

TOP-COUPLED PARALLEL-CASCADED RING
RESONATORS PASSBAND FILTER

NURWANI BINTI BAHARUM

FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITY TEKNOLOGI MARA
MALAYSIA

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**NURWANI BINTI BAHARUM
Faculty of Electrical Engineering
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR**

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ABSTRACT

A Top-coupled parallel-cascaded ring resonators passband filter is designed in order to obtain the required parameter responses with 3GHz center frequency. Based on ring resonator topology, the passband filter was designed, which include the cascaded rings and the combination of such ring resonator with two coupled lines that are connected at input and output port. The filter is realized on FR4 substrate with a relative dielectric constant of 5.4, thickness of 1.6 mm and loss tangent of 0.02. The layout, simulation and measurement result are presented in this paper.

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