

Abstracts

Analysis and Design of a Novel Noncontacting Waveguide Backshort

T.M. Weller, L.P.B. Katehi and W.R. McGrath. "Analysis and Design of a Novel Noncontacting Waveguide Backshort." 1995 Transactions on Microwave Theory and Techniques 43.5 (May 1995 [T-MTT]): 1023-1030.

A new noncontacting waveguide backshort has recently been developed for millimeter- and submillimeter-wave frequencies. The design consists of a metal bar with rectangular holes cut into it, which is covered with a dielectric layer to form a snug fit with the broadwalls of a waveguide. It is mechanically rugged and can be readily fabricated for frequencies from 1-1000 GHz. This paper presents a technique for the theoretical characterization of the backshort, using an approach that combines the mode-matching method and a set of coupled space-domain integral equations. The convergence characteristics of the analysis are included, along with a set of general design guidelines.

[Return to main document.](#)