

Analysis and design of mass-producible cross-coupled, folded E-plane filters

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Mass-producible, folded E-plane metal-insert filters with and without finite transmission zeros are introduced for the first time. The metallic inserts and the separating wall between the inserts can be accurately fabricated to $\pm 1 \mu\text{m}$ tolerances using electroforming techniques. Source-load coupling as well as (negative) coupling between resonators can be realized. The resulting filters are much shorter than traditional E-plane filters and show significantly improved slope selectivity.

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