



BCM2037

PRODUCT Brief



BLUETOOTH® 2.0 EDR WIRELESS AUDIO PROCESSOR

FEATURES

- Single-chip Bluetooth 2.0 transceiver supporting enhanced data rate (EDR), backward compatible to BT 1.2 and BT 1.1
- High performance ARM7TDMI processor with 120 KB of on-chip SRAM eliminating need for external DSP
- Low-power 1.8V operation
- On-chip support for battery monitoring and charging control
- Fully configurable PCM and I²S interfaces with on-chip PLL to interface to a variety of high quality audio codecs
- Up to 28 fully configurable GPIOs to address applications with sophisticated user interfaces
- ZSound audio software package including application, upper layer stack with profiles and lower layer stack
- Available in 7x7 BGA package with integrated RF

SUMMARY OF BENEFITS

- **BT2.0 EDR enables:**
 - Lower power consumption
 - Multilink stereo
 - Increasingly complex BT systems
 - Lower latency
 - Improved robustness
- **1.8V operation:**
 - Longer play and talk time
- **High quality:**
 - Near CD quality streaming stereo
 - Choice of best-in-class stereo codecs
- **Low cost:**
 - Single-chip Bluetooth transceiver
 - Integrated RF, battery monitor, and charging controls

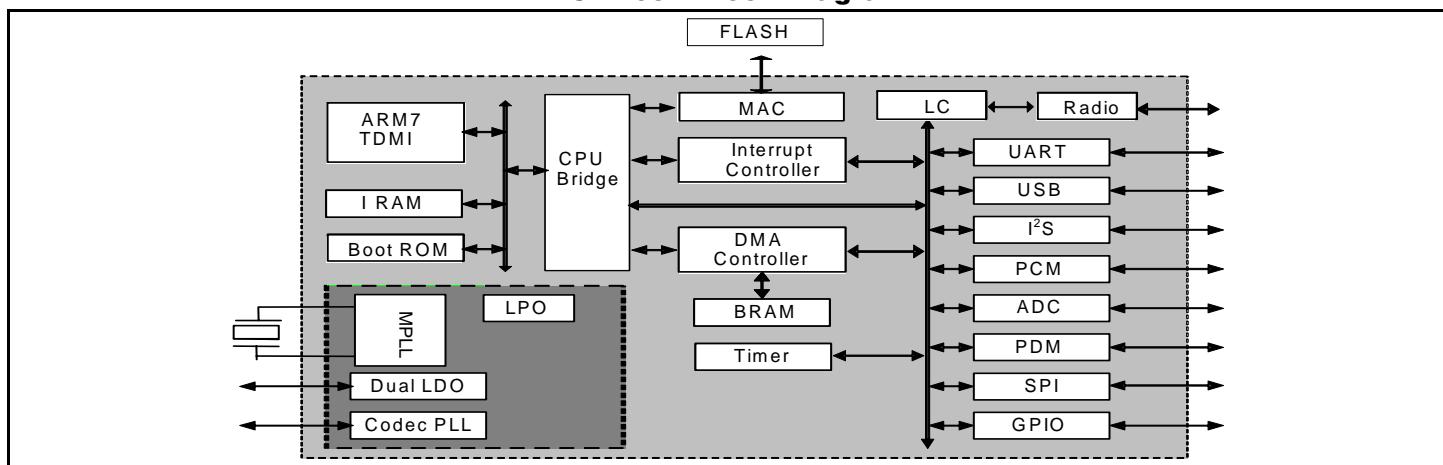
Time-to-market:

- HW reference designs for common wireless audio applications
- Includes ZSound software suite

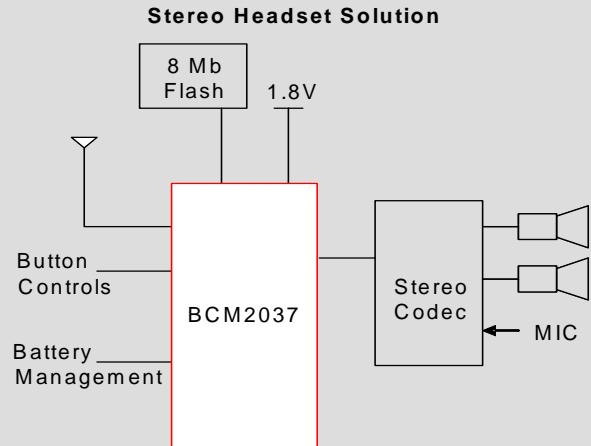
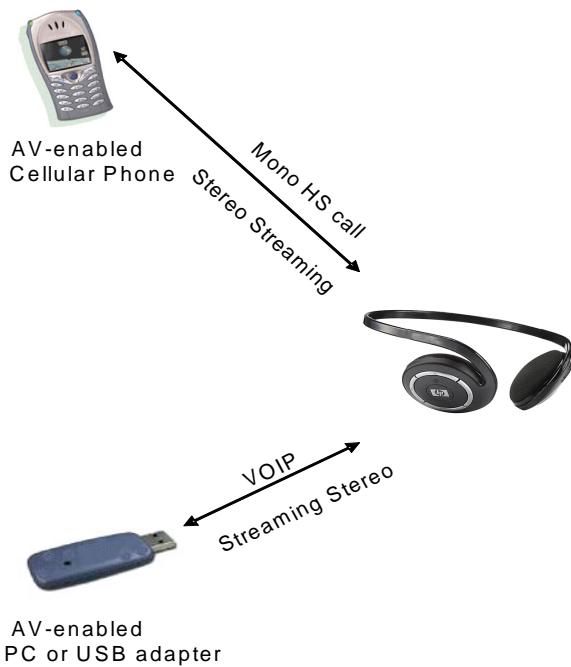
APPLICATIONS

- Wireless headphones (stereo)
- Wireless stereo headsets (stereo plus mono)
- Mono headsets
- Stereo line-in adapters
- Portable audio devices
- Stereo speakers

BCM2037 Block Diagram



OVERVIEW



The BCM2037 enables low-cost, low-power stereo audio solutions making it ideal for stereo headsets, plug-and-play USB adapters, and analog line-in adapters. Used in conjunction with a high quality external stereo codec, the BCM2037 solution delivers end-to-end streaming digital stereo at near CD audio quality. In addition, support for the remote control profile (AVRCP) allows a stereo headset to control a variety of remote music sources.

The BCM2037 is capable of transmitting using enhanced data rate (EDR) permitting lower power, increased robustness, and lower latency as compared to BT1.2-based audio solutions. Additional bandwidth of EDR enables complex Bluetooth environments with multiple active Bluetooth devices and provides support for multiple simultaneous stereo links.

A stereo headset combining mono and stereo functions can be accomplished by combining the BCM2037 with a codec that has stereo output and MIC input. An audio gateway can be implemented by combining the BCM2037 with a codec that has stereo outputs and stereo inputs. A USB plug-and-play adapter can be implemented without using a codec by using the built-in USB interface on the BCM2037.

The BCM2037 can be bundled with ZSound, a complete production-ready, qualified software package including starting applications, Bluetooth profiles, and protocol stack, facilitating time-to-market. This complete solution makes the BCM2037 an excellent choice for a wide variety of wireless audio applications.

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