ABSTRACT

ESM is electronic device that use to receive electromagnetic signal and to monitor other radar electromagnetic signal. So, it should proposed cover radar frequency signal, one of them is Ku-band that has wide band.

Microstrip antenna has adventages such as light weight, low cost, simplicity of fabrication and ease of mass production. The main drawback of the microstrip antennas is their narrow bandwidth so antenna designed use techniques microstrip slot antenna. Slot technique, aperture coupled dan partial ground plane can be used as an alternative for woder bandwidth.

Based on the above conditions, In this study has design and realization array microstrip slot antenna for wideband Ku-band that was realized in Electronic Support Measure (ESM). The antenna comprises an 8-element array that used aperture coupling for exiting the array elements. The antenna bandwidth it about 6.2 GHz in Ku-Band Frequency. Antenna aperture coupling technique has back radiation, so it needed reflector that has been laid at $\frac{\lambda_0}{4}$ *apart from the feed. Partial ground plane is used as another way to make bandwidth wider. Tuning-stub is used as impedance network. Antenna was realized using rogers RT5880 with values* $\varepsilon_r = 2{,}2 \text{ and } height = 1.57 \text{ mm}$*, as a result linear polarization, gain 7.99 dB, 28.4*^{o} *Azimuth beamwidth and 23.4*^{o} *Elevation beamwidth. With these specifications, the proposed antenna is capable in Electronic Support Measure.*

***Keyword** : Electronic Support Measure, Ku-band, Array microstrip slot antenna.*