ABSTRACT

The development of communications technology increasingly and evolved, so many new technologies emerged, such as technology without using the media cable is often referred to as a wireless communication system. Wireless communication can not be separated from the device that is able to change the energy in the medium of a guide to free space (air). The device is called an antenna. The antenna worked as a tool to send or receive energy and to optimize the radiating energy in a certain direction.

In this final project, the microstrip planar fourtears antenna that will be designed to operate at frequency range 2300-2500 MHz and has several applications such as WiMAX are made to operate at a frequency of 2.3 GHz, W-LAN 2.4 GHz and 2.5 GHz BWA that still have a VSWR = 2. For a user who wants to run on top of technology, the terminal device needed an antenna device which can operate at the operating frequency of the application.

Antenna that will be designed to have wide bandwidth. Rationing method used is to probe koaxial rationing. Simulations performed with the aid of Ansoft software HFFS 9.2, which can be drawn about the appropriate design to be able to operate at the desired frequency area of work. Parameters to be analyzed include: SWR, impedance, return loss, radiation patterns, gain, and polarization in terms of simulation software as well as by direct measurement after the prototype was made. All data analysis and valid measurement could then be expected to produce a form of planar microstrip antenna configuration fourtears having wideband frequency region.

In this final realization obtained bandwidth equal to 7,69% in the frequency range 2318,250-2500 MHz in terms of VSWR <1.7. Radiation pattern measurements are unidirectional and it’s polarization is elliptical.

Keywords: wireless, microstrip planar fourtears, probe coaxial.