



# E80/E80 Pro Smart Spectrum Analyzer E801 Smart Radio Interference Finder

## Key Benefits

- **Integrated spectrum analyzer and interference finder**
- Frequency range 9 kHz to 6 GHz or 9 GHz
- Built-in preamplifier with -165 dBm/Hz DANL to detect weak signals
- IF bandwidth 20MHz/100MHz
- Sweep speed 10GHz@25kHz
- LTE/5G NR coverage mapping
- USB-C interface, SDK with APIs and remote control
- Wi-Fi and LAN networking interface
- Compact, robust and light weight (0.9kg)
- Android OS with superb recording and playback



[www.deviserinstruments.com](http://www.deviserinstruments.com)

# E80/E80 Pro Smart Spectrum Analyzer

## Overview

E80 and E80 Pro are the latest Android based handheld spectrum analyzers ever made. They both offer; very high measurement sensitivity, compact light weight and portability. The Android operating system and high-resolution touch screen display offer familiar navigation and user-friendly testing and measurement capabilities. The E80/E80 Pro's excellent performance characteristics meet the most discriminating RF signals testing and measurement demands.

## Measurements

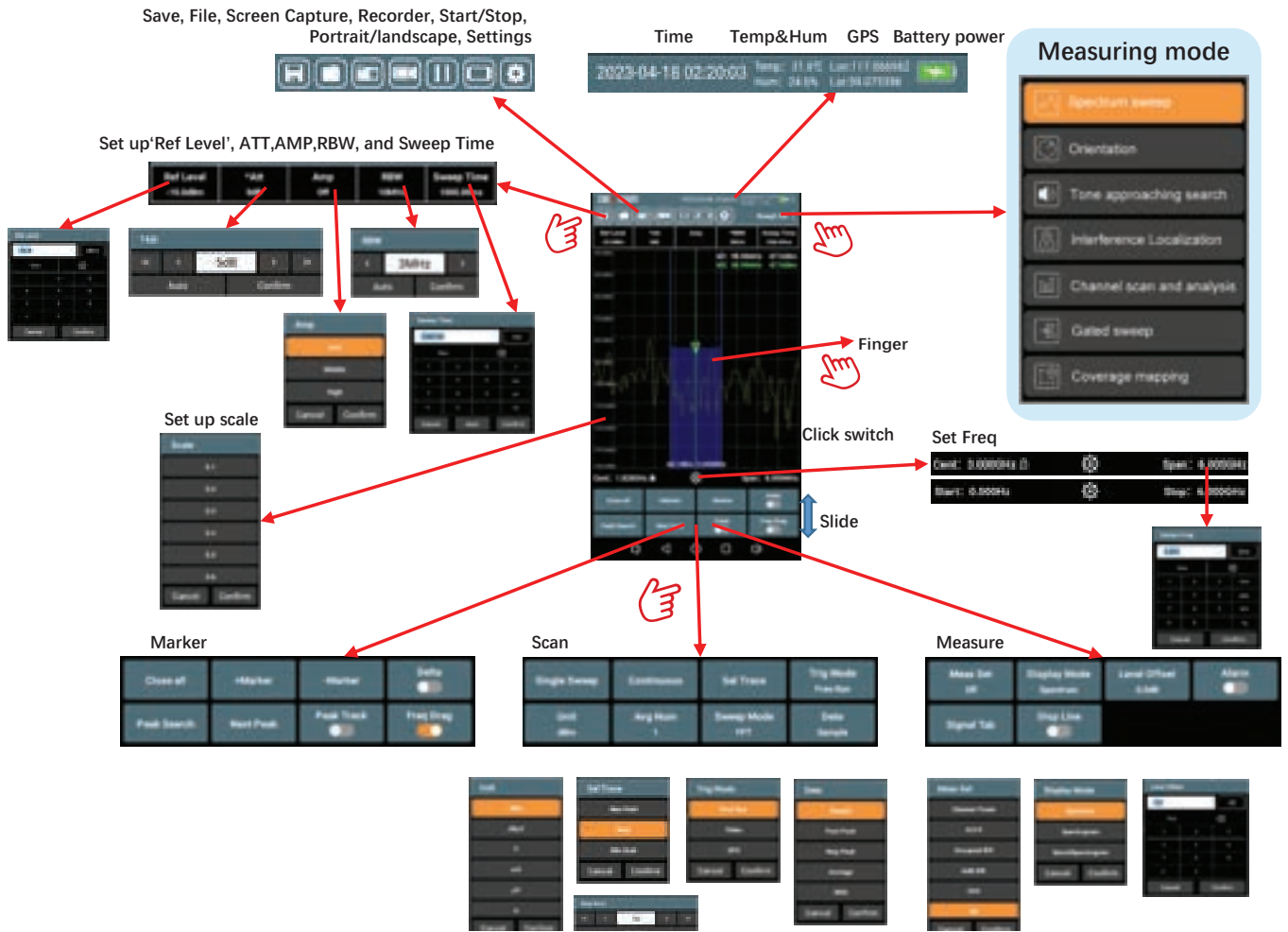
- **Spectrum sweep**
  - **Orientation**
  - **Tone approaching search**
  - **Interference Localization**
  - **Channel scan and analysis**
  - **Gated sweep (Optional on E80 Pro)**
  - **Coverage mapping (Optional on E80 Pro)**
- Built-in compass and GPS for directional finding and positioning
  - USB-C interface, SDK with APIs and remote control
  - Spectrum analysis includes Channel Power, Adjacent Channel Power Ratio (ACLR), Occupied Bandwidth (OBW), NdB Bandwidth, Spectrogram, DPS, Field Strength measurement
  - Interference hunting with angle-of-arrival signal locating and tone approaching search
  - Channel scan mode enhances GNSS signal quality measurement and emergency communication
  - Gated sweep enables quick interference detection of TDD system
  - Work with Deviser Lark series drone system to perform aerial interference hunting rapidly and efficiently
  - Indoor and outdoor signal coverage mapping and spectrum clear up
  - Screen recording and playback make measurement analysis more efficient



# E801 Smart Radio Interference Finder



**Quick Operation Guide of E80/E80 Pro and E801**



**E80/E80 Pro Smart Spectrum Analyzer**

**E801 Smart Radio Interference Finder**

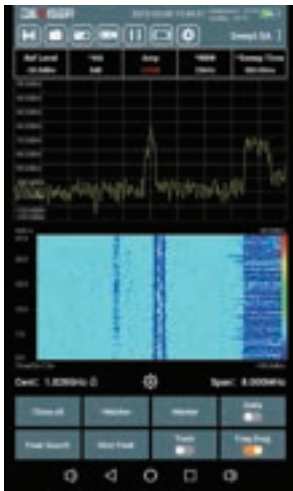


## Key Measurements

### 1. Spectrum Analysis

#### 1.1 Spectrum analysis and Spectrogram

With the spectrum analysis and spectrogram, users can more easily visualize interference signals and identify/capture frequency bands where the narrow band signals are present.

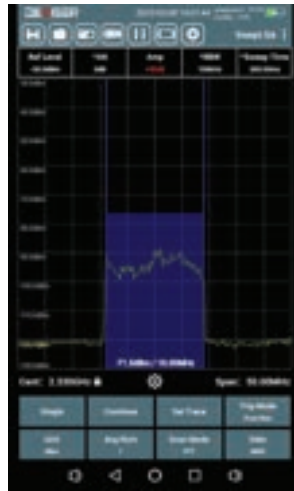


#### 1.2 Channel Power, Occupied Bandwidth, Adjacent Channel Leakage Ratio

Channel Power: measure the channel power of any user-defined spectral bandwidth.

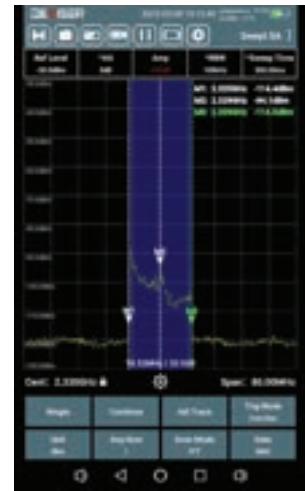
Occupied Bandwidth: measure occupied bandwidth.

Adjacent Channel Leakage Ratio: measure the signal channel bandwidth up to 99% of its power.



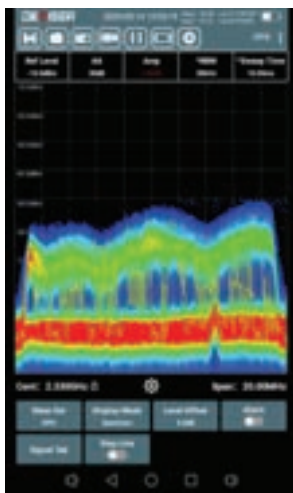
#### 1.3 NdB Bandwidth

NdB Bandwidth is the resolution bandwidth of the measuring instrument, which is represented in a log scale. For example, if the NdB bandwidth is set to -3dB, the level difference between two points is 3dB lower than the maximum value.



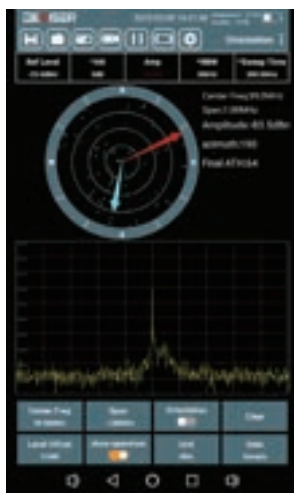
#### 1.4 Digital Persistence Signal

Persistence testing separates the desired signal transmission from underlying low-level interference signals with supreme clarity, and no service interruptions at any point.



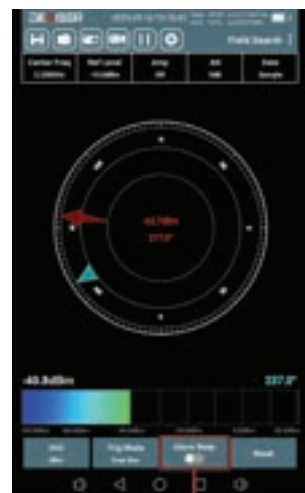
### 2. Orientation

Orientation measurement allows users to easily point in the direction of interference signal.



### 3. Tone Approaching Search

Using a directional antenna and built-in audible tone function, users can efficiently detect interference sources based on the audible tone increasing in frequency and level, thus identifying quickly the interfering signals received indoor and outdoor.



**4. Interference Localization**

The source of interference signal can easily be located by using directional antenna, and the E80 built-in GPS, electronic compass, electronic map, and the angle-of-arrival (AOA) triangulation.



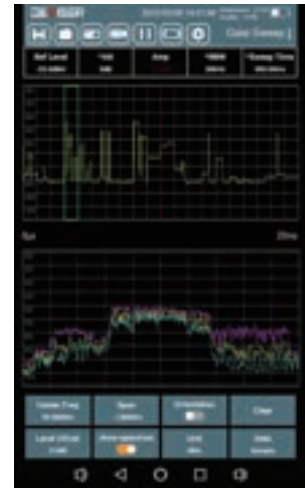
**5. Channel scan and analysis**

Multiple service channels (CBW) preferred by customer can be configured, and the power level of each service channel is presented as a bar graph. Each CBW can display its spectrum and channel power, it can also be used to analyze GNSS signal quality measurements and perform signal occupancy analysis for emergency communication.



**6. Gated Sweep**

The Gated Sweep function shows the waveform after the built-in GPS is locked. Indoor GPS mode is supported after instrument has been GPS locked outside once, and then internal clock is used to trigger indoor.



**7. Coverage Mapping**

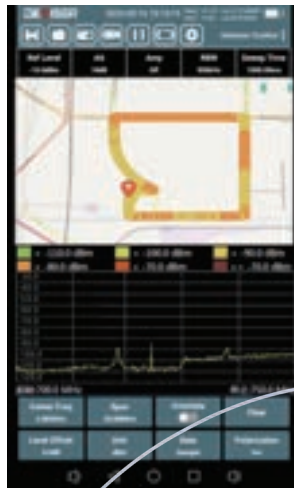
**7.1 Outdoor Coverage Mapping**

By using the internal GPS module and electronic map, the E80 can perform outdoor or indoor coverage mapping measurement.



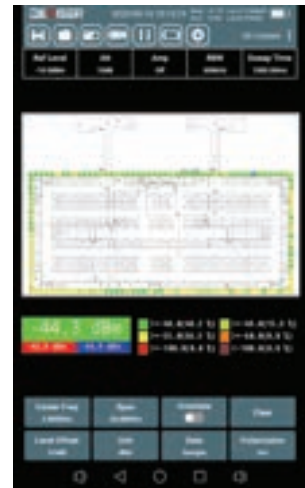
**7.2 Spectrum Clear**

The spectrum clear measurement function effectively scans the existing interference signals in specific bands in the area before the base station is commissioned.



**7.3 LTE/5G NR Coverage Mapping**

Drive/Walk tests analyze the base station signal level and signal quality indoor and outdoor.

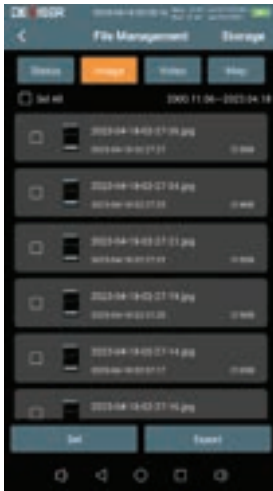


(ET20 series antenna can also be selected with frequency range from 9kHz to 8000MHz)

## Recording and Playback

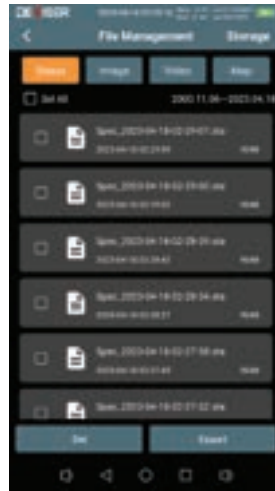
### 1. Screen Capture

Information shown on screen can be saved in image file.



### 2. Screen Recording and Playback

Information shown on screen can be recorded in video file and played back.



### 3. Status and Trace

Select Status to save the measurement information. Click "File management" to load the test results in the status file, select load playback to restore the original measurement status.



## LAN Connection

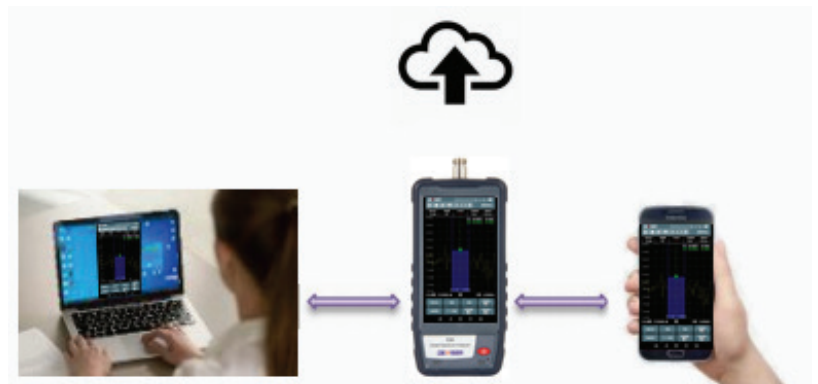
Use the USB-C to LAN cable to connect the instrument to a PC for remote control.



## Wi-Fi

The instrument can be operated remotely on smart device or computer through a Cloud service connection.

1. Install droidVNC app on the instrument, press Start, acquire IP address and port number from the app to connect the instrument and smart device in the same subnet.
2. Download and install VNC Client app (www.realvnc.com) on computer or smart device, launch the Web browser and enter the IP address of the instrument.



## Programming API

The software of the instrument does not include SCPI command interface. Contact Deviser Instruments for SCPI command interface and integration.

### E80/E80 Pro Specifications

Technical Parameter	
Frequency range	9kHz to 6GHz(E80)/9GHz(E80 Pro)
IF bandwidth	20MHz(E80)/100MHz(E80 Pro)
Frequency accuracy	±1ppm
RBW	10Hz - 10MHz (1:3 step)
Sweep rate	10GHz/s@25kHz
Attenuator range	0 - 50dB
Displayed average noise (DANL)level	-165dBm/Hz (High sensitivity mode) @1GHz
TOI	+14dBm (typical)
Phase noise	-100dBc/Hz@100kHz offset 1GHz
Amplitude accuracy	±1.5dB
Display	5.5inch, 720x1280
Operating system	Android
Interface	USB(Type-C)
GPS, Compass	Built-in
Battery	7.4V / 5AH
Operating time	3 hours
Dimensions	215.4 x 94.7 x 55.5 mm
Weight	0.9kg

### E801 Specifications

Main unit	
Spectrum Analyzer Model	E80/E80 Pro
Directional antenna	
Model	ET6G-2/ET18G-2
Frequency range	600MHz - 6G/-18G
Gain	>5dbi
VSWR	≤1.25dB
Antenna factor	20 to 50dB/m
RF interface	50Ω/SMA
Weight	<300g
Dimensions	350x200x25mm

### MD-001 6G Beacon Generator (optional)

MD-001 6G Beacon Generator (Orientation, Location, Tracking experimental tools)	
Frequency range	55MHz-6GHz
Output reference level (±1dB step)	≥ 15dBm (55MHz to 3GHz) ≥ -10dBm (3GHz to 6GHz)
Frequency step	1000/100/10/1/0.125MHz
Power Supply	Li-battery 7.4V 2600mAH



### Accessories - Antenna

No.	Model/Type	Picture	Frequency Range	No.	Model/Type	Picture	Frequency Range
1	Omnidirectional antenna ET101		500MHz-3000MHz	5	Passive directional antenna ET6G-2/ET18G-2		600M-6GHz/ 600M-18GHz
2	N(M)-SMA(F) connector		DC - 12.4 GHz	6	N(M)-SMA(M) connector		DC-12GHz
3	Omnidirectional antenna ET103 (AF antenna factor 45- 70dB/m)		30MHz - 6GHz	7	10cm hard cable		1MHz~18GHz
4	Metal tripod MT-22		15-21cm, 200g	8	1m to1.5m, SMA, RF cable		DC~26.5G
9	Passive straight handle ET20/ Directional antenna (ET20M/ET250M/ET500M/ET8000M/ET18G)						9kHz ~ 18GHz



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Headquarter -Design and Manufacturing (23000 m<sup>2</sup> )

