DEVISER E816 5G NR Scanning Receiver

1. Overviews

Brought to you by Deviser Instruments, Inc., the E816 Scanning Receiver is an ideal tool for Telecom and Wireless operators to perform network survey, planning and construction. It provides a powerful suite of testing features, including spectrum analysis, spectrum clearing, 4G/5G base station coverage test, TDD uplink/downlink interference analysis, etc. E816 Scanning Receiver provides accurate and high-speed measurements to make the deployment, optimization and maintenance of 5G NR networks easier and faster.

2. Key Benefits

◎ Frequency range covers 350MHz to 6,000MHz

◎ Precise planning and design of 5G networks

◎ Low power consumption, small form factor and light weight

◎ Powerful post-analysis software on PC

◎ Spectrum clearing on the existing and the new bands, maximum 8 frequency bands can be viewed simultaneously

◎ 4G/5G base station coverage test, maximum 32 frequency points can be tested in parallel with

Layer 3 decoding parameters

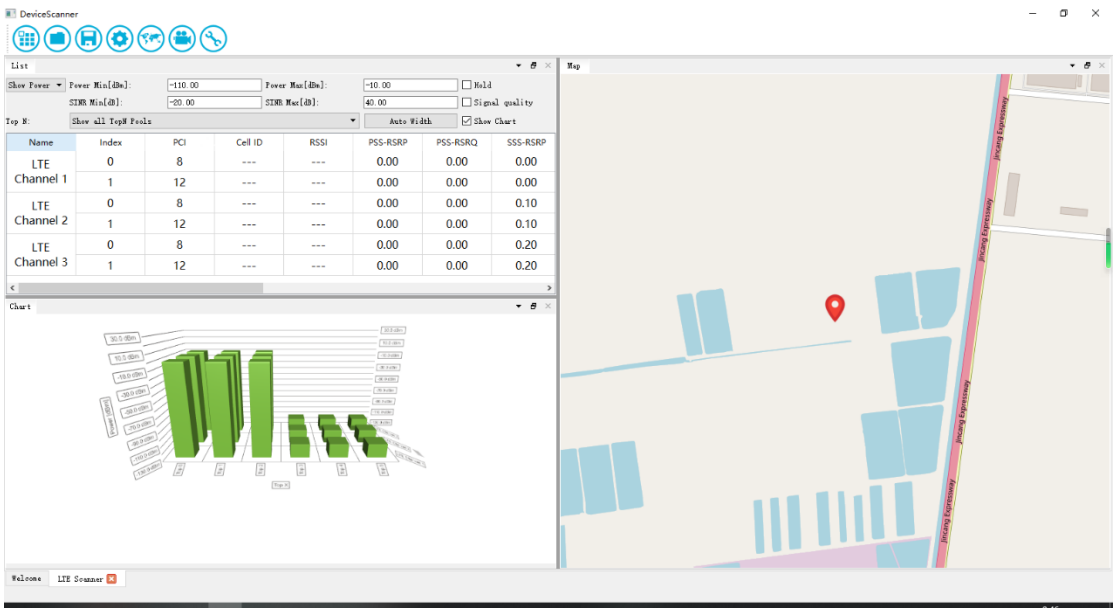
◎ Spectrum and 4G/5G base station coverage testing

◎ Simultaneous TDD uplink and downlink spectrum testing for easy interference management

3. Features & Applications

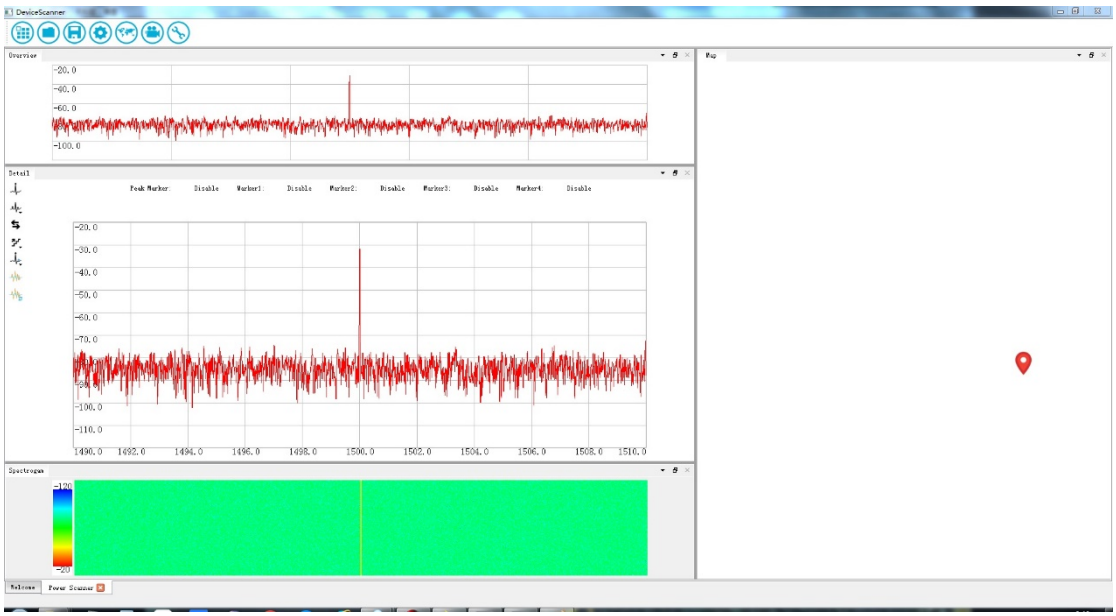
(1) 4G/5G demodulation function: E816 demodulates maximum 32 frequency points simultaneously with decoded Beam ID, Beam Index, RS-RSRP, RS-RSRQ, and RS-SINR parameters of base station. In addition, Layer 3 decoding parameters including MCC, MNC, Cell ID, TAC, etc. are measured.

The graphic below highlights the measurement of 4G/5G demodulation function. The diagram on the left shows the PCI of all base stations with user configured frequency points demodulated, corresponding PCI power and SNR, etc. The list can be sorted by power or SNR. Layer 3 decoding parameters are displayed in histogram beneath the base station list. The diagram on the right is the map showing current geographical position of test point.



(2) Spectrum Analysis function: support measurement of maximum 8 frequency bands with spectrum trace, spectrogram and channel power for spectrum clearing and interference analysis.

The graphic below highlights the spectrum analysis function. The diagram on the left shows the full span of 8 segments of spectrum. The diagram beneath it displays zoomed spectrum and spectrogram of specific segment. The diagram on the right is the map showing current geographical position of test point.



4. Technical Specifications

Size	
166 mm × 96 mm × 64 mm	
Weight	
<3 kg	
Power supply	
12V DC vehicle power supply	
Host data communications interface	
USB3.0 (communication with PC); Ethernet; GNSS(SMA); Antenna (SMA)	
Frequency range	
350 MHz – 6000 MHz	
Demodulations	
TDD-LTE， FDD-LTE， 5G NR	
Demodulation sensitivity	
LTE -136dBm@15kHz SCS	5G NR -132dBm@30kHz SCS
Measurement accuracy	
±1.5dB	
5G NR decoding parameters	
PCI, SSB Index, SS-RSRP, SS-RSRQ, SS-SINR, DM-RS RSRP, DM-RS RSRQ, NR-ARFCN, Time Offset	
5G NR layer 3 decoding parameters	
Cell Identity, MCC, MNC	
LTE decoding parameters	
Subframe RSSI, PCI, PSS-RSSI, PSS-RSRP, PSS-RSRQ, SSS-RSSI, SSS-RSRP, SSS-RSRQ, EARFCN, RS-RSRP, RS-RSRQ, RS-SINR	
LTE layer 3 decoding parameters	
Cell Identity, MCC, MNC	

Frequency band decoding capability
Maximum decoding 32 frequency points(bands) simultaneously
Co-channel frequency decoding capability
All SSB differs by less than 15dB from the strongest SS-RSRP can be detected All cells differs by less than 13dB from the strongest cell SS-RSRP can be detected
Decoding speed
Each frequency <=500ms
Spectrum analyzer
Support RBW: 5kHz, 10kHz, 15kHz, 20kHz, 30kHz, 50kHz, 100kHz, 200kHz, 300kHz Noise floor <= -125dBm/RBW=10kHz