Abstracts

A Self-Mixing Active Antenna for Communication and Vehicle Identification Applications

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A cavity backed, Gunn diode driven, self-mixing active inverted stripline circular patch antenna has been developed. The active antenna provides good radiation patterns with cross-polarization levels 18 dB below co-polarization at boresight. The self-mixing performance shows that the circuit has a 2 dB conversion gain for IFs up to 450 MHz and a double sideband noise figure of 15 dB at 200 MHz. The antenna is suitable for use as a transceiver for short communications links or as a microwave identification transceiver.

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