Marvell 88MB300 Bluetooth Microcontroller

Bluetooth 4.2 Low Energy (LE) Dual Mode System-on-Chip (SoC)

PRODUCT OVERVIEW

The Marvell® 88MB300 Bluetooth microcontroller is a fully integrated system solution with low raw bill of materials (RBOM) cost and small printed circuit board (PCB) footprint, making it the ideal choice for OEMs looking to bring next-generation Internet of Things (IoT) applications to market quickly and cost effectively.

It is also the industry's first highly integrated, single-chip Bluetooth 4.2 network processor enabling longer battery life and lower production costs for a wide range of IoT applications such as wearables, remote control, smart home appliances, automotive and wireless speakers. The low-power, energy efficient chip delivers longer runtime and features integrated audio codec, touch sensing, and integrated microcontroller unit (MCU). It also boasts more than 200KB of user space for customized applications.

KEY FEATURES

• Cortex M3 (32-bit) @ 128Mhz	• Integrated power management
• Bluetooth 4.2 + LE dual-mode	• Integrated PA/LNA/Switch with single-ended RF
• Embedded profiles: HID, HOGP, and more	• Integrated voice codec
• Sensor connectivity	• I2S/PCM, 2 x I2C, 2 x UART interfaces, 2 x SSP/SSI and up to 32 GPIOs

TARGET APPLICATIONS

The Marvell 88MB300 features advanced flexibility for a multitude of applications:

- Smart home appliances
- Lighting control
- Automotive
- Wearables
- Home/building automation
- Remote control
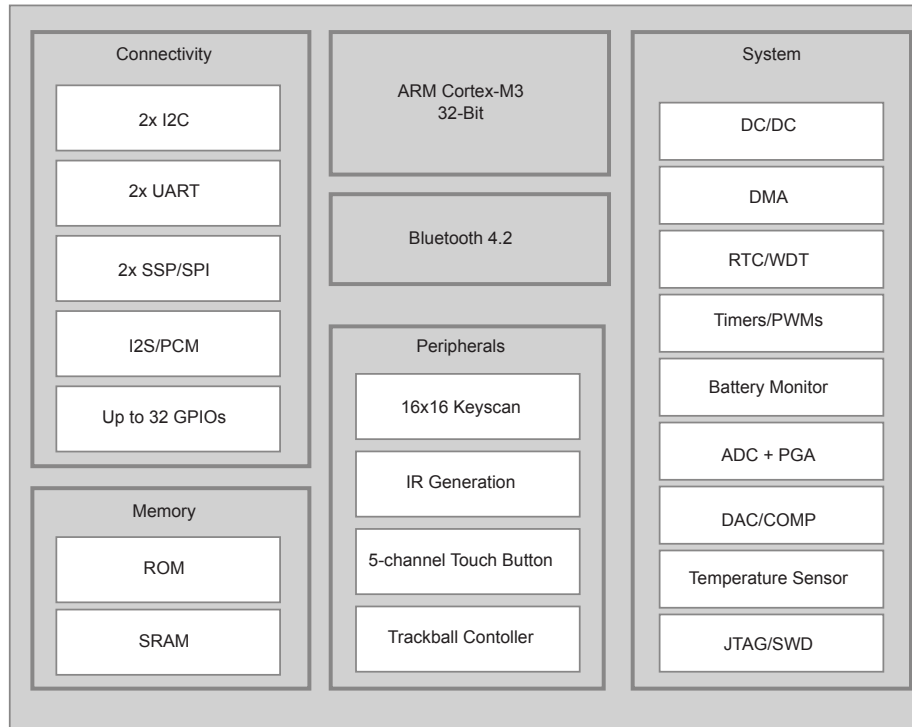- Health care
- Wireless speakers

BLOCK DIAGRAM

Connectivity	ARM Cortex-M3 32-Bit	System
2x I2C		DC/DC
2x UART	Bluetooth 4.2	DMA
2x SSP/SPI		RTC/WDT
I2S/PCM	Peripherals	Timers/PWMs
Up to 32 GPIOs	16x16 Keyscan	Battery Monitor
Memory	IR Generation	ADC + PGA
ROM	5-channel Touch Button	DAC/COMP
SRAM	Trackball Contoller	Temperature Sensor
		JTAG/SWD

Fig 1. Marvell 88MB300 Bluetooth Microcontroller

THE MARVELL ADVANTAGE: Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

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