ABSTRACT

Filter is a transmission means that has function to pass certain frequency with release wanted frequency (pass band) and damp unwanted frequency. Passed frequency in this means must suitable with filter type that used with different characteristic.

In this final project will design and build Band Pass Filter (BPF) in frequency between 9360 MHz – 9430 MHz with Equal Ripple Filter (Chebychev). Transmission canal type used in realization BFF here use microstrip canal, transmission canal that consist of conductor strip and groundplane divided by substrate with certain matter characteristic. Substrate type that used is Duroid Roger with specification: ε_r = 3.38, thickness substrate 0,813 mm, thickness copper plat 0.035, and loss tangent 0.0027.

Filter measuring done with Network Analyzer to get information about performance and prototype characteristic that made. Parameter that analyzed from BPF prototype such as: frequency response, bandwidth, insertion loss, return loss, standing wave ratio, and terminal impedance. The measure result from BPF characteristic is: center frequency 9.4 GHz with bandwidth 270.9 MHz, insertion loss 7.593 dB, return loss 17.559 dB, SWR 1.2728, terminal impedance 57.926+j2.1953 Ω.

Keywords : BPF Chebychev, Microstrip