DESIGN OF BAND PASS FILTER FOR WIRELESS SURVEILLANCE SYSTEM APPLICATION AT 2.4GHZ OPERATING FREQUENCY

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ABSTRACT

This paper deals with design of band pass filter for Wireless Surveillance System application. The specification for this filter included an operating frequency (center frequency) of 2.4GHz, bandwidth of 500MHz and pass band ripple of 0.5dB.

The design process including creating a lumped element prototype, which was then transformed into Microwave Office 2004 for schematic circuit design and output verification by simulation results.

One comparison circuit was construct according to the result was published by other paper for comparison of design circuit performance.

The insertion losses and return losses graphs were used in all odd order number N for verification and comparison of performance of the filter specification. The resulting result filter had an operating frequency of 2.4GHz, a 500MHz bandwidth and 0.5 dB ripple.

Keywords: Wireless Surveillance System, band pass filter, lumped element value, transformation, and simulation.

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