

ABSTRACT

Antenna is the construction of transmission lines matching impedance with propagation space Impedance. The antenna can be used as receiver and as a transmitter. Currently, There are many prototype antenna system operated on a single application only. To get the function of the antenna more efficient, the function of antenna is not only for one application, but for some applications. For another reason, there are many antenna that is designed using ferrit transformer balun . To improve reliability and reduce the import materials from abroad, it need to design and build wide-band modification antenna without ferrit.

At this Final project, it had done the Design and Realization of Omni directional Binomial Pancacula Antenna, 300 MHz-3000 MHz with limited VSWR ≤ 1.5 , has a linier polarization, 50 Ω coaxial Impedance, and ration with Monoconical. This antenna is using stratified binomial $\lambda / 4$ transformer, and the antenna frequency is between 300 MHz-3000 MHz which can be used on the 450 MHz and 800 MHz of CDMA frequency, 900 MHz and 1800 MHz of GSM frequency, 1900 MHz 3G UMTS service, and Wi- Fi service.

From the results of the measurement, for the VSWR ≤ 1.5 is located at a frequency of 639 MHz-2824 MHz with 80.92% bandwidth. While the Gain is equal to 7.143 dBi at the frequency of 1650 MHz. Radiation pattern obtained from the measurement results is omnidirectional, and polarization ellipse-shaped.

To increase bandwidth wider ,cut the upper stripe around 1 mm from the monoconical base. To decrease the effect of electromagnetic waves, measurements should be done in anechoic chamber room.

Key words: Monoconical, VSWR, *Gain*