

ABSTRACT

Antenna is one of the important components in the radar system and according to previous research co-planar antenna can be used on radar system. On a radar system operating at the s-band frequency of 2.9-3.1 GHz requires a bandwidth of 200 MHz. Co-planar antenna is a planar microstrip antenna with rectangular patch arranged side by side.

In this research discusses the relationship of gap changes on co-planar antenna to bandwidth. The process is done through the design and realization, design using 3D simulators and realization using VNA. The method used is to change the position of the gap between the patches so as to obtain different bandwidth results of gap is one of the methods undertaken in this study to increase the bandwidth.

Simulation result for return loss ≤ -10 dB obtained 256 MHz bandwidth from research on simulation and obtained 208 MHz from research on measurement using simulator and VNA application with obtained the biggest return loss value is -25 dB at simulation and -28,154 dB at measurement, and the impedance value is simulated ie $52.511 + j5,115 \Omega$ and the impedance value in the measurement is $49.233 + j6,873 \Omega$.

Keyword : Gap, Bandwidth, Co-planar,