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CSR8670 Bluetooth Audio SoC

Embedded Flash Solution for Bluetooth Audio Applications

The CSR8670 SoC is an audio system-on-chip (SoC) solution with wireless connectivity, embedded flash memory and integrated capacitive touch sensors, enabling the creation of featur....

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Specifications

DSP

DSP Technology: Qualcomm® Kalimba™ DSP

DSP Clock Speed: 80 MHz

MCU

MCU Clock Speed: 80MHz

Bluetooth

Bluetooth Version: Bluetooth 5.0¹

Bluetooth Radio: +10dBm maximum output power (typical), -90dBm receiver sensitivity (basic rate, typical)

USB

USB Version: USB 2.0 (Full Speed)

USB Support: Supports USB charger detection

General Audio

Audio Technology: Qualcomm TrueWireless™ Technology, Qualcomm® Broadcast Audio technology, Qualcomm® aptX™ audio technology, Qualcomm® cVc™ audio technology, 16 bit audio data path

Qualcomm® aptX™ audio playback support: Qualcomm® aptX™, Qualcomm® eXtension program

Audio Playback

Channel output: 2 analog DAC channels²

Sampling, Playback: 192kHz

Audio Recording

Microphone: 2 microphone bias generators, 2 analog mics, Up to 6 digital mics

Sampling, Record: Up to 192kHz/24bit

Power Management

Maximum Input Voltage: 3.3V

Charging

Maximum Current: 200 mA on chip, 500 mA with external

transistor

Memory

Flash: 16 MB, Up to 64 MB external flash

RAM: 56 KB RAM

Interface

Supported Interfaces: Master I²C, 1x SPDIF, 1x PCM/I²S, UART

Input/Output

ADC: 2 ADCs

DAC: 2 DACs

Maximum PIOs: 29

PWM (LED): 3

Input

Touch Sensor Inputs: 6 touch sensor inputs

Package

Package Type: VFBGA, WLCSP

Pitch: 0.5mm Pitch

Package Size: 4.7 x 4.8 x 0.6 mm³, 6.5 x 6.5 x 1 mm⁴

1. Qualified up to Bluetooth 5.0 standard.
2. Up to 192kHz sample rate
3. WLCSP
4. VFBGA



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