Speakers-on-a-Chip with On-Chip Voice/Audio DSP, Integrated I²S/USB Codec, and PWM Class-D Amplifier

**Distinguishing Features**
- Three 24-bit DAC/four 24-bit ADC, SNR 102dB, THD – 92dB at 48kHz 3.3V
- Configurable on-chip proprietary DSP
  - Subband acoustic echo suppression and cancellation
  - Stereo beam forming
  - Noise reduction
  - Dynamic loudness adaptor
  - Mic auto gain control
  - Subband line echo cancellation (two-way intercom applications)
  - Digital equalizer (10 bands/channel)
  - Dynamic range control
- 4th Order Digital Crossover for subwoofer line-out
- 3D Expander (Phantom mode and Immersion mode)
- 4-wires and 5-wires digital audio I/O (I²S/PCM/SPDIF), supporting full duplex independent sampling rates
- USB 2.0 Compliant Audio Class Interface (high speed data and control)
- One 3-wire I²C or 4-wire SPI slave interface for external MCU
- 2.5 W x 2 BTL stereo Class-D speaker amplifier, also configurable as a PWM output for external feedback-less type Class-D amplifier
- Flexible power management
- Audio sample rate: 8, 11.025, 12, 16, 22.05, 24, 32,44.1, 48, 64, 88.2, 96 kHz

**Applications**
- All-in-One PC speaker system
- Multimedia LCD display/sound bar
- Smart home automation/intercom
- Docking systems for portable communication/media device
- Mobile Internet devices/portable navigation devices/portable media player
- Multimedia IP phone
- Telepresence/Unified Communication Device
- Embedded applications
- Door phone system
- Full-duplex hands-free telephony
- Advanced headset for Unified Communication

**Evaluation Kit and Software CD Content**
- Reference Board - CX-9Z-C00303
- Datasheet - DSH-202264
- Schematic - SCH-C00303
- BOM-C00303
- Layout - G600Z-C00303
- Conexant SPoC Configuration Toolbox
- EVK User Guide
- Firmware upgrade instructions

**Part Number**
CX20709-EVK

**Description**
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