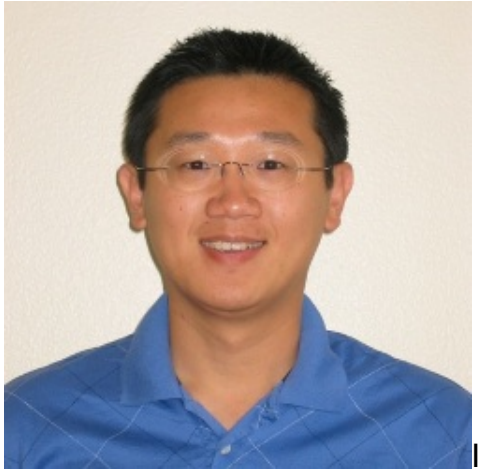
The Tinker's Toolbox - Jonathan Chien of Conexant on Audio Systems in Smart Devices

Hosted by Alix Paultre, the Tinker's Toolbox is the Advantage Design Group's web-based interview show where we talk about the latest technology, components, and design issues for the electronic design engineering community.

 In today's podcast we talk to Jonathan Chien, Audio Marketing Director of Conexant about audio management in home telepresence and speech recognition applications as well as next-generation Smart TV and video game consoles. Conexant recently released the CX20708, presented as the world’s first super wideband (SWB) voice input processor system-on-chip (SoC).

Right-click to download the podcast [1]

Here is a link to the podcast in case the play button is not visible: Conexant Interview [1]

Here is a recent press release on the CX20708:

Conexant Systems , a leading supplier of innovative semiconductor solutions for imaging, audio, embedded modem, and video surveillance applications, today announced the CX20708, the world’s first super wideband (SWB) voice input processor system-on-chip (SoC). The new single chip solution is targeted to home telepresence and speech recognition applications and is ideally suited for next generation Smart TV and video game console applications.

The highly integrated chip features SWB voice processing algorithms that deliver a crisp, clear, full duplex, low latency audio experience. In addition, the CX20708 is a "Skype TV Certified" audio component, which ensures that the new chip meets Skype's stringent performance and quality specifications including high speech-to-noise ratio, Mean Opinion Score (MOS) for natural voice, and long distance voice pick-up of up to five meters in distance.

For Smart TVs and other applications where voice interaction is being introduced as a viable human interface requirement, the Quality of Experience (QoE) is pivotal to the success of a product. Leveraging its leadership position and proprietary voice processing technology, Conexant has developed the CX20708 to help OEMs overcome the acoustic, mechanical and electrical challenges of integrating voice input capabilities into modern living room electronic appliances.

According to a recent In-Stat report titled, "The Global Market for Web-Enabled 'Smart' CE Devices," the development and use of Smart TV applications are expected to proliferate over the next five years and, as a result, web-enabled CE device shipments are expected to grow six fold, surpassing 230 million installed units by 2014. The firm also predicts that Smart TVs (that support online apps) will constitute over 50 percent of all web-enabled CE device shipments worldwide in 2015.

"We are closely following the convergence of TV and communication and have extended our audio expertise to address the growing demand for Smart TVs worldwide," said Sailesh Chittipeddi, Ph.D., Conexant president and chief executive officer. "Our proprietary voice processing algorithms in super wideband provide our customers with precision audio that enhances the overall user experience and we're pleased that our audio solution has earned the Skype TV certification seal of approval."

The CX20708 SoC is highly integrated and features high-fidelity 16-bit ADC, microphone pre-amp, asynchronous sample rate converter, sync buffer and Conexant's award-winning digital signal processor.

Key features include:

- I^2S /USB Interface – ideal for integration in the HD camera module or directly inside the TV or set-top-box
- Integrated SWB Voice Processing – ensuring the highest performing voice quality
- Far Field Pickup Microphone and Beam Forming – for long range speakerphone and speech recognition usage with optimal performance for two microphone array systems
- Integrated Microphone Pre-amp, ADC and DSP – for single chip voice input
- Sub-band Acoustic Echo Cancellation – enabling full duplex speech recognition

Availability, Packaging and Pricing

The CX20708 samples and evaluation board are available to qualified OEM/ODM customers now. The SoC is packaged in an environmentally friendly, RoHS/green-compliant 9x9 millimeter 76-pin quad flat no-lead package. Prototype pricing is $3.00 in 1K quantities.

To learn more, please visit www.conexant.com [2].

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