Abstracts

A novel broadband receiver architecture for wireless communication and radar systems

S.J. Spiegel and A. Madjar. "A novel broadband receiver architecture for wireless communication and radar systems." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1697-1700.

This paper describes a novel down-converter architecture for radio receivers and for polarimetric radar systems. The mixing unit configuration is based on two 90/spl deg/ single balanced mixers, associated in anti-phase, to obtain wide-bandwidth differential IF signals. For analog receivers, the terminals of each of the mixing units are connected to produce single RF and LO signals. This is as opposed to polarimetric systems, where one LO and two RF signals are present. The broadband nature of the differential IF signals suggests that the proposed topology eliminates the need of either passive baluns or active baluns needed to produce 0/spl deg/ and 180/spl deg/ phase-shifted signals.

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