

Abstracts

Power amplifier module with digital adaptive predistortion for cellular phone (2002 Vol. II [MWSYM])

S. Kusunoki, K. Yamamoto, T. Hatsugai, K. Tagami, H. Nagaoka, N. Tominaga, K. Osawa, K. Tanabe, S. Sakurai and T. Iida. "Power amplifier module with digital adaptive predistortion for cellular phone (2002 Vol. II [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 765-768 vol.2.

This paper describes a new type of PA-module which contains a predistortion function and the application to N-CDMA handset terminals. The predistortion technology is based on look-up-table method using the input and output signal envelopes and can operate independent from the base-band block. By omitting the adaptative predistortion for AM/PM, and integrating main controlling functions on CMOS IC chip, the predistortion technique has been realized in a PA-module. The PA-module has been achieved the power added efficiency (PAE) of 48% at the output power of 27.5 dBm. This PAE is extremely high in comparison with the conventional PA-module for N-CDMA.

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