Abstracts

Rectangular Waveguide Theoretical CW Average Power Rating

H.E. King. "Rectangular Waveguide Theoretical CW Average Power Rating." 1961 Transactions on Microwave Theory and Techniques 9.4 (Jul. 1961 [T-MTT]): 349-357.

A theoretical CW average power rating, limitation imposed by a temperature rise resulting from power dissipation within the rectangular waveguide walls, can be determined by predicting the rise in temperature. Formulas for the evaluation of the CW average power rating have been developed and are presented here, and the power rating curves are given for the WR-2300 wave-guide (320 Mc) through the WR-19 waveguide (60 kMc). Localized hot spots, associated with a standing wave on a mismatched waveguide, require a derating factor. The axial flow of heat from these high current spots has been considered in calculating and plotting this derating factor.

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