ABSTRACT

Slotted line is a line that has a slotted base construction resembles a coaxial cable having a characteristic impedance of 50Ω. This tool can be used for measurements in the transmission line is to measure the impedance with VSWR and reflection coefficient, constant secondary channel and primary constants and the frequency and wavelength. The purpose of making this final project is to realize a measurement tool that can be used for practical work in the Laboratory of Basic Transmission.

Slotted line that is at the Laboratory of Basic Transmission currently working with manual/moving probe at the top of the slotted line by hand so chances are slotted line is if operated continuously will be damaged due to the movement performed by the practitioner who is conducting lab, therefore be designed automatically.

Value of the impedance and Vswrof Slotted line can be determined at the time of measurement using a Network Analyzer, impedance values obtained at 300 MHz working frequency is 44,11 Ω Ω + j2,692, 400 MHz is 39,68Ω - j28,64 Ω and 500 MHz is 35,14 Ω + j7,25 Ω and VSWR values obtained at 300 MHz operating frequency is 1,145 , 400 MHz is 1,990 and the frequency of 500 MHz is 1,484. While measuring the standing wave pattern work done on the frequency of 300 MHz on the condition of open circuit 1,80 , short circuit 2,18 and load 50Ω of 1,25 , 400 MHz on the condition of open cicuit of 1,81 , short circuit 1,64 and for load 50Ω at 1,91 and the working frequency of 500 MHz when open circuit condition 1,92 , short circuit 2,08 and for load 50Ω at 1,33.

Keywords : SlottedLine, Coaxial, impedance, VSWR, impedance characteristics, Microcontroller, Frequency, Laboratory of Basic Transmission.