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# Compact Dual-Band Bandpass Filter Based on Quarter Wavelength Stepped Impedance Resonators

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**Abstract :** This paper presents a compact dual-band bandpass filter that involves using the quarter wavelength stepped impedance resonators (SIRs) for achieving simultaneously compact circuit size and good dual-band performance. The filter is designed at 2.4 / 3.5 GHz and constructed by two pairs of quarter wavelength SIRs and source-load lines. By properly tuning the impedance ratio, length ratio and radius of via hole of the SIRs, dual-passbands performance can be easily determined. To improve the passband selectivity, the use of source-load lines is to increase coupling energy between the resonators. The filter is showing simple configuration, effective design method and small circuit size. The measured results are in good agreement with the simulation results.

**Keywords :** dual-band, bandpass filter, stepped impedance resonators, SIR
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