

Abstracts

A high performance transceiver hybrid IC for PHS hand-set operating with single positive voltage supply

M. Nishijima, J. Itoh, T. Kunihisa, T. Yokoyama, S. Yamamoto, K. Miyatsuji, M. Nishitsuji and O. Ishikawa. "A high performance transceiver hybrid IC for PHS hand-set operating with single positive voltage supply." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1155-1158.

A high performance transceiver hybrid IC (HIC) operating with single positive voltage supply has been developed for PHS hand-set. The HIC integrates a power amplifier (PA), a front-end (F/E) IC, a T/R SPDT switch (SW) and their peripheral circuits, which are mounted on the HIC circuit board with thick Cu metal heat-sink. In the transmitter block, the PA with a SW exhibits a low dissipation current of 190 mA, a high power gain of 39.4 dB and a low adjacent channel leakage power of -56.4 dBc at an output power of 20.5 dBm. In the receiver block, the F/E with a SW exhibits a low noise figure of 3.7 dB, a low dissipation current of 4.8 mA and a high conversion gain of 25.4 dB. The HIC needs only single positive voltage supply of 3.5 V. The HIC size is only 10 mm/spl times/13 mm/spl times/1.9 mm.

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