ABSTRACT

One of the important components which we never realize for us was the Antenna. One of the importance of antenna which occurs daily was connecting people to people. As time goes by, Antenna itself already encounter several interventions. Towards the time, the technology of the antenna was getting more complex and needed to fulfill a brand new kind of obstacle.

This undergraduate thesis analyzes the working principle of a Microstrip antenna with an unusual patch design and implements it using a batik pattern as the patch. The reason it was chosen because of the widespread patch designs and the theories for reconstructing the antenna itself. The design of a Microstrip antenna that works and reviewed in a High-Frequency (HF) band would be simulated by using a software.

Batik Pattern was chosen cause of the aesthetical value on one of the Indonesia Heritage on Art. With a diversity of batik patterns, several of them could be able to compete with the conventional antenna design without dropping the aesthetic value.

The Expected output of this thesis are:(i) by using simulation, the antenna could perform better on the HF band, concerning the Voltage Standing Wave Ratio (*VSWR*), the efficiency, and the directivity (ii) to create a Microstrip Antenna using an artistic value of Batik Pattern as Patches that achieve a good aesthetic value and also work as good as another antenna (iii) from several patterns which been tested, the most optimal results obtained the VSWR average of 1.38, 5.19 dB for gain, and 54.27% antenna efficiency.

Keywords : Microstrip, HF, Batik Pattern