ABSTRACT

Through the rolling time, technology is just followed the evolution stage. There are so many new found technologies had been discover lately. Every country is just competed each other to show who is the best one. One of the new found technologies is Worldwide Interoperability for Mobile Access (WiMAX). Even it is not truly new out there, but in Indonesia it is still count as the new one. By that reason, in Indonesia still needs some supported equipment to develop WiMAX in Indonesia itself.

In this time, supported equipment to develop WiMAX in Indonesia is still in the minor amount of goods. CPE (Customer Premises Equipment) antenna is one of the supported equipments. This antenna is located in the consumer side. Because it is in the consumer side, we have to consider the size of the antenna. So, we need the antenna that has compact design, exact gain, and has the right polarization. By that specification, I would like to make that kind antenna. The antenna has square form and arrayed by 2 antennas. It is called Biquad Antenna. The Biquad Antenna will work at the range frequencies of 3.3-3.4 GHz and has VSWR ≤ 1.3 to support the WiMAX IEEE 802.16e application. It has bidirectional radiation pattern and linear polarization.

From the measurements, the antenna has 1.027 in VSWR at its center frequency, 3.35 GHz, and has 1.253 in VSWR at the frequency of 3.3 GHz and 1.208 in VSWR at the frequency of 3.4 GHz. It gain is 7.119 dBi. It has omnidirectional radiation pattern and elliptic polarization which is closely to linear polarization.

Keywords: Biquad Antenna, WiMAX