Abstracts

Metallized Dielectric Horn and Waveguide Structures for Millimeter-Wave Oscillator/Mixer Systems

M.J. Lazarus, F.R. Pantoja and M.G. Somekh. "Metallized Dielectric Horn and Waveguide Structures for Millimeter-Wave Oscillator/Mixer Systems." 1981 Transactions on Microwave Theory and Techniques 29.2 (Feb. 1981 [T-MTT]): 102-106.

A new method of producing millimeter-wave oscillator/mixers and associated antenna horns has been developed. This uses the technique of metal coating of dielectric body, and hence avoids the expensive and difficult machining of conventional metal cavities. A sensitive self-oscillating mixer has been tested in this structure and shown to be free from the unstable operation associated with surface radiation of unshielded dielectric waveguide. Low epsilon/sub r/ dielectric was used, thus facilitating ease of matching in contrast with the high epsilon/sub r/ necessary with the unshielded guide.

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