Abstracts

A 20-dB Quasi-Integrated Horn Antenna

G.V. Eleftheriades, W.Y. Ali-Ahmad and G.M. Rebeiz. "A 20-dB Quasi-Integrated Horn Antenna." 1992 Microwave and Guided Wave Letters 2.2 (Feb. 1992 [MGWL]): 73-75.

A multimode quasi-integrated dipole-fed horn antenna is presented with a performance comparable to that of waveguide-fed corrugated horn antennas. The antenna has been designed using fullwave analysis and has been fabricated and tested at 91 GHz. The horn has a gain of 20 dB with very symmetric patterns, a Gaussian coupling efficiency of 97%, and a cross-polarization level of -22.7 dB. This antenna provides a significant improvement in integrated antenna designs and is suitable for millimeter-wave communication and radar systems and as a Gaussian-beam launcher in quasi-optical receiver systems.

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