

ABSTRACT

The wireless communication technology is grow up very fast and varied. The transmission equipment, and antenna will be effected by it.

The many applications that are used on UHF band (300 MHz - 3000 MHz) such as, GSM, CDMA, TV, WiFi, and WiMAX. To make its efisien, the idea is to make the wideband antena which can be used to many application. The idea is Hexacula Chebyshev antena.

The objective of this final task is to realize and to observe the Hexacula Chebyshev antenna at 300 MHz - 3000 MHz with $VSWR \leq 1.5$. In realization of this final task, an antenna at 534,50 – 2910,03 MHz with $VSWR \leq 1,5$ is obtained. The average resistance value got from antenna measurement is 48,45 Ω . While the gain from the measurement reached 7,101dBi at center frequency. Antenna radiation patterns is omnidirectional and the polarization is ellipse.

The result of measurement already achieve the specification except operating frequency and polarization. If want to achieve the oprating frequency as the specification, suggestion are make conic higher than before that is from 3,1cm to 5,0cm. If want to achieve the polarization as the specification, suggestion are use the pencil beam antenna when measure the polarization and dielectric size must be match with width strips.

Keyword : hexacula antenna, VSWR, frequency operating, Gain, Polaradiation, and polarization