Abstracts

A compact monolithic C-band direct conversion receiver

B. Matinpour, C. Chun, S. Han, C.-H. Lee and J. Laskar. "A compact monolithic C-band direct conversion receiver." 2000 Microwave and Guided Wave Letters 10.2 (Feb. 2000 [MGWL]): 67-69.

A compact monolithic C-band direct conversion receiver has been implemented in a commercial 0.6 /spl mu/m GaAs MESFET process. Subharmonic mixing is utilized to suppress even-order intermodulations and eliminate DC offsets. Second-order input intercept point (IIP2) of +17 dBm, third-order input intercept point (IIP3) of +8 dBm, and DC offset of -80 dBm are measured on wafer without the use of additional off-chip components. This receiver occupies a die area of 35/spl times/53 mil/sup 2/ and operates on 2.7 V with 21 mA of DC current. This is the first demonstration of a C-band direct conversion receiver MMIC with excellent linearity, DC offset, and DC power consumption.

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