Abstracts

Diplexer design using pre-synthesized waveguide filters with strongly dispersive inverters

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An approximate synthesis technique for strongly dispersive inverters is introduced. The technique allows the prescription of transmission zeros at finite frequencies on either side of the filter passband - symmetrically or asymmetrically - as required for diplexer applications. Several direct-coupled resonator filters with additional attenuation poles and a related diplexer design at 18.5 GHz are presented. The computerized design procedure is based on CIET (coupled-integral-equations technique) and MMT (mode-matching technique) modules. Excellent agreement between measurements and theoretical predictions is achieved.

❑ Return to main document.