

ABSTRACT

The Chebyshev Omnidirectional Pancacula Antenna is an antenna that consists of 5 monocula antennas created pararel with angle 72° each other. It uses monopole to connecting between upper and lower strip. Every monocular based on two wore line inserted sterofom dielectric/ that two wire line transformed to PCB to simplify system realization and get better architecture. The two wire line is determined using Chebyshev $\lambda/4$ tranformer commensurable technique totally one level.

In this final project had been realized unidirectional antenna using tricola as an exciter which have technical specifications: bandwidth reach up to 2700 MHz at range 300-3000 MHz with limited VSWR $\leq 1,5$. The expected gain is ≥ 15 dBi, it has unidirectional radiation pattern and linear polarization.

To know performance of the antenna created fit with the specification that has been measured. In this final project also done some parameters measurement and trial. From measurement result, found each antenna parameters specification that are close to the technique specifications.

In this final project realization , found bandwidth equal to 940.5 MHz at 2059.5 MHz – 3000 MHz frequency with limited VSWR $\leq 1,5$ and found bandwidth equal to 2297.5 MHz at 702.5 MHz – 3000 MHz frequency with limited VSWR ≤ 2 . While, gain equal to 6.32 dBi at 2059.5 MHz frequency, 7.55 dBi at 25297.5 MHz frequency, and 7.89 dBi at 3000 MHz frequency . Radiation pattern from measurement test is close to Omnidirectional characteristic and it's polarization in form of ellipse.

Key Word: Pancacula Antenna, Omnidirectional, Chebyshev