



### **About Keysight Technologies**

At Keysight (NYSE: KEYS), we inspire and empower innovators to bring world-changing technologies to life. As an S&P 500 company, we're delivering market-leading design, emulation, and test solutions to help engineers develop and deploy faster, with less risk, throughout the entire product life cycle. We're a global innovation partner enabling customers in communications, industrial automation, aerospace and defence, automotive, semiconductor, and general electronics markets to accelerate innovation to connect and secure the world. Learn more at [www.keysight.com](http://www.keysight.com).



### **Portable Millimeter-wave Analysis with FieldFox and Virginia Diodes Extenders**

Keysight Technologies has expanded the frequency range of its FieldFox handheld signal analysers, offering up to 170 GHz support for millimeter-wave (mmWave) signal analysis. Through a collaboration with [Virginia Diodes Inc.](http://www.vdi.com) (VDI), Keysight's A- and B-Series FieldFox handheld analysers with 18 GHz or higher, can be paired with VDI PSAX frequency extenders to cover sub-THz frequency range.

Field-based engineers need precise mmWave measurements to advance modern wireless communications and radar systems. This is critical when it comes to 5G, 6G, aerospace and defence, and automotive radar transmission/receiving tests. However, mmWave signals are highly sensitive to obstacles, weather conditions, and interference. Understanding their propagation characteristics through precise measurements helps engineers design more efficient networks and radar systems, improving coverage, and enhancing reliability.

To gain this insight, traditional tools typically include large desktop signal analysers and generators, which are often very expensive and cumbersome for field measurement use cases. The Keysight FieldFox addresses this issue, enabling mmWave measurements in a lightweight portable solution, when paired with VDI's PSAX frequency extender modules. In addition, engineers can opt for the FieldFox equipped with the downloadable Option 357 pulse generator, which can be paired with a PSGX module from VDI, to also offer a mmWave signal generation solution up to 170 GHz. This enables users to obtain accurate mmWave measurements in a simple, easy-to-use, and rugged solution.

Key benefits of Keysight's FieldFox combined with VDI frequency extender modules include:

- **Expanded frequency coverage:** Expanding the FieldFox's frequency coverage from as low as 18 GHz, depending on models, up to 170 GHz for either signal analysis or generation.
- **Optimized performance at the mmWave range:** Supporting in-band signal analysis with selection of spectrum analyser mode, IQ analyser mode, or real-time spectrum analyser (RTSA) mode with extraordinary sensitivity of -155 dBm/Hz typical value.
- **Cost efficiency:** Compared to traditional mmWave signal analysis and generation solutions, the combination of Keysight FieldFox and VDI frequency extenders reduces costs by half or more.
- **Portable and convenient testing:** Weighing approximately less than 4 kg in total, the combination of Keysight FieldFox and VDI frequency extenders makes the mmWave field testing much more feasible and convenient for both field and lab environment.