Abstracts

5 GHz SiGe HBT monolithic radio transceiver with tunable filtering

S.P. Voinigescu, M.A. Copeland, D. Marchesan, P. Popescu and M.C. Maliepaard. "5 GHz SiGe HBT monolithic radio transceiver with tunable filtering." 1999 Radio Frequency Integrated Circuits (RFIC) Symposium 99. (1999 [RFIC]): 131-134.

A W-CDMA compliant, fully integrated 5 GHz radio transceiver was realized in SiGe technology with on-chip, tunable, VCO-tracking filters. It allows for wide band, up to 20 MHz, modulation schemes demonstrating a SSB receiver NF of 5.9 dB, 40 dB on-chip image rejection, IP1 of -22 dBm and larger than 70 dB LO-RF isolation. The VCO phase noise is -100 dBc/Hz and -128 dBc/Hz at 100 kHz and 5 MHz offset, respectively. The transmitter output compression point is 10 dBm. The image rejection in the transmitter is better than 40 dB and all spurious signals are 40 dB below the carrier.

❑ Return to main document.