Features

- 80MHz RISC MCU and 80MIPS Kalimba DSP
- Internal ROM, serial flash memory and EEPROM interfaces
- Stereo codec with 2 microphone inputs
- Radio includes integrated balun
- 5-band fully configurable EQ
- CSR's latest CVC technology for narrowband and wideband voice connections including wind noise reduction
- Wideband speech supported by HFP v1.6 profile and mSBC codec
- Voice recognition support for answering a call, enables true hands-free use
- Multipoint HFP connection to 2 phones for voice
- Multipoint A2DP connection enables a headset (A2DP) connection to 2 A2DP source devices for music playback
- Secure simple pairing, CSR's proximity pairing and CSR's proximity connection
- Audio interfaces: I²S and PCM
- Serial interfaces: UART, USB 2.0 (full-speed), I²C and SPI
- aptX, SBC, MP3 and AAC decoder support
- Wired audio support (USB and analogue)
- Support for smartphone/tablet applications
- Integrated dual switch-mode regulators, linear regulators and battery charger
- External crystal load capacitors not required for typical crystals
- 3 LED outputs
- 68-ball VFBGA 5.5 x 5.5 x 1mm 0.5mm pitch
- Green (RoHS compliant and no antimony or halogenated flame retardants)

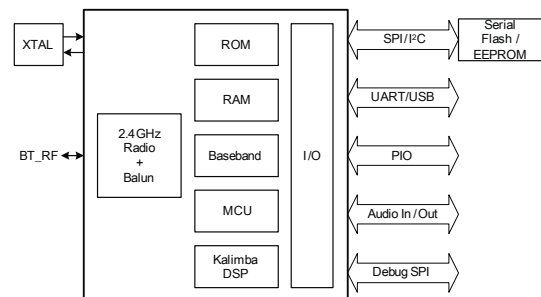# BlueCore® CSR8645™ BGA

CSR8645 Stereo ROM Solution with aptX™

2-mic CVC Audio Enhancement

Fully Qualified Single-chip Bluetooth® v4.1 System

Production Information

CSR8645A04

Issue 1

General Description

BlueCore® CSR8645™ BGA is a product from CSR's Connectivity Centre. It is a single-chip radio and baseband IC for Bluetooth 2.4GHz systems including basic rate and EDR to 3Mbps.

The integrated peripherals reduce the number of external components required, including no requirement for external codec, battery charger, SMPS, LDOs, balun or external program memory, ensuring minimum production costs.

The battery charger architecture enables the CSR8645 BGA to independently operate from the charger supply, ensuring dependable operation for all battery conditions.

Applications

- Stereo headsets
- Wired stereo headsets and headphones
- Portable stereo speakers

The enhanced Kalimba DSP coprocessor with 80MIPS supports enhanced audio and DSP applications.

The integrated audio codec supports 2 channels of ADC, 2 digital microphone inputs and stereo output, as well as a variety of audio standards.

See *CSR Glossary* at www.csrsupport.com.

1 Ordering Information

Device	Package			Order Number
	Type	**Size**	**Shipment Method**	
CSR8645 Stereo ROM Solution with aptX	VFBGA-68-ball (Pb free)	5.5 x 5.5 x 1mm 0.5mm pitch	Tape and reel	CSR8645A04-IBBC-R

Note:

CSR8645 BGA is a ROM-based device where the product code has the form CSR8645Axx. Axx is the specific ROM-variant, A04 is the ROM-variant for CSR8645 Stereo ROM Solution with aptX.

Minimum order quantity is 2kpcs taped and reeled.

Supply chain: CSR's manufacturing policy is to multisource volume products. For further details, contact your local sales account manager or representative.

1.1 Contacts

General information	www.csr.com
Information on this product	sales@csr.com
Customer support for this product	www.csrsupport.com
Details of compliance and standards	product.compliance@csr.com
Help with this document	comments@csr.com

Document History

Revision	Date	Change Reason
1	3 APR 14	Original publication of this document.

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Refer to www.csrsupport.com for compliance and conformance to standards information.