ABSTRACT

This final project, we present a low profile microstrip antenna for the next generation, namely the 5G network. 5G is a wireless communication technology that is predicted to have a data rate of up to 10 Gbit/s, one of the spectrum considerations that will be used on a 5G network is the middle frequency (below 6 GHz). The C-band frequency (3.3 – 3.6 GHz) was identified for IMT at the WRC-15 conference. The microstrip antenna is designed with the array method and uses the addition of a triangular slot and inset feed on the patch which aims to increase the value of the antenna *gain*, widen the *bandwidth* and sharpen the return loss. The type of substrate used in this design is FR4-Epoxy with a dielectric constant (εr).) = 4.5 substrate thickness (h) = 1.6 mm, and loss tangent = 0.024. The simulation on this antenna parameter using the CST Studio Suite 2019 software has a gain value of 8.245 dB, *Return Loss* value of -38.08 dB, *VSWR* result of 1.025 and a width of 131.4 Mhz Badwidth.

Keywords : *Antenna Microstrip Triangular,Array, Slot, VSWR, Return Loss, 5G*.