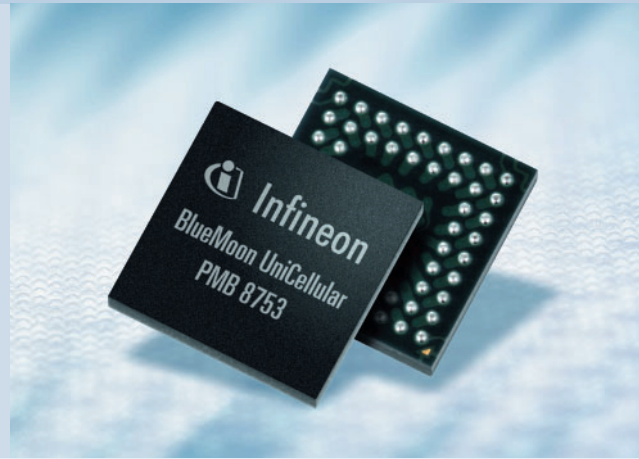# BlueMoon Universal

Next Generation Bluetooth Family

BlueMoon® UniCellular - HCI Single Chip supporting BT 2.0 Plus Enhanced Data Rate

THE NEW SINGLE CHIP PMB 8753 is BT 1.2 and BT2.0 + EDR compliant, offering mobile phones and other high volume applications a data throughput of up to 2.1 Mbit/s.

THE HIGH PERFORMING BlueMoon Unicellular offers outstanding range and audio quality. The excellent sensitivity and the proprietary audio error correction algorithm give the user high noise immunity and the longest class2 range available.

THE OPTIMIZED SYSTEM partitioning with Bluetooth® baseband implemented in embedded software in low cost ROM and patch RAM area give the user a low cost solution with high flexibility.

THE HIGH LEVEL of integration results in a very competitive solution footprint, requiring only a few external components. Reference design and design kit are available for quick and easy design-in.

Applications

- Mobile phones
- Mobile peripherals
- Data transfer
- Dial-up networking
- Synchronization
- Cordless telephony

Note: The Bluetooth word mark is owned by the Bluetooth SIG, Inc. and any use of this mark by Infineon Technologies AG is under license. The BlueMoon trade mark is owned by Infineon Technologies AG.

Key Features

- Bluetooth power class 2 (+6 dBm typical)
- Bluetooth 2.0 + EDR
  - Enhanced data rate up to 3 Mbit/s
  - Adaptive frequency hopping
  - Extended SCO (eSCO) support
  - Multiple SCO/eSCO links
  - Fast connection setup
  - Channel quality driven data rate
- Firmware up to HCI in integrated ROM
- Patch area in RAM for FW upgrades
- High RF sensitivity (-90 dBm @ 0.1% BER)
- Extended range, up to 8 times longer range then standard Bluetooth class 2
- Dynamic control of output power
- Class 1 prepared with control lines for external PA
- Adjustable UART and PCM interfaces
- WLAN coexistence interface
- Low power consumption
  - < 10 mA, 3-EV3, average during voice call
  - < 30 µA in low power mode
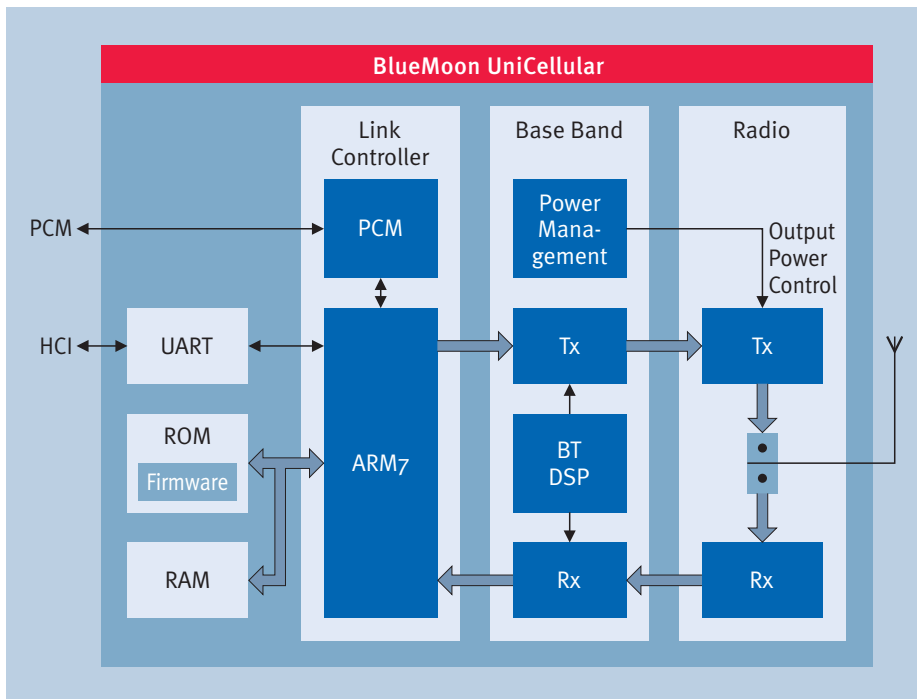- WFSGA-65 package 5 x 5 mm (RoHS compliant)

Key Benefits

- True single chip solution
- Enhanced data rate up to 3 Mbit/s
- Excellent RF performance
- Low power consumption
- Small solution footprint
- Superior audio quality with proprietary audio processing algorithm
- WLAN co-existence support
- Support for Crystal or external clock

www.infineon.com/bluetooth

Communication Solutions

Infineon

Never stop thinking

BlueMoon UniCellular

Link Controller
- PCM
- UART
- ROM
  - Firmware
- ARM7
- RAM

Base Band
- Power Management
- Tx
- BT DSP
- Rx

Radio
- Output Power Control
- Tx
- Rx

PCM · HCI

Block Diagram

- ARM7TDMI-STM ARM® CPU
- 0.13 µm CMOS technology
- HCI-FW in integrated ROM
- Patch RAM functionality
- Bluetooth 1.2, 2.0 & 2.0 + EDR
- Integrated antenna switch
- Only 7 external components

Interfaces

- High speed 3 and 4 wire UART- 3.25 MB
- Wake-up lines
- Dual bidirectional PCM
- I²C
- Control lines for external PA and switch (class 1 operation)
- Reference clock and low power clock
- GPIOs for key entries and LEDs
- 3-wire WLAN coex interface
- 50 Ω balanced Antenna interface

Type	Sales Code	Package
BlueMoon UniCellular	PMB 8753 J	PG-WFSGA-65
	PMB 8753 A	PG-WFSGA-65
Development Kit	BMU Kit	

Development Kit

The Development Kit is a complete platform for development and evaluation

- Host Controller Interface tool box software
- 1 pair of Evaluation boards
- USB, UART and PCM interfaces
- Reference design
- Documentation

Information
For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

Warnings
Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.