Abstracts

A novel circularly polarized W-band direct detection receiver for six-port polarimetric radar systems

M.O. Thieme, R.H. Rasshofer, A. Stiller and E.M. Biebl. "A novel circularly polarized W-band direct detection receiver for six-port polarimetric radar systems." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1269-1272.

A circularly polarized silicon integrated W-band direct detection receiver (DDR) for use in six-port polarimetric radar systems has been designed, numerically optimized and fabricated. The major advantage of the receiver is a novel low-loss, purely planar dual patch antenna (DPA) layout, which allows the receiver to be manufactured using monolithic integration. The measurement results for the receiver demonstrate a good cross polarization discrimination (XPD)>14 dB@76 GHz over a wide range of the scan angle (12 dB@/spl plusmn/20/spl deg/).

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