ABSTRACT

Electronic Support Measure (ESM) is an electronic defense equipment that functions to receive electromagnetic wave signals emitted by the object, then the signals are processed and analyzed in order to obtain the location, signal strength and other parameters. So, it should proposed cover radar frequency signal, one of them is S-band.

In this final project the antenna to be designed is a Rectangular monopole antenna with trident-shaped feed method at the S-band frequency (2-4 GHz) for Electronic Support Measure application.the substrate used is FR-4 with a relative permittivity value of 4.4, using the technique of rationing of Microstrip Line. To determine the dimensions of the antenna before it is realized to do the calculation method theoretically and process optimization with the simulator.

After Realized antenna rectangular monopole get result in measurement at middle frequency that is 3 GHz yield value VSWR is 1,1307, Return Loss is –20.082 dB, and gain is 4.25. And radiation pattern is unidirectional and polarization is linier. With specification,the antenna rectangular monopole is suitable for use on Electronic Support Measure (ESM) devices.

***Keywords**: Monopole antenna, Electronic Support Measure, microstrip line.*