ABSTRACT

Slotted Line is a transmission line that has a slit in the direction of the propagation of electromagnetic waves flowing in it. Slotted Line that has existed in the Laboratory of Basic Transmission its performance has not been thoroughly tested at the lab and ongoing use of frequency at only one frequency only, ie the frequency of 300 MHz. At the end of the project is designed and realized a simple transmission line in order to refine the existing Line Slotted in Basic Laboratory Transmission.

Slotted Line is designed and realized with a value of 50 Ω characteristic impedance, VSWR ≤ 2, and the working frequency of 500 MHz - 1 GHz. Slotted Line is realized using a material as the outer conductor is copper, aluminum as a conductor in, as well as the use of a dielectric material is a mixture between white cement and lime. Determination of conductor and fillers Slotted Line refers to the research team Laboratory Research Assistant Basic Transmission 2011-2012 school year and the end result of a previous project.

On the design and realization of the obtained values Slotted line VSWR ≤ 2 at the working frequency of 500 MHz - 1 GHz, 50 Ω impedance, and the standing wave pattern which is almost close to the theoretical ideal conditions. When doing a comparison between the Slotted Line is designed and realized with the Slotted Line that has existed in the Laboratory of Basic Transmission, Slotted Line has designed and realized a better performance than existing Slotted Line in Basic Laboratory Transmission. This is seen in a standing wave pattern when load conditions Short Circuit and 50 Ω according to the theory of the standing wave pattern.

***Keywords**: Slotted Line, Dielectric, Characteristic Impedance, VSWR, Reflection coefficient.*