ABSTRACT

Microstrip antennas is developed because its mass is lightweight and can customize forms with places laid. Pica and the antenna microstrip antenna is one of the development of square microstrip patch antenna. The antenna has a broadband nature / wide bandwidth with essentially the shape of the inverted cone. Antenna is very wide bandwidth because the form of patches are not shaped like a small wire but inverted cone-shaped.

In this final, microstrip antenna is designed and simulated in the frequency range 3300 MHz - 3400 MHz with a frequency of 3350 MHz to support WiMAX technology, using the software Ansoft HFSS 11.0. The method used is EMC that uses air dielectric in the structure of the L-strip rationing, with the inverted cone shape patch. In the simulations, carried out the measurement loop antenna dimensions to obtain results in accordance with design specifications of the antenna, ie by changing the size of the patch, EMC feeder, and a high water gap. The simulation results obtained, is implemented using the materials, namely copper with a thickness of 1 mm.

The antenna will be simulated with Ansoft HFSS simulator version 11.0. The best results from the simulation of antenna modifications will be made in the manufacture of prototype antennas. The antenna prototypes have been made will be measured antenna parameters. Measurements carried out with Network Analyzer and Spectrum Analyzer. It is expected that the simulation results with measurement results are not much different

Keywords : Microstrip antenna, PICA, WiMAX, Electromagnetically Coupled (EMC)