Abstracts

348-GHz Endfire Slotline Antennas on Thin Dielectric Membranes

H. Ekstrom, S. Gearhart, P.R. Acharya, G.M. Rebeiz, E.L. Kollberg and S. Jacobsson. "348-GHz Endfire Slotline Antennas on Thin Dielectric Membranes." 1992 Microwave and Guided Wave Letters 2.9 (Sep. 1992 [MGWL]): 357-358.

Tapered slotline endfire antennas, of BLTSA type, have been fabricated on 1.7-µm thin SiO/sub 2/-Si/sub 3/N/sub 4/ (epsilon/sub r/ = 4.5) membranes. Antenna patterns in the E-, H-, D- and D-cross planes have been measured at the design frequency 348 GHz, with bismuth micro bolometer detectors. The antennas have approximately 12 dB directivit y, and the --10-dB beam widths are 50° and 56° in the E- and H-planes, respectively. The 348-GHz measurements have been compared with model measurements at 45 GHz, and show good agreement.

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