

ABSTRACT

Extreme and erratic weather can sometimes cause disasters, therefore sophisticated technology is needed and can reach a wide area. Radar is a technology that can monitor the weather with a wide coverage area. Therefore the radar needs an amplifier in order to get more optimal results.

This final project makes a High Power Amplifier (HPA) where on the radar block diagram HPA is one of the most needed parts in a radar system on a radar system, HPA is a very crucial component to amplify power which will be transmitted to the antenna and then transmitted by means of increases the signal power level at the input in a predetermined frequency range up to the desired power level at the output. The method used is to use three levels of power gain to make it more optimal.

This final project is designed and realized an HPA for the implementation of C-Band weather radar that works at a frequency of 5.6-5.7 GHz. Some of the main considerations in HPA design include gain, Voltage Standing Wave Ratio (VSWR), power input and power output. The active components used in designing the HPA are MIC GALI 19+, and MIC GALI 2+. HPA amplifier simulation using circuit modelling application. The results of the three-stage HPA simulation at a frequency of 5.6 GHz have a gain of 37.058 dB, an input VSWR of 1.140, an output VSWR of 1.050. The results of the three-stage HPA measurement at a frequency of 5.6 GHz produce a gain of 10.9 dB, input VSWR of 1.278, output VSWR of 3.187

Keywords: High Power Amplifier, Weather Radar, C-band .