Abstracts

Slot-array antennas fed by coplanar waveguide for millimeter-wave radiation

H. Kobayashi and Y. Yasuoka. "Slot-array antennas fed by coplanar waveguide for millimeter-wave radiation." 1998 Transactions on Microwave Theory and Techniques 46.6 (Jun. 1998 [T-MTT]): 800-805.

Slot-array antennas with parasitic slots, slot-array antennas fed by coplanar waveguide (CPW), and two-dimensional slot-array antennas fed by CPW were fabricated on fused quartz substrates, and the receiving properties of the antennas were investigated at 94 GHz with the goal of increasing the power gain of the slot antennas. It was found that the power gain of the slot antenna could be increased by 11 dB over a single-slot antenna by using a two-dimensional (8/spl times/3) slot-array antenna fed by CPW. It was confirmed that the improvement of the power gain was caused by decreasing surface-wave power in the substrate and by sharpening antenna patterns perpendicular to the substrate.

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