

A DESIGN OF 2.4 GIGA HEARTZ TO 5 GIGA HEARTZ MICROSTRIP BANDSTOP FILTER

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ABSTRACT

This thesis describes the design of 2.4 GHz and 5 GHz microstrip bandstop filter. The filter is designed to give a bandwidth of 70 percent, with center frequency of 3.7 GHz. The filter is required to have an attenuation of at least 60 dB with passband ripple of 0.1 dB. The design involves a Tschebychev third order bandstop filter whose input to output is matched to 50 Ω impedance. The bandstop filter was realized to an open-circuited transmission lines and spaced by unit elements (UEs) which a quarter-wave long at mid-stop-band frequency. The proposed bandstop filter was simulated by using *Genesys* CAD package and was fabricated on a microstrip that have relative permittivity of 2.33, and substrate and copper thickness of 0.5 mm and 0.0356 mm respectively. The filter is then measured using a Scalar Network Analyzer and lastly a data analysis is done to compare both result from simulation and measurement.

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