

ABSTRACT

Radar is one of the emerging technologies developed in Indonesia, because radar utilization is needed in Indonesia which consists of various islands. The radar system has an antenna used for transmitting wave pulses and receiving reflections. The thing to note is the separation between the transmitted signal and the received signal. The coupler function on RF Radar is designed as a signal separator that is transmitted to the received. In the branch line coupler there are two outputs of equal value with the 90° phase difference.

This phase difference is used as a separator between transmitter and receiver. In this final project we designed a branch line coupler microstrip with T-Junction which works on 3 GHz frequency with second loss value for both (Tx) and (Rx) that is 3 dB and 90° phase difference. The step is to design the length and width for each impedance channel on the branch line coupler microstrip using FR4 substrate having a dielectric constant of 4.6 with a thickness of 1.6 mm.

Using the notch band approach on the ground provides the nail of a better parameter, compared to a conventional coupler.

Keywords : *Branche Coupler, Radar, Receiver dan Transmitter*