Premium tier Bluetooth® audio flash platform with support for Qualcomm® aptX™ HD Audio and active noise cancellation*

CSR8675 is a premium tier single-chip solution in our CSR86xx Bluetooth audio SoC portfolio designed to deliver high quality wireless audio performance and support development of highly differentiated premium wireless audio products.

CSR8675 is part of the CSR86xx portfolio, a range of silicon platforms for wireless audio applications which integrate a dual-mode Bluetooth radio, a low power DSP, an application processor, a battery charger, memory and various audio and hardware interfaces into a single-chip solution.

The CSR8675 SoC also integrates a dedicated active noise cancellation* block for earbud and headphone applications, and a 120Mhz Qualcomm® Kalimba™ DSP, which allows support for 24-bit audio over Bluetooth and aptX HD making it an ideal choice for premium audio products.

There is comprehensive Audio Development Kit (ADK) software for CSR8675 which includes Bluetooth applications, voice and music technologies and tuning tools for reference headset and speaker applications and supports developers with greater differentiation capabilities in a single-chip design.

* Available via separate software download. Requires ADK software and separate licenses. (Subject to change)
Home Entertainment

Features

- Bluetooth version 4.2 compliant
- 120 MHz programmable Kalimba DSP with integrated multipoint A2DP and HFP audio applications
- aptX, aptX Low Latency, aptX HD, MP3, AAC and SBC audio codecs
- 2-mic Qualcomm® cVc™ 8th Generation Noise Cancellation Technology with wideband speech
- Audio tuning suite with audio enhancements and two 5-band EQs
- GAIA V2 and associated Android & iOS example apps for enhanced connectivity with mobile devices
- Link Layer Topology support for enhanced multi-device co-existence
- Qualcomm TrueWireless™ Stereo
- Two I^2S ports for enhanced audio connectivity capabilities with external components
- Support for Apple MFi\(^1\) & Apple ANCS for enhanced communication with iOS devices
- Qualcomm\(^{\text{®}}\) meloD™ Audio Processing stereo widening technology
- Compatible with third party solutions available from selected eXtension Program members

---

To learn more visit: qualcomm.com

CSR8675 Block Diagram

**Bluetooth Audio Flash Applications**

- Speakerphones
- Stereo Speakers
- Stereo Headphones
- Stereo Headsets
- Wireless Earbuds
- Soundbars

**CSR8675 Specifications**

**Bluetooth**
- Integrated dual-mode radio and balun (50 Ω)
- -90dBm receiver sensitivity; +10dBm transmitter
- Bluetooth v4.2 firmware
- Support for various profiles including: HFP 1.6, A2DP 1.3, AVRCP 1.6, HOGP 1.0, FMP 1.0, PXP 1.0, BAS 1.0, TPS 1.0

**MCU**
- 80MHz programmable RISC processor

**Audio**
- Programmable 24-bit fixed-point 120MHz Kalimba DSP
- 2x single-cycle MACs; 24 x 24-bit multiply & 56-bit accumulator

**Battery Support & Power Management**
- Li-Ion battery charger supporting up to 200mA
- 2x high-efficiency switch-mode regulators with 1.8V and 1.35V outputs from battery supply

**Audio Interfaces**
- Stereo 24-bit ADC; up to 96kHz sampling frequency
- Stereo 24-bit DAC; up to 192kHz sampling frequency
- Microphone inputs: up to 2x analog & 6x digital (MEMS)

**Physical Interfaces**
- 2x PCM/I^2S & 1x SPDIF with 24-bit support
- Up to 29x PIOs, including 14x GPIOs, USB2.0, I^2C, SPI, UART, 3x LED controllers; support for up to 6x touch sensor inputs

**Memory**
- Integrated 16Mb programmable flash memory with support for up to 64Mb external SPI FLASH
- 56kB system MCU RAM
- 64k x 24-bit data & 12k x 32bits program memory for DSP

**Packaging**
- 6.5 x 6.5 x 1mm, 0.5mm pitch 112-ball VFBGA or 4.84 x 4.84 x 0.6mm, 0.5mm pitch 79-ball WLCSP

---

\(^{1}\) Customer will need an MFi license.