DESIGN OF A PSEUDO-INTERDIGITAL BANDPASS FILTER FOR C-BAND APPLICATION

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ABSTRACT

The purpose of this project is to design of pseudo-interdigital bandpass filter that consist of Flame Retardant 4 (FR-4) and Perfect Electric Conductor (PEC) as the substrate is presented. The filter was calculates by formula from sofware and this design is simulate using *CST Microwave Studio*. The design of bandpass filter should be proved as frequency C-band (4 - 8GHz) application at center frequency f_o 4.7GHz. The filter was fabricated on FR-4 having a relative permittivity 4.9, and substrate thickness 1.5mm respectively. This value for return loss are -17 dB and insertion loss are -0.09 dB for simulation and for mesurement are -14 dB for return loss and -1.5 dB for insertion loss. The filter characteristic were then measured using Wiltron 362 vector network analyzer (VNA) . In this project have some error during measurement the microstrip filter. This happen cause of losses and improper handling during measured. The observed of both the simulated and measured values are very close for insertion loss and return loss. Based on the design, the size of filter is reducing size and the result better for Return loss (S_{11}) and Insertion loss (S_{21}).

TABLE OF CONTENTS