

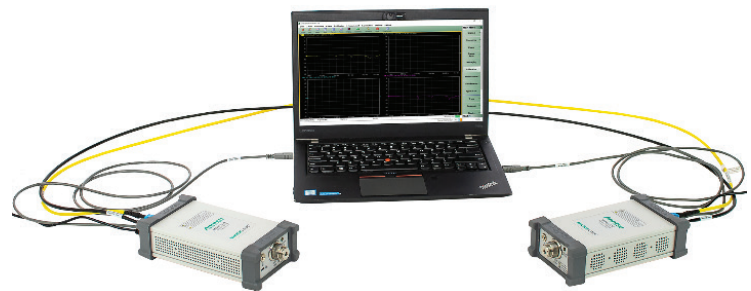
ME7868A Large Vehicle Cable Test Solution

Introduction

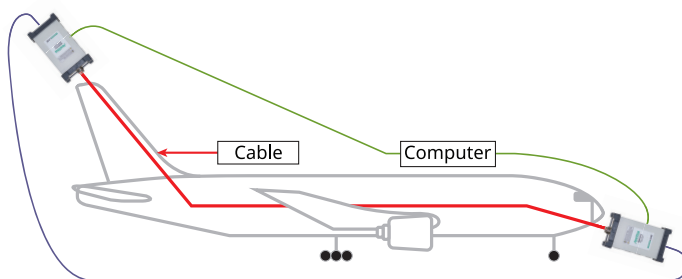
RF/ μ W cabling is used throughout modern vehicles for communications, systems control, and sensor interconnect. Checking cable phase and magnitude performance over frequency becomes more important as systems become more sophisticated and complex. This is especially true in larger vehicles like aircraft, ships, and trains where connections between different parts of the vehicle can become well over several meters in length. Once installed, fully characterizing these long RF/ μ W cables with vector S-parameter measurements creates a connection challenge between the VNA and the widely spaced cable ends. The interconnect cables required to connect the VNA ports to the cable under test adds significant insertion loss and phase instability to the measurements over the distances involved.

The ShockLine™ 2-Port ME7868A Network Analyzer Solution

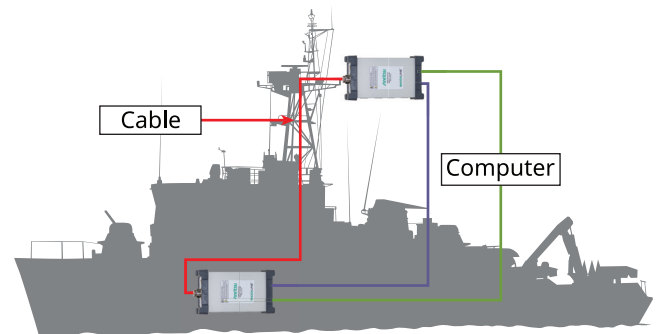
The Anritsu ShockLine ME7868A is a unique chassis-less 2-port VNA with portable port modules covering a frequency range from 1 MHz to 43.5 GHz. Tested with port modules spaced at 100 m apart, the ME7868A's groundbreaking architecture allows VNA ports to be connected directly to each end of long cables in large vehicles for optimal dynamic range and improved phase stability in vector S-parameter testing.



ME7868A 2-Port VNA



Example ME7868A Setup for Cable Testing in Aircraft



Example Cable Testing on Ships with ME7868A

Key Advantages of the ShockLine ME7868A for Large Vehicle S-Parameter Measurements

- Portable port modules connect directly to cable under test
 - Eliminates coax cable insertion loss and phase instability
 - Complete vector S-parameter characterization
 - Full wide band sweep coverage
 - Easier and faster setups for more efficient testing
- Long cable run tests on large vehicles
 - RF/ μ W vector S-parameter characterization
 - Test phase matched cabling
 - Group delay cable testing
 - Insertion loss measurements
 - Cable fault detection