Abstracts

Tapered Slotline Antennas at 802 GHz

P.R. Acharya, H. Ekstrom, S.S. Gearhart, S. Jacobsson, J.F. Johansson, E.L. Kollberg and G.M. Rebeiz. "Tapered Slotline Antennas at 802 GHz." 1993 Transactions on Microwave Theory and Techniques 41.9 (Oct. 1993 [T-MTT] (Special Issue on Quasi-Optical Techniques)): 1715-1719.

Tapered endfire slotline antennas, of the BLTSA type, have been fabricated on 1.7 µm thin SiO/sub 2//Si/sub 3/N/sub 4/ dielectric membranes. Antenna patterns of the E-, H-, and D-planes have been measured at 802 GHz. The -10 dB beamwidths were found to be approximately 40° in all planes, with side lobe levels below -11 dB (-19 dB in the E-plane). The cross-polarized peaks in the D-plane are 8 dB below the co-polarized peak. A theoretical model for calculating the E- and H- plane patterns of tapered slotline antenna has been extended to include the co- and cross-polarized D-planes. Measured and calculated patterns show good agreement.

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