

Analysis and measurement of hard-horn feeds for the excitation of quasi-optical amplifiers

M.A. Ali, S.C. Ortiz, T. Ivanov and A. Mortazawi. "Analysis and measurement of hard-horn feeds for the excitation of quasi-optical amplifiers." 1999 Transactions on Microwave Theory and Techniques 47.4 (Apr. 1999 [T-MTT]): 479-487.

Design and analysis of Ka-band hard-horn feeds for excitation of quasi-optical amplifiers have been performed. A computer program based on the mode-matching technique has been developed in order to determine the aperture field distribution for pyramidal hard horns. This program is used to perform parametric studies and to optimize hard-horn performance such as its bandwidth and efficiency. Simulation and measurement results for a 31-GHz hard-horn feed are presented.

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