

## **ABSTRACT**

*Down converter designed in this final project has an aim to increase the limitation of measurement on frequency of the Network Analyzer in STT Telkom Microwave laboratory, which is limited only for measurement of frequency maximally 3000 MHz. By giving this additional device, the limitation can be up to 5000 MHz. The down converter used two alternative of circuit, the first is the parametric device, used varactor diode as mixing element, and the second was using single balanced diode mixer, that used schottky diode as mixing element. The device designed for RF ranging from 3000 MHz to 5000 MHz, LO frequency of 2000 MHz, and IF ranging from 1000 MHz to 3000 MHz, with conversion loss of less than 9.5 dB.*

*BPF's performance can be obtained from the simulation using Ansoft Designer SV 2.0.*