

Editorial Backgrounder

Keysight's Nemo Intelligent Device Interface – World's First 5G NR Benchmarking solution

Introduction

To enable faster and more reliable mobile broadband communications in 5G, new technologies such as massive MIMO and beamforming are used to achieve extreme data throughputs. The introduction of these technologies is leading to new test demands, such as how to measure complex multi-antenna configurations – both on the network and on the device side. These new requirements pose significant challenges when measuring live networks to ensure 5G is delivering on its promise of high bandwidth, fast speeds, and low latency.

Customer Problem – Test Demands and Challenges

As mobile operators begin rolling out 5G technology, they need to understand the true coverage and quality of the network to ensure a successful 5G service launch. Cost pressures to continuously streamline both CAPEX and OPEX underline the need for innovative measurement solutions that not only meet the technical challenges of network and device technology, but can also scale as deployments grow beyond single site installations.

Mobile operators need to be able to:

- validate the promise of 5G
- use the latest 5G smartphones (and their own internal antennas)
- measure true quality of the end user experience (QoE)
- have a solution that enables them to scale according to their needs and live through generations of upcoming smartphones

How Does Keysight's Solution Solve the Problems?

A first-to-market solution developed specifically for 5G NR device technology, the new Nemo Intelligent Device Interface connects 4G and 5G smartphones to the Nemo Outdoor drive test solution and the Nemo Invex II benchmarking solution, enabling operators / service providers to:

- validate and optimize the quality of their network, ensuring customer satisfaction and minimizing churn
- benchmark their network to that of competitors'

The measurement solution gives the operators a complete set of network parameters and specific services measured. It enables the use of 5G NR and LTE-A devices with built-in antennas and versatile mounting solutions - indoors, inside the vehicle, and outside the vehicle.

Key Features and Benefits

The new Nemo Intelligent Device Interface offers:

- **Optimized CAPEX with an all-in-one measurement platform with fully reusable and device agnostic solution, scaling** from a single handheld unit to a large scale measurement system

- **Increased reliability** with a unique self-healing feature that ensures recovery and maximized uptime of measurement units – **enabling OPEX savings due to less re-drives**
- **Faster time-to-market for 5G NR**, ensuring superior quality of the end user experience, ultimately minimizing churn

Additional Information

Compatible with Nemo SW

Benchmarking with Nemo Invex 2



Drive testing with Nemo Outdoor



Nemo Intelligent Device Interface



Full set of new accessories

Cables



Desk stand



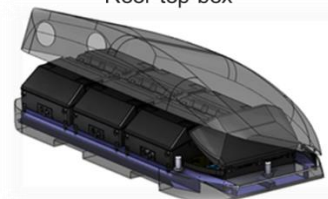
Window mounting



Enclosure



Roof top box



Nemo Intelligent Device Interface is connected to Nemo Outdoor or Nemo Invex II (left). A smartphone is inserted in the Nemo Intelligent Device Interface (middle). The solution comes with a variety of accessories for easy and versatile installation (right).