Abstracts

2 GHz band even harmonic type direct conversion receiver with ABB-IC for W-CDMA mobile terminal

K. Itoh, T. Katsura, H. Nagano, T. Yamaguchi, Y. Hamade, M. Shimozawa, N. Suematsu, R. Hayashi, W. Palmer and M. Goldfarb. "2 GHz band even harmonic type direct conversion receiver with ABB-IC for W-CDMA mobile terminal." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1957-1960.

A 2 GHz band even harmonic type direct conversion receiver (EH-DCR) is proposed for the W-CDMA mobile terminal. Because of the well-matched anti-parallel diode pair used in the proposed EH-DCR, the receiver can reduce even order mixing products that degrade sensitivity characteristics. Also the proposed EH-DCR can achieve low current consumption with a passive mixer approach. In this paper, the overall receiver with an RF block, an analog baseband IC (ABB-IC) and a demodulator is demonstrated to indicate the effectiveness on the proposed RF architecture. The described evaluation results indicate high instantaneous dynamic range with high sensitivity.

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