ABSTRACT

Antenna is a important devices inwireless telecommunication. To fulfil human need of communication, is required devices have wide bandwidth can transmit large data and used for many applications at once antenna.

This final project, will simulate and realize unloaded rhombik antenna based on parallel twin strip with toroida as its balun and matched impedance with this specification: frequency range 300-3000 MHz with VSWR reference ≤1,5, impedance 50Ω unbalance, unidirectional radiation pattern and linear polarization.

From simulation, to get maximum gain at 1,65 GHz, the angle Δ_0 of antenna must be 37,5^o. From measurement result with VSWR reference ≤1,5, improved 1922,81 MHz Bandwidth (803,21- 2726,02MHz), gain 3,8 dBi at 1000 MHz, gain 9,39 dBi at 1650 MHz and gain 10,22 dBi at 2000 MHz, unidirectional radiation pattern, and eliptic polarization at all sample frequency. To increase antenna performance, required more review about the capacitance and resistance of coil. To increase the accuracy of measurement, required anechoic chamber.

Key words: unloaded rhombic antenna, parallel twin conductor