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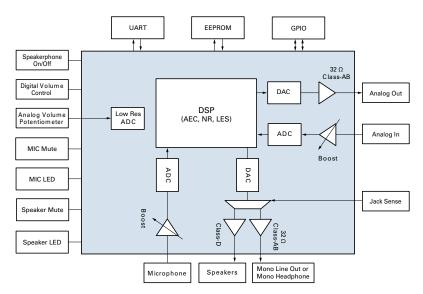# Speakers-on-a-Chip Wideband Full Duplex Mono Speakerphone SoC

CX20662

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

The CX20662 speakerphone System-on-Chip (SoC) is one of Conexant's Speakers-on-a-Chip (SPoC) solutions with the proprietary low cost on-chip Digital Signal Processor (DSP) performing wideband full-duplex hands-free speakerphone applications. The SPoC integrates the functionality of a DSP, audio codec, programmable microphone boost, and Class-D amplifier in one cost-effective 40-pin Quad Flat-No Lead (QFN) package.

The device features dual integrated codecs, a hardware Acoustic Echo Cancellation (AEC) DSP, Line Echo Supression (LES), Noise Reduction (NR), microphone boost, headphone driver and Class-D amplifier. The device 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 hands-free speakerphone function.

Applications

- Intercom systems
- Telepresence Webcam with speakerphone
- Full duplex hands-free telephony

CX20662 Block Diagram

Distinguishing Features

- Wideband acoustic echo cancellation DSP engine exceeding TIA 920 requirement
- Line echo suppression
- Integrated 600mW Class-D amplifier, filterless output wth selectable gains
- AEC DSP tuning parameters
- Voice activity detection with comfort noise
- Speech-trained acoustic echo cancellation
- Microphone noise reduction filter
- Power saving mode
- Fast convergence trained from half duplex to full duplex
- UART MCU interface

Part Number	CX20662
Description	Speakers-on-a-Chip Wideband Full Duplex Mono Speakerphone SoC

Features

- Wideband acoustic echo cancellation DSP engine exceeding TIA 920 requirement
- Rx and Tx Line Echo Supression (LES)
- Integrated 600mW class-D amplifier, filterless output with selectable gains
- AEC DSP tuning parameters
- Voice activity detection with comfort noise
- Dual integrated codecs
- Speech-trained acoustic echo cancellation
- Fast convergence trained from half duplex to full duplex

- 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
- 40-pin QFN

Ordering Information

Description	Part Number	Package	Order Number
CX20662	CX20662-08Z	40-pin QFN	DSAC-L662-08Z
Evaluation Kit			CX20662-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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