ABSTRACT

On this final project, writer has done researched in RF Stage hardware, it is filter. On filter designing, an important things is determining passband frequency and stopband frequency. The problem is if we want to change frequency or bandwidth, we must re-designing and re-realizing, so it can make uneffective.

The solution of that problem is how to design and realize a filter that can be tuned on its frequency and selected on its bandwidth . In this final project has been made a Band Pass Filter that has capability to work on UHF with specific bandwidth with microstrip substance and Chevysev Interdigital method.

It contains two BPF with 200 MHz and 300 MHz bandwidth, tuning frequency 300 MHz - 3000 MHz, and varactor diode as frekuensi tuner. Measurement results are BPF 1 and BPF 2 has tuning frequency 160,781 MHz - 409,687 MHz and 167,812 MHz - 409,687 MHz. The bias frequency was changed to 204,093 MHz - 2.660,157 Mhz and 243,516 MHz - 2.510,157 MHz. The bandwidth was changed to 60,313 MHz - 129,748 MHz dan 160,313 MHz - 222,656 MHz. Applications that can be used in this filter are VHF Analog Broadcast Television, Radio Access of Warung Telepon Perintis and USO, Wireless Broadband, Conventional Radio System Communication Point to Point, and Digital Trunking System.

Keywords : *Interdigital Filter, Tunable Bandpass Filter, dioda varaktor*