Abstracts

A 77 GHz FM/CW radar frontend with a low-profile, low-loss printed antenna

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Design and results of a 77 GHz FM/CW radar sensor based on a simple waveguide circuitry and a novel type of printed, low-profile, and low-loss antenna are presented. A Gunn VCO and a finline mixer act as transmitter and receiver, 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, provide twisting of the polarization and focussing of the incident wave. In this way, a folded low-profile, low-loss antenna can be realized. The performance of the radar is described, together with first results on a scanning of the antenna beam.

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