

**METHOD AND APPARATUS FOR IMPROVING POWER AMPLIFIER
EFFICIENCY IN WIRELESS COMMUNICATION SYSTEMS HAVING HIGH
PEAK TO AVERAGE POWER RATIOS**

Abstract

A power management system and method for a wireless communication device generates an average desired transmit power signal based on at least one of a received signal strength indicator signal and a power control instruction signal from a base station. A power supply level adjustment signal is generated based on the data parameters of an outgoing data stream and at least one environmental information signal. A combination of the power supply level adjustment signal and the average desired transmit power or a gain control signal and an altered version of the power supply level adjustment signal is used to generate a variable power supply signal that is provided to an output amplifier block for sufficiently generating outgoing wireless device radio signals while reducing power loss in the output amplifier block.

(Fig. 1)