Abstracts

Analysis and synthesis of in-line coaxial-to-waveguide adapters

R. Levy and L.W. Hendrick. "Analysis and synthesis of in-line coaxial-to-waveguide adapters." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 809-811 vol.2.

An equivalent circuit for a class of in-line coaxial to waveguide adapters is presented. It takes into account the existence of two propagating modes in part of the transition, a phenomenon which had previously escaped attention. When treated correctly, it is possible to analyze the multi-step structure by cascading sections, enabling the design to be based on a synthesized prototype circuit, using minimal optimization. Broadband return losses of >40 dB have been obtained.

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