

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

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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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