

Design of Dual-band Microwave Components

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ABSTRACT

In this thesis, a quasi-RH/LH dual-band 3-dB branch-line coupler (BLC) constructed in microstrip form is proposed. The designed BLC circuit replaces conventional chip inductors in the coupler arms with microstrip stubs for easier circuit integration and lower fabrication cost. All microstrip sections in the coupler arms made meandered to reduce the circuit size is implemented on a RT/Duroid 6010 substrate. Next, proposed in this thesis is a dual band bandpass filter(BPF) made of quarter-wavelength steeped-impedance resonators(SIRs), which are coupled to the input and output ports through parallel coupling transmission lines. The direct coupling between the input and output ports makes the whole structure a cross-coupled filter, thus create zeros near the passband skirts.

Keywords : microstrip stub、steeped-impedance resonator(SIR)

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