ABSTRACT

Band-pass filter is a filter that passes signals between the cut off top and bottom cut off frequency other than it will be muted. Synthetic Aperture Radar (SAR) or remote sensing is a technique from signal processing to produce images with high resolution. SAR systems use a frequency 1265 - 1275 MHz, in the propagation there is interference to the SAR system itself will require a filter to reduce such interference.

In this final project is to design a filter that is placed on the SAR system Transmitter designed so that the filter must have a high selectivity and a sharp steepness with the goal of maximum power delivery. This type of filter in accordance with the specification is Band-pass filter with *Chebyshev* response and using the method of Defected Ground Structure (DGS) for high performance.

Results band pass filter design in this final produce -2.597 dB insertion loss and return loss -25.033 dB to a method Defected Ground Structure (DGS) and the microstrip Square Open-Loop.

Key Word : *Synthetic Aperture Radar, Defected Ground Structure, Square Open-Loop*