

ABSTRACT

Antenna is one of the main devices in RF system that plays a role in waves propagation. Without a good design, RF signals can not be transmitted and received perfectly. The above applies to the using of antennas in telecommunication systems such as Wifi and CDMA. In some references, author get information that adding EBG structure in microstrip antenna can improve the performance of several antenna parameters such as bandwidth, gain, cross isolation, side lobes, the front lobe and back lobe.

In this thesis the author has design and implement a dual band microstrip antenna 2.400 – 2.415 MHz for Wifi and 1.777,9 – 1.804 MHz for CDMA. The author also implement a method of EBG (Elemctromagnetic Band Gap) that can suppress surface currents. Elemctromagnetic Band Gap (EBG) is placed around the outer side of the antenna so that the leakage current on the surface is reduced.

The results achieved from this research is the realization of planar array antenna that works on frequency 2.400 – 2.415 MHz for Wifi and 1.777.9 to 1.804 MHz for CDMA, included with analysis that this antenna works at the frequency range 2.400 – 2.415 MHz and 1.777.9 to 1.804 MHz have $VSWR \leq 1,5$ dan $gain \pm 5$ dBi

Keyword : *EBG, Antena Microstrip Array, Dual Band*