

ABSTRACT

WiMAX is a technology standard for Metropolitan Area Network (MAN) made as solution for frequency spectrum limited also cable network. This standard known as 802.16 which informed during 2001 by Institute of Electrical and Electronics Engineers (IEEE) and had been up grade early 2003 as 802.16e, it also support peak of data speed until 75 Mbps and covering 50 km areas.

Supporting this technology needs antenna system operated at certain frequency allocation standard that is design and implementation of dual polarized horn antenna for wimax application at frequency 2,3Ghz-2,4Ghz , that is certain gain, beamforming, accuracy and it realized by arrays antenna efficiently.

This antenna has the minimum bandwidth 100 MHz. Because of that, this antenna is categorized as Wimax antenna. The very wide bandwidth yield a high bit rate. The real shape is a dual polarized pyramidal horn antenna with exciting thecnic method that is dominant TE_{10} mode propagation in rectangular waveguide .

Prototype are made according to the model of simulation and the result which is obtained from the frequency measurement at $VSWR \leq 1.5$, that is frequency range at 2300MHz -2400MHZ. The radiation pattern of the antenna is unidirectional and also its polarization is dual polarized . The available Gain of this antenna are able reach untill approximately ± 10 dBi.

Key word : Piramidal horn antenna, Dual polarized horn antenna, Wimax, Scaled antenna horn