Abstracts

Analysis and design of integrated active circulator antennas

C. Kalialakis, M.J. Cryan, P.S. Hall and P. Gardner. "Analysis and design of integrated active circulator antennas." 2000 Transactions on Microwave Theory and Techniques 48.6 (Jun. 2000 [T-MTT] (Mini-Special Issue on the 1999 IEEE Radio and Wireless Conference (RAWCON))): 1017-1023.

A study on the analysis and design of active integrated antennas based on active quasi-circulators is reported in this paper. The antenna consists of a novel hybrid active circulator and a short-circuited quarter-wavelength microstrip antenna, which combine to form an active antenna with transmit and receive action at the same frequency. A full-wave model of the configuration using the extended finite-difference time-domain method is devised to analyze its operation, to study parasitic electromagnetic coupling effects, and to derive design guidelines. Experimental results for a hybrid model are also presented.

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