

PCI3800

EDGE



PCI3800 EDGE Integrated Baseband Processor

GSM GENERAL FEATURES

- Complete GSM Series 4, 5, and 11.10 specification compatibility
- Supports General Packet Radio Service (GPRS) through Class 1, Type 12
- Supports EGPRS (EDGE) through Class 1, Type 12

TIA/EIA-136 GENERAL FEATURES

- Complete TIA/EIA-136 baseband solution, exceeding all TIA/EIA-136-270 specifications
- Supports TIA/EIA-310, TIA/EIA-350, TIA/EIA-320 Data Services and SMS
- Supports EGPRS-136 (EDGE) through Class 1, Type 12

PCI3800 GENERAL FEATURES

- Low voltage operation
- Fully programmable software-controlled power management
- Microprocessor-DSP interface allows additional Physical Layer features
- Bluetooth™ RF Hardware Interface and Protocol Engine
- Voice Recognition (VR), and MP3

PCI3800 MICROPROCESSOR SUBSYSTEM FEATURES

- Powerful and efficient 32-Bit RISC ARM microprocessor core
- Two onboard UARTs, one with hardware flow control
- Keypad interface (matrix programmable)
- 50 general purpose I/Os
- 2 general purpose timers
- SIM card interface
- Universal Serial Bus (USB) interface
- Internal ARM RAM

PCI3800 PHYSICAL LAYER PROCESSING FEATURES

- Internal RPE-LTP, GSM EFR, TIA/EIA-136-410 ACELP, and AMR Vocoders
- Discontinuous Transmission support (DTX)
- Programmable modem acquisition, modulation/demodulation, and channel coding/decoding
- Built-in acoustic signal processing
- Complete baseband AMPS functionality
- Internal Manchester decoder
- Viterbi hardware coprocessor enhanced for EDGE (EGPRS, EGPRS-136)
- GSM Fire/Cipher Accelerator

PCI3800 MIXED SIGNAL FEATURES

- Eight input 10 bit ADC for auxiliary measurements of analog signals
- Four output Pulse Width Modulated Digital-to-Analog converters for user-defined analog control
- GMSK, $\pi/4$ DQPSK, and 8 PSK $3\pi/8$ rotation modulation with pulse shaping
- Two 10 Bit D/A converters for I/Q transmission
- Programmable variable gain amplifiers for Tx and Rx paths
- Four 10 Bit Aux. D/A converters
- Two 10 Bit A/D converters for receive I and Q
- 10 bit D/A converters for AMPS mode

Imagine a time when you can market any combination of TDMA-EDGE, GSM, GPRS, and EGPRS in a single handset. *That time is now.*

With PrairieComm's PCI3800 EDGE Integrated Baseband Processor, the Internet and wireless converge. Consumers can check the Web for stock quotes, weather reports, breaking news and more at data rates up to 237 kbps. They can also download and play MP3 files and communicate with other devices such as PCs and PDAs through support of Bluetooth™ technology.

Because the PCI3800 builds upon PrairieComm's proven chip technology, you can be sure your time-to-market will be second to none. And by combining the mixed signal D/A and A/D converters with the digital baseband processor, the PCI3800 offers you a feature-rich solution in a single-chip package. That means greater cost-effectiveness than ever before. One chip. One solution—The Power To Compete.



BENEFITS

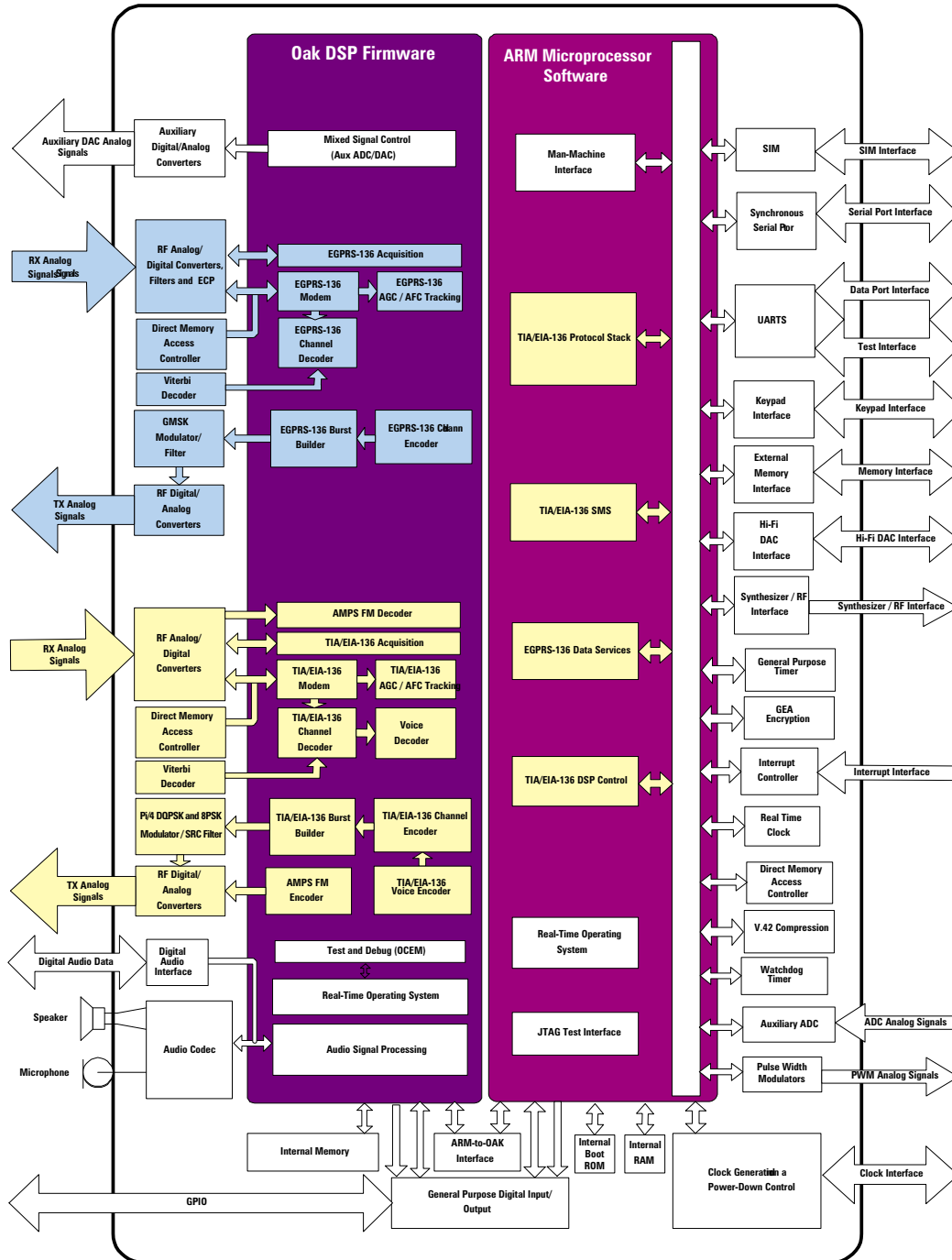
The PCI3800 will . . .

- enable subscribers to wirelessly access the Internet at data rates up to 237 kbps
- support popular features such as MP3, Bluetooth™, and Voice Recognition
- allow manufacturers to design phones that can be marketed worldwide
- permit manufacturers to economically increase their breadth of product offerings

PRAIRIECOMM
The Power To Compete™

PCI3800 EDGE Integrated Baseband Processor

FUNCTIONAL BLOCK DIAGRAM



ELECTRICAL SPECIFICATIONS

Low 1.8 V DC operation for Digital Core and 2.5V DC operation for Mixed Signal blocks

2.7 to 3.6 V DC operation for I/O pads

Operating Temperature Range: -40 to +85 °C

Storage Temperature Range: -55 to +150 °C

Clock Frequencies: 13 MHz, and 32 kHz sleep mode

Chipset allows mobile up to 350 hours of standby time

PACKAGING

256-ball Flex PBGA package with 0.8mm pitch



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