

New type of millimeter wave antenna by using the high permittivity LSE NRD guide

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A technique for construction of a millimeter-wave antenna has been developed based on high permittivity LSE-NRD guide technology. The novelty of the present technique lies in the use of a simple radiator, which consists of tapered dielectric strip with the length of about a guided wavelength and a broad radiation pattern. A new type of fan beam antenna for marine radar use has been fabricated by locating the radiator in the focal point of the cylindrical parabolic reflector. A good fan beam pattern with half-power beam widths of 4 in the horizontal plane and 38 in the vertical plane can be obtained.

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