ABSTRACT

Currently the aviation industry in Indonesia is in poor condition due to rampant accidents and those gradually affect public trust towards the aviation industry. One of the ways to improve security and trust back is by participating in innovation of technological developments.

This final assignment concerns to the lack of prevention. To help reducing the number of accidents in aviation industriy, there is a way by using an electronic device called Electronic Support Measure (ESM).

Generally, ESM is an electronic device that funcionate to receive an electromagnetic wave signal, then the signal is processed and analyzed in order to obtain the location and other parameters. In this case, ESM will identify the planes that fly within the scope of ESM itself. Therefore, ESM needs an antenne as receiver and working in the frequency range Ultra Wideband (UWB) 2 – 18 Ghz.

This final assignment is designing and realizing the microstrip log periodic antenna at C-band frequency which works at the range 4 – 8 Ghz. The antenna is equipped with directional radiation pattern to support the function of ESM to determine the location of the plane and has gain ≥ 6 dB. The antenna is designed by using a material called FR4 with proximity coupling technique to add the bandwidth capacity and has VSWR < 2 to support antenna as receiver.

Keyword: Electronic Support Measure, mikrostrip log periodic antenna, ultra wideband, proximity coupling