Abstracts

A 77-GHz FM/CW radar front-end with a low-profile low-loss printed antenna

W. Menzel, D. Pilz and R. Leberer. "A 77-GHz FM/CW radar front-end with a low-profile low-loss printed antenna." 1999 Transactions on Microwave Theory and Techniques 47.12 (Dec. 1999 [T-MTT] (Special Issue on 1999 International Microwave Symposium)): 2237-2241.

Design and results of a 77-GHz frequency-modulation/continuous-wave radar sensor based on a simple waveguide circuitry and a novel type of printed, low-profile, and low-loss antenna are presented. A Gunn voltage-controlled oscillator and a finline mixer act as transmitter and receiver, respectively, connected by two E-plane couplers. The folded reflector-type antenna consists of a printed slot array and another planar substrate, which, at the same time, provides twisting of the polarization and focusing of the incident wave. The performance of the radar is described, together with the initial results of a scanning of the antenna beam.

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