

ABSTRACT

The development of mobile wireless communication technology which faster and immeasurable, cause the appearance of various new and modern technology standard. Those technologies including DCS, PCS, UMTS, WLAN 2.4, WIMAX 3.5, BWA 5.2 and BWA 5.8. Those technology standard, have the differences frequency operations, such as PCS at frequency band (1850-1990 MHz), UMTS at frequency band (1920-2170 MHz), WLAN 2,4 GHz at frequency band (2400-2483.5 MHz), WIMAX 3,5 GHz at frequency band (3400-3600MHz), BWA 5,2 at frequency band (5150-5350MHz), and BWA 5,8 at frequency band (5725-5825MHz).

Therefore, needs a certain antenna that capable to fulfill various differences communication need. One of them is Planar Slot Shaped Antenna. Slot Antenna has simple (compact) dimension and characteristic that capable to be arranged become broadband with. This antenna is modified in order to get an appropriate frequency operation area with mobile wireless communication system frequency DCS, PCS, UMTS, WLAN-2.4, WIMAX-3.5, BWA-5.2 dan BWA-5.8, this is facillitated by Ansoft HFSS 9.2 software. This software simulator, analyzing an antenna with finite element (FEM) method and the result is obtained multiband frequency area by coplanar waveguide and using ground plane that modified to fulfill frequency operation area that wished.

Prototype is made according to simulation model and the measurement result identify that can work at PCS, UMTS, WLAN, WIMAX, and BWA 5.2. For antenna radiation pattern is bidirectionally.