ABSTRACT

Coastal Radar S-Band is a maritime radar domestically made to be applied in ship and shore. The development of this radar utilizes Frequency Modulated Continuous Wave (FMCW), which is a technology that produces the distance range radar with a very low emittance. Subsystem that supports component of Coastal Radar is a power amplifier or High Power Amplifier (HPA). HPA serves to amplify the output signal generated by the transmitter before it is sent to the receiver by an antenna, wherein the recipient in the form of a ship in the waters.

In this final project designed and realized the power amplifier which can operate at a frequency of 2.8 to 3 GHz. The technique used is experimental. Matching impedance using single stub open circuit. The active component used is a Monolithic Microwave Integrated Circuit GALI 84+.

Power amplifier performance examination will be done by comparing the measurement result with outset specification. From measurement result, from 2.9 GHz, power amplifier have enhancement as big as 29.7 dB. While at VSWR measurements , VSWR input obtained a value of 1.476 and VSWR output of 1.53. In measuring return loss , return loss input values obtained amounted to -14.318 dB and return loss output amounted to -13.576 dB .

Keywords: Air Surveillance Radar, Coastal, High Power Amplifiers, Strengthening, *Monolithic Microwave Integrated Circuit*