ABSTRACT

Technological growth of mobile wireless communications in modern world is going faster and immeasurable, so that a lot of emerging the new technology standard and sophisticated progressively. One of the technology is WIMAX (Worldwide Interoperability For Microwave Access) which operate at frequency 2.3 GHz, 2,5 GHz, and 3,5 GHz. Antenna is an instrument that very important in the telecommunication world. Antenna acts in the information signal's transmission. In the transmit information signal, antenna matches the intrinsic impedance with characteristic impedance of electromagnetic radio frequency waveguide

This final project developed a feeding method for microstrip antenna which called electromagnetically coupled (EMC). By using EMC, the undesirable radiation become smaller and also offers wideband characteristic without some network matching. The EMC feeding method earns to overcome feebleness from conventional microstrip antenna which has narrow bandwidth characteristic. Design of this microstrip antenna use method EMC with structure of feeder L-Strip. Ansoft HFSS 9.2 was used as the simulator software at this final project.

In this final project, had been implemented a prototype of Rectangular Microstrip Antenna which is limited by VSWR ≤ 2, with frequency range at 2500 – 2600 MHZ. This antenna has unidirectional radiation patern, linier polarization, and gain ≥ 6 dBi.

Key word : Microstrip antenna, WIMAX, Electromagnetically Coupled (EMC)