

## PMB 6275 SMARTi®PM+ Quad Band Micro EDGE Transceiver

SMARTi®PM+ (PMB 6275) is a Quad Band EDGE/GPRS Transceiver in a groundbreaking new 3 x 3 mm<sup>2</sup> wafer level ball grid array package. It enables the design of Quad Band Micro EDGE RF systems in less than 100 mm<sup>2</sup> PCB area.

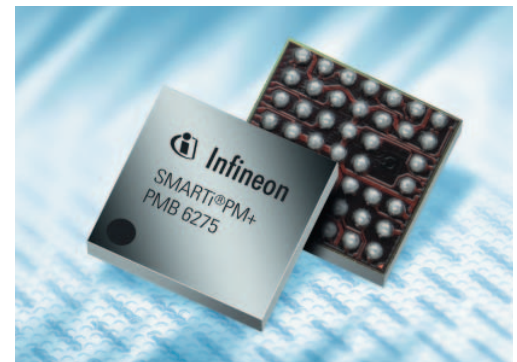
Its high level of integration and outstanding small mechanical dimensions make this single chip CMOS transceiver the perfect match for all size sensitive GSM850/GSM900/GSM1800/GSM1900 voice and high performance data applications.

The SMARTi PM+ lines up with any standard linear Power Amplifier from all major vendors and therefore provides sourcing flexibility according to customer individual preferences. The standard analogue IQ interface and the 3-wire bus for control do match all major Cellular Basebands.

The unique Small Signal Polar Modulator architecture offers excellent RF performance and robustness in customer mobile phone assembly lines. The advanced, simple programming and calibration schemes do furthermore reduce cost of ownership significantly.

### Features

- Receiver
  - Direct conversion receiver architecture
  - Automatic DC offset compensation
  - GPRS/EDGE class 1 to 12
- Transmitter
  - Polar modulator for EDGE
  - Single-ended 50 Ω outputs enable direct connection with Power Amplifier
  - PA bias control interface for efficiency EDGE enhancement of contemporary linear EDGE-Power Amplifier
  - Programmable Gain Amplifier (PGA) for accurate output power level control in 8PSK mode
  - Integrated ramping generator for 8PSK mode



- Integrated low tolerance base band filter
- Very low power budget
- GPRS/EDGE class 1 to 12
- RF-Synthesizer
  - ΣΔ-Synthesizer for multi-slot operation
  - Fast lock-in times (< 150 μs)
  - Integrated loop filter
- RF Oscillator
  - Fully integrated, low noise RF VCO for quad-band operation
- Reference Oscillator
  - Fully integrated VCXO
  - Fully digital controlled crystal oscillator core with highly linear tuning characteristic
  - 26 MHz Reference Oscillator can be applied externally
  - Three single ended clock outputs
- Baseband interface
  - Multiplexed differential I/Q baseband
  - TX-input voltages and RX-output voltages
  - Three wire bus for transceiver control
- Frontend module interface
  - Two FEM control outputs
- Ultra Low RF BOM < 20 components needed

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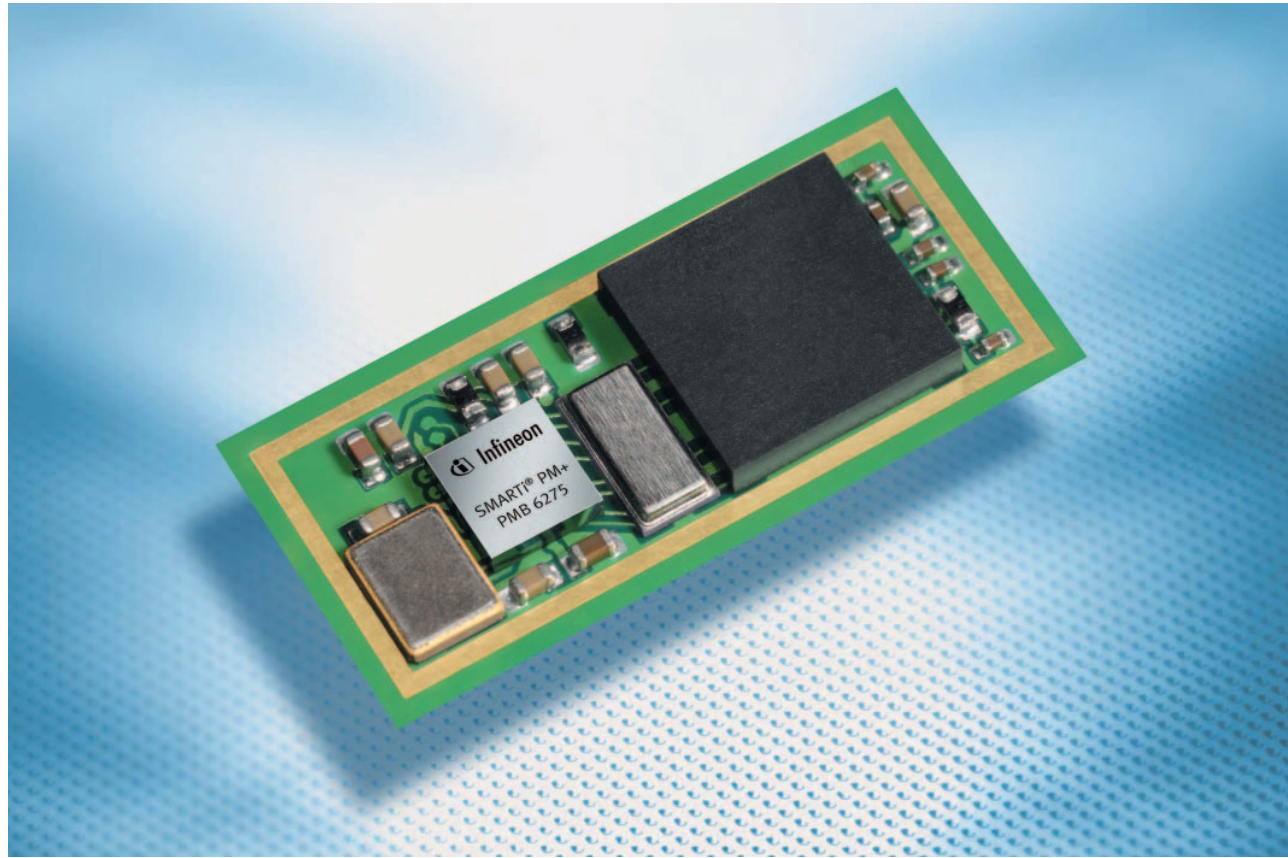
## Communication Solutions



Never stop thinking

## SMARTi PM+

Quadband Micro EDGE Radio System (PCB area < 100 mm<sup>2</sup>, 20 components)



### Applications

- GSM/EDGE single, dual, triple, and quad band Mobile Phones and Data Modems/PC cards

### Technologies

- 130 nm CMOS Technology
- Single Supply Voltage
- SG-VFWLB-47 package 3 x 3 mm<sup>2</sup>

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<http://www.infineon.com>

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