ABSTRACT

Negara Kesatuan Republik Indonesia (NKRI) is an archipelago consisting of over 17,000 islands with a 2/3 region consisting of the ocean. These conditions make the custody and supervision becomes easy. Therefore in need of a technology to maintain and supervise safety at sea and the coast of the Indonesian archipelago so as to avoid actions that could harm the Homeland. One way to improve defense systems in maintaining and overseeing the area is to use a new technology that is Electronic Warfare (EW).

Electronic Warfare (EW) devices military support in the form of an electronic device. Electronic Warfare (EW) is divided into 3 parts, one of which is the Electronic Support Measures (ESM). ESM in general is an electronic device that functions to receive the electromagnetic wave signal, then the signal is processed and analyzed to obtain the location, signal strength and the ESM design parameters required lainnya.Pada biconical antenna that works in the frequency ultra wideband (2 GHz to 18 GHz).

Having designed and realized, biconical antenna has a very wide bandwidth characteristics (Ultrawide band) suitable for use in applications ESM (Electronic Support Measures) with a frequency of 2-18 GHz. Polaradiasi shape designed omnidirectional intended that when the ESM detection radar frequency (S-band, C-band, X-band and Ku-band) of the radar beam that are around can perform detection in all directions. Because the usefulness of ESM as a radar detector with nature as a receiver (receiver) takes VSWR below 2 with values below -10.931 dB return loss. Biconical antenna is designed using a 0.4 mm brass plate with a cone shaped mounting interface between the antenna mounted on the connector and ground inert. Biconical antenna mounted ¼ λ using impedance matching, so that the impedance matching between the antenna with 50 Ω connector.

Keywords: *biconical antenna, Ultrawideband and ESM.*