

Waveguide Treatment of the Suspended Microstrip Line with Tuning Septums Using the Spectral Domain Approach and the Finite-Element Method

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The Spectral Domain Approach and the Finite-Element Method are simultaneously used for deriving the frequency dependence of effective dielectric permittivities and of equivalent characteristic impedances of the technically most relevant modes of the suspended microstrip line with tuning septums. The latter numerical technique helps the former one in the choice of well-behaved basis functions for surface currents on the strip and for tangential fields in the slot. The numerical superiority of the Spectral Domain Approach in modes fields computations is demonstrated.

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