

Abstracts

A Channel-Dropping Filter in the Millimeter Region Using Circular Electric Modes

E.A.J. Marcatili. "A Channel-Dropping Filter in the Millimeter Region Using Circular Electric Modes." 1961 Transactions on Microwave Theory and Techniques 9.2 (Mar. 1961 [T-MTT]): 176-182.

A. channel-dropping filter in the millimeter region that transfers $TE^{\circ}/\text{sub } 01/$ to TE/spl square//sub 10/ is described and analyzed. The important features are the use of TE/spl o deg//sub 011/ mode in the resonant cavities combined with a mode-selective coupling between circular symmetric and rectangular waveguides which make both heat loss and mode conversion low. Design formulas and experimental results on a model filter centered at 56 kMc are included. Finally, several possible mode transducers and filters based on the idea of mode-selective coupling are described.

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