

ABSTRACT

Filter is a frequency selector circuit in order to pass the desired frequencies and resist unwanted frequencies. There are many ways to create filters, such as waveguide, coaxial, strip line and microstrip. Microstrip consists of Patch, Substrates and Goundplane.

Microstrip's materials in Band Pass Filter design are FR-4 Epoxy with constant of electric $\epsilon_r = 4.4$, by using BPF combline method and frequencies from 2.4 - 2.48 GHz to the Wireless-Fidelity application, with $Z_t = 50 \Omega$ at the first frequency cut off is 2400 MHz and a second frequency cut-off is 2480 MHz and using chebychev response.

From the design of Band Pass Filter based on this microstrip, measurement is done by using the Network Analyzer, is simulated using AWR software and is expected to get the VSWR, the terminal impedance, bandwidth, Insertion Loss, fasa, Return Loss very well. The measure result from BPF characteristic is : center frequency 2400 MHz with bandwidth 180 MHz, insertion loss 11.932 dB, VSWR ≥ 1.3 , the change of phase with frequency is constant, and terminal impedance $83.735\Omega - j3.405$.

Keyword : Band Pass Filter, Comblin, Microstrip