

ME7868A Outdoor Antenna Range Solution

Introduction

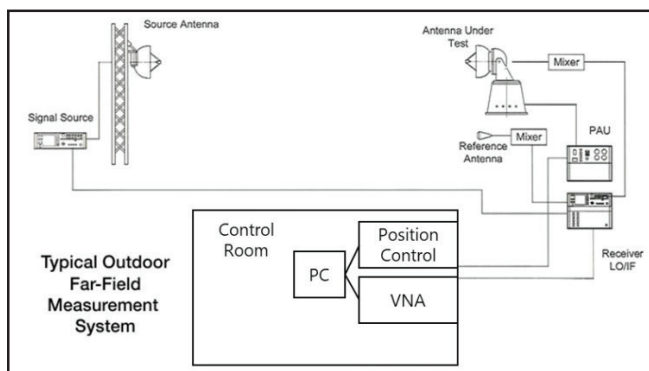
Antenna testing on outdoor test ranges presents a challenge for traditional VNAs. The distances involved in routing the signals between the antennas on the range and the VNA can typically preclude using coax cables because of significant insertion loss and phase instability. Additional hardware and complex methodologies are used to solve the long distance interconnect issues, raising costs and time required to make antenna S-parameter measurements on outdoor ranges.

The ShockLine™ 2-Port ME7868A Network Analyzer Solution

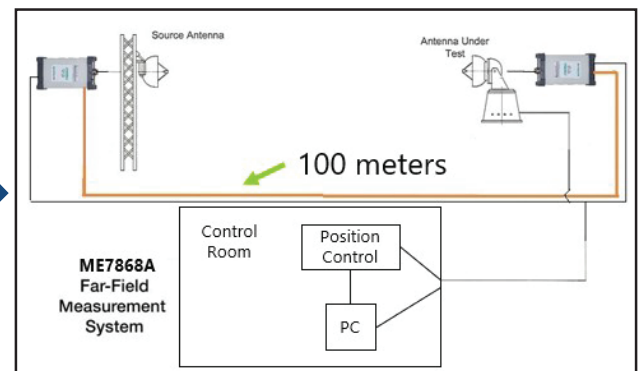
The Anritsu ShockLine ME7868A is a unique chassis-less, 2-port VNA with portable port modules covering a frequency range to 43.5 GHz. Tested with port modules spaced at 100 meters apart, the ME7868A's groundbreaking architecture allows physical placement of the VNA ports on outdoor ranges close to test antennas without the need for additional complex test hardware.



ME7868A Distributed 2-Port VNA



Outdoor Range Test Setup with Traditional VNA



Outdoor Range Test Setup with ME7868A VNA

Key Advantages of the ME7868A for Outdoor Antenna Range Applications

- Remote port modules eliminate cabling issues to range antennas
 - No long cable runs to transmit or antenna under test
 - Improved amplitude and phase stability over cabled solutions
 - No coupling into RF cables
 - Flexible, lower cost configuration
- Supports common outdoor antenna measurements
 - Antenna return loss
 - Antenna insertion loss
 - Antenna gain
 - Pattern measurements
 - Path loss
 - Phase front characterization
 - Range match correction