

ABSTRACT

Telecommunications technologies that are being developed today is WIMAX technology, this technology offers a better quality of communication technologies before. One of the tools that are needed is antenna technology. MIMO antenna techniques is a technique that can improve the quality of the performance and capacity of WIMAX systems. This system uses multiantenna both the transmitter side and the receiver side.

In this final project will be designed and realized a 3×3 MIMO antenna for WIMAX at the center frequency of 2.5 GHz, the frequency range of 2 GHz - 3 GHz with achieving $\geq 2,5$ dBi gain and bandwidth up to 1000 MHz.

From the results of simulation using CST software, available bandwidth is already qualified $VSWR \leq 2$ and gain are around 4,64 – 7,71 dBi. In the measurement results showed antenna $VSWR \leq 2$. Bandwidth of 1000 MHz for all antenna. 7,71 dBi Gain on the first antenna, 6,24 dBi on the second and 4,64 dBi the third antenna. Bidirectional shaped radiation pattern obtained when the simulation and measurement. Elliptical polarization is obtained. From the design frequency, bandwidth and gain, then it can be used as an outdoor antenna on WIMAX technology.

Keyword: Antenna, MIMO, Rectangular patch