

What is the Difference Between Return Loss and VSWR?

This question addresses VSWR (Voltage Standing Wave Ratio) and Return Loss, which are both a measure of the same parameter. That is, the amount of signal reflected by a connector. It is the major factor contributing to the total signal efficiency of the connector.

Return Loss is the portion of a signal that is lost due to a reflection of power at a line discontinuity. Return Loss is similar to VSWR and is generally preferred in the cable industry to a VSWR specification. Since it is a logarithmic measurement, it is very useful when displaying very small reflections.

VSWR is an acronym for Voltage Standing Wave Ratio. VSWR is the ratio of voltage applied to voltage reflected. VSWR is similar to Return Loss and is generally preferred in the connector industry to a Return Loss specification. Since it is a linear measurement, it can be useful when displaying larger reflections due to the fact that small differences are not compressed as they are in a logarithmic measurement.