

# Frequency & Code Selective EMF Analyzer EM860F

**Superior Performance**

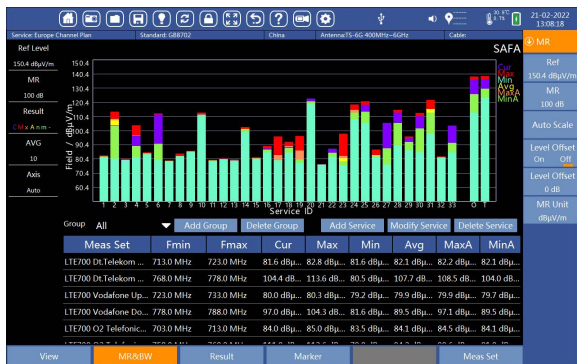


## Key Benefits

- Safety Evaluation
- Spectrum Analysis
- Level Recorder
- Analysis of electromagnetic field strength
- 5G NR FR1 code selective EMF measurement
- LTE code selective EMF measurement
- 3G UMTS code selective EMF measurement
- Powerful background data management system

## Details

### Safety Evaluation



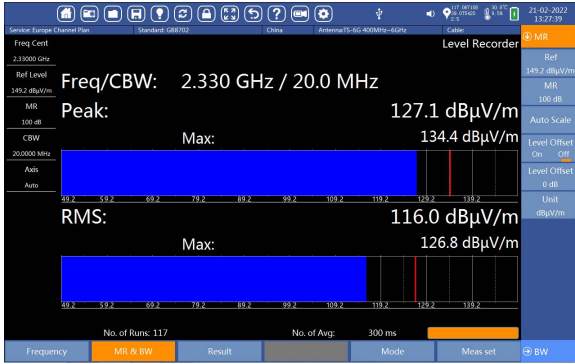
### Spectrum Analysis



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

Spectrum Analysis	
Result	Spectrum Analysis
RBW	1 Hz to 3 MHz
VBW	1 Hz to 3 MHz
Result types	Act : Display instantaneous spectrum Max : Maximum hold function Avg : Average over a selectable number of a selectable time period spectrum Max Avg : Maximum hold function after averaging Min : Minimum hold function Min Avg : Minimum hold function after averaging
Detector	RMS
Axis	X, Y, Z axis for single-axis and Three-Axis

Level Recorder



Level Recorder	
Result	Selective level measurement at a fixed frequency setting
RBW	15 Hz to 2 MHz
VBW	1 Hz to 3 MHz
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

Scene Recorder

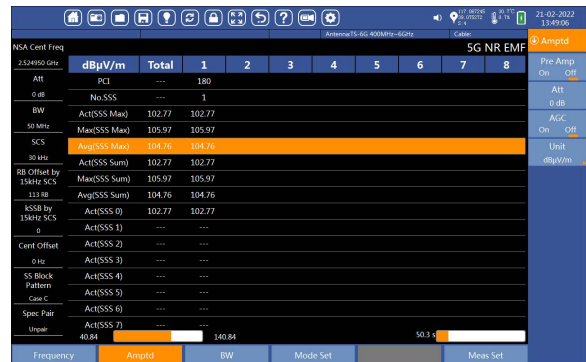


Group	Start	Stop	RMS(Avg)	Result
LTE 700	703.0 MHz	788.0 MHz	110.2166 dBµV/m	pass
LTE 800/900	791.0 MHz	960.0 MHz	113.3469 dBµV/m	pass
LTE 1800	1.710 GHz	1.880 GHz	110.9875 dBµV/m	pass
LTE 2600	2.500 GHz	2.690 GHz	115.5908 dBµV/m	pass

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

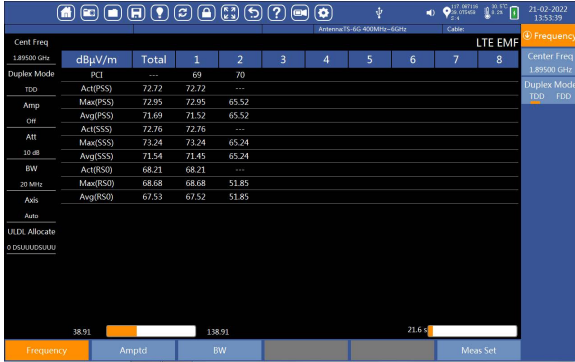
5G NR FR1 code selective EMF measurement



5G NR FR1 code selective EMF measurement

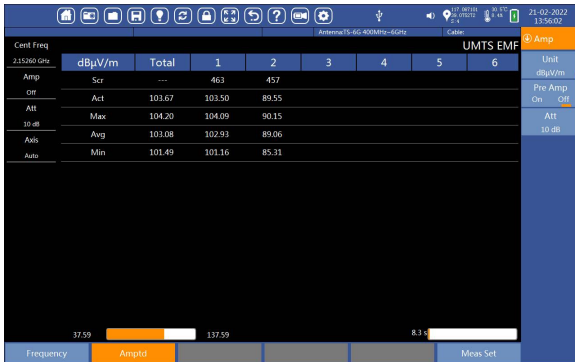
Result	5G NR synchronize signal power of each beam of multiple Cells in the same frequency
Result types	PCI , No.SSS , Act(SSS Max) , Max(SSS Max) , Avg(SSS Max) , Act(SSS Sum) , Avg(SSS Sum) , Act(SSS0~SSS7)
Channel Bandwidth	5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 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



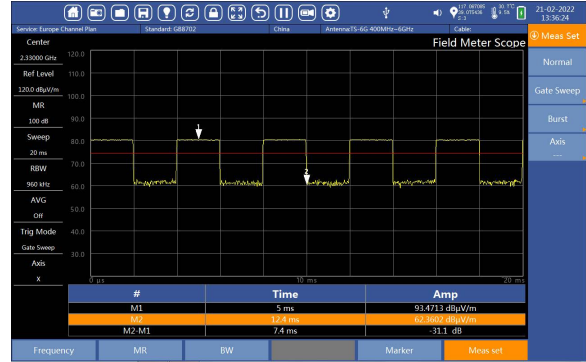
LTE code selective EMF measurement	
Result	LTE synchronize signal and reference signals power of multiple Cells in the same frequency
Result types	PCI , Act(PSS) , Max(PSS) , Avg(PSS) , Act(SSS) , Max(SSS), Avg(SSS) , Act(RS) , Max(RS), Avg(RS) , Total values
Channel Bandwidth	1.4 MHz, 3 MHz, 5 MHz, 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



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

Field Meter Scope



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 Multi Path



5G NR Multi Path	
Result	It indicates the amount of power of the dominant pilot signal that is dispersed outside the main correlation peak due to multipath echoes that are expressed in dBm.
Result types	P-SS RSRP, S-SS RSRP, Delay
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
Axis	Single-axis

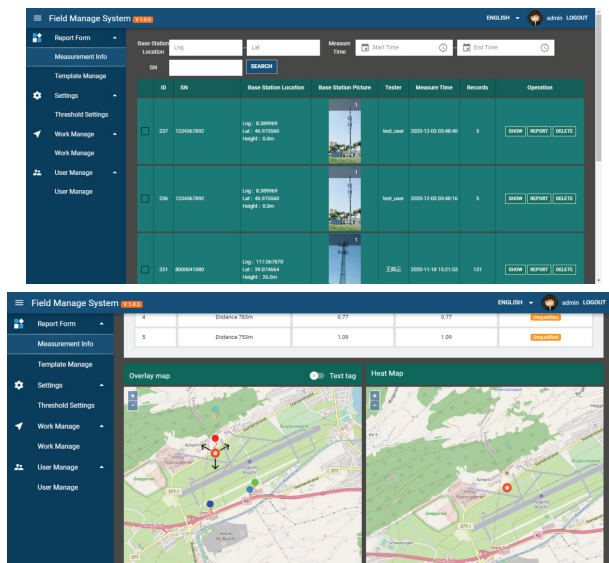
5G NR Field Statistic



5G NR Field Statistic

Result	The static of field power within all bandwidth in one period.
Result types	PCI, Beam Index, SS-RSRP SS-RSRQ SS-SINR , Field Power
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
Axis	X, Y, Z axis for single-axis and Three-axis

Powerful background data management system



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 EM860F

SPECIFICATIONS

Basic Unit

Model	EM860F
Frequency range	9k~43GHz
Operating time	2.5 Hours
IF bandwidth	110 MHz
Phase noise (100 kHz offset from 1 GHz)	-103 dBc/Hz
Displayed average noise level (DANL)	preamp off -134 dBm (10MHz ~ 7.5GHz) -140 dbm (1GHz) -136 dBm (7.5 GHz ~ 18 GHz) -134 dBm (18 GHz ~ 39 GHz) -130 dBm (39 GHz ~ 42 GHz) -128 dBm (42 GHz ~ 43 GHz)  preamp on: -154 dBm (10MHz ~ 7.5GHz) -160dbm (1GHz) -155 dBm (7.5 GHz ~ 18 GHz) -152 dBm (18 GHz ~ 39 GHz) -149 dBm (39 GHz ~ 42 GHz) -146 dBm (42 GHz ~ 43 GHz)

3rd-order intercept (TOI)	+8.5 dBm
2nd harmonic distortion	-60 dBc
Voltage standing wave ratio (VSWR)	<2.2
Frequency accuracy	±1 ppm
Amplitude accuracy	±1.5 dB
Sweep Rate	30GHz/s@ (<25kHz)
RTSA 100% POI	5us
Dimensions (LxWxH)	292mm*211mm*82mm
Weight	3.9 kg

Three axis electric field antenna TS-6G

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

Three axis antenna (H-field)

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



## Ordering information

### Standard configuration

Description	Part No.	Order No.
EM860 Frequency & Code Selective EMF Analyzer	EM860F	0110.0860.03
Battery Pack, Rechargeable, 10.8V, 9200mAH, 99.36WH	10.8V, 9200mAH, 99.36WH	6120.0100.08
Carry Case S5040 (including shoulder belt and wave cotton)	S5040	6120.0600.61
External Dual Charger for Li-Ion Batteries	EM860N.2.101	2120.0816.05
Omnidirectional Antenna	E8000-005	6120.0900.05
Shoulder strap for EM860 Base Unit	EM860-000	6120.0600.55
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	AE4000-733	6290.0500.03
Quick operation manual (English)	E8900-003	6120.0600.59
<b>Optional Accessories</b>		
Frequency Selective Antenna TS-6G (200MHz-6GHz)	TS-6G	2120.0860.00
Frequency Selective Antenna TS-250M(100KHz-250MHz)	TS-250M	6110.0900.04
Antenna kit	EM860-201	2120.0860.15
Tripod	R2004	6110.0900.05
Tripod kit	EM860-200	2120.0860.14
Extension Cable(2 meters) with control cable	EM860-001	6110.0500.37
Extension Cable(2 meters) without control cable	EM860-009	6120.0500.45
Extension Cable(5 meters) without control cable	EM860-010	6120.0500.46
Extension Cable(5 meters) with control cable	EM860-008	6110.0500.50
Calibrator	EM860-700	6110.0500.51
HDMI Cable(4K60Hz, 3 meters)	HDMI	6120.0500.42



Carry Case S5040



Shoulder strap



Extension Cable(2 meters or 5 meters) with control cable

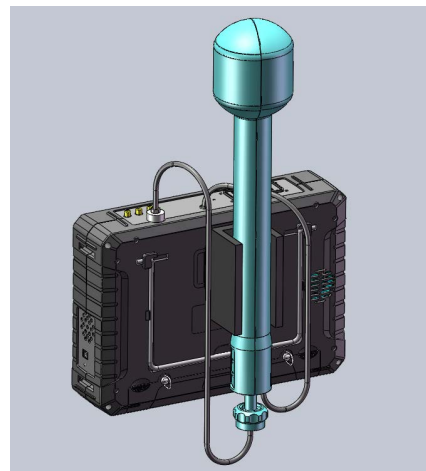
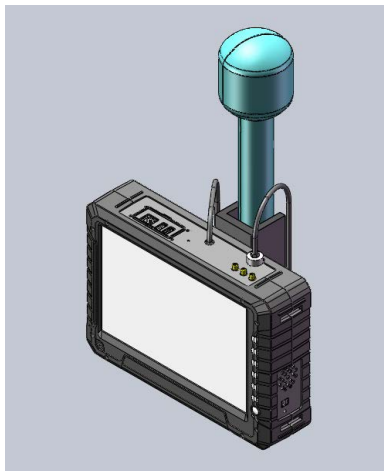


Extension Cable(2 meters or 5 meters) without control cable



Tripod adapter for Triaxial Antenna

Attachment	
2-18GHz horn antenna(SMA(F))	
18-40GHz horn antenna (2.92mm(F))	
2.4mm(F) – 2.92mm(F) , adapter	
N (F) - SMA (F), adapter	
2.92mm (M) – 2.92mm(M) , cable length 30cm	
SMA (M) – SMA(M) , cable length 30cm	



TS-6G fixed EM860F 3D model