

FieldFox and Nemo Handy

Overcoming 5G network challenges

5G Network Installation and Troubleshooting Challenges

5G network operations are quite unique and pose challenges and network troubleshooting issues:

- 5G typically anchors on the 4G LTE control channel, which means the 4G performance will also impact the 5G performance.
- The beams' signal level and signal to noise ratio, of Beamforming and massive MIMO, in addition to the RSSI, determine the coverage.
- In 5G FR1 (frequency range 1<7.2 GHz) the goal is to match 5G coverage with 4G and a significant performance boost which means it is less sensitive to interference.
- In 5G FR2 (frequency range 2>24 GHz) the goal is to offer ultra-fast internet speed during dense traffic times. This requires robust concentrated coverage and smooth handover between 5G mmWave to 5G FR1 or 4GLTE.
- Indoor deployment is a critical part of the 5G strategy because most people consume data while inside a building. Indoor usage requires 5G infrastructures to work with existing indoor networks, including indoor distributed antenna systems and remote radios.



5G Network Tools for Successful Results

Efficiency and reliability are critical for 5G network field deployment. Addressing installation and troubleshooting issues effectively requires a specific set of tools. The tools must be multi-function, field proof, and light weight for portability. An ideal solution is the Keysight FieldFox analyzer along with the NEMO handy network tool which help RF operations teams to deploy the 5G network faster and quickly root out any interference issues.



Keysight FieldFox 5G Base Station Installation and Site Troubleshooting:

The all-in-one FieldFox wideband analyzer can manage 5G/4G network installation, troubleshooting and maintenance and provides:

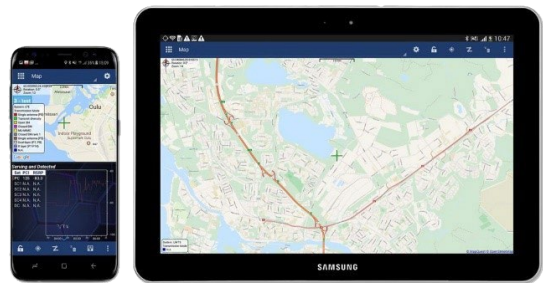
- Spectrum analyzer with channel power, adjacent channel power, spectrum emission mask measurement to qualify gNB RF performance
- 5G/4G over the air demodulation to measure base station ID, time offset, frequency error and SSB indexes
- Real-time spectrum analyzer to quickly detect and locate interference for both up and downlink, Built-in CW generator to measure pathloss for network planning model tuning
- Built-in cable and antenna analyzer measures cell site RF/MW installation, return loss, VSWR and cable loss
- Light weight 3.3 kg with battery
- Battery last 4 hours
- Rugged design to meet MIL PRF 28800F class 2 and type tested for explosive environment
- IP 53 tested for watertight and dust proofData tables



Nemo Handy Handheld Measurement Solution

Fast, Efficient, On-the-Go Network Measurement and Troubleshooting

Nemo Handy provides you with smart and discreet solutions for thorough and advanced 5G site acceptance. Nemo Handy includes measurement and optimization of wireless air interface and mobile application Quality-of-Service (QoS) and Quality-of-Experience (QoE). The handheld Nemo Handy products are highly suitable for performing measurements both outdoors and in busy, crowded indoor spaces.



You will experience the best real-time measurement visualization on the handheld market with the Nemo Handy products. In addition to a rich variety of real-time displays, you can log all RF and signaling data to the phone's internal storage. Log files are available in Nemo file format for easy post-processing with Nemo post-processing tools or third-party post-processing tools. Nemo Handy features include:

- Site acceptance and verification testing and single site verification testing
- Reduced test time with the intuitive UI
- Ability to create fast and efficient reports in the field with the Nemo Instant Report option
- Easily and effectively create complex measurement scripts
- Test a wide range of social media testing apps/protocols
- Automated location mapping Display the actual test route and location when performing indoor measurements with automated location mapping and automatic indoor positioning features.
- Route management for drive testing remotely with turn-by-turn navigation (optional)
- Audio and video quality testing
- Combine scanning and indoor measurements with portable, battery-operated scanners

FieldFox and Nemo Handy Use Case

As an example, to solve an interference or cell site hardware problem, such as uplink noise caused by an external transmitter, an engineer or technician can use FieldFox to detect and locate the interference. Once the root cause for the interference is identified and fixed, a voice or data call can be made using the Nemo Handy to verify there are no remaining issues. Nemo handy will verify that the site transmits traffic and that the quality parameters are within predefined thresholds. It's also possible to check a complete list of air-interface parameters on the spot, record the results, and perform a drive test measurement. Performing a short drive test, looking for any obvious gaps, is an easy process that enables technicians to quickly determine if their cell sites are working properly. By using FieldFox and Nemo Handy, technicians have all tools needed to verify and troubleshoot cell site functionality.

Contact Keysight Premier Rental Partners

Stretch Your Budget While Meeting Your Deliverables!

When cash is scarce, but deadlines persist, affordable rentals of Keysight FieldFox and Nemo handy tools can keep you on track. Test equipment rentals help you meet your deadlines at a fraction of the purchase price!

Test equipment rentals help you meet your deadlines at fraction of the purchase price! Keysight can provide trade in credits if you have Anritus and Viavi tools that don't support 5G.

Why rent?

- Flexible financial terms: use your operating budget, finance, or purchase over time
- Overnight delivery
- Excellent service and support
- Equipment calibrated and maintained by Keysight authorized Rental Partners

Premier Rental Partners

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