

ABSTRACT

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

On the microwave communication system, filter can be realized by using waveguide, stripline and microstrip. The realization of Band Pass Filter (BPF) in this final project is by using microstrip at 1805 MHz – 1880 MHz with equal ripple (chebychev) method. Microstrip line is transmission channel that consist of conductor and groundplane divided by substrate with certain matter characteristic. Substrate type that used is Epoxy or FR4 with specification: $\epsilon_r = 4.4$, thickness substrate 1.44 mm. Then for patch and groundplane used copper plat 0.05 mm thickness. This BPF can be used for GSM -1800 downlink application because the range frequency of this filter is 1805 MHz – 1880 MHz.

To evaluate the filter performance, it is done by using Network Analyzer to get information about its performance and characteristics of the prototype. The parameter filter prototype which evaluated are frequency response, bandwidth, insertion loss, return loss, Standing wave ratio, and return loss terminal impedance.

Keywords : BPF, Chebychev, Microstrip, GSM - 1800