



Speakers-on-a-Chip Wideband Full Duplex Stereo Speakerphone SoC

CX20663

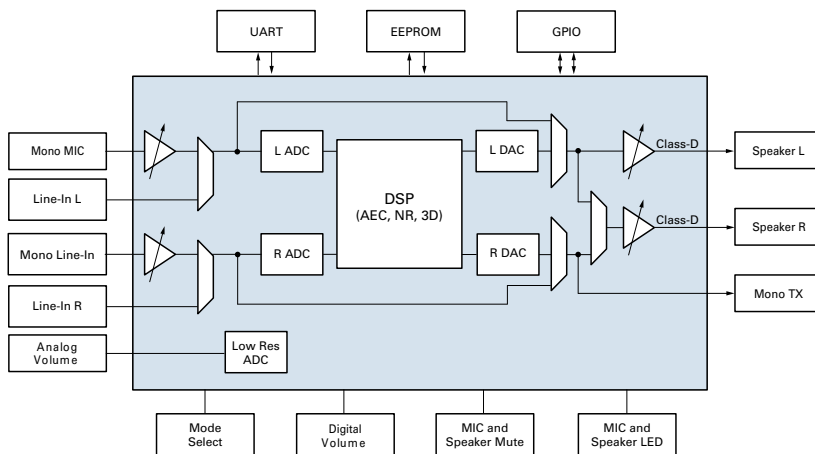
Conexant's portfolio includes a comprehensive suite of semiconductor solutions for communications and consumer applications.

The CX20663 stereo speakerphone System-on-Chip (SoC) is one of Conexant's Speakers-on-a-Chip (SPoC) solutions. The SPoC integrates the functionality of a Digital Signal Processor (DSP), audio codec, programmable microphone boost, and Class-D amplifier in one cost-effective 48-pin Quad Flat-No Lead (QFN) package. The proprietary low cost on-chip DSP performs wideband full-duplex hands-free speakerphone and stereo music applications. The CX20663 eliminates the need for a multi-chip reference design, and makes it easy and cost effective for audio designers to design convergence products for high quality audio and voice applications.

The device features dual integrated codecs, hardware Acoustic Echo Cancellation (AEC) DSP, Noise Reduction (NR), 3D Audio Effects, microphone boost, headphone driver and Class-D amplifier. The SPoC eliminates the need for an external speaker amplifier and has low external Bill of Materials (BOM) for speaker output. This turnkey solution can be integrated with any analog audio system to deliver high quality music and hands-free speakerphone functionalities.

For smart phone docking systems, the CX20663 can be operated to switch from speakerphone mode to stereo music playback mode enabling MP3 music entertainment functionality. The SPoC features several effects that significantly enhance stereo music playback, including 3D Audio Effects. Using Conexant's proprietary psychoacoustic technologies, 3D Audio Effects immerses the user with sound and gives the user a closer to live listening experience.

Conexant's SPoC solution provides the technology platform to make the convergence of audio entertainment and voice communication a reality.



CX20663 Block Diagram



Distinguishing Features

- Wideband acoustic echo cancellation DSP engine exceeding TIA 920 requirement
- Integrated 1.2W Class-D stereo amplifier, filterless output with selectable gains
- AEC DSP tuning parameters
- 3D Audio Effects
- Microphone noise reduction filter
- Voice activity detection with comfort noise
- Speech-trained acoustic echo cancellation
- Fast convergence trained from half duplex to full duplex
- Power saving mode
- UART MCU interface

Part Number CX20663

Description Speakers-on-a-Chip Wideband Full Duplex Stereo Speakerphone SoC



CX20663 Features

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- Dual integrated codecs
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- Microphone noise reduction filter
- Power saving mode
- UART MCU interface
- Analog volume control
- Digital volume up/down control
- Headphone/Line driver
- Mic Mute
- Mic Boost 10, 20, 30, 40 dB
- 48-pin QFN
- Speaker Mute

Applications

- Smart Phone Docking Systems
- Intercom systems
- Full duplex hands-free telephony

Ordering Information

Description	Part Number	Package	Order Number
CX20663	CX20663-08Z	48-pin QFN	DSAC-L663-08Z
Evaluation Kit			CX20663-EVK

Conexant Product Portfolio

Conexant's comprehensive product portfolio includes solutions for imaging, audio, and video applications, and analog modems that enable cost-effective Internet access. The company's broadband access products include end-to-end solutions for xDSL networks, and PON solutions for fiber optic applications.

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