



Wireless Communication Test & Measurement Instrument

5G Handheld Spectrum Analyzer

Key Benefits

- High-performance handheld analyzer for construction & maintenance of 5G NR systems
- Frequency range 9 kHz to 9 GHz
- High-speed SA analysis, measuring 30 GHz/s @ 7.8 kHz RBW
- Up to 110MHz bandwidth RTSA and 100% POI less than 5us
- Test and demodulate 5G NR (FR1); TDD-LTE; FDD-LTE signals
- IQ data acquisition
- Additional functions include spectrogram; DPS; gated sweep; GPS data for locating interference
- 10.1" capacitive touchscreen for easy navigation & better visibility
- Several data transfer options: LAN, USB, & more



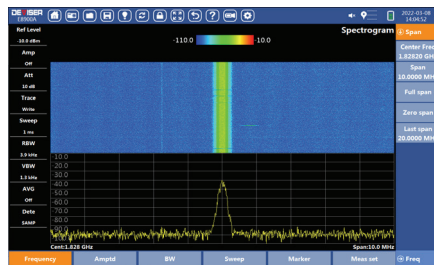
Specifications

Frequency range	9 kHz to 9 GHz
IF bandwidth	20 MHz, 110 MHz
Display	10.1" 1280 x 800 capacitive touchscreen
Dimensions (LxWxH)	12.4" x 9.0" x 3.0" (316mm x 228mm x 77mm)
Weight	<10 lbs (<4.5 kg)
Operating time	More than 3 hours

Key Functions & Applications

1. High-Performance spectrum scan

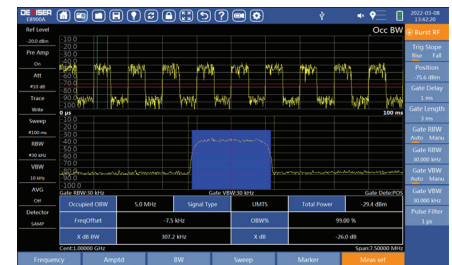
The E8900A has up to 110 MHz real-time bandwidth with monitoring frequency range from 9 kHz to 9 GHz. It helps users to capture burst signal and find the burst interference signal.



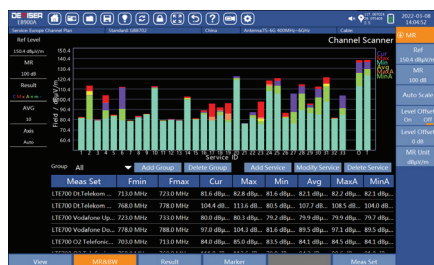
Real Time Spectrogram



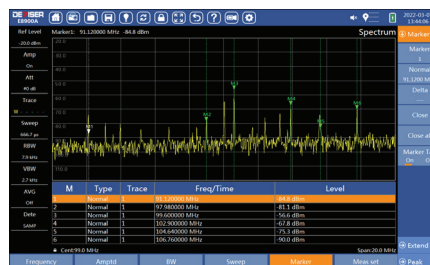
ACLR Measurement



Occupied Bandwidth



Channel Scanner



Marker Table (up to 6 markers)



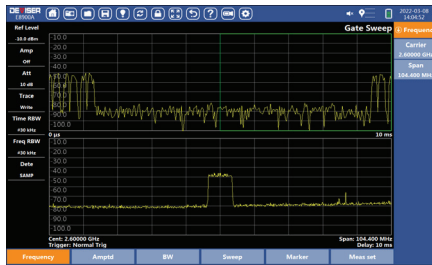
Multi-touch drag

2. Interference Hunting

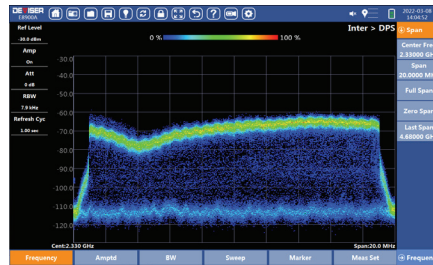
Different from normal spectrum analysis, the gated sweep measurement helps users to observe uplink or downlink signal spectrum in a specific time slot of a TDD system, and find interference signal in different channel .

DPS measurement can help users to find the weak signal hides behind the strong signal.

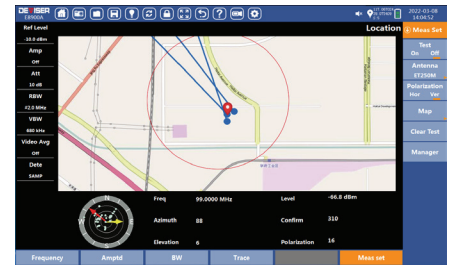
Together with ET30 series directional antenna, user can locate the source of interference signal from interference measurement with AOA method.



Gated Sweep



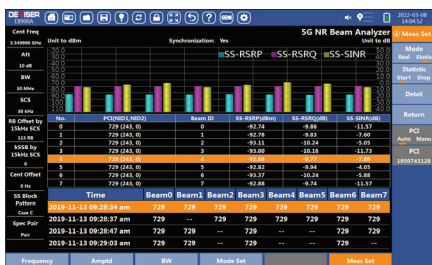
Digital Persistence Spectrum



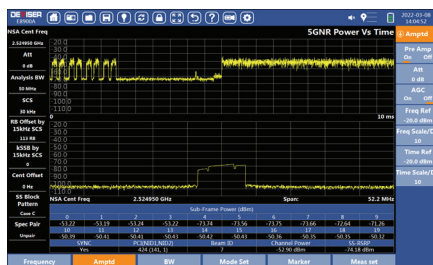
Interference Location

3. 5G NR and LTE Base Station Analyzer

5G NR base station testing in FR1 band is one of the key functions of the E8900A, which offers signal demodulation testing and RF downlink signal testing to characterize and troubleshoot performance around 5G NR and LTE base stations.



5G NR Beam Analyzer



5G NR Power Vs Time

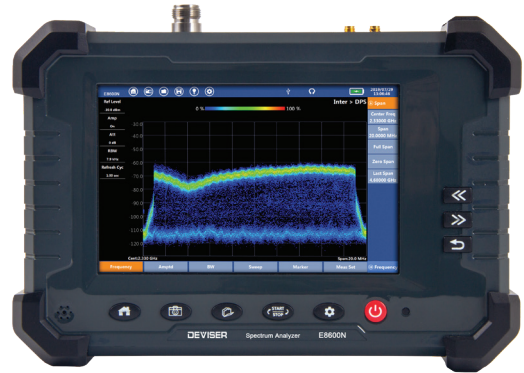


LTE Power Vs RB

E8600N Spectrum Analyzer

Key Benefits

- 7 inch touch screen, 9kHz to 6GHz spectrum analyzer with 20MHz and 100MHz real-time analysis BW
- Signal analysis: 5G NR, FDD/TDD-LTE, UMTS.
- Interference analysis: Spectrogram, Signal Strength, Interference Location, DPS, Gated Sweep
- Real-time spectrum function to detect hard to find hidden signals



Key Measurements

1. Spectrum analysis

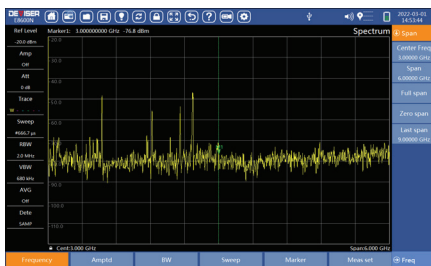


Figure 1: High performance spectrum analysis with frequency range of 9 kHz to 6GHz.

2. Spectrogram analysis

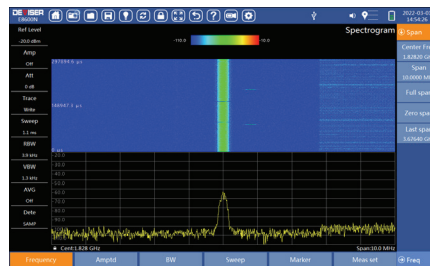


Figure 2: The spectrogram provides a scrolling three-dimensional display for tracking amplitude over time.

3. Interference Location

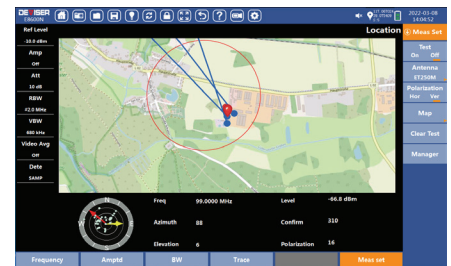


Figure 3: Interference Location uses AoA method to locate the interference signal

4. Gated Sweep



Figure 4: Gated Sweep provides specific slot spectrum of a TDD system.

5. 5G-NR Beam Analyzer



Figure 5: 5G NR beam analysis measures up to 8 beams at once.

6. LTE Power Vs Time



Figure 6: LTE Power vs Time chart provides both time-domain and spectrum analysis.

Specifications

Spectrum Analyzer	
Frequency range	9 kHz ~ 6 GHz
Frequency ref. accuracy (based on local clock)	±1 ppm (0 ~ +50°C)
IF bandwidth	20 MHz and 100MHz
Amplitude accuracy	± 1.5 dB (20 ~ 30°C)
Phase noise	-100 dBc/Hz (100 kHz offset from 1 GHz)
3rd-order intercept (TOI)	+14 dBm (typical)

General	
Display	7 inches touch screen
Test interface	50 Ω N Connector
Data transfer	USB and LAN
Operating time	3 hours
Operating temperature	-10 °C ~ +50 °C
Dimensions (LxWxH)	255 mm x 177 mm x 72mm
Weight	2kg

E816 Series 5G NR Scanning Receiver

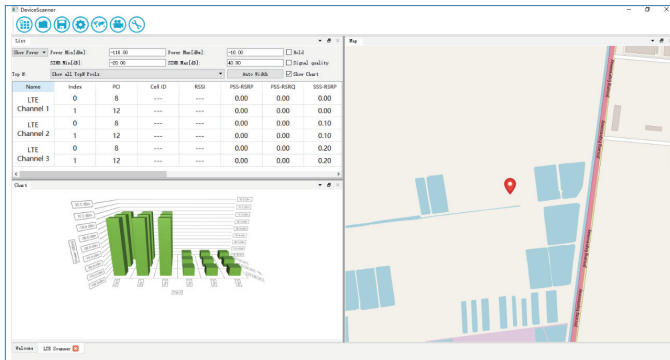
Key Benefits

- Frequency range: 350MHz to 6,000MHz
- Precise planning and design optimization for 5G networks
- PC based post-analysis software
- Spectrum clearing of existing and/or new bands.
- 8 frequency bands can be measured simultaneously
- 4G/5G base station coverage test and maximum 32 frequency points can be tested in parallel.
- Spectrum and 4G/5G base station coverage testing
- Simultaneous TDD uplink and downlink spectrum testing for easy interference management

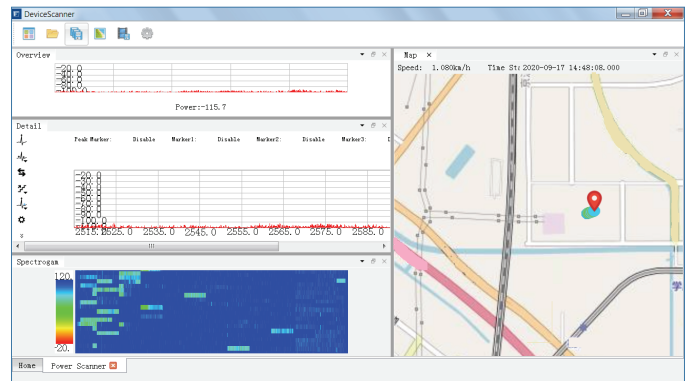


Features & Applications

(1) 4G/5G demodulation function: the E816 can demodulate up to 32 frequency points simultaneously with decoded Beam ID, Beam Index, RS-RSRP, RS-RSRQ, and RS-SINR parameters of a compliant base station.



(2) The Spectrum Analysis function supports measurements up to 8 frequency bands with spectrum trace, spectrogram and channel power for spectrum clearing and interference analysis.



Specifications

	E816-A	E816-B	E816-D
Frequency range	350 MHz – 6,000 MHz		
Demodulations	TDD-LTE, FDD-LTE, 5G NR		
Demodulation sensitivity	LTE -136 dBm@15kHz SCS	5G NR -132 dBm@30kHz SCS	
Measurement accuracy	±1.5dB		
Dimensions	E816-A: 262mm x 160mm x 80mm (embedded host computer) 10.31 in x 6.30 in x 3.15 in need connect PAD or PC to show results	E816-B: 166 mm x 97mm x 42mm 6.54 in x 3.82 in x 1.65 in need connect PC to run analysis	E816-D: 292mm x 210mm x 82mm (embedded host computer, embedded LCD) 11.50 in x 8.27 in x 3.23 in
Weight	<2 kg; <4.40 lb		

Spectrum Analyzer

Key Benefits

- 9kHz to 6GHz spectrum analyzer
- Android operating system
- Excellent portability, light weight (1kg), on hand operation
- One-button measurements: Spectrum, Channel Power, ACLR and OBW.
- Interference analysis: Spectrogram and Interference Location

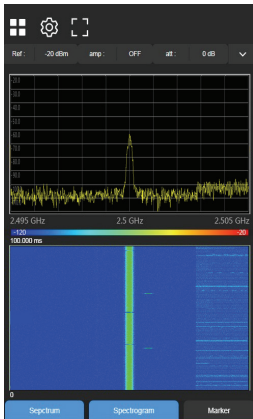


Overview

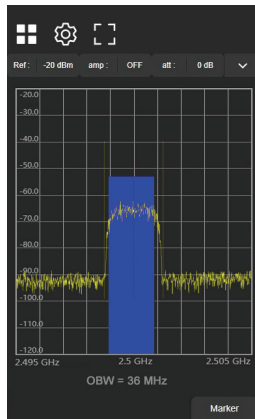
The E8 is the first Android based hand-held spectrum analyzer ever made. Its main features include high testing sensitivity, compact light weight and portable design. The Android operating system and high-resolution touch screen provide intuitive and user-friendly operation. The E8's excellent performance characteristics meet the most discriminating RF signals testing and measurement requirements.

Key Measurements

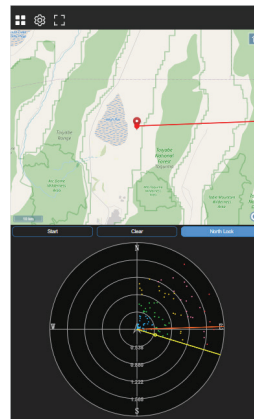
1. Spectrum analysis and Spectrogram measurement



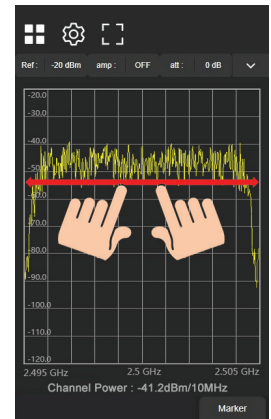
2. Occupied Bandwidth measurement



3. Interference analysis



4. Multi-touch operation



Specifications

Frequency range	9kHz to 6000MHz
Frequency accuracy	±1ppm
Phase noise	Typical < -100 dBc/Hz @ 100kHz offset
DANL Pre-amplifier off	< -135dBm, 1 MHz~1GHz; < -130dBm, 1GHz~3GHz; < -125dBm, 3GHz~6GHz
DANL Pre-amplifier on	< -163dBm, 1MHz~1GHz; < -158dBm, 1GHz~3GHz; < -150dBm, 3GHz~6GHz
Amplitude accuracy	±1.5 dB
Display	5.5 inches TFT color LCD
Weight (with battery)	1 kg
Dimensions	193 mm x 92mm x 43mm

Frequency & Code Selective EMF Analyzer

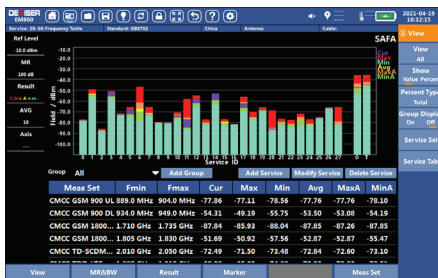


Key Benefits

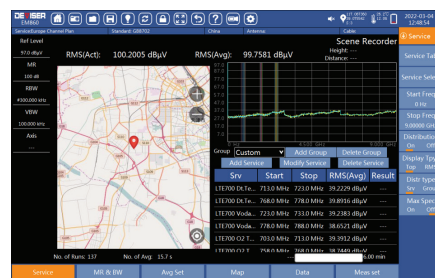
- Spectrum Analysis
- Level Recorder
- Safety Evaluation
- Analysis of electromagnetic field strength
- 5G NR /LTE/3G UMTS code selective EMF measurement
- Powerful background data management system

Key Measurements

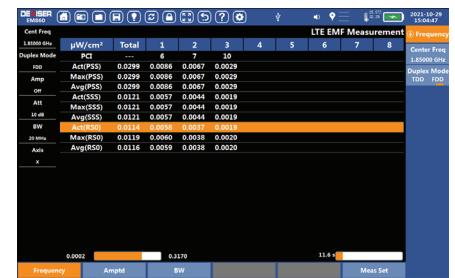
1. Safety Evaluation



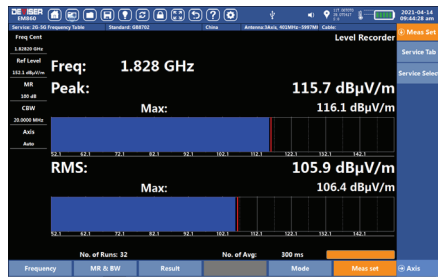
2. Scene Recorder



3. LTE code selective EMF measurement



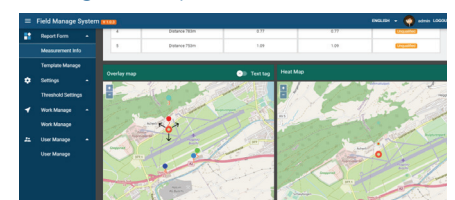
4. Level Recorder



5. 5G NR code selective EMF measurement



6. Powerful background data management system



Applications

(1) Locating sensitive test spot quickly, storing measurement data automatically and uploading measurement data with one button click

(2) Performing in-depth analysis of base station antenna in channel field strength distribution, electromagnetic radiation safety, and total power contribution etc during base station design, installation and deployment stages.



Broadband Electromagnetic Field Meter

Environmental Protection/5G Base Station/Broadcasting/
Telecommunication/Aeronautical/Marine/Railway

Key Benefits

- Monitoring efficiency increased to 200% compared to traditional methods
- Quick test for antenna distance and antenna height
- Built-in GPS and electronics compass
- Site environment and condition recording with built-in HD camera
- Working routine and geographical information recording
- Auto-generation of drive test data



Specifications

Frequency range	DC ~ 40GHz
Electric field Measurement range	0.001V/m ~ 99.99kV/m
Magnetic field Measurement range	0.001 μ T ~ 99.00mT
Display	5.5 inches capacitive touchscreen, Resolution: 2400*1080
Measuring distance range	\geq 50 meters
Demodulations	5G/4G Base Station Demodulations
Measurement	Electric and magnetic field strengths measurement with isotropic probes
Operation temperature	-10 $^{\circ}$ C~40 $^{\circ}$ C
Operation time	\geq 15 hours / Li-ion battery 3.8v/8500mAh
Weight	< 1kg (mainframe + probe)

Frequency range	100 kHz to 9 GHz
Level accuracy	\pm 1.5 dB (+20 $^{\circ}$ C - +30 $^{\circ}$ C)

Three axis electric field antenna TS-6G

Frequency range	TS-6G(200MHz to 6 GHz)
Antenna type	E-field
RF connector	N-Connector, 50 Ω

Three axis antenna (H-field)

Frequency range	TS-250M(100KHz to 250MHz)
Antenna type	H-field
RF connectore	N-Connector, 50 Ω