

ABSTRACT

The antenna is a tool that functions as a transformer between the transmission channel with free space, or vice versa. The antenna is used both as transmitter and receiver electromagnetic in wave communication systems. Micro-wave communications at this time require wideband antenna so we can be thrifty tower using.

In this project, had been implemented Chebyshev Omnidirectional Hexacula Antenna for 0,3 GHz – 3,0 GHz of frequency. This antenna consists of Hexacula or six branch of twin strip line which were interpolated with dielectrics substance the chebyshev transformer.

Based on measurement and test antenna that implemented has bandwidth 1710 MHz within $VSWR \leq 1,5$ and 2585,75 MHz within $VSWR \leq 2,0$ with antenna impedance is $(48,529 \angle 9.59^{\circ}) \Omega$ at 1500 MHz, Omnidirectional radiation pattern, ellipse polarization, and maximal gain $\approx 7,99$ dBi at frequency 1650 MHz, 7,61 dBi at frequency 3000 MHz.

The Project hoped become prototype can be used that the function maximally. To increase bandwidth and another specification the suggestion are add more space of dielectric with measurement process should do in anechoic chamber .

Key word : Hexacula antenna, Chebyshev transformer, Omnidirectional, linier.