ABSTRACT

Antenna is a device that used for radio communication as transmitter of electromagnetic energy to the free space or receiver from the free space. In mobile radio communication system with higher frequency, the usage of broad band antenna is needed for varied information exchange and it is also economical from the energy utilization.

The antenna that will be designed and realized in this final project is helix antenna that appropriate with the design of technical drawing. It uses binomial transformer λ/4 system for matching impedance with one strip channel construction. The work frequency of this antenna is adapted with today's trend, i.e. 750-950 MHz, 1700-1900 MHz, 2000-2200 MHz and 2300-2500 MHz including CDMA 800, GSM 900, DCS-1800, CDMA 1900, WCDMA, UMTS 2100, Wi-Fi, WIMAX and another varied application frequency range.

From the measurement that has been done, writer hope all of the analysis and the realible measurement data can appear a configuration of helical unidirectional antenna with range frequency 750-950 MHz, 1700-1900 MHz, 2000-2200 MHz and 2300-2500 MHz and sircular polarization which is support in many wireless communication technology systems.

Key word: Helix Antenna, Quad Band, CDMA800, GSM900, DCS-1800, CDMA1900, WCDMA, UMTS 2100, Wi-Fi and WIMAX