ABSTRACT

Microstrip antenna is one of antennas which made by printed chain as radiation element. Microstrip antenna configuration consists of radiation plate or thickness of microstrip that separated by thin dielectric layer from its ground plane. Designed microstrip antenna has radiation plate in rectangle shape. This antenna is designed to form an antenna array which consists of radiation plate, dielectric substance (substrate), metal (ground plane) and a supply.

Telecommunication technology especially at data communication is growing rapidly and better performance than before generation particularly on WLAN (Wireless Local Area Network) technology. Hence, it is needed an antenna in order to support that can receive and transmit radio wave optimally.

This final project designs and realizations Microchip Unidirectional antenna which works at 2270 MHz – 2470 MHz with VSWR $\leq$ 1.5 Gain $\geq$ 10 dBi, by wanted bandwidth specification can reach 200 MHz or even higher, limited by VSWR $\leq$ 1.5, wished gain is higher than 10 dBi, input impedance=50Ω (coaxial), having radiation unidirectional pattern and linier polarization that can obtain good performance to support on many application. In designing process, software *Unsoft Ensemble 7* is utilized to know and analyze obtained result from needed specification. On designing antenna process, optimizing is conducted to get design antenna result which works due to the specification. From the measuring result that had been done of VSWR $\leq$1,5, bandwidth result = 267,98 MHz, *gain* obtained about 10,2 dBi at frequency 2370 MHz (at frequency center), having radiation unidirectional pattern, input impedance = 51,99+j11,95Ω and having polarization approach to linier.