



Bluetooth Core IP EBCP Application Data mini

Bluetooth Core Product, one-processor solution,
data only, 1 slave, optimized for cost sensitive
applications



Key features

- Low power consumption
- Low processor load
- Ideal for integration of Bluetooth Baseband in custom circuits
- Supports 1 slave
- For one-processor applications
- Minimum solution for low requirement profiles

Target Products

- Games and accessories
- Home control devices
- Cordless mouse and joystick
- Computer accessories
- Industrial automation

Description

This product is the ideal Bluetooth™ Baseband Software and Hardware IP product for very low-cost and low-power applications. It is a one-processor solution enabling Bluetooth functionality in a great variety of products.

The concept is a mixed hardware and software solution. Some Baseband functions are implemented in hardware for optimal low-power operation.

ARM's support and knowledge will ensure portability to various silicon processes.

Proposed profiles

The software will only handle low data rates. This solution is recommended for low-requirement profiles used in cost-sensitive applications.

Development

The Licensee will be able to install and run a complete working system. A generic Design Simulation Model (DSM) of the ARM7TDMI is also supplied, so the deliverables include a complete working simulation system.

Qualification

The EBCP Application Data mini is considered to be a component and can therefore be pre-qualified. A reference design will be submitted to specific tests and a test report generated. In addition, there will be an Implementation Conformance Statement for the EBCP. This will therefore give seamless development and qualification for the SoC (System-on-Chip) developer.

Hardware Design

- Processor: ARM 7TDMI
- Bus: AMBA

Additional Required Modules

- FLASH memory
- RAM
- Bluetooth radio
- Oscillator and PLL



Hardware Architecture

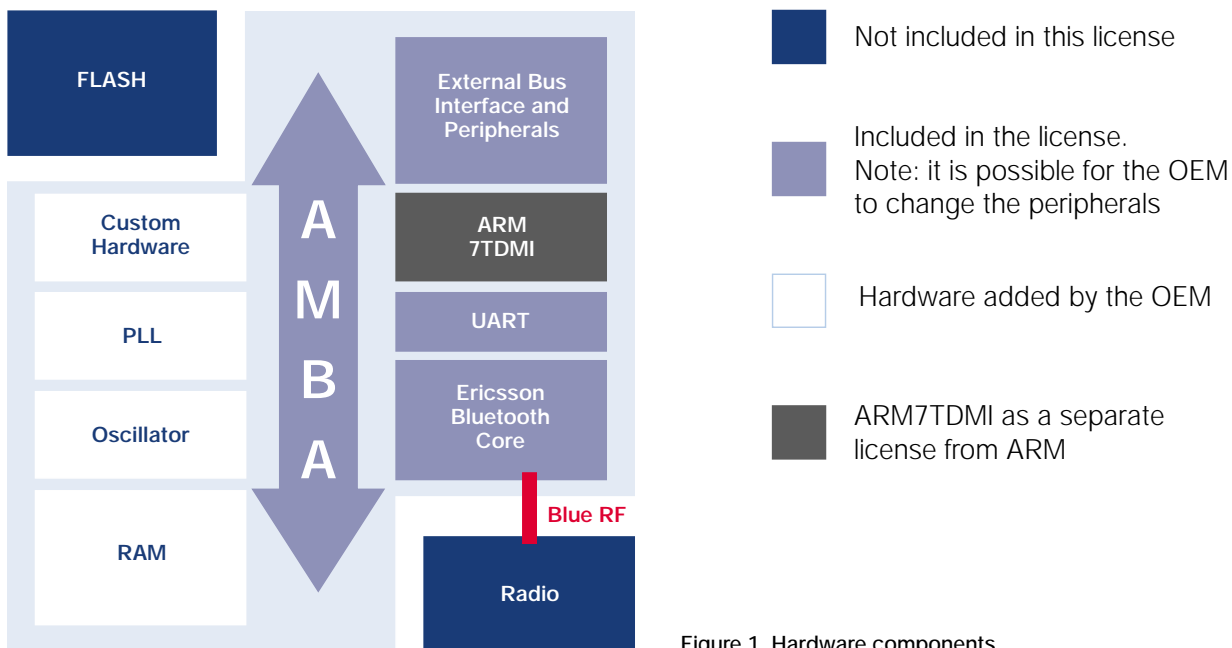


Figure 1. Hardware components



Deliverables

The licensable product (EBCP) complies with the Bluetooth Specification v 1.0 and consists of the following hardware and software components combined to implement a Bluetooth system:

Hardware comprises these two System-on-Chip components:

The Ericsson Bluetooth Core (EBC). This is a System-on-Chip communication peripheral macrocell which performs the baseband function.

A peripheral subsystem, which provides the hardware resources for the software. It allows a silicon vendor to realize a working micro controller (with the addition of their custom cells such as RAM, PLL, etc., and CPU).

Development boards:

Three boards are supplied.

Low-level software (or firmware):

Bluetooth real-time software which performs the Link Manager function. It includes a Real-Time Operating System (RTOS) as linkable libraries.

High-level software package for:

L2CAP, SDP and RFCOMM as linkable libraries.

Bluetooth test software (PC-Hosted)

Provides various test functions to test and exercise the Bluetooth link.

API

- Supports multi applications
- ARM BIOS for adding own drivers
- Provides access towards:
 - RFCOMM
 - L2CAP (for adding new layers)
 - SDP

Interface

- Blue RF

Software Architecture

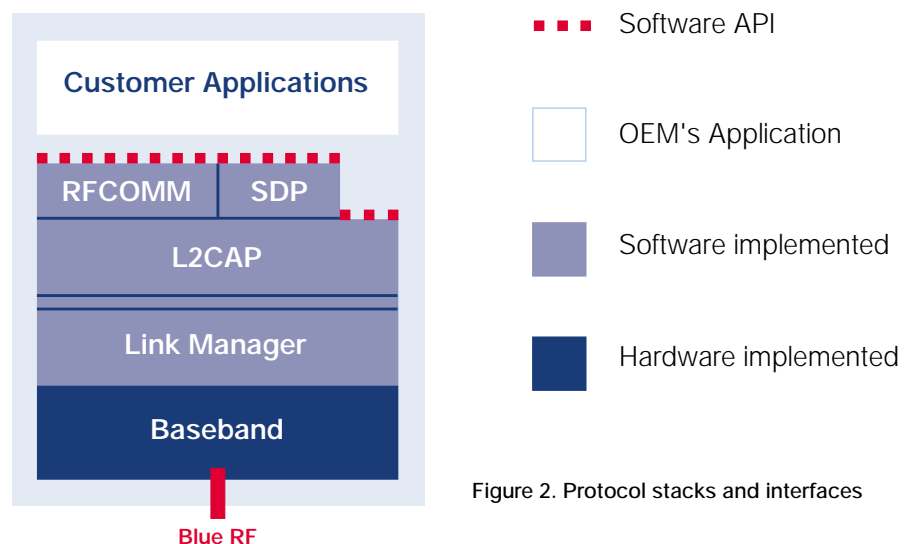


Figure 2. Protocol stacks and interfaces

Data

Hardware delivered as: _____ HDL code
Software delivered as: _____ Object code
Bluetooth Specification: _____ Release 1.0b
RTOS: _____ OSE
Code size: _____ < 200 Kbyte
RAM requirement: _____ 30 Kbyte
Gate count Bluetooth Baseband Core: _____ 50 K Gates
Silicon size Bluetooth Baseband Core: _____ 0.5 mm²*
Silicon size complete Baseband solution**: _____ ~2.5 mm²*
Current consumption Bluetooth Baseband: _____ TBD
Processor load: _____ below 50%
Protocol stacks and interfaces: _____ see figures

*) Silicon size in typical 0.18 mm process

***) With RAM, CPU and Baseband peripherals



Complementary Products

- Bluetooth PC reference stack. A Windows porting of the higher layers in the Bluetooth specification for lab/demo purposes only.

Shared Features

All members of the product family share the identical:

- API & Test Application

For more info see <http://bluetooth.ericsson.se>

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Product specifications are subject to change without prior notice.

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