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## ABSTRACT

Microwave Slotted Line is a microwave measurement tool (operation frequency 300 MHz – 3000 MHz) like a manual Network Analyzer with Smith chart. Slotted Line can be used to measure impedance of a device (microwave antenna), etc.

Slotted line system consists of several parts. They are microwave signal generator, isolator, slotted line, and voltmeter. Slotted Line in this project will be realized with five conductors line and salt liquid.

The technical specification of slotted line in this project is  $50\Omega$  characteristic impedance, transparent, and work in 300MHz-3000MHz. The slotted line will be made from five transmission line conductors. In this case, the writer use copper as conductor.

The salt liquid in this project is used as a variable dielectric which means the dielectric coefficient of that material can be changed. The problem is how to design the material so that the characteristic impedance is  $50\Omega$ .

The purpose of this final project is to make a microwave slotted line with and small cost small dimension (miniaturization). The method for this project is dielectric measurement and analyses.