

DEVISER®

9kHz~6GHz/9GHz

- **Smart Spectrum Analyzer
E80A/E80B**
- **Smart Radio Interference Finder
E801A/E801B**

E80A/E80B



E801A/E801B



E80A/E80B Smart Spectrum Analyzer

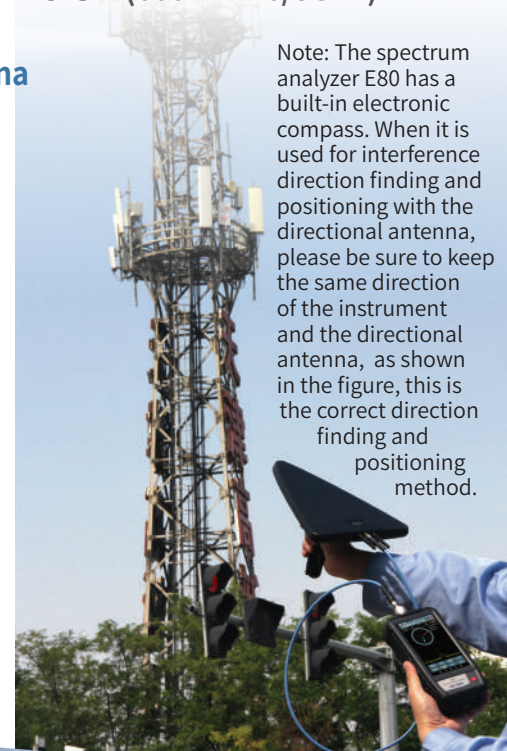
Measurements and Benefits

- **Spectrum Analysis**
 - **Orientation**
 - **Tone approaching search**
 - **Interference Localization**
 - **Field Strength**
 - **Coverage mapping & Spectrum Clear**
 - **GNSS Interference Hunting**
 - **Spurious Emission Measurement**
- 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 Leakage Ratio(ACLR), Occupied Bandwidth (OBW), NdB Bandwidth, Spectrogram, DPS; Field Strength measurement;
 - Interference hunting with angle-of-arrival signal locating and tone approaching search;
 - GNSS function to realize interference hunting at the airport (optional); Spurious Emission Measurement(optional).
 - Work with Deviser Lark series drone system to perform aerial interference hunting rapidly and efficiently;
 - Outdoor signal coverage mapping and spectrum clear;
 - Screen recording and playback make measurement analysis more efficient;
 - Sensitivity -160dBm/Hz (amplifier on) ;
 - IF bandwidth 20MHz;
 - Battery working time is about 3 hours, weight is about 0.9 kg;
 - Equipped with car charger for outdoor emergency battery charging.

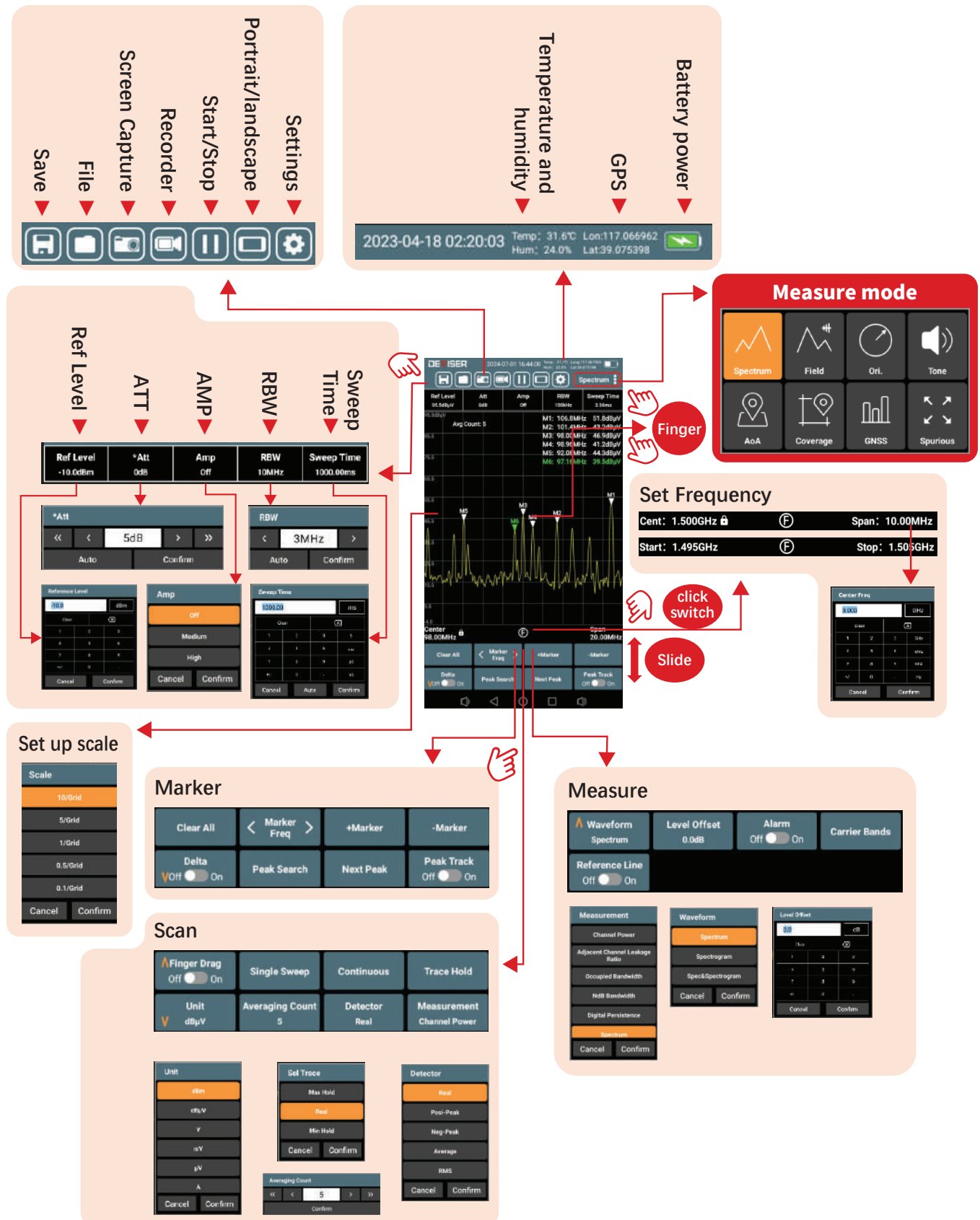


E801A/E801B Smart Radio Interference Finder (600MHz~6/8GHz)

(1) Method of using integrated direction-finding positioning antenna (Install ET6G-2 small triangular directional antenna)



Quick Operation Guide of E80A/E80B and E801A/E801B



Wireless Monitoring. Frequency Resource Management.

Radio stations, telecommunication broadcasting equipment must follow the regulation to limit the transmission power, and most importantly, the spurious emission amplitude has to be managed under threshold value to comply with international standards. For illegal, ultra regional, and high-power wireless signals, timely disposal and revocation of frequency resources should be carried out.

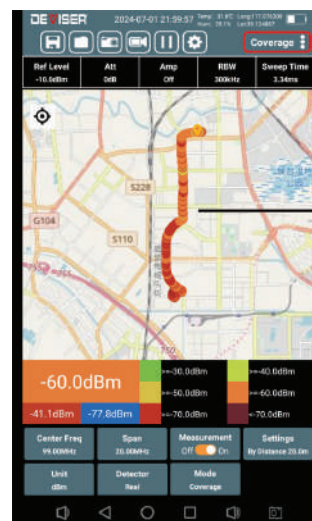
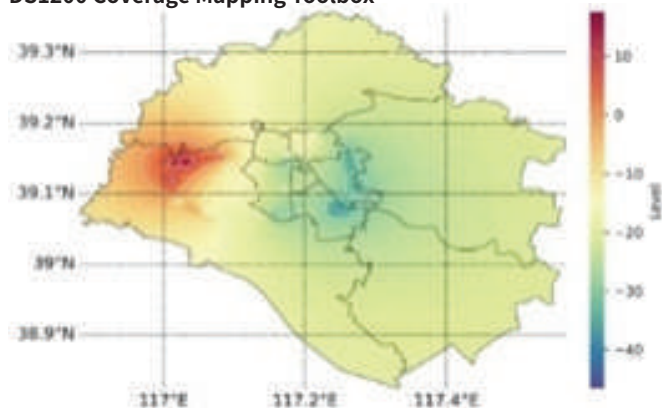


ET107 Electric Rotating Platform

In order to find and locate interference signal rapidly and efficiently, Deviser provide a vehicle based interference signal location system. Instead of manually performing these tests, when the user is equipped with simple and practical ET107 on-board electric rotating platform, the user can automatically complete the interference screening work in the car, in any environmental conditions. Much higher efficiency at low cost.



DS1200 Coverage Mapping Toolbox



Field intensity level
dot color map

Finding Eavesdropping and Photo Stealing System

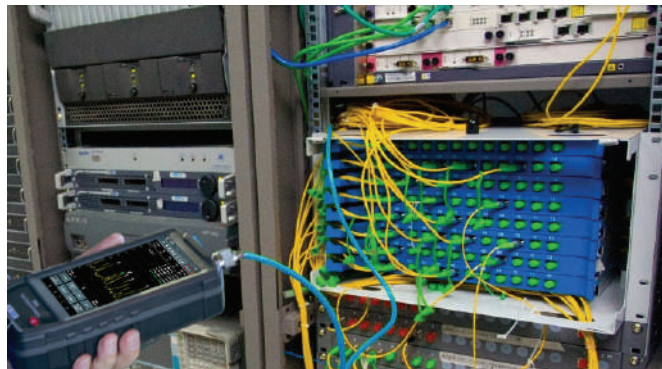
E801A is a smart handheld integrated Real Time spectrum analyzer with 20MHz IF bandwidth. The sensitivity can reach to -160dBm/Hz. Used for detecting and locating 2G, 3G, 4G and Wi-Fi signals transmit from mobile phones, smartphones, vehicle trackers, GSM monitoring devices and concealed wireless 3G/4G cameras.

When closing to the transmit equipment, a small infrared thermal imaging detection module (optional) can be provided to quickly detect hidden pinhole camera probes or interference devices.

It is widely used in important workplaces. Such as to detect hidden equipment in conference rooms, to detect the unauthorized mobile phones signals in offices, examination room, hospitals, prisons and large-scale public social activities, etc.



Hidden wireless signal monitoring bag



Interference Hunting

Various Interference Signals

- Mobile Repeater interference to UE
- RFID Equipment
- Internet of Things
- FM spurious emission interference to GNSS
- Drone countermeasure equipment(GNSS L1 band)
- Vehicle GPS shield equipment(Taxi , Cash transport truck)
- GSM-R system interference
- Data transmission radio station interference LTE system



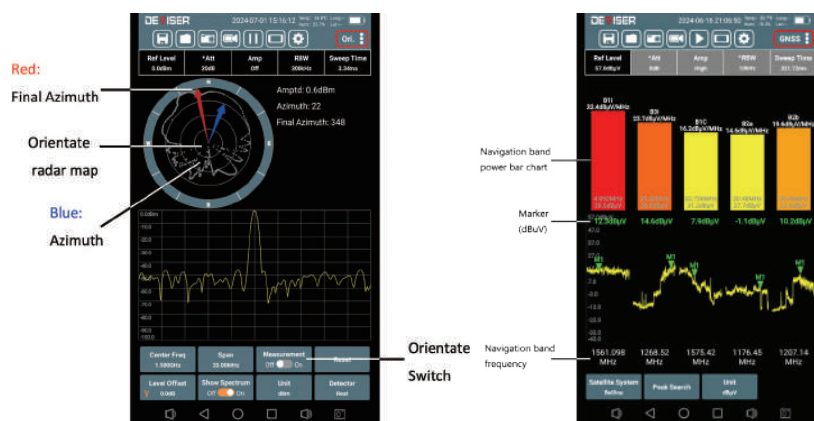
GPS shield equipment defense Drone



Spurious Emission from base station



GNSS Interference Hunting in airport



GPS/BeiDou/GNSS Satellite Signal Frequency Table

Syssem	Signal	Frequency(MHz)	Channel bandwidth(MHz)
BeiDou	B1I	1561.098	4.092
	B3I	1268.52	20.46
	B1C	1575.42	32.736
	B2a	1176.45	20.46
	B2b	1207.14	20.46
GPS	L1 C/A	1575.42	2.046
	L1 C	1575.42	30.69
	L2 C	1227.6	2.046
	L2 P	1227.6	20.46
	L5	1176.45	20.46

ET20 Passive straight handle and directional antennas (Cover 20MHz to 6000/8000MHz)



(Straight shank ET20 series antenna 20MHz~8000MHz)

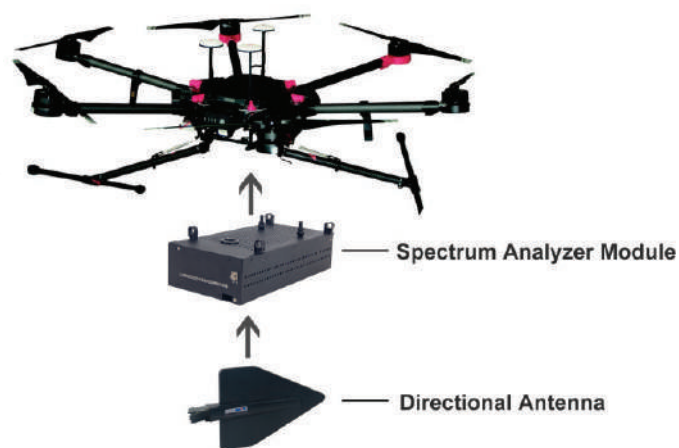


(Antenna box for 3 antennas)

High gain Yagi antenna (1200-1800MHz, Custom)



High Speed and efficiently Drone Monitor System



A "Packaging List" diagram of the E801A/B Smart Radio Interference Finder

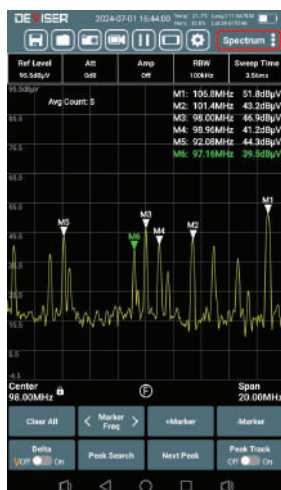


Key Measurements

I. 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.

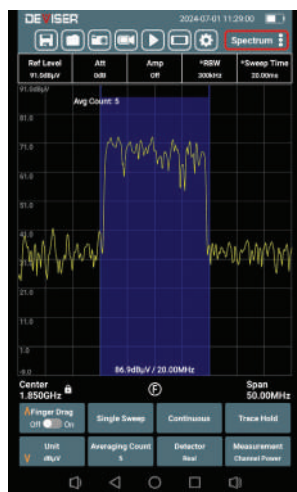


1.2 Channel Power, Occupied Bandwidth, Adjacent Channel Leakage Ratio

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

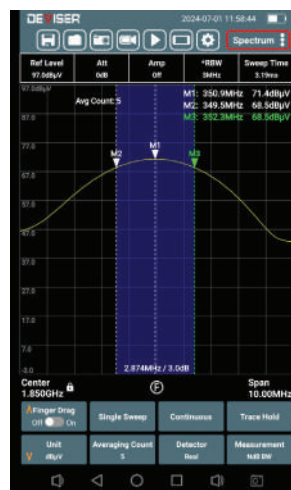
Occupied Bandwidth: measure occupied bandwidth.

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



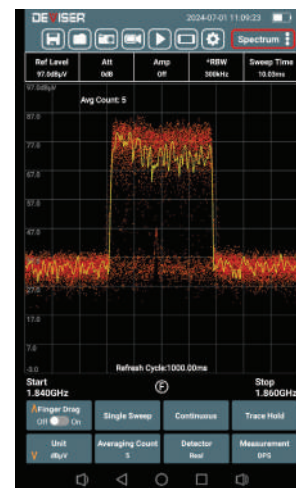
1.3 NdB Bandwidth

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

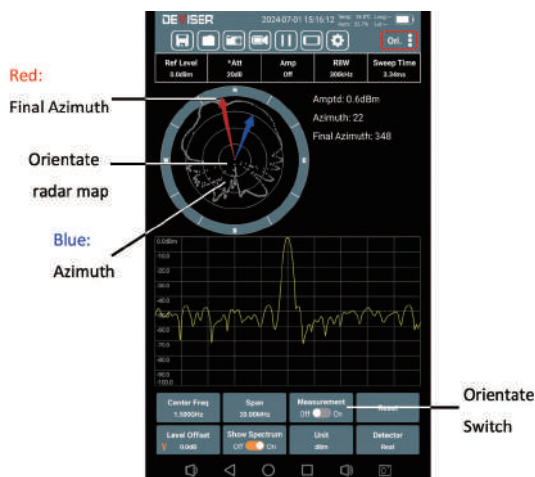
Persistence testing separates the desired signal transmission from underlying low-level inference signals with supreme clarity, and no service interruptions at any point.



II. Orientation

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

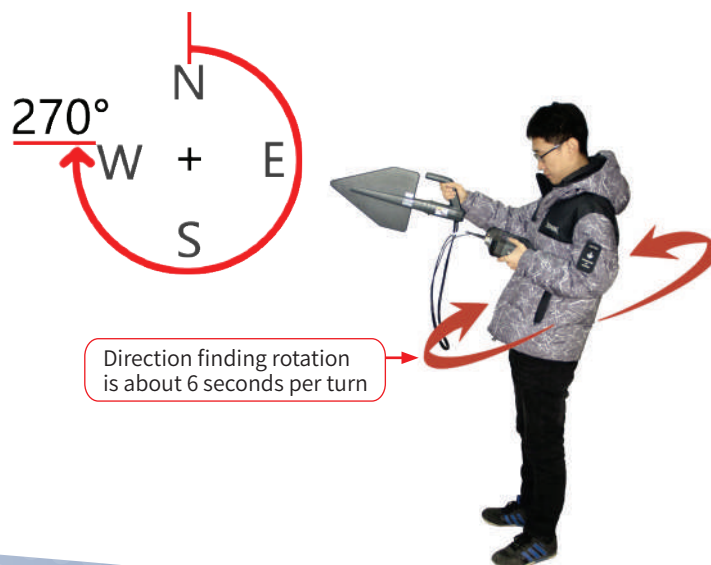
The direction finding instrument should be held in horizontal state, and the internal electronic compass of the instrument should be calibrated after 1 week of rotation, and then the direction finding work should be carried out. Turn on the direction finding switch, turn around for 2 or 3 turns, about 6 seconds per turn, and turn off the direction finding switch at the end. The direction finding radar chart pops up on the interface, showing the blue antenna direction Angle and the red interference recognition Angle respectively.



Azimuth: namely the real-time test antenna direction Angle (blue line), refers to the direction Angle of the directional antenna at that time;

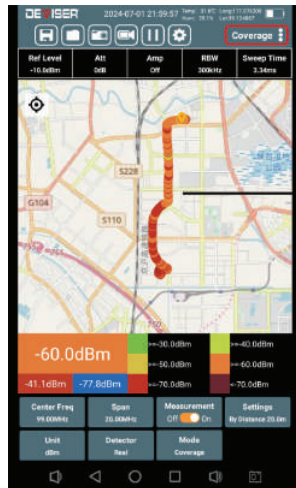
Confirm: the calculated interference direction angle of the incoming wave signal (red line);

Definition of direction Angle: the convention is that the compass refers zero degree to the north(N) position, and increase in a clockwise rotation to 359 degrees.



VII. Coverage Mapping and Spectrum Clear

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

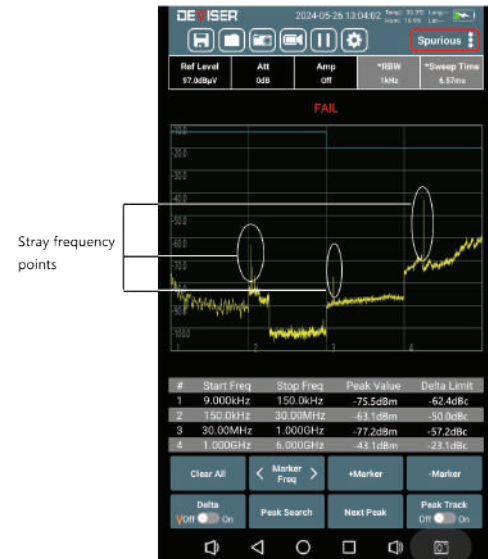


Field intensity level dot color map

VIII. Spurious Emission Measurement

Radio stations, telecommunication broadcasting equipment must follow the regulation to limit the transmission power, and most importantly, the spurious emission amplitude has to be managed under threshold value to comply with international standards.

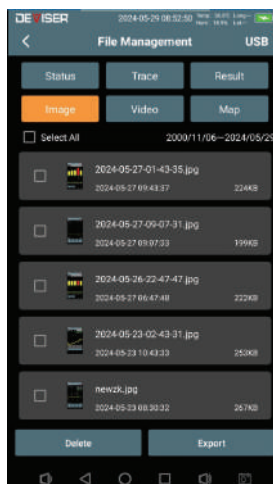
Several frequency bands can be configured for measuring spurious emission. Each band includes center frequency, span, RBW, threshold value ... etc.



Recording and Playback

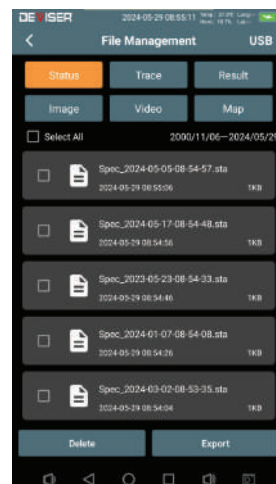
1. Screen Capture

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.

Programming API

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



E80A/E80B Specifications

Technical Parameter	
Frequency range	9kHz-6GHz(E80A)/9GHz(E80B) Resolution 1Hz
IF bandwidth	20MHz
Scanning speed	5GHz/s@25kHz
Frequency accuracy	±1ppm
RBW	10Hz - 10MHz (1:3step)
Attenuator range	0 to 50dB(1dB step)
Displayed average noise (DANL)level @1GHz	-160dBm/Hz(High sensitivity mode)
TOI	+14dBm ((typical)
Phase noise	-100dBc/Hz@100kHz offset 1GHz
Amplitude accuracy	±1.5dB
Display	5.5 inch, 720x1280
Operating system	Android
Interface	USB(Type-C)
GPS, Compass	Built-in
Battery	7.4V / 5AH
Operating time	3 to 4 hours
Dimensions	215mm x 95mmx 50mm
Weight	About 0.9kg

E801A/E801B Specifications

Main unit	
Model	E801A/E801B
Directional antenna	
Model	ET6G-2
Frequency range	600MHz - 6GHz (It can be extended to 8GHz range)
Gain	>5dbi
VSWR	≤1.25dB
RF interface	50Ω/SMA
Weight	<300g
Dimensions	350mm*200mm*25mm

Diagram of removing the battery



Accessories - Antenna

No.	Model/Type	Picture	Frequency Range	No.	Model/Type	Picture	Frequency Range
1	Omnidirectional antenna ET101		500MHz-3000MHz	5	ET6G-2 Passive directional antenna		600M-6GHz (It can be extended to 8GHz range)
2	N(M)-SMA(F) connector		DC - 12.4 GHz	6	N(M)-SMA(M) connector		DC-12GHz
3	Omnidirectional antenna ET103		30MHz - 6GHz (AF antenna factor 30 - 60dB/m)	8	1m to1.5m, SMA, RF cable		DC~26G
4	Metal tripod MT-14		15-21cm, 200g				
9	Directional antenna (ET250M/ ET500M/ ET8000M) Passive straight handle ET20	ET20 ET8000M (500MHz~8000MHz) ET500M (200MHz~500MHz) ET250M (20MHz~250MHz)	20MHz ~ 8GHz				



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ET20 straight handle directional antenna in use

It can be converted to landscape display wider spectrum function



Headquarter -Design and Manufacturing (23000m²)

