Abstracts

A Highly Miniaturized Receiver Front-End Hybrid IC Using On-Chip High-Dielectric Constant Capacitors for Mobile Communication Equipment

T. Nakatsuka, J. Itoh, S. Yamamoto, T. Yoshida, M. Nishitsuji, T. Uda, K. Nishii and O. Ishikawa. "A Highly Miniaturized Receiver Front-End Hybrid IC Using On-Chip High-Dielectric Constant Capacitors for Mobile Communication Equipment." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 85-88.

A highly miniaturized and low power consumption receiver front-end hybrid IC(HIC) including input matching circuits for 880MHz bands using on-chip high-dielectric constant (epsilon/sub r/) capacitors has been newly developed. The HIC is composed of a GaAs IC chip and a ceramic substrate with spiral inductors on its surface. The HIC showed conversion gain of 20.2dB and noise figure of 4.2dB at supply voltage of 2.7V and dissipation current of 3.7mA. The HIC measures only 5.0mm x 5.0mm x 1.0mm.

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