Abstracts

A novel method for closed-loop error correction microwave and millimeter wave QPSK modulator

A. Madjar, T. Blum, M. Namer, I. Itzkovic and B. Zusmanovic. "A novel method for closed-loop error correction microwave and millimeter wave QPSK modulator." 2001 MTT-S International Microwave Symposium Digest 01.1 (2001 Vol. I [MWSYM]): 531-534 vol.1.

QPSK modulators at microwave and millimeter waves can be very useful for direct modulation communication links. The main problem with such modulators is the error in phase and amplitude balance, which is quite large at MM-waves and degrades the performance of the modulator (carrier rejection, deviation from 90 degrees between states, etc.). In this paper we introduce a novel approach featuring an error correction scheme, which is simple to implement both in hybrid and MMIC forms. A very important feature of the new method is the self-generated reference signal, which enables a simple (low cost) and self contained implementation in a MMIC form of a high quality QPSK MM-wave modulator.

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