

ABSTRACT

The further growth and enhanced technology of wireless communication are need more research of Telecommunication equipment improvement which are support newest developing technology. One important telecommunication equipment is antenna which is main subsystem of radio access. The antenna must has all specification that are needed such as coverage, capacity, frequency operation bandwidth and compatible VSWR.

One of present developing wireless technology is WiMAX which uses frequencies 2,3 and 3,5 GHz. WiMAX is broadband technology with high speed access and wide coverage. WiMAX is BWA previous technology evolution with more new attractive features. These characteristics need WiMAX antenna innovation which has frequency operation 2,3 and 3,5 GHz with high coverage, $VSWR \leq 1,5$ and high gain.

In this final project will be designed and implemented a modified Horn antenna with new modification of DRH (Double-Ridged Horn) antenna. DRH antenna is widely used in communication systems due to the particular characteristics of this antenna such as versatility, easy excitation, relatively simple construction, high gain and directivity performance. A novel of configuration DRH is proposed providing bandwidth and radiation pattern performance. The implemented DRH has frequency operation between 2300 to 2400 MHz with gain > 11 dBi and $VSWR \leq 1,5$. Designing and optimizing using Ansoft HFSS v9.2.