Abstracts

Full-wave modeling of electric coupling probes in comb-line resonators and filters

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An electric coupling probe in comb-line resonators and filters is rigorously modeled by full-wave mode matching method. The coupling structure is considered as a cascaded network of the resonator and strip-line discontinuities and is solved by cascading the generalized scattering matrices of all the discontinuities. As a result, the electric probe couplings of both rectangular and cylindrical comb-line resonators and filters can be accurately determined. The validation and accuracy of the method are verified by comparing the numerical results with the measured data and are shown to be in good agreement.

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