

ABSTRACT

Wireless communication technology grows faster and having immeasurable so that emerging various new technology standards. Antenna is very important in development of communications technology wireless which is generally defined the conversion of the guided wave in which those wave is passed through the transmission line into free space wave and the other way.

The antenna which support W-LAN (Wireless-Local Area Network) is designed. According to the 802.11 b & g standard, W-LAN defined the range of 2,300 MHz – 2,390 MHz frequency spectrum which is divided into 6 frequency channel. On the other side, the 2.5 GHz BWA operates at the range of 2,500 MHz – 2,520 MHz and 2,670 MHz – 2,690 MHz of frequency spectrum. For the single user who try to apply both of technology or each of them, the antenna which support the above range of frequency is needed at their terminal equipment.

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 febleness 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.

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