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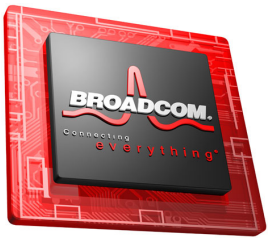
BCM2035 PRODUCT Brief



BLUETOOTH® SINGLE-CHIP HCI SOLUTION

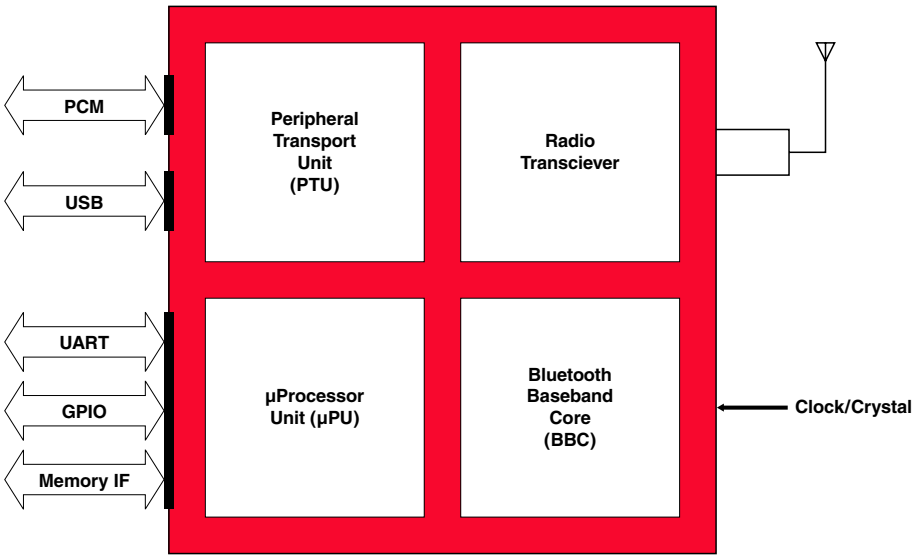
FEATURES

- **Highest available BT radio performance of any single-chip solution**
  - –90 dBm sensitivity
  - Programmable up to +7 dBm output power
- **A true single-chip solution**
  - Eliminates external flash memory and active components
- **World's smallest Bluetooth solution**
- **Low power consumption in both sleep modes and active operational modes**
- **Supports UART, USB, and PCM interfaces**
- **Bluetooth specification version 1.1 and 1.2 compliant supports class 2 and 3 applications**
- **Fractional-N frequency synthesizer supports any crystal or TCXO source from 12 MHz to 40 MHz**
- **Automatic calibration and frequency detection of crystal frequency**
- **Supports Bluetooth 1.2 features, including adaptive frequency hopping, fast connection, etc.**

SUMMARY OF BENEFITS

- **Maximizes range and simplifies system integration by providing exceptional output power and receiver sensitivity**
- **Achieves smallest board area requirements by minimal external BOM and smallest package size available today**
- **ROM-based solution with flexible code patching ensures fast integration**
- **Proven performance over industrial temperature ranges**
- **Applications**
  - Cellular and mobile communication devices
  - PDA and low-power embedded communication devices
  - PC and integration on PC mother board applications
  - Automotive and industrial applications
- **On chip voltage regulator lowers BOM requirements and provides additional power savings capability**
- **Package types available**
  - 100-pin fpBGA package (9 mm × 9 mm)
  - 104-pin fpBGA package (7 mm x 7 mm)
  - 71-pin LCSP package (5 mm x 6 mm)
  - 95-pin WSCSP package (4 mm x 5 mm)

BCM2035 Functional Block Diagram



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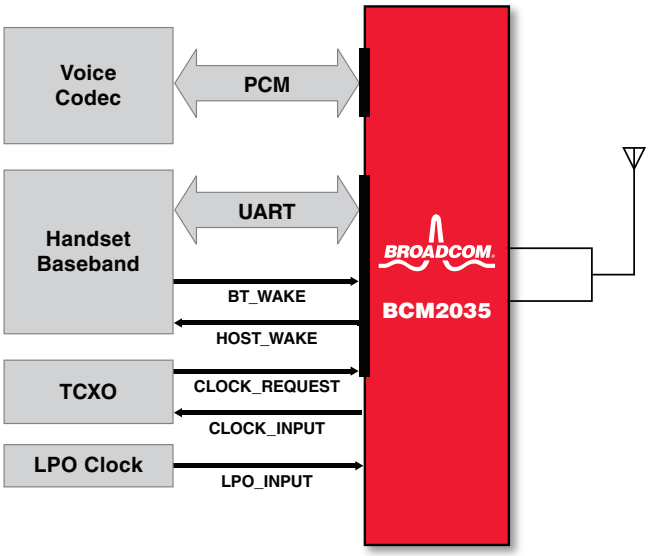
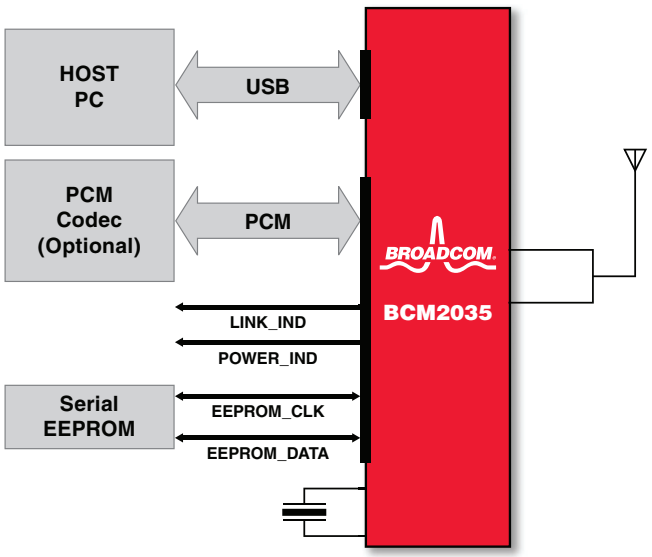
OVERVIEW



Mobile Phone Usage Model



PC Product Usage Model

The Broadcom BCM2035 is a monolithic, single-chip, stand-alone baseband processor with an integrated 2.4-GHz transceiver for Bluetooth 1.1 and 1.2 applications. It eliminates the need for external flash memories and active components by integrating critical components into the device, thus minimizing the footprint and system cost of implementing a Bluetooth system.

The BCM2035 is the optimal solution for any voice and/or data applications that requires the Bluetooth SIG standard Host Controller Interface (HCI) via either USB or UART and PCM audio interfaces.

The BCM2035 is based on the production and UnPlugFest proven architecture of the BCM2033 Bluetooth Baseband Core (BBC), Peripheral Transport Unit (PTU), and Microprocessor Unit (µPU). The µPU stores the lower level protocol stack in Read-only Memory (ROM) plus patch Random Access Memory (RAM) to provide the maximum flexibility.

The BCM2035 radio transceiver provides enhanced radio performance to meet the most stringent industrial temperature applications or the tightest integration into mobile handsets and portable devices.

The two usage modules show how the BCM2035 can be used in both USB and UART typical applications.

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