Abstracts

W-CDMA SiGe TX-IC with high dynamic range and high power control accuracy

H. Joba, Y. Takahashi, Y. Matsunami, K. Itoh, S. Shinjo, N. Suematsu, D.S. Malhi, D. Wang, K. Schelkle and P. Bacon. "W-CDMA SiGe TX-IC with high dynamic range and high power control accuracy." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 27-30.

This paper demonstrates the SiGe TX-IC for W-CDMA mobile terminals. For the TX-IC, a novel architecture of a variable gain amplifier is proposed to improve dynamic range and power control accuracy. With the 0.5 /spl mu/m SiGe BiCMOS technology, this TX-IC achieved over 100 dB dynamic ranges within /spl plusmn/1.5dB accuracy over all temperatures. Output power of 7 dBm can be achieved by employment of P-MOSFET current mirror type self bias control circuit for the driver amplifier. Measurement results also satisfy the specification defined by 3GPP.

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