OVERVIEW

The PALADIN® family of digital multi-carrier chip technologies enables the development of spectrally efficient and power efficient 2G and 3G base stations that use fewer and less expensive components than traditional feed-forward designs.

PALADIN products include PALADIN 10, PALADIN 15, and PALADIN Waveshaper™. All PALADIN products make extensive use of proprietary advanced high-speed DSP based architectures and techniques.

FEATURES

PALADIN Waveshaper achieves significant crest factor reduction while maintaining in-band and out-of-band characteristics that are well within the minimum requirements prescribed by the 3GPP/3GPP2 specifications.

Waveshaper provides up to 2.5 dB of additional PAR reduction over simple baseband clipping, and up to 4 dB of reduction compared to the uncompensated signal, allowing systems to achieve greater power efficiency.

In addition, Waveshaper provides high-precision (floating point) programmable baseband filtering, eliminating the need for a separate device to perform this function.

The PM7819 Waveshaper complements the PM7800 and PM7815 PALADIN devices in three key ways:

- Reduces the crest factor, or peak-to-average ratio (PAR), of a WCDMA or CDMA2000 signal while minimizing spectral regrowth, allowing the power amplifier (PA) to be driven harder yielding improved power efficiency.
- Reduces the cost and complexity of the transmitter sub-system by eliminating the need for separate transmit pulse-shaping filters and interpolators in the baseband modems.
- Facilitates the implementation of a digital multi-carrier BTS design by eliminating the need for a separate multi-carrier combiner FPGA or ASIC.

PACKAGING

- Industrial temperature range (-40 °C to +85 °C)
- 256-pin SBGA 27 mm x 27 mm.

APPLICATIONS

- Multi-carrier WCDMA/CDMA2000 base stations
TYPICAL APPLICATIONS

PALADIN WAVESHAPER INTERFACED WITH PALADIN 15

PALADIN WAVESHAPER INTERFACED WITH A FEEDFORWARD LPA