

ABSTRACT

The growth of aviation technology provide ease the pilot to control the aircraft during landing. Indonesia as a developing country lags behind other countries in terms of having such sophisticated equipment. One of the equipmnet is Instrument landing System (ILS). ILS is a navigational equipment that serves to provide any information to the pilot when the aircraft will be landing. ILS consist of three parts, namely the localizer that serves to guide or direct the aircraft to the center line runway, glideslope which serves to direct the aircraft to the land which have the proper at 3° from the end of the runway, and the Marker Beacon is an instrument landing on the aircraft that give the information the distance aircraft runway.

In this final project has been designed marjer beacon diagram block system consist of PLL, mixer, RF Amplifier, and BPF Filter. The first step is design the schematic obtained from datasheet using Altium designer software. Then, realization each of the block. Finally, measurement and analyze the prototype system using Spectrum Analyzer and the osilloscope, so that the performance of the sytem can be informed.

The transmitter prototype has been realized that has 75MHz carrier frequency which expected on the spesifications. The parameter has been tasted from the transmitter block prototype is the response frequency and the magbitude of the output power. The prototype system has an output power of 8,41 dBm (6,934 mW), while the specification tool is 320 ± 64 MW, so the prototype can not be realized and need further development.

Key Word : *ILS, Marker Beacon, Phase Locked Loop*