DEVISER

E8000A (9kHz to 3000MHz)
E8400A (9kHz to 4000MHz)
E8600A (9kHz to 6000MHz)
Handheld Spectrum Analyzer

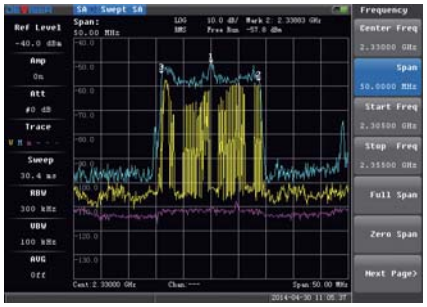
At present, the wireless communication of the world into the area of high speed, each country's FDD/TDD-LTE entered the commercial stage, but there is more to the radio spectrum environment complex, interference between different degree will use each fields that frequency band (e.g. "WLAN, mobile communications, radio and television, aerospace and military communication).

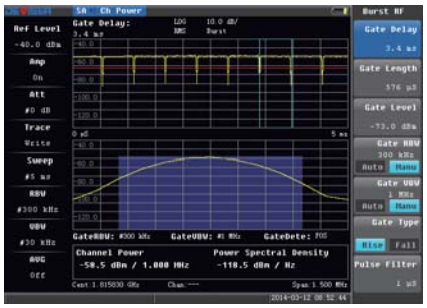
Due to the maintenance difficulty rising and increased the cost of maintenance, E8000A series spectrum analyzers integrated test instrument can help engineers quickly checking interference source, but also on the 2G, 3G, 4G (LTE) to analyze a variety of mobile communication standards. Reduce the communication engineering maintenance difficulty, reduce maintenance cost.

Key Benefits

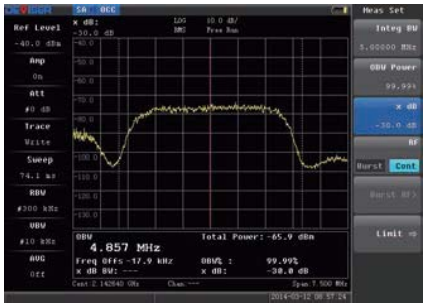
- 9kHz~3/4/6GHz spectrum analyzer
- One-button measurements: Channel Power, ACPR, Field Strength, OBW
- Interference Analyzer: Spectrogram, Signal Strength, RSSI, Interference Location, XID, DPS, Delta Spectrum
- Signal Analyzer: LTE, TD-LTE, WCDMA/HSDPA+, TD-SCDMA/HSDPA+, CDMA/EVDO, GSM/EDGE
- Indoor and outdoor coverage mapping
- Analysis of bandwidth with 20MHz
- Gate sweep for TD signal analysis
- DPS spectrum display of 250 μs minimum signal duration for 100% Probability of Intercept (POI)
- DANL < -162dBm/Hz
- Remote control via Ethernet and USB data transfer
- The GPS rapid positioning interference location
- The weight <2.5kg , working time >3.5 hours

Main Features

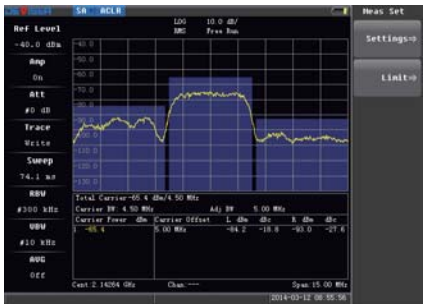




Channel power



OBW



ACPR

E8600A series handheld spectrum analyzer offers 9kHz~3/4/6GHz frequency options. With built-in FFT fast scanning function, it is helpful to capture the burst signal.

1.One-button measurements

Channel Power, ACPR, Field Strength, OBW. With gate option, E8000A series provide TDD signal channel analysis

2.Interference Analysis

Due to extension of Mobile communication and applications of various radio frequency range, interference between different bands is introduced in Broadcast TV, 2G/3G/4G Wireless, Wi-Fi Wireless LAN, trunking communication, Military communication and other wireless and wire line areas. Signals interference can cause lower C/N ratio and result network performance and service quality degradation.

E8000A series handheld spectrum analyzer supports Spectrogram, Signal Strength, RSSI, XID, and Interference Locating with mapping tool, DPS and Delta Spectrum. With all measurement capabilities of the unit, users can easily pin-point the interference problem under different testing environment.

1. Spectrogram Measurement

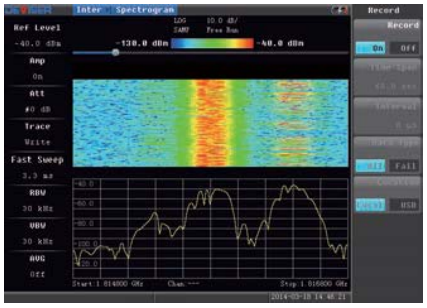
   Spectrogram is used for long-term monitoring of signal spectrum, identifying continuous, intermittent or frequency hopping signal, and record the time of instance. Recorded data can also be played back during the monitoring cycle

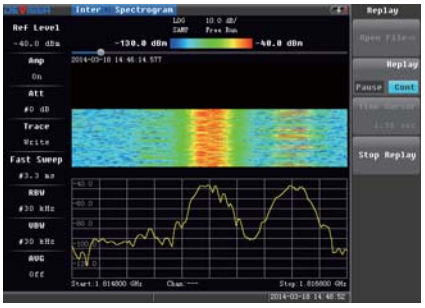
   - Maximum 72 hours of data recording; number of recorded files is dependent on hard disk capacity.
   - Live play back and identify specific time when interference happened.
   - Data can be recorded in accordance with limit line.

2. Signal Strength

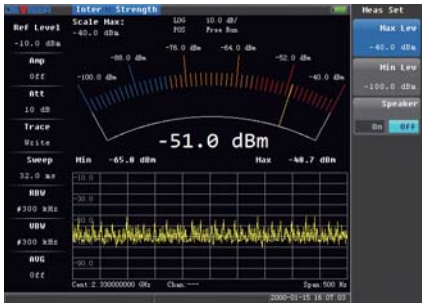
   Using with antenna, single point frequency amplitude can be measured to search interference source or signal coverage.

   - Working with directional antenna to monitor interference signal strength and capture the interference source or the signal strength of standard carrier.
   - Showing signal strength by measurement data (in dBm or W) and the dial meter with minimum and maximum records.
   - Measurement data can be recorded with longitude and latitude information retrieved from GPS for ride-out drive tool and signal coverage software.
   - Audio tones/speaker notification for signal strength measured.





Spectrogram Measurement, Recording Spectrogram Playback and interference source characteristics



Signal Strength

RSSI

BDA700 series Directional Antenna with GPS and Compass

Yagi Antenna

Mapping tool

Delta Spectrum

XID

3. Receive-Signal-Strength-Indication (RSSI)

RSSI is a measurement of the power presented in the received signal during certain period of time.

- Measurement time can be set to maximum 10 days.
- Measurement data can be recorded and played back.

4. Interference Location with Mapping Tool

Interference source can be positioned by using directional antenna, GPS, electronic compass and geographical map through 3-point localization method. Directional antenna can detect the direction of maximum signal while the electronic compass can record the direction of measured signal while GPS can record the longitude and latitude of the current position of measurement point.

BDA700 series directional antenna has built-in compass and GPS. It's connected to E8000A through the USB interface. The antenna provides the measurement data of signal strength with information of direction. As shown in the diagram below, E8000A has built-in electronic map to reflect the position and the direction of maximum signal strength. User can measure the interference signal from three different locations to exactly identify the source of interference.

The mapping tool supports various mapping system including the Google Map. The electronic map can be imported through USB flash drive. E8000A can also work indoor by loading indoor floor plan for manual position function.

5. Delta Spectrum

Delta Spectrum shows the delta spectrum wave relative to the reference spectrum. The reference spectrum could be the stable background spectrum. So any new or intermittent signal will be recognized at once with the tool.

6. XID

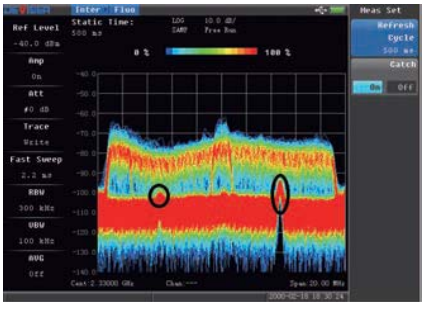
XID helps user identify the type of signal quickly. User can configure this measurement to identify all signals in the selected band or to simply monitor one single interfering frequency. The Spectrum Master then displays results that include center frequency, signal bandwidth, and signal type (FM, GSM/EDGE, W-CDMA/HSPA+, CDMA/EV-DO, Wi-Fi).

7. AM/FM Demodulation and Voice Monitoring

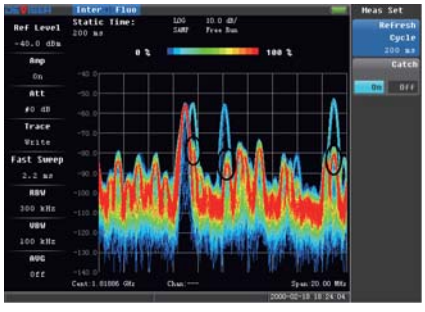
E8000A series supports AM/SSB/FM demodulation and voice monitoring to help users to identify the source of interference easier and faster.

8. DPS (Digital Persistence spectrum)

It is difficult to find interference covered by transmit signal. So it is a challenge for our traditional measurement and troubleshooting method of spectrum analyzer. E8000 series provide DPS tools to find these types of interference signals. DPS acquires several thousands of spectrum data per second and show the spectrum density over time. The colors represent the spectrum density over time.

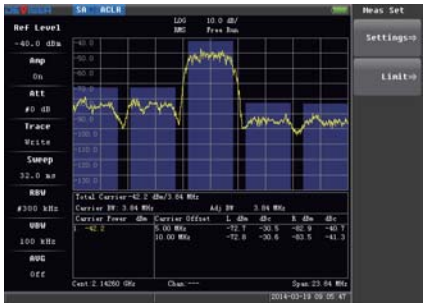


LTE Interference-DPS

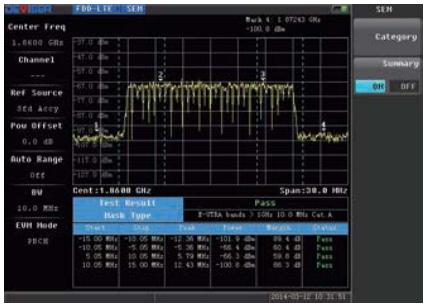


GSM Interference-DPS

Channel Power and OBW



ACLR



SEM

3.LTE- FDD/TDD Analysis

1. LTE- FDD/TDD Analysis

   E8600A spectrum analyzer includes LTE-TDD/FDD signal analysis option for downlink signal quality measurement to ensure the quality of signal coverage of base station and identify the possible interference. There are three portions of test:

   – RF Testing

   – Signal Modulation Quality Testing

   – OTA (Over-the-air) Testing.

2. RF Testing

   RF testing includes Channel Power, Occupied Bandwidth (OBW), Adjacent Channel Leakage Ratio (ACLR), Spectrum Emission Mask (SEM) and Power vs Time (PVT) measurement. All test results can be exported and printed. PVT measurement applies to LTE-TDD specifically.

3. Signal Modulation Quality Testing

   Signal modulation quality testing is used to measure Error Vector Magnitude (EVM), Power and Resource Block (RB) power of control channels, EVM analysis on sub-carrier, co-channel interference (CCI) …etc. All measurement results can be formatted in a report to export.

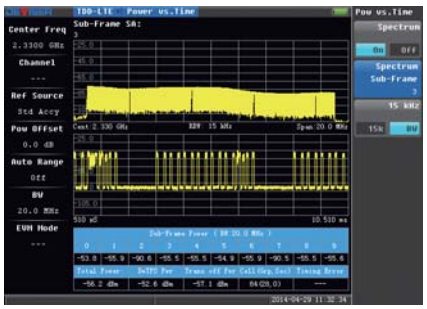
4. RB power measurement provides RB quantity, RB utilization, channel power, Cell ID … etc. metrics.

5. Table of Control Channel Power

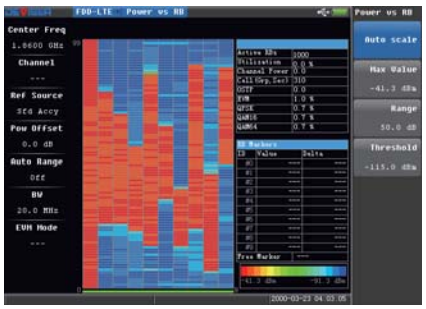
   Control channel power of Reference Signal (RS), Synchronization Signals (PSS and SSS), Physical Broadcast Channel (PBCH), Physical Control Format Indicator Channel (PCFICH), Physical Hybrid ARQ Indicator Channel (PHICH) and Physical Control Channel (PDCCH) are displayed in table and bar graph formats.

6. Constellation analysis is used to test LTE-TDD/FDD signal quality to ensure the signal coverage can be received by network terminals and any potential problems. Test measurement metrics are:

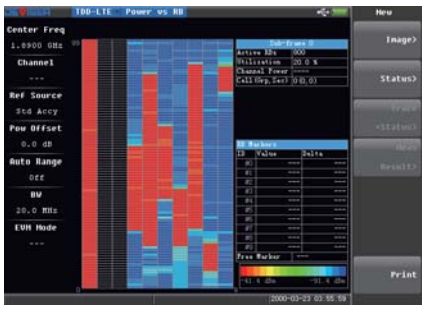
   - Reference Signal Channel Power / Synchronization Signal Channel Power



PVT

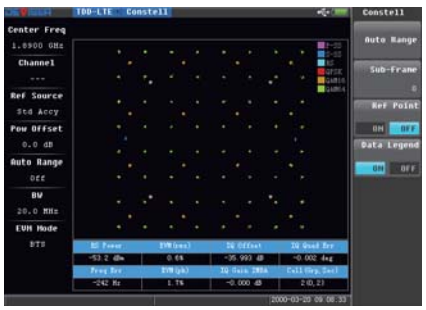


LTE-FDD RB Power Measurement

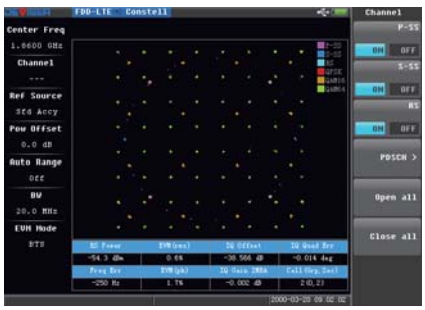


LTE-TDD RB Power Measurement

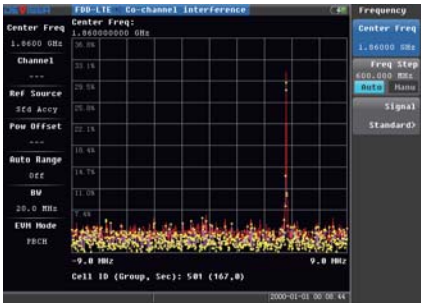
RS/SS/PBCH/PCFICH/PHICH/PDCCH Power Measurement



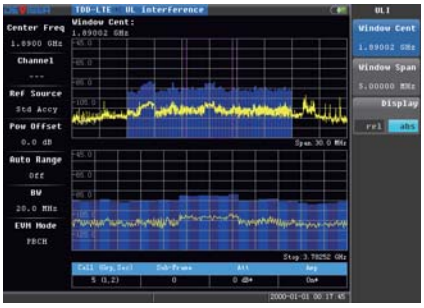
LTE-TDD Constellation Analysis



LTE-FDD Constellation Analysis



CCI testing for LTE-FDD



CCI Testing for LTE-TDD

Scanner

- EVM – Peak & Root Mean Square (RMS)
- Sub-Carrier EVM for in-band interference
- Frequency Deviation / Cell ID
- Constellation of BTS mode and OTA mode(SISO/MIMO2x2/MIMO4x4)

7. Co-Channel Interference (CCI) testing for LTE-FDD

   EVS tools measure EVM of reference signals and show the EVM wave vs. frequency of reference signal. If there is interference signal under the LTE carriers, the EVM of the interfered reference signal will be degraded. The degraded EVM wave will reveal the frequency of the interference signal.

8. Co-Channel Interference (CCI) Testing for LTE-TDD

   E8600A is capable to lock the sub-frame time of LTE-TDD/FDD and shows the spectrum of any sub-frame. If user select the uplink sub-frame and the sub-frame is idle, the sub-frame spectrum will show the noise floor of the LTE channel. Any interference signal will be found with the Uplink Spectrum Analysis.

9. OTA (Over-the-air) Testing.

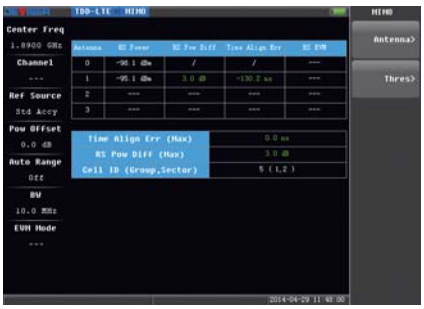
   OTA (Over-the-Air) testing measures the quality of covered signal with Scanner , Antenna Alignment, Signal Coverage Mapping

10. Signal scanner provides fast measurement of SS power, Reference Signal Receive Power (RSRP), Reference Signal Receive Quality (RSRQ), Signal to Interference plus Noise Ratio (SINR) and Cell ID(PCI). If it exists PCI mod 3 interference, PCI number will be red color words. GPS information can be recorded and exported to the geographical mapping tool.

11. Antenna Alignment Testing

    Antenna Alignment is used to test the balance of MIMO antenna. It shows the RS output level and time different from the antenna 0. It supports 2 and 4 antennas.

12. Signal Coverage Mapping reflects the signal coverage of the area. Coverage measurement indicators can be CW signal strength or LTE mobile signal quality (synchronization channel power, reference signal power, Cell ID) etc.



Antenna Alignment Testing

Outdoor Signal Coverage

Indoor Signal Coverage

Specifications

Model	E8000A	E8400A	E8600A
Frequency index			
Frequency	9kHz~3000MHz	9KHz~4000MHz	9KHz~6000MHz
Frequency parameters			
The aging speed	<±1 × 10^{-6}/year		
Temperature stability	< ± 0.5 × 10^{-6} (0 ~ 50)℃		
Frequency counting accuracy	(signal to noise ratio is 25 dB, the resolution bandwidth (RBW) / sweep width = 0.01)		
Counting accuracy	±1 ×10^{-6}±1		
Resolution	1Hz		
span	Zero span		
	1kHz~3000MHz	1kHz~4000MHz	1kHz-6000MHz
sweep time and trigger mode			
Sweep time	20ms – 250s (≥ 200 Hz) 10µs –1000s (= 0 Hz) 1ms – 250s (Fast scan)		
Accuracy	<±0.2%		
Trigger mode	Free trigger, single trigger, video trigger, trigger		
Resolution Bandwidth			
Range	1Hz to 3 MHz 10% step		
Bandwidth Accuracy	<±10%		
Selectivity	(60dB/3dB band width) <5:1		
Video bandwidth			
Range	1Hz - 3 MHz 10% step		
Stability			
Phase noise	Typical < -105 dBc/Hz @ 100kHz offset Typical < -95 dBc/Hz @ 10 kHz offset Typical < -85 dBc/Hz @ 1 kHz offset	Typical<-110dBc/Hz @100kHz offset Typical<-100dBc/Hz @10kHz offset Typical<-90dBc/Hz @1kHz offset	Typical < -110 dBc/Hz @ 100kHz offset Typical < -100 dBc/Hz @ 10 kHz offset Typical < -90 dBc/Hz @ 1 kHz offset
Amplitude index			
Attenuator			
Range	0dB ~ 55dB		
Stepping	1dB		
Pre-amplifier			
Maximum safe input level	+30dBm (peak power / entrance attenuation >15dB)		
	50VDC		
(TOI)	Typical > +15dBm		
DANL ATT=0, RBW=1Hz, Sample detector			
Pre-amplifier off	≤-151dBm, 1MHz~1GHz ≤-148dBm, 1GHz~3GHz	≤-150dBm, 2 MHz~1GHz ≤-142dBm, 1GHz~3GHz ≤-142dBm, 3GHz~4GHz	≤-150dBm, 1 MHz~1GHz ≤-140dBm, 1GHz~3GHz ≤-140dBm, 3GHz~6GHz
pre-Amplifier on	≤–161dBm, 1 MHz~1GHz ≤–158dBm, 1GHz~3GHz	≤–165dBm,10 MHz~1GHz ≤–160dBm, 1GHz~3GHz ≤–158dBm, 3GHz~4GHz	≤–162dBm, 1MHz~1GHz ≤–158dBm, 1GHz~3GHz ≤–152dBm, 3GHz~6GHz
Spurious response			
Second harmonic	<-70 dBc -20dBm 1st. mixer input, the amplifier off		
Residual response	(no signal input attenuator, 0)		
	≤-85dBm 1MHz ~ 6000MHz		
Display			
Logarithmic scale	0.1 ~ 0.9 dB/ lattice, 0.1dB step;		
	1 ~ 40dB/ lattice, 1dB step		
Linear scale	10 scale		
Scale unit	dBm, dBmV, dBµV, mV		
marker readout resolution	0.03 dB		
	0.03% linear reference level		
Trace	6		
Detector	Sample/peak/negative/normal/quasi peak/RMS/avg		
Frequency standard function:	A peak, peak, frequency standard to the center, the reference frequency standard		
Marker mode	normal, delta, fixed, frequency counter		
Reference level:	-167 dBm— +30dBm		
Level Accuracy:	typical ≤ ± 0.5dB@+25 ± 5 °C		
RBW switching accuracy:	Typical <0.1dB		

Model	E8000A	E8400A	E8600A
Attenuator switching accuracy:	Typical <0.3dB		
Input / output index			
RF input			
Input connector	N type		
Input impedance	50Ω		
VSWR	Typical <1.8 (10MHz~3000MHz, attenuator ≥ 10dB)	Typical <1.8 (10MHz~4000MHz, attenuator≥ 10dB)	Typical <1.8 (10MHz~6000MHz, attenuator≥ 10dB)
USB output	1 USB2.0, 1 miniUSB		
LAN	Adaptive 10M/100M		
Tracking Generator (optional)			
Output connector	N type		
Output impedance	50Ω		
VSWR	< 2.0		
Frequency range	100kHz ~ 3000MHz		25MHz ~ 6000MHz
Frequency stability	±2ppm		
Level range:	-30dBm ~ 0dBm		
Level resolution	1dB		
Level Accuracy	±1.5dB		± 2dB
Harmonic distortion:	-20dBc		
Spurious	-30dBc		
The power index			
Battery	Rechargeable lithium battery 11.1V / 5.2Ah		
Adapter	19V /3.42A		
Charging time	>4.5hours		
Power supply time	>3.5 hours >3.0 hours (with tracking generator)	>3.0 hours >2.5 hours (with tracking generator)	>3.0 hours >2.5 hours (with tracking generator)
Others			
Working temperature	-10°C - +55°C		
Storage temperature	-40°C - +80°C		
dimension (height X width X length)	257mm × 75mm × 185mm		
Weight (with battery)	<2.5kg		
Monitor	16cm (6.5 inches) TFT color LCD		
Display resolution	640 x 480 pixels		

Model	E8400A	E8600A
LTE Measurement Specifications		
Frequency Range	10MHz ~ 4GHz	10 MHz ~ 6GHz
Resolution Bandwidth	1.4, 3, 5, 10, 15, 20 MHz	
EVM Methodology	BTS: RS/P-SS/S-SS/PDSCH, OTA: RS	
Measurement Report	All Measurement Results, RF Measurement Results, Signal Modulation Quality Results	
RF Measurement		
Power Measurement Accuracy	± 1.0 dB typical (input range –50 dBm to +10 dBm) LTE-FDD	
	± 1.0 dB typical (input range –30 dBm to +10 dBm) LTE-TDD	
Modulation Measurement		
Frequency Deviation	± 10 Hz + reference clock deviation	
EVM (rms) Accuracy FDD	2.0% typical (E-UTRA Test Model 3.1, input range –50 dBm to +10 dBm)	
EVM (rms) Accuracy TDD	2.0% typical (E-UTRA Test Model 3.1, input range –50 dBm to +10 dBm)	
Over-the-Air Measurement		
Scanner	Capture the top 6 signals	
	SS-POWER, RSRP, RSRQ, SINR,	
	Automatically save with GPS information, SS power and modulation measurement results	
Antenna Alignment	MIMO 2x2 and 4x4	
	Reference level and time different	
Coverage Map	Sweep - S-SS power, RSRP, RSRQ/SINR, Cell ID of the strongest signal	
	Output format: .kml, .csv	
WCDMA Measurement Specifications		
Frequency Range	10MHz-4000MHz	10MHz-6000MHz
Bandwidth	3.84MHz	
Maximum Spreading Factor	256/512	
RF Measurement		
Power Measurement Accuracy	± 1.0 dB typical (input range –50 dBm to +10 dBm)	
Demodulation Measurement		
Frequency Offset	± 10 Hz + reference clock deviation	
Modulation type	WCDMA QPSK	
	HSPA+ QPSK, 16QAM, 64QAM	
EVM(RMS)	2.0% (EVM < 25%)	
CDP	± 1.0 dB (CDP > -25dB)	

Model	E8400A	E8600A
CPICH	± 1.0 dB	
OTA Measurement		
Scrambling Code Scanner	Top 6 Scrambling Codes	
	CPICH, Ec/Io, Ec, Channel Power	
Multipath Scanner	Top 6 multipath	
	Tau, RSCP, Channel Power	
GSM/EDGE Measurement Specifications		
Frequency Range	10MHz-4000MHz	10MHz-6000MHz
RF Measurement		
Power Measurement Accuracy	± 1.0 dB typical (input range –50 dBm to +10 dBm)	
Frequency offset	± 10 Hz + reference clock deviation	
Demodulation Measurement		
Modulation Type	GSM GMSK	
	EDGE 8PSK	
Demodulation Accuracy		
Phase Error(GMSK)	± 1.0 deg	
EVM(8PSK)	± 1.5%	
TD- SCDMA Measurement Specifications		
Frequency Range	10MHz-4000MHz	10MHz-6000MHz
Bandwidth	1.6MHz	
Slot Selection	Auto or Manual 0-6 slot	
SYNC-DL Setting	Auto or 0-31 setting	
Demodulation Type	Auto or QPSK/8PSK/16QAM/64QAM	
RF Measurement		
Power Measurement Accuracy	± 1.0 dB typical (input range –50 dBm to +10 dBm)	
Demodulation Measurement		
Frequency offset	± 10 Hz + reference clock deviation	
Demodulation Type	QPSK, 8PSK, 16QAM, 64QAM	
EVM(RMS)	2.0% typical (P-CCPCH power > –50 dBm)	
OTA Measurement		
Scrambling Code Scanner	32 SYNC-DL	
	Ec/Io and Tau measurement	
Tau Scanner	Top 6 SYNC-DL	
	DwPTS power, Tau, Ec/Io measurement	

Ordering Information

Item/Description	Model No.	Order No.
Full Set		
3GHz Handheld Spectrum Analyzer	E8000A	0121.8000.02
4GHz Handheld Spectrum Analyzer	E8400A	0121.8400.01
6GHz Handheld Spectrum Analyzer	E8600A	0121.8600.02
Options		
Tracking Generator(100kHz-3GHz)	E8000A-TG	2121.8000.27
Tracking Generator(25MHz-6GHz)	E8600A-TG	2121.8600.29
GPS Module (USB Connection)	DS2500-704	2121.8000.28
Persistence Analysis	E8600-815	2121.8600.43
LTE Base Station Measurement (Only Available on 6GHz Analyzer)	E8000-803	2121.8600.31
LTE Air Interface Test (Only Available on 6GHz Analyzer)	E8000-804	2121.8600.32
TD-LTE Base Station Measurement (Only Available on 6GHz Analyzer)	E8000-805	2121.8600.33
TD-LTE Air Interface Test (Only Available on 6GHz Analyzer)	E8000-806	2121.8600.34
Interference Analysis (Interference Location)	E8600-800	2121.8600.27
Mapping Coverage	E8600-801	2121.8600.28
Power Meter (Software)	E8600-803	2121.8600.30
Terminal Power Meter	E7000A-0040	2121.7000.30
Inline Power Meter	E7000A-0050	2121.7000.31
Directional Antenna 822-900 MHz, N(f), 10 dBi, Yagi	D822Y10	6190.0900.21
Directional Antenna 885-975 MHz, N(f), 10 dBi, Yagi	D885Y10	6190.0900.22
Directional Antenna 1710–1880 MHz, N(f), 10 dBi. Yagi	D1710Y10/AMXY-1710-1880-15	6190.0900.23
Directional Antenna 824-960MHz, N(f), 10 dBi, Yagi	AMXY-900-12	6190.0900.42
Directional Antenna 806-960MHz, N(f), 10 dBi, Yagi	AMXY-900-18	6190.0900.43
Directional Antenna 1850-1990 MHz, N(f), 10 dBi, Yagi	D1850Y10	6190.0900.24
Directional Antenna 2400-2500 MHz, N(f), 10 dBi, Yagi	D24Y10	6190.0900.25
Directional Antenna 1920-2170 MHz, N(f), 10 dBd, Yagi	D1920Y10	6190.0900.26
Directional Active Log Periodic Antenna 9 kHz to 20 MHz, log periodic	BDA700d	6190.0900.27

Item/Description	Model No.	Order No.
Directional Active Log Periodic Antenna 20 MHz to 200 MHz, log periodic	BDA700a	6190.0900.28
Directional Active Log Periodic Antenna 200 MHz to 500 MHz, log periodic	BDA700b	6190.0900.29
Directional Active Log Periodic Antenna 500 MHz to 3 GHz, log periodic	BDA700e	6190.0900.30
Directional Active Log Periodic Antenna 500 MHz to 8 GHz, log periodic	BDA700c	6190.0900.05
Directional Antenna Controller	BDA700	6120.0300.01
Built-in GPS Module	BDA GPS01	6120.0600.18
Built-in Electronic Compass	BDAELECTRONIC COMPASS01	6120.0600.19
Antenna Case	20''	6120.0600.16
Antenna Battery	E8600-005	6120.0100.00
Antenna User Manual	E8600-006	6120.0600.17
Antenna Compass	E8600-007	6120.0300.02
Antenna Tactical Strap	E8600-008	6120.0300.03
Omnidirectional Portable Antenna 470-860 MHz, SMA(m), 50 Ω , 5dBi	Q470-L20	6190.0900.31
Omnidirectional Portable Antenna 806-866 MHz, SMA(m), 50 Ω , 3dBi	Q806-40J	6190.0900.32
Omnidirectional Portable Antenna 870-960 MHz, SMA(m), 50 Ω , 3dBi	Q885-40J	6190.0900.33
Omnidirectional Portable Antenna 1710 to 1880 MHz, SMA(m), 50 Ω , 3dBi	Q1710-53J	6190.0900.34
Omnidirectional Portable Antenna 1850 to 1990 MHz, SMA(m), 50 Ω , 3dBi	Q1850-53J	6190.0900.35
Omnidirectional Portable Antenna 1920 to 2170 MHz, SMA(m), 50 Ω , 3dBi	Q1920-53J	6190.0900.36
Omnidirectional Portable Antenna 2400 to 2500 MHz, SMA(m) , 50 Ω , 3dBi	TQZ-WZ-3-2400	6190.0900.37
Omnidirectional Portable Antenna 5725 to 5875 MHz, SMA(m), 50 Ω , 3dBi	TQZ-WZ-3-5800V	6190.0900.38
Omnidirectional Portable Antenna 2400 to 2483 MHz, SMA(m), 50 Ω , 9dBi	AMXT-2400-9A	6190.0900.39
Omnidirectional Fiber Glass Antenna 423-443MHz, N(f) 50 Ω, 5dBi	TCT-BLQ443-6	6190.0900.44
Omnidirectional Fiber Glass Antenna 806-960MHz, N(f) 50 Ω, 5dBi	TCT-BLQ900-8	6190.0900.45
Omnidirectional Fiber Glass Antenna 1880-1900MHz, N(f) 50 Ω, 5dBi	TCT-BLQ1900-5	6190.0900.46
Omnidirectional Fiber Glass Antenna 1920-2170MHz, N(f) 50 Ω, 5dBi	TCT-BLQ3G-12	6190.0900.47
Omnidirectional Fiber Glass Antenna 2400-2483MHz, N(f) 50 Ω, 5dBi	TCT-BLQ2400-5	6190.0900.48
Omnidirectional Fiber Glass Antenna 2555-2675MHz, N(f) 50 Ω, 5dBi	TCT-BLQ2400-15/12/10/8	6190.0900.49
Omnidirectional Fiber Glass Antenna 2570-2620MHz, N(f) 50 Ω, 5dBi	TCT-BLQ2600-5	6190.0900.50
Intelligent Battery Charger	E8000-700	6190.0700.15
Adaptor (SMA(m) to N(m), DC to 11GHz, 50Ω)	N/SMA-JJ	6190.0501.37
Adaptor (SMA(f) to N(m), DC to 11GHz, 50Ω)	N/SMA-JK	6190.0501.38
Adaptor (SMA(m) to N(f), DC to 11GHz, 50Ω)	N/SMA-KJ	6190.0501.39
Adaptor (SMA(f) to N(f), DC to 11GHz, 50Ω)	N/SMA-KK	6190.0501.40
Adaptor (BNC(f) to N(m), DC to 1.3GHz, 50Ω)	N/BNC-JK	6190.0501.41
High-power Attenuator 150W, 30dB, DC-3GHz, N(f) to N(m)	DTS150-30dB-3G	6190.0501.53
High-power Attenuator 50W, 30dB, DC-8.5GHz, N(f) to N(m)	DTS50G-30dB-10G-B	6190.0501.42
High-power Attenuator 100W, 40dB, Bi-Directional, DC-6GHz, N(f) to N(m)	DTS100G-40dB-6G-C	6190.0501.43
High-power Attenuator 100W, 40dB, Bi-Directional, DC-18GHz, N(f) to N(m)	DTS100G-40dB-18G-C	6190.0501.44
High-power Filter 806-869 MHz, N(m) to SMA(f), 50Ω	ZHFT-080802NS-2U1A	6190.0501.45
High-power Filter 824-849 MHz, N(m) to SMA(f), 50Ω	ZHFT-080802NS-2U2A	6190.0501.54
High-power Filter 880-915 MHz, N(m) to SMA(f), 50Ω	ZHFT-080902NS-2U1A	6190.0501.46
High-power Filter 890-915 MHz, N(m) to N(f), 50Ω	ZHFT-080902NS-2U2A	6190.0501.47
High-power Filter 1710-1790 MHz, N(m) to N(f), 50Ω	ZHFT-171702NS-2U1A	6190.0501.48
High-power Filter 1850-1910 MHz, N(m) to SMA(f), 50Ω	ZHFT-181902NS-2U1A	6190.0501.49
High-power Filter 1910-1990 MHz, N(m) to N(f), 50Ω	ZHFT-191902NS-2U1A	6190.0501.50
High-power Filter 2400-2484 MHz, N(m) to SMA(f), 50Ω	ZHFT-242402NS-2U1A	6190.0501.51
High-power Filter 2500-2700 MHz, N(m) to N(f), 50Ω	ZHFT-252702NS-2U1A	6190.0501.52
Power Adaptor Plug Cord (CN)	DS2500-705	6190.0501.05
Power Adaptor Plug Cord (US)	DS2500-700	6190.0500.08
Power Adaptor Plug Cord (EU)	DS2500-701	6190.0500.34
Power Adaptor Plug Cord (UK)	DS2500-703	6190.0500.36
Power Adaptor Plug Cord (AUS)	DS2500-702	6190.0500.35
Accessories		
Lithium Battery pack	HYLB-1378 11.1V/5.2Ah	6190.0100.05
E8000 Disk (with WB + English User Manual)	E8600-001	6190.0600.43
E8000 Disk (with WB + English User Manua, E8000)	E8000-0200	6190.0600.40
Crossover LAN Cable (1.5m)	DS8831-706	6190.0500.19
AC-DC Adapter	FSP065-RAB	6190.0700.06
Vehicle Charger12V/DC (<0.5Ω)	E8000-0400	6190.0700.14
USB Cable	A-MiniB	6290.0900.05
RF Connector	N/SMA-JK	6190.0500.37
Soft Carry Case	E7000-0600	6190.0600.51
E8000/E8600/SA8600/DS1620 Certification (Deviser)	E8600-004	6120.0600.03
Soft Case (E8600)	DS2800-008	6110.0600.14