

QuickLogic and Airoha Jointly Develop Reference Design for True Wireless Bluetooth Earbuds and Headsets

- Combines Airoha AB1536 Bluetooth Audio SoC and QuickLogic EOS S3 Voice and Sensor Processing Platform
- Enables fast and easy development of TWS applications and offers ultra-low power consumption to extend battery life
- Adds hands-free voice recognition to increase usability, quality of customer experience

SAN JOSE, Calif., Sept. 18, 2019 /PRNewswire/ -- QuickLogic Corporation (NASDAQ: QUIK), a developer of ultra-low power multi-core voice-enabled SoCs, embedded FPGA IP, and endpoint AI solutions, today announced its collaboration with Airoha, a Bluetooth audio SoC developer and division of MediaTek in Taiwan, to develop a reference design based on Airoha's new AB1536 Bluetooth Audio SoC and QuickLogic's [EOS™ S3 Voice and Sensor Processing Platform](#). The reference design enables third-party developers to quickly and easily implement True Wireless (TWS) Bluetooth® 5.0 earbuds and headsets using the complete hardware, software and development board solutions provided by the combined companies.



The AB1536 from Airoha is an advanced single-chip SoC that integrates Bluetooth 5.0 baseband and radio for intensive audio applications. It supports wideband speech (HFP1.7) and includes AAC and SBC decoder and support for two microphones for better noise reduction and echo cancellation performance. It also includes embedded serial flash memory to support third-party software porting and upgrading. Its integrated MCU and DSP capabilities enable high quality voice and music applications for earbuds and headsets.

Adding always-on voice recognition capability via the EOS S3 enables hands-free operation, thus dramatically increasing product usability and improving the quality of the customer experience. The ultra-low power consumption of the QuickLogic platform is a critical factor, as wireless earbuds and headsets have small batteries, and customers desire long usage times between charging.

"This is an ideal use case for our EOS S3 platform, and we are excited to be working with

Airoha to bring ultra-low power and hands-free voice recognition to developers of TWS earbud and headset applications," said Scott Haylock, product marketing manager at QuickLogic. "These features, combined with the comprehensive single-chip SoC solution from Airoha, will significantly facilitate the design process of next generation TWS Bluetooth 5.0 consumer electronics applications."

About EOS S3 Sensor Processing Platform

The EOS S3 Voice and Sensor Processing Platform is an ultra-low power SoC that combines always-on/always-listening voice processing with fast, efficient and sophisticated sensor processing capabilities. It includes a proprietary, patent-pending uDSP-like Flexible Fusion Engine (FFE) that handles the bulk of the sensor algorithm processing, which minimizes the processing load for the floating point MCU. The multi-core design of EOS S3 enables it to be used as a host processor as well as a companion co-processor. Power consumption in the always-listening mode is minimized by its hardware integrated Low Power Sound Detector (LPSD). System-level power consumption is further optimized by the EOS S3's dynamic power management technology.

Availability

The Airoha AB1536 Bluetooth TWS Earbud and Headset Reference Design, featuring the QuickLogic EOS S3 Voice and Sensor Processing Platform, is available now. For more information, please visit <http://www.airoha.com.tw/index.aspx>. The QuickLogic EOS S3 Voice and Sensor Processing Platform is also independently available. For more information, please visit <https://www.quicklogic.com/products/eos-s3>.

About Airoha

Airoha Technology, founded in 2001, is a leading Taiwan-based Fabless IC design company that specializes in the design and sale of highly integrated wireless communication devices. It has an extensive IP portfolio and talent, providing its customers with a wide range of high performance, cost efficient RF and mixed-signal IC components and Bluetooth Low Energy (BLE) SoC solutions. Its current and future focus is in BLE single and Bluetooth wireless audio system solutions. Becoming a member of MediaTek Group in 2017 has allowed it to further provide low-power micro-processor platforms with a wide range of wireless communication technologies, with the aim to connect hundreds of millions of IoT smart devices.

About QuickLogic

QuickLogic Corporation (NASDAQ: QUIK) is a fabless semiconductor company that develops low power, multi-core semiconductor platforms and Intellectual Property (IP) for Artificial Intelligence (AI), voice and sensor processing. The solutions include embedded FPGA IP (eFPGA) for hardware acceleration and pre-processing, and heterogeneous multi-core SoCs that integrate eFPGA with other processors and peripherals. The Analytics Toolkit from our recently acquired wholly owned subsidiary, SensiML Corporation, completes the end-to-end solution with accurate sensor algorithms using AI technology. The full range of platforms, software tools and eFPGA IP enables the practical and efficient adoption of AI, voice and sensor processing across mobile, wearable, hearable, consumer, industrial, edge and endpoint IoT. For more information, visit www.quicklogic.com and <https://www.quicklogic.com/blog/>.

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