

Design procedure for waveguide filters with cross-couplings

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A new rigorous systematic design procedure for folded waveguide filters with cross couplings is presented. The procedure is a combination of a circuit model analysis and a full-wave method, and is based on tuning one dimension at a time for simple waveguide structures towards simple tuning goals. Through examples it is shown how the procedure can eliminate the need for global optimization. As a consequence of this process, the time needed for the realization of filters of this type is greatly reduced. Examples of filters designed using the described design process are given, including comparison with measurements.

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