Abstracts

Integrated active antenna with full duplex operation

M.J. Cryan, P.S. Hall, S.H. Tsang and Jizhang Sha. "Integrated active antenna with full duplex operation." 1997 Transactions on Microwave Theory and Techniques 45.10 (Oct. 1997, Part I [T-MTT]): 1742-1748.

This paper discusses the design and implementation of a novel two-element active transmit-receive array using dual linear polarization and sequential rotation. Each element includes an integrated oscillator and amplifier mounted on orthogonal edges of a square patch, such that the transmit and receive paths are isolated and polarization duplexed. The array gives in excess of 45-dB transmit-receive isolation with an output power of 5.4 dBm and a receive gain of 8.2 dB at 4.05 GHz. Link budget calculations are used to show expected system performances. These active antennas have potential uses in both short-range communication and radar systems.

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