

ABSTRACT

Every signal that pass through the transmission line always exactly reflected back to the source. This problem is not significant for lower frequencies but very problematic for higher frequencies. This reflected waves cause by the difference impedance of the source, line, and the load. This is very detrimental seen from various aspect.

The impedance mismatch can be seen from various parameter, one of them is reflection coefficient, namely the ratio of the reflected wave and the transmitted wave. In the other hand, the reflected wave also can be useful for analyzing other properties of transmission line such as standing wave ratio (SWR).

In this final project, a pulse generator will be created to make time domain reflectometer function in an oscilloscope for researching about reflected wave characteristic with different line characteristic, also for identify and evaluate the performance of the transmission line.

Keywords : *RF, SWR, discontinuity, reflectometer, time domain, reflected wave, oscilloscope*