ABSTRACT

WiMAX (*Worldwide Interoperability for Microwave Access)* is a wide band access technology that have high speed of access and also large coverage area. WiMAX is a sign of products certification which is passed the test and completely based on IEE 802.16 standard that introduced in 2001 by *Institute of Electrical and Electronics Engineers* (IEEE) and had been upgrade early 2003 as 802.16e, it also support peak of data speed until 75 Mbps and covering 50 km areas.

In order to support that technology, one of the important aspect is the power will be able transmit appropriate the needs. Therefore, its need an equipment that used to measuring the parameter that support performance of WiMAX technology. Where's the value of parameter – S for coupling port is ± -20dB, RL ≤ -20 dB, direct ≤ 0.5 dB and isolated ≤ -20 dB. That makes the equipment can be used based on purposed in this project.

Therefore, *Coupled-Line Directional Coupler* was built to measure the support parameter for performance of WiMAX technology by different materials and also different specification for each material, start from epsilon value and the thickness. It helps us to know what material that good to make *Coupled-Line Directional Coupler* which is used to measure return loss and to power monitoring.

Keyword : microstrip*, coupled-line, Directional Coupler ,* parameter – S, PCB