Abstracts

Surface-wave coupling of active antennas for homodyne sensor systems (Dec. 1998, Part II [T-MTT])

R.H. Rasshofer and E.M. Biebl. "Surface-wave coupling of active antennas for homodyne sensor systems (Dec. 1998, Part II [T-MTT])." 1998 Transactions on Microwave Theory and Techniques 46.12 (Dec. 1998, Part II [T-MTT] (1998 Symposium Issue)): 2457-2462.

In this paper, we present a novel method for significantly enhancing the performance of low-cost millimeter-wave sensor systems based on active integrated antennas. Our method uses the planar active antenna's parasitic surface-wave field as a local oscillator signal for a mixing rectenna. Compared to a self-mixing active 67-GHz antenna, the surface-wave coupled rectenna receiver shows a considerably improved minimum detectable signal (10 dB lower) and the possibility for high-quality homodyne in-phase/quadrature signal detection.

❑ Return to main document.