

## THE GENERALISED INTEGRATED-POLE DIRECT COUPLED CAVITY FILTER

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Abstract

This paper details the rectangular waveguide realisation of the asymmetric integrated-pole prototype. A novel waveguide section is introduced and characterised in detail. The asymmetric amplitude responses exhibited by these filters, can be used to good effect in microwave filter networks designed to reject a particular band of image frequencies close to the desired band. Alternatively the generalised pole-placing technique can be used to obtain rejection over any required frequencies. Two examples are given, including a seventh degree filter with attenuation poles at two different frequencies.