DEVISER®

35+ YEARS OF INNOVATION

EM860

Frequency & Code Selective EMF Analyzer

Key Benefits

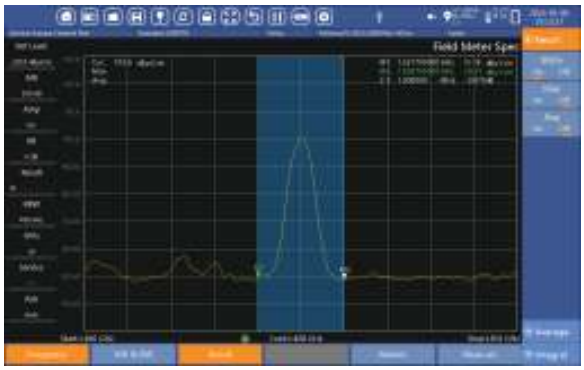
- Safety Evaluation
- Spectrum Analysis
- Level Recorder
- Analysis of electromagnetic field strength
- 5G NR code selective EMF measurement
- LTE code selective EMF measurement
- 3G UMTS code selective EMF measurement
- Powerful background data management system
- Attach Field Strength Calibrator EM20 as standard

www.deviserinstruments.com

All apps

Details

Swept Fieldmeter



Swept Fieldmeter	
Result	Spectrum Analysis
RBW	1 Hz to 5 MHz
VBW	1 Hz to 5 MHz
Result types	Act : Display instantaneous spectrum Max : Maximum hold function Avg : Average over a selectable number of a selectable time period spectrum Min : Minimum hold function
Detector	RMS
Axis	X, Y, Z axis for single-axis and Three-Axis

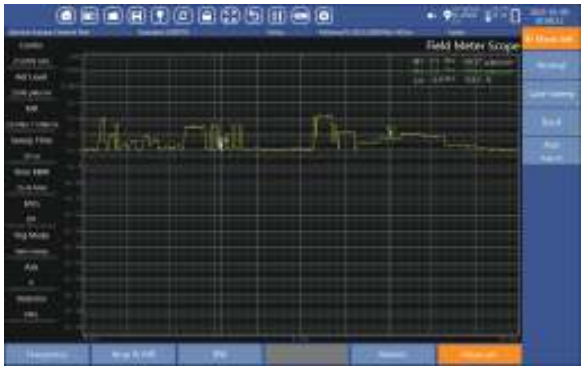
Safety Evaluation

Safety Evaluation	
Result	Shows field meter of each service by histogram
Number of services	1 to 100, the parameters of each service is defined by user
Channel bandwidth of one service	1 MHz to 6 GHz
RBW	30 kHz, 100 kHz, 300 kHz, 1 MHz, 3 MHz
Detector	RMS
Axis	X, Y, Z axis for single-axis and Three-Axis

Scene Recorder

Level Recorder

Field Meter Scope

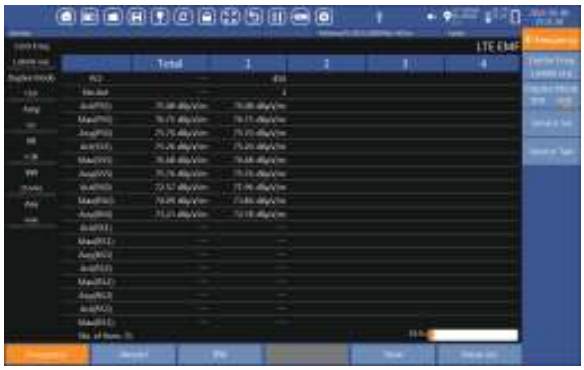


Scene Recorder	
Result	Real time display of field strength in GIS
Result types	It supports designated frequency point, field strength measurement of specified axis and display on GIS
Multiple source location modes	Support work order positioning, rangefinder positioning, input latitude and longitude positioning
Data transmission	Support the upload of measurement data to the background system by 4G, WLAN or LAN.
Task distribution	Support the measurement work orders through the background system.
Axis	X, Y, Z axis for single-axis and Three-Axis
Level Recorder	
Result	Selective level measurement at a fixed frequency setting
BW	Up to 100MHz
Result types	Peak ACT: Displays the actual peak value Peak MAX : Max hold function for peak value RMS ACT : Averaging over a defined time period RMS MAX : Max hold function for RMS values
Axis	X, Y, Z axis for single-axis and Three-Axis

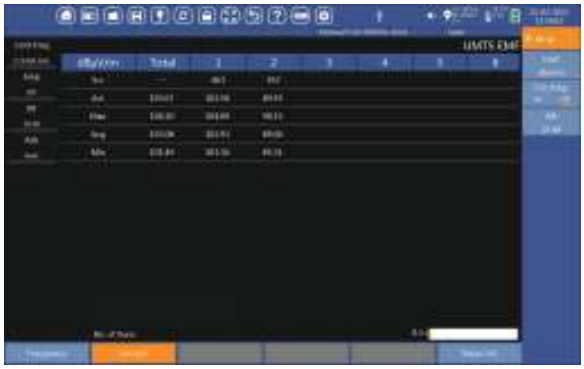
Field Meter Scope	
Result	Time domain signal field strength
Bandwidth	Time RBW: 30kHz, 60kHz, 120kHz. 480kHz. 960kHz. 1.92MHz, 3.64MHz, 7.68MHz, 15.36MHz, 30.72MHz, 61.44MHz, 122.88MHz.
Sweep Time	5ms, 10ms, 20ms, 40ms
Axis	X, Y, Z axis for single-axis

5G NR code selective EMF measurement

LTE code selective EMF measurement



3G UMTS code selective EMF measurement



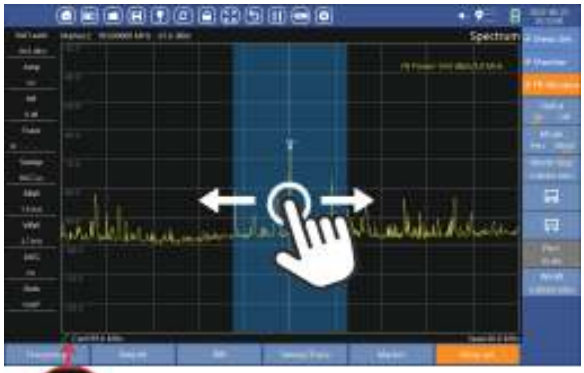
Powerful background data management system

5G NR code selective EMF measurement	
Result	5G NR synchronize signal power of each beam of multiple Cells in the same frequency
Result types	PCI , No.SSS , Act(SSS Max) , Max(SSS Max) , Avg(SSS Max) ,Act(SSS Sum) , Avg(SSS Sum) , Act(SSS0~SSS7)
Channel Bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz
Detection	RMS
Axis	X, Y, Z axis for single-axis and Three-Axis
LTE code selective EMF measurement	
Result	LTE synchronize signal and reference signals power of multiple Cells in the same frequency
Result types	PCI , Act(PSS) , Max(PSS) , Avg(PSS) , Act(SSS) , Max(SSS), Avg(SSS) , Act(RS) , Max(RS), Avg(RS) , Total values
Channel Bandwidth	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
Detection	RMS
Axis	X, Y, Z axis for single-axis and Three-Axis
3G UMTS code selective EMF measurement	
Result	UMTS Scr and CPICH channel power
Result types	Scr, Act(CPICH), Max(CPICH), Min(CPICH), Avg(CPICH) and total values
Channel Bandwidth	5 MHz
Axis	X, Y, Z axis for single-axis and Three-axis
Data management system	
Work order management	You can customize the work order, specify the measurement location and surveyor. Simplify the work
User management	Edit different users to work with the work order function
Data management	Query and manage data. You can mark the surrounding buildings and places later
Report template management	Custom report template can be used to generate and export reports according to their own format when exporting reports.
Report export	Export the specified measurement to doc or CSV format to facilitate data management
Support multiple devices	Support for EM9 and EM860

Multitouch

Multitouch operation with finger movement can adjust marker position and center frequency.

Before moving the center frequency, press the lock button at the lower left corner to unlock the screen as illustrated below.



Recording

1. Screen Capture

User can save the information on screen.

2. Screen Recording

User can save the recording video, the device also supports video playback

3. Status and Trace

Use can select the Status to save the measurement screen or select Trace to record the spectrum trace. Power level vs. frequency can then be analyzed offline.

Remote Control & Data Transfer

Smart Device Operation

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

1. Wi-Fi

1). Insert USB Wi-Fi module and go to System Settings | Network to enable Wi-Fi hotspot and remote control.

2). Search for access point from Wi-Fi settings on computer or smart devices to join. Launch VNC Client, enter IP address and password to connect for remote desktop.

Computer or smart devices can also connect through Cloud server to the instrument for remote control to operate and display real-time measurement information.

2. LAN Connection

1). In order to connect to the instrument through its LAN port, use an Ethernet cable to connect the computer or smart devices to the instrument and configure its IP address to be the same subnet as the instrument.

2). Download VNC Client to install on computing device. Launch the VNC Client, enter the IP address of the instrument and password to connect.

3. Screen Projection

Connect the HDMI port of the instrument to project the instrument screen to HD TV or monitor. It's useful for education or technical training sessions.

Ordering information

Standard Configuration and Accessories (included with instrument)

Description	Part No.	Order No.
EM860 Frequency & Code Selective EMF Analyzer Base Unit	EM860	0110.0860.03
Scene Recorder (standard feature)	EM860-802	2120.0860.03
Swept Fieldmeter (standard feature)	EM860-800	2120.0860.01
Battery Pack, Rechargeable, 10.8V, 9200mAH, 99.36WH	10.8V,9200mAH,99.36WH	6120.0100.08
Transit Case with shoulder belt (for EM860 Base Unit and up to 2 antennas)	S5040	6120.0600.61
Omnidirectional Antenna ET101	E8000-005	6120.0900.05
Shouler Harness	E8900-BT	0120.8900.37
RF Connector(N/SMA)	N/SMA-JK	6190.0500.37
USB WiFi Module	USB150M	6120.0600.15
Power Supply DC Vehicle Adapter(12V/5A)	12V/5A	6120.0700.04
AC-DC Power Adapter(15V/6A, 90W)	15V 6A	6120.0700.02
Power Adaptor Plug Cord (Europe) Power Adaptor Plug Cord (Unite States) Power Adaptor Plug Cord (United Kingdom) Power Adaptor Plug Cord (Australia) Note: select one from four types of power adapter plug cord	AE4000-733 AE4000-734 AE4000-735 AE4000-736	6290.0500.03 6290.0500.04 6290.0500.05 6290.0500.06
Field Strength Calibrator EM20 (10V/m @ 1GHz)	EM20	2110.0020.00
Calibration Certificate EM860 Base Unit	EM860-013	6120.0600.69
Quick operation manual (English)	EM860-018	6120.0600.73
Adapter Unit to Tripod	EM860-200	2120.0860.14

Options

Optional Features		
SAFA (Safety assessment)	EM860-801	2120.0860.02
Field Meter Scope	EM860-803	2120.0860.04
Level Recorder	EM860-804	2120.0860.05
LTE EMF(TDD-LTE & FDD LTE code selective) measurement	EM860-810	2120.0860.11
UMTS EMF(UMTS code selective) measurement	EM860-812	2120.0860.13
5G NR EMF(5G NR code selective) measurement	EM860-805	2120.0860.06
5G NR Beam Statistic	EM860-813	2120.0860.16
5G NR Multipath	EM860-814	2120.0860.17
5G NR RE Statistic	EM860-815	2120.0860.18
5G NR RB Vs Time	EM860-816	2120.0860.22
Field Manage System Software (PC)	EM860-806	2120.0860.07
Optional Accessories - Probe		
Frequency Selective Probe TS-6G (200MHz-6GHz, requires Antenna Kit EM860-201)	TS-6G	2120.0860.00
Calibration Certificate EM860-TS-6G	EM860-011	6120.0600.62
Frequency Selective Probe TS-8G (200MHz-8GHz, requires Antenna Kit EM860-201)	TS-8G	2120.0860.19

Calibration Certificate EM860-TS-8G	EM860-014	6120.0600.70
Frequency Selective Probe HTS-250M (100K-250M, requires Antenna Kit EM860-201)	HTS-250M	6110.0900.04
Calibration Certificate EM860-HTS-250M	EM860-015	6120.0600.71
Frequency Selective Probe TS3-6G (30MHz-6GHz, requires Antenna Kit EM860-201)	TS3-6G	2120.0860.24
Calibration Certificate EM860-TS3-6G	EM860-021	6120.0600.90
Frequency Selective Probe TS3-8G (30MHz-8GHz, requires Antenna Kit EM860-201)	TS3-8G	2120.0860.25
Calibration Certificate EM860-TS3-8G	EM860-022	6120.0600.91
Optional Accessories – Extension Cable		
Extension Cable(2 meters) with control cable（Frequency Range 9kHz~9GHz）	EM860-001	6110.0500.37
Extension Cable(2 meters) without control cable（Frequency Range 9kHz~9GHz）	EM860-009	6120.0500.45
Extension Cable(5 meters) with control cable（Frequency Range 9kHz~9GHz）	EM860-010	6120.0500.46
Extension Cable(5 meters) without control cable（Frequency Range 9kHz~9GHz）	EM860-008	6110.0500.50
Optional Accessories		
Soft bag	EM860-012	6120.0600.68
Tripod	R2004	6110.0900.05
Antenna Adapter	EM860-016	2120.0860.21
Adapter Antenna to Tripod	EM860-201	2120.0860.15
HDMI Cable(4K 60Hz, 3 meters)	HDMI	6120.0500.42
Shouler strap	EM860-000	6120.0600.55
quick operation manual (neutral)	EM860-019	6120.0600.74

Specifications

Basic Unit

Frequency Range	9kHz – 9000MHz
Frequency accuracy	±1ppm
Phase noise (100 kHz offset from 1 GHz)	-103 dBc/Hz
Displayed average noise level (DANL)	Amplifier OFF ≤-135dBm, 10MHz to 3GHz, ≤-130dBm, 3GHz to 6GHz, ≤-125dBm, 6GHz to 9GHz; Amplifier ON: ≤-155dBm, 10MHz to 3GHz, ≤-150dBm, 3GHz to 6GHz, ≤-145dBm, 6GHz to 9GHz;
Level of accuracy	±1.5dB
Level resolution	0.1dB
Max safety input level	+25dBm (peak power/entrance attenuation>30dB); ±50VDC
TOI intercept point	Typical>+14dBm
Second harmonic suppression	Typical<-65 dBc
Residual Response	<-85dBm
Reference level range	-130 dBm - +30dBm
Input port/VSWR	N type/50Ω/<2.0
Real-time spectrum analysis bandwidth	Max 100MHz
Demodulation analysis supports patterns	5G-NR ,LTE, UMTS
Power supply	Adapter AC100-240V/50-60Hz DC15V
Environment temperature	Working temperature -20℃-+50℃
Ingress protection	IP52
Display	10.1 inches
Size	292mm X 210mm X 82mm
Weight	<3.7kg(No Probe)

Triaxial Magnetic Field Probe HTS-250M

Frequency range	100kHz - 250MHz	
Antenna type	Magnetic Field	
RF connector	N type, 50Ω	
Dynamic range	2.5 uA/m - 560 mA/m (typical)	
Isotropic Measurement	100kHz-60MHz	±2.5dB
	>60MHz-250MHz	±3.3dB

Triaxial Electric Field Probe TS-6G/TS-8G/TS3-6G/TS3-8G

Frequency range	200MHz – 6GHz(TS-6G) 200MHz - 8 GHz(TS-8G) 30MHz - 6GHz(TS3-6G) 30MHz - 8 GHz(TS3-8G)	
Frequency response	<900MHz, >3GHz: ±2.5dB 900MHz - 3GHz: ±1dB	
Field strength range	(1 - 100) V/m, (10kHz - 200MHz) (3 - 60) V/m, (200MHz - 1GHz) (3 - 170) V/m, (1GHz - 6GHz)	
Limiting field strength	200 V/m	
Dynamic range	>65 dB	
Isotropic Measurement	<900MHz	<2dB
	900MHz-3000MHz	<3dB
	3000MHz-6000MHz	<5dB
linearity	≤±1.5 dB	
Operating temperature	-10℃ - 50℃	
Antenna type	Electric Field	
RF connector	N type, 50Ω , Multi-pin aviation plug	
Ingress protection	IP52	
Calibrate	(17-25) reference frequency, 24 months	
Dimension	44cm*φ8.3cm	
Weight	300 - 380g