ABSTRACT

Filter is a transmission device that has function to pass certain frequency which release desired frequency (pass band) and attenuate unwanted frequency (stop band).

In this final task, we implemented invention duplexer as a frequency divider BPF_1 2.401-2.407 GHz BPF_2 2.409-2.423 GHz with equal ripple filter (Tchebyschev). Transmission line type used in the realization here use strip line, transmission line consist of conductor strip and 2 ground plane inserted by substrate with certain material characteristic. Substrate type that used is glass with specification e_r = 5.3 thickness substrate 2 mm.

Filter measuring is done with Network Analyzer to get information about performance and prototype characteristic. Parameter that is analyzed from BPF prototype consists of frequency response, bandwidth, insertion loss, return loss, SWR (Standing Wave Ratio) and terminal impedance. The measure result from BPF characteristic for BPF_1 center frequency 2403.5 MHz with bandwidth 78.514 MHz, insertion loss 4.75 dB, return loss 11.445 dB, SWR 1.731, terminal impedance 31.91-j12.86 ? . For BPF_2 center frequency 2393.875 MHz with bandwidth 88.643 MHz, insertion loss 4.05 dB, return loss 13.28 dB, SWR 1.55, terminal impedance 37.82-j14.67 ?.

Key Word: Tchebyschev, Strip line