QUALCOMM®

CSRB534x

Qualcomm®
BlueCore™ Series

CSRB534x

BlueCore platform with dual-mode turnkey SoCs for wireless gaming accessories and embedded modules for IoT

Configurable Bluetooth® dual mode SoCs enable developers to bring differentiated IoT products to market quickly
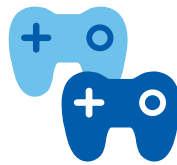
The BlueCore CSRB534x series of dual-mode SoCs (System-on-Chip) features a rich Bluetooth v4.1 compliant platform and offers a powerful, versatile and cost-effective solution, making it ideal for a variety of next generation wireless and VR (virtual reality) gaming accessories and embedded modules.

The CSRB534x dual-mode differentiated platform is designed to support devices that need to connect to both Bluetooth BR/EDR (basic rate/enhanced data rate) and Bluetooth LE (Bluetooth low energy). These dual-mode SoCs provide enhanced connection topologies to improve smart device support and accessory support. This is combined with a powerful array of embedded system blocks including an 80MHz processor, DSP, large I/O for sensor-rich connection, ROM memory array, direct LED drive, and analog and power management.

The CSRB534x highly integrated package with ultra-low power operation allows for significant bill of materials (BoM) savings and optimum design flexibility. The dual-mode CSRB534x platform meets the needs of a wide range of IoT applications including wireless game pads, VR game pads, toys, industrial and home automation, EPOS, data loggers, barcode readers, metering devices and systems with large interface requirements, such as keyboards.

Solution Highlights

Dual-mode Bluetooth for powerful, versatile and cost-effective solutions.

The CSRB5341 and CSRB5342 are ideal for a variety of next generation wireless and VR gaming accessories and controllers, HIDs and embedded modules.

Ultra-low power operation for optimal battery life

The CSRB534x platform is Bluetooth v4.1 qualified and makes use of a highly efficient baseband, so that system level power consumption is minimized, giving optimized performance with minimum development effort.

Peripheral rich for design flexibility

The BlueCore platform comes with 22 fully configurable digital I/O and 22 analog I/O, ensuring feature rich designs along with embedded ROM, RAM and the option for memory expansion with a serial Flash memory interface.

Tools for rapid development

The powerful Software Development Kit (SDK) for CSRB534x helps accessory developers of various operating systems to bring products to market quickly. It includes Android and PC support and integrates SPP and SPP over GATT.

IoT Applications

Gaming Accessories

Virtual Reality Accessories

Keyboards/HID Devices

Dual-mode Bluetooth Modules

Wireless Toys

Remote Controls

Bluetooth®

Features

- Integrated application processor with internal ROM, a power management subsystem and LED drivers in a SoC IC
- Programmable DSP for exclusive use of customer applications
- 22 programmable digital I/O & 22 analog I/O
- Optional serial flash interface
- On-chip balun (50Ω impedance in TX and RX modes)
- Integrated 1.35V switch-mode regulator
- All internally required regulators integrated on chip
- Integrated Lithium ion battery charger with instant-on (CSRB5342/5348 only) or dry-cell battery technology (CSRB5341)
- Dedicated SDK includes xIDE and market leading Bluetooth stack
- OTA/USB updates for future proofing products
- 7 hardware PWM controllers, 4 on dedicated LED pads
- Keyscan hardware
- Requires minimum external components

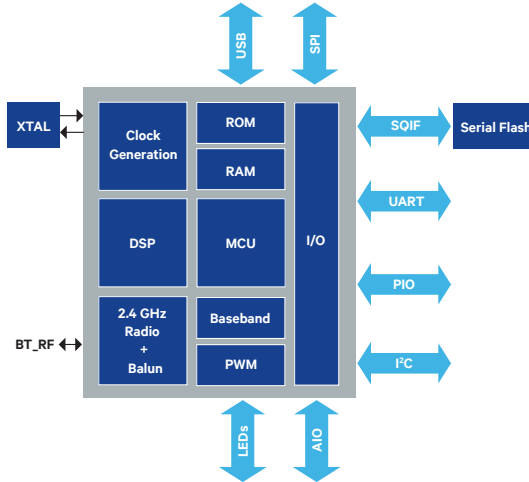| Product	Part Number
CSRB5341 QFN	CSRB5341A11-IQQU-R
CSRB5342 QFN	CSRB5342A11-IQQU-R
CSRB5342 BGA	CSRB5342A11-IBVE-R
CSRB5348 BGA	CSRB5348A11-IBVE-R

Related Products

CSRB534x Dev Kits
Qualcomm® CSR101x family
CSRmesh™ Dev Kit

Products of Qualcomm Technologies International, Ltd.

To learn more visit:
qualcomm.com or
developer.qualcomm.com

CSRB534x Block Diagram

CSRB534x Specifications

Bluetooth Version	Bluetooth v4.1 specification compliant
Package	6 x 6 x 1mm, 0.5mm pitch, 105-ball BGA (CSRB5348/5342)
	10 x 10 x 0.9mm, 0.4mm pitch, QFN88 (CSRB5341/5342)
MCU	80MHz embedded RISC co-processor
DSP	40MHz, 24-bit embedded DSP
Memory	8Mb internal ROM, 56KB RAM
	External SQIF support up to 64Mb
Bluetooth TX/RX	9.0dBm RF transmit power with level control from on-chip
	6-bit DAC over a dynamic range >30 dB
	-90 dBm receive sensitivity
	Integrated channel filters
	No external power amplifier or TX/RX switch required
Interfaces	UART, I^{2}C, SPI, USB 2.0
	Up to 22x PIOs
	22x AIOs (can be configured as digital I/O as required)
	SPI debug and programming interface
	7x PWM blocks: 4 dedicated to LED[3:0] 3 assignable to PIO
	1x digital microphone channel (CSRB5342/5348)
Power Consumption	Standby: <0.15 mA, Operating: <1 mA
Operating Voltage	1.8V / 2.8V / 3.2V configurable LDO linear regulator
Operating Temperature	-20°C to +70°C (CSRB5341/5342)
	-40°C to +85°C (CSRB5348)

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