



## SINGLE-CHIP BLUETOOTH® MONO HEADSET IC

### FEATURES

- Single-chip Bluetooth® 2.1 + EDR solution in 0.13 um CMOS
- High-performance ARM7TDMI® processor
- On-chip ROM containing complete headset application and protocol stack based on Widcomm® BTE-Audio
- Integrated switching regulator
- Integrated battery charger
- Integrated high-quality mono codec
- Low-power operation
- 6 mm x 6 mm plastic FBGA RoHS lead-free package
- Rich application configuration capability permitting differentiation

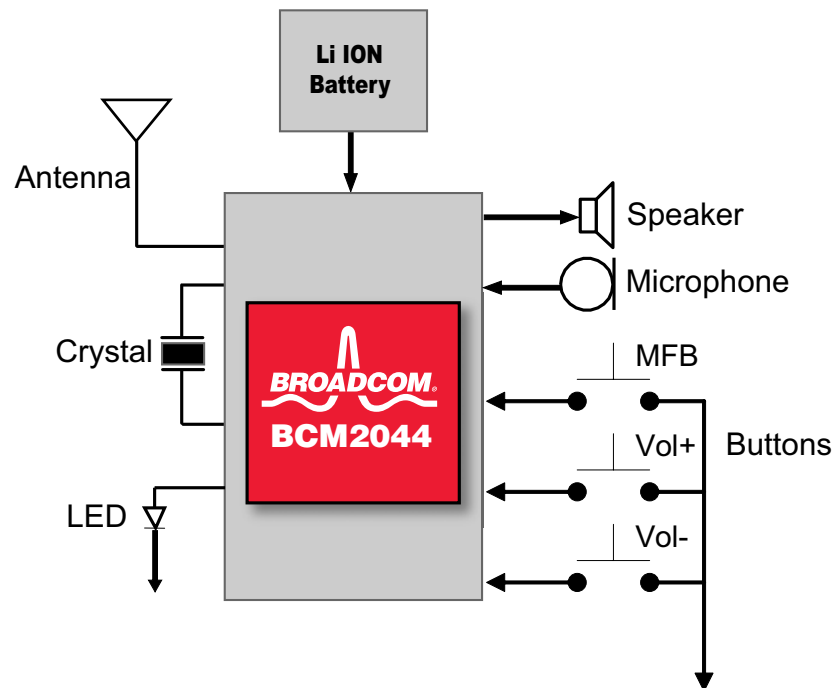
### SUMMARY OF BENEFITS

- Single-Chip headset in 0.13u enabling the lowest cost mono headset solutions
- Best-in-class RF performance for longest range and ease of system integration
  - Superior receiver sensitivity
  - Integrated balun
  - Bluetooth 2.1 + EDR
- Low active and stand-by power consumption
- Small footprint enabling very small headsets

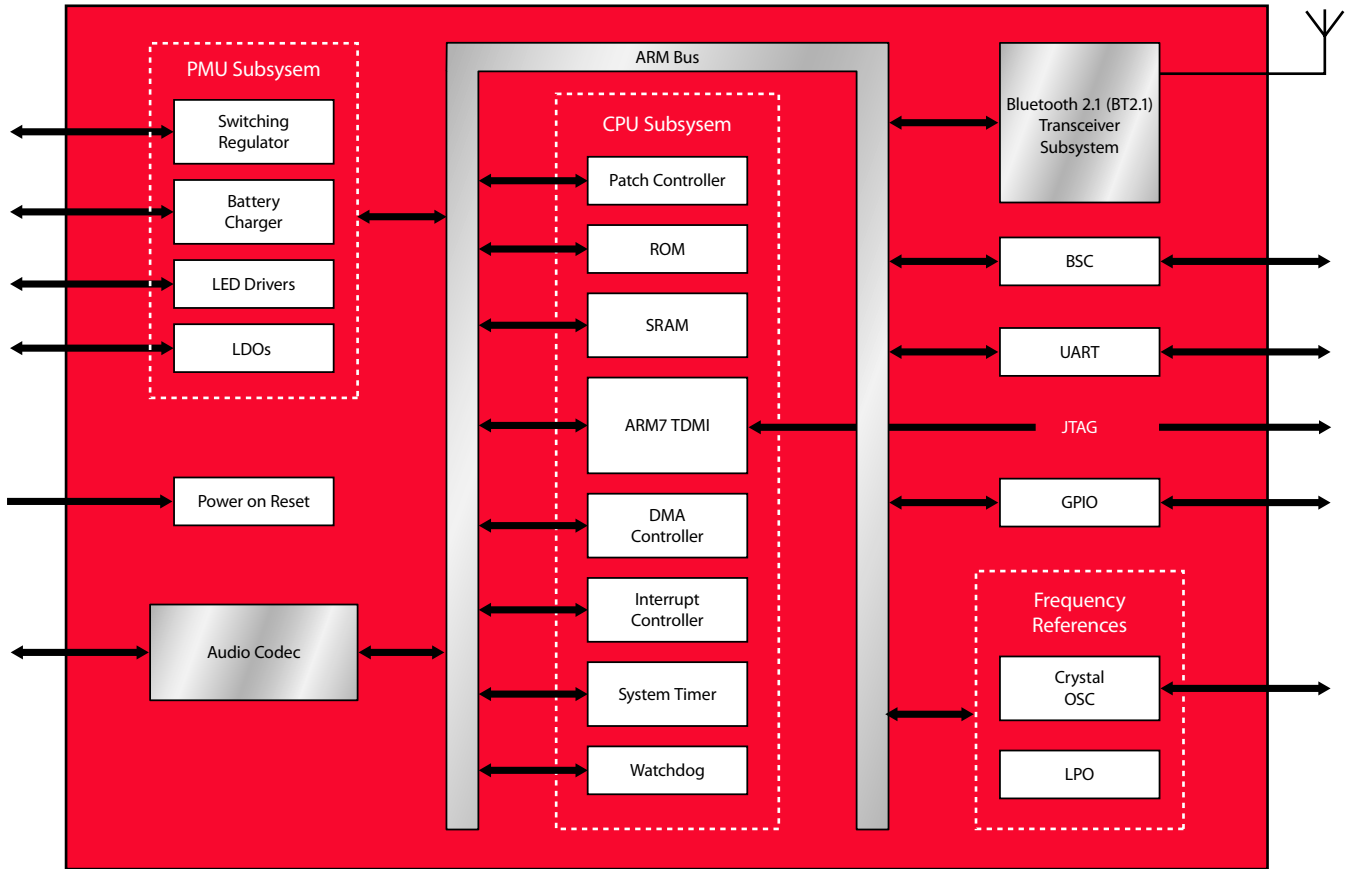
### APPLICATIONS

- Mono headset connected to cellular phone
- VoIP headset connected to PC

### Mono Headset Applications



# OVERVIEW



## BCM2044 Block Diagram

The Broadcom BCM2044 is a monolithic 0.13 um, single-chip Bluetooth 2.1 + EDR mono headset solution with very low power consumption. This ROM solution has been designed to permit the lowest possible BOM for low-end mono headsets. The ROM contains a default application built on top of the highly interoperable Widcomm BTE-Audio Stack. Sophisticated configurability has been built into the default application allowing customers to differentiate. A small patch RAM space is also provided for last minute code changes prior to production.

The BCM2044 transceiver subsystem delivers a highly integrated radio with superior receiver sensitivity. The performance of this subsystem enables greater range and more robust link performance.

The BCM2044 power management subsystem offers the highest level of integration. This subsystem includes the switching regulator, battery charger, LED drivers, and simple battery monitor. The BCM2044 also employs multiple internal LDO regulators for improving isolation, thereby maintaining high radio performance and excellent audio quality.

The audio interface subsystem integrates a very high performance audio codec operating at 8 kHz or 16 kHz resulting in superior speech quality.

The BCM2044 is packaged in 6 mm x 6 mm fine pitch BGA plastic package permitting either ultra-low cost 4-layer PCB implementations or ultra-small footprint implementations.

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