

ABSTRACT

The functions of Wilkinson power divider is to divide the input signal into several output signals with the same phase. The main principle is to provide high isolation between outputs, by limiting the effects of signal reflection. Wilkinson added a resistor to work on the output match port and fully isolate port 2 from port 3 at the center frequency.

This final project is designing a 2 Way Power Divider on the Transmitter and Receiver Module with a frequency of 2.8 GHz for ASR RADAR, this design will try to realize a 1:2 power divider by using FR4 PCB material. Then make calculations on the determination of specifications, design using CST Studio Suite 2018 and realize the power divider. Obtained the parameters needed in this final project, such as return loss ≤ -10 dB, coupling ≤ -15 dB, impedance 50 Ohm, and Insertion loss $(20 \log 2) = 3$ dB, bandwidth ≥ 200 .

The measurement results obtained bandwidth of more than 200 MHz. which will be installed on the transmitter and receiver.

Keywords: Wilkinson power divider, Airport Surveillance Radar