Keysight Technologies

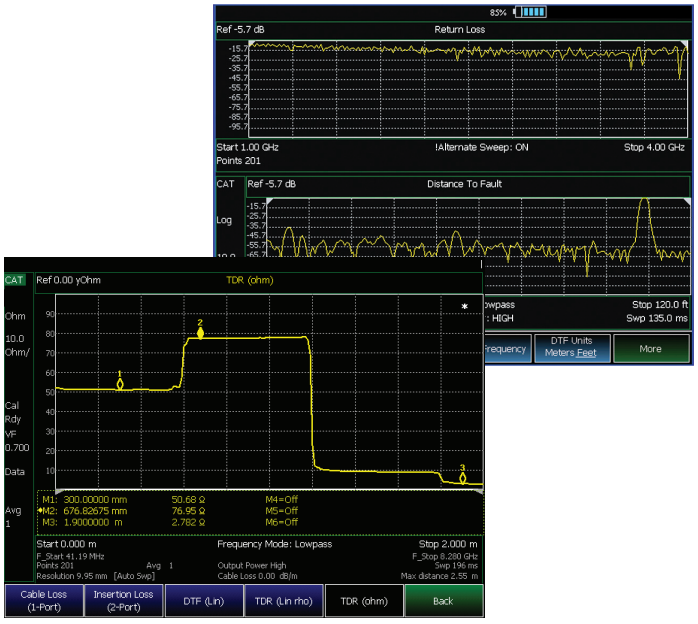
Top 5 Reasons FieldFox is the Ideal Tool for Testing Microwave Cables and Cable Subsystems

Your challenges

By far, the most widely used components in modern RF and microwave communication systems are cables or transmission lines (such as waveguides, coaxial and twisted-pair cables). They are also the leading cause of failure in these types of systems. Plus, most problems are not easy to see just by looking at the cable. That's why it is critical for technicians and engineers to understand how to test these devices with a comprehensive tool that can troubleshoot all of these types of devices deployed in the field.

Your solution

FieldFox handheld analyzers are the most comprehensive handheld solution for cable and transmission line testing. FieldFox is the industry's only handheld that can make return loss, distance-to-fault (DTF) and time domain reflectometry (TDR) measurements in one instrument. It also has the ability to measure VSWR, one-port cable loss, impedance, insertion loss, and S-parameters with magnitude and phase.



1. The most comprehensive test solution for cable test

- Line sweep: return loss, VSWR, DTF, cable loss and insertion loss (coax and waveguide)
- TDR cable test: impedance vs. distance and reflection coefficient vs. distance
- Full 2-port vector network analyzer: S-parameters (magnitude and phase)
- Time domain
- 1-port mixed mode S-parameters (magnitude and phase) to characterize twisted pair cables
- Frequency converter measurements (scalar)
- Extended range transmission analysis (ERTA) measures scalar insertion loss of in-situ microwave cables with long distances between test ports where each end of the cable is not easily accessible

2. Rugged enough to meet MIL-specs

- Completely sealed instrument enclosure provides measurement stability in harsh environments
- Specially designed connector bay protects RF connectors from damage due to drops or other external impacts
- Water-resistant chassis, keypad and case withstand wide temperature ranges and salty, humid environments
- Case withstands shock and vibration
- Wide operating temperature -10 to +55 °C (14 to 131 °F)
- Meets MIL-PRF-28800F Class 2 requirements
- Type tested and meets MIL-STD-810G, Method 511.5, procedure I requirements for operation in explosive environments
- Meets IEC/EN 60529 IP53 requirements for protection from dust and water

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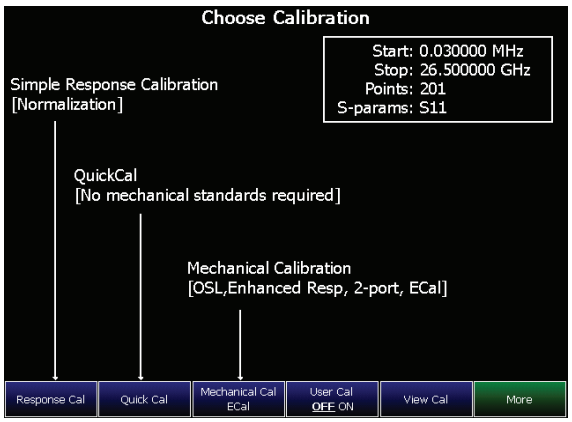
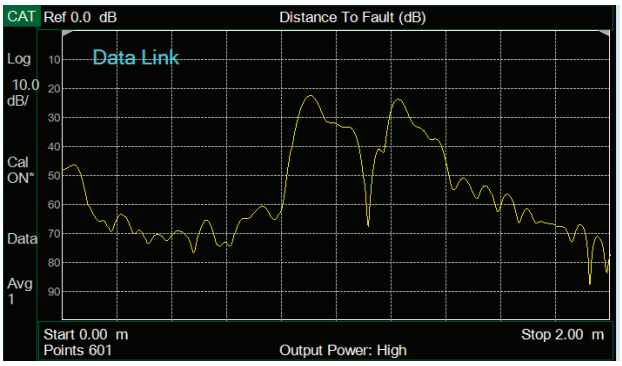
3. Make quick and accurate cable measurements in the field without a cal kit

- Each instrument is CalReady at the RF Out port, immediately following power-on or preset. This means it's already calibrated and ready to make measurements such as one-port cable loss, VSWR, return loss, and DTF measurements at the test port.
- Industry's first and only QuickCal: With traditional test instruments, you need to calibrate using a calibration kit (cal kit) when you add an additional device to the test port, such as a jumper cable or adapter. FieldFox provides the industry's first and only built-in calibration system called QuickCal, which allows you to calibrate without the hassle of carrying a cal kit.
- Broadband calibration: FieldFox allows you to make broadband calibrations, which means the instrument is calibrated over the maximum frequency span. After a broadband calibration, you can change the frequency range or number of points without recalibrating the instrument.
- FieldFox provides the most comprehensive calibration techniques in the market place, and also supports OSL T full 2-port cal, waveguide calibration and external ECal.
- FieldFox leverages Keysight performance VNA calibration engines to provide the results consistent with benchtop results in the lab and production floor.



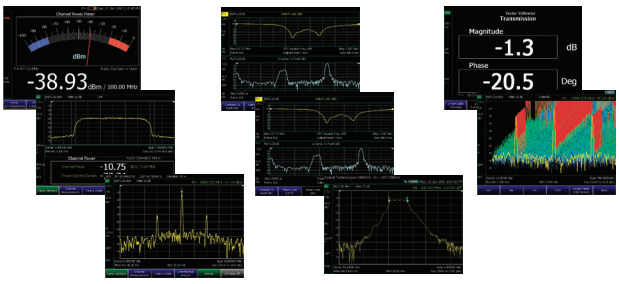
4. Easily save, transfer and manage files

- FieldFox can save tests as state file/setup files, trace + state files, screen capture (png format) and CSV files. These files can be easily shared with other applications, like Microsoft Office and FieldFox's Data Link software.
- Data and picture files can be saved to an internal flash drive, external USB flash drive or SD flash card. Files can be copied or moved from one media to another media without using any special software.
- USB mouse and keyboard are supported to operate FieldFox like any laptop or PC for easy file naming.
- FieldFox's Data Link utility software can import trace files saved by FieldFox, process the data and generate reports.



5. Future-proof with flexible upgradability

The base FieldFox analyzer is a fully functional cable and antenna tester – which means no extra options are needed to put your team to work. However, if your tasks change in the future, you can easily upgrade FieldFox with simple software license keys with the following functions: spectrum analyzer, power meter, interference analyzer, insertion loss measurement, full-2 port vector network analyzer, GPS, DC power supply and more – all without sending the unit back to Keysight for the upgrade.



Download Application Notes, Watch Webcasts and Videos

Learn more about cable and transmission line test at: **www.keysight.com/find/fieldfoxsweep**

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