

## **ABSTRACT**

Antenna plays an important role in the development of mobile technology at this time. The antenna of a mobile device is required to be able to follow the technological development of mobile devices increasingly thinner, lighter and smaller but able to work multiband. To overcome the requirement then used planar antenna which has a characteristic that is easy to manufacture, has a relatively small dimensions and able to work multiband.

In this final project used a planar antenna with FR-4 substrate and the patch-shaped asymmetric T-shaped to make modifications to the parameters of each part to produce an antenna with the desired specifications. Transmission techniques used in this final project is coplanar waveguide because coplanar waveguide is so easily applied to the planar antenna.

In the final project entitled "Design and Realization of Planar Antenna With the Fed coplanar waveguide Multiband Mobile For UMTS, HSDPA, LTE, and WiFi" trying to provide a solution of this problem. The resulting antenna has linear polarization with omnidirectional radiation pattern that works at a frequency of 1800 MHz, 2100 MHz, 2400 MHz, and 5800 MHz. Bandwidth for each frequencies is 160 MHz at 1800 MHz, 12 MHz at 2100 MHz, 75 MHz at 2400 MHz, and 1200 MHz at 5800 MHz. The resulting gain of 0.64 dBi, 1,05 dBi, 1.66 dBi and 3.96 dBi.

**Keywords** : UMTS , HSDPA , LTE ,antenna , Multiband