



Testing Loss Of Fiber Optic Cables, Single-Ended

<p>This test will measure the loss of a fiber optic cable, singlemode or multimode, including connectors on each end individually. For short cables, e.g. patchcords, with negligible fiber loss, the measured loss may be considered the loss of the connector mated to the reference connector.</p>	<p style="text-align: center;">Test Diagram</p>
<p>Equipment Needed To Perform This Test</p> <ol style="list-style-type: none"> 1. Test source appropriate for the fiber being tested (Multimode: 850 and/or 1300nm LED, singlemode, 1310 and/or 1550 nm laser) 2. Optical power meter calibrated at the same wavelengths as the source output with adapters to mate to connector type on cable. 3. Launch reference cable that is the same fiber type and size as the cable plant and have connectors compatible to those on the cable. 4. Mating adapters compatible to connectors 5. Cleaning supplies 	<p style="text-align: center;">Setting "0 dB" Reference</p>
<p>Test Procedure</p> <ol style="list-style-type: none"> 1. Turn on equipment and allow time to warm-up 2. Attach launch cable to source. This should remain connected to source for the duration of the test. 3. Clean all connectors and mating adapters. 4. Set "0 dB" reference using method shown to the right. Meter may be set to read "0 dB." 5. Attach source/ref cable and to the cable under test and make loss measurement. 6. Reverse cable and test again. 	<p style="text-align: center;">Options For Testing With Different Connector Types</p> <ol style="list-style-type: none"> 1. If the connector(s) on the cables to test are "plug and jack" type and/or are not compatible to the optical power meter for testing and/or reference, you cannot test single-ended. Use the FOA-1 method with a 2 or 3 Cable Reference as appropriate. Results will include loss of connectors on both ends.
<p>Reducing Measurement Uncertainty</p> <ol style="list-style-type: none"> 1. Clean all connectors regularly before and while testing. 2. Use modal control on launch cable, e.g. small loop on singlemode fiber or mandrel wrap on multimode fiber. 3. Check "0 dB Reference" periodically during testing. 	<p>Documentation Record the date of the test, operator, test equipment used, reference method, cable and fiber identification, test wavelength and measured loss.</p>