stability	± 2 ppm (0 to +50°C)
Frequency Resolution	10 Hz
Marker Count Accuracy (S/N	25 dB, RBW/span 0.01)
Accuracy	±2 ppm, ±1 count
Counter Resolution	1 Hz
Frequency Span	
Range	0 Hz (Zero Span), 1 kHz to 3000 MHz
Sweep and Trigger	
Range	1 mSec to 250 sec (Span > 1 kHz) 20 µSec to 500 sec (Span = 0 Hz)
Accuracy	< ± 0.2%
Trigger Type	Free run, Single, Video, TV
Resolution Bandwidth	
Range	1 Hz to 3 MHz in 1-3-10 sequence
Bandwidth Accuracy	< ± 10%
Selectivity (60 dB/3 dB Bandwidth Ratio)	< 5:1
Video Bandwidth	
Range	10 Hz to 1 MHz in 1-3-10 sequence
Stability	
Phase Noise	< -105 dBc/Hz @ 100 kHz offset from CW signal < -95 dBc/Hz @ 10 kHz offset from CW signal < -85 dBc/Hz @ 1 kHz offset from CW signal
Amplitude	
Measurement Range	Displayed average noise level to furthest safe input level
Input Attenuator	
Range	0 dB ~ 55 dB
Step	5 dB
Internal Preamplifier	
Frequency Range	1 MHz to 3000 MHz
Gain	15 dB
Max. Safe Input	+30 dBm (peak power/input attenuation >15 dB), 100 VDC
Displayed Average Noise Lev VBW=3 Hz, Sample Detector	vel (Input Terminated, 0 dB Attenuator, RBW=100 Hz, )
Pre-amplifier OFF (Typical)	< -130 dBm 1 MHz ~ 1 GHz < -126 dBm 1 GHz ~ 3 GHz
Pre-amplifier ON (Typical)	< -145 dBm 1 MHz ~ 1 GHz < -141 dBm 1 GHz ~ 3 GHz
Spurious Responses	
Second Harmonic	< -70 dBc for -20 dBm signal at input mixer
тоі	>+15 dBm (two -20 dBm signals at input mixer with ${\geq}1$ MHz separation and att=0)

Residual Responses (Input Terminated and 0 dB Attenuator)	< -85 dBm 1 MHz to 3000 MHz
Display Range	
Log Scale	0.1 to 1 dB/div in 0.1 dB step 1 to 40 dB/div in 1 dB step
Linear Scale	10 divisions
Scale Units	dBm, dBmV, dBµV, mV
Marker Readout Resolution	0.03 dB for log scale 0.03% of ref level for linear scale
Traces	6 traces
Trace Detector	Sample, Posi-peak, Neg-peak, Normal, Average, R.M.S, Quasi-peak
Marker Functions	Peak, Next peak, Marker to center, Marker to ref, etc.
Marker Display	Normal, Delta, Fix marker & Frequency counter
Reference Level	-130 dBm to +30 dBm
Level Accuracy	< ± 1 dB @ +25°C (Typical)
Input/Output	
RF Input	
Input	N connector
Input Impedance	50 Ω
USB Port	USB 2.0 port and USB 1.1 port
LAN Port	10 M / 100 M RJ45
TG Out	
Output	N connector
Frequency Range	10 MHz to 3000 MHz
Phase Noise	
1 11000 110100	< -70 dBc/Hz @ 10 kHz
Level Range	< -70 dBc/Hz @ 10 kHz -30 dBm to 0 dBm
Level Range	-30 dBm to 0 dBm
Level Range Level Resolution	-30 dBm to 0 dBm 1 dB
Level Range Level Resolution Level Accuracy	-30 dBm to 0 dBm 1 dB ± 2 dB
Level Range Level Resolution Level Accuracy Harmonic Distortion	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type Charge Time	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type Charge Time Operating Time	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type Charge Time Operating Time AC Adapter	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type Charge Time Operating Time AC Adapter Other Specifications	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours 19 V DC @ 3.42 A
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance <b>Power Specifications</b> Battery Type Charge Time Operating Time AC Adapter <b>Other Specifications</b> Operating Temperature	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours 19 V DC @ 3.42 A -10 °C to +55 °C
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance <b>Power Specifications</b> Battery Type Charge Time Operating Time AC Adapter <b>Other Specifications</b> Operating Temperature Storage Temperature	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours 19 V DC @ 3.42 A -10 °C to +55 °C -30 °C to +80 °C
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance <b>Power Specifications</b> Battery Type Charge Time Operating Time AC Adapter <b>Other Specifications</b> Operating Temperature Storage Temperature Dimension (W x H x D)	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours 19 V DC @ 3.42 A -10 °C to +55 °C -30 °C to +80 °C 258 mm x 173 mm x 74 mm
Level Range Level Resolution Level Accuracy Harmonic Distortion Non-Harmonic Distortion Output Impedance Power Specifications Battery Type Charge Time Operating Time AC Adapter Other Specifications Operating Temperature Storage Temperature Dimension (W x H x D) Weight (With Battery)	-30 dBm to 0 dBm 1 dB ± 2 dB < -20 dBc < -30 dBc 50 Ω 11.1V @ 5.2Ah Lithium-Ion < 5 Hours > 3.5 Hours 19 V DC @ 3.42 A -10 °C to +55 °C -30 °C to +80 °C 258 mm x 173 mm x 74 mm <2.2 kg