NEWS RELEASE

Ambiq Enables Audio, Radio, and Graphics for Always-Connected IoT Edge Devices

2022-06-29

The latest Apollo4 Blue Plus system-on-chip (SoC) comes with high-performing graphics, always-on audio, and energy-efficient Bluetooth® Low Energy capabilities with additional memory, and built-in security features for portable Internet of Things (IoT) edge devices with a limited power budget

Feature Highlights

- Integrated, energy-efficient, robust Bluetooth Low Energy 5.1 radio and dedicated core for always-connected Artificial Intelligence (AI) edge devices
- The lowest power consumption device in Ambiq's award-winning product portfolio
- Integrated GPU and sophisticated graphics rendering capability allows developers to compose high-resolution user interfaces (UI) with vibrant images
- Up to 4.75MB of memory delivers power-efficient display performance by storing on-chip images and providing ample resources for code and data storage
- End-to-end audio enables always-on-voice capability and supports high-quality voice calls and music playback
- Extensive ecosystem of audio processing and graphics development tools provides ease of use in implementing high-quality graphics and audio designs

Austin, TX – Ambiq®, a pioneer of ultra-low-power semiconductor solutions based on the proprietary and patented Sub-threshold Power Optimized Technology (SPOT®) platform, today announced the general availability of Apollo4 Blue Plus supporting Bluetooth Low Energy connectivity, enhanced graphics display, and audio capabilities, and flexible security features to safely deploy power-constrained IoT edge devices without compromising power efficiency.

According to Ericsson® Mobility Visualizer, the installed base of connected IoT devices is expected to grow from 14.6 billion devices in 2021 to 30.2 billion devices in 2027. The wearables market in particular, including smartwatches, smartbands, and smart glasses, together will generate more than $350 billion in cumulative revenues over the next five years[1]. To address the IoT market, some of the key design challenges to overcome include power consumption, on-chip intelligence, complex integration, and interaction with the outside world.

The Apollo4 Blue Plus is the 4th generation system processor product built upon Ambiq's proprietary SPOT platform. The Apollo4 Blue Plus has an integrated CPU and sophisticated graphics rendering capability, allowing developers to compose high-resolution UI with vibrant images, and enabling additional features while reducing devices' overall system power consumption to extend their battery life. Its embedded 4.75MB of memory delivers power-efficient display performance by storing images on-chip to avoid resources by fetching data from external memory. Additionally, the ample memory size enables an end-to-end always-on-voice capability to support high quality voice calls and music playback in concert with the high-fidelity Pulse Density Modulation (PDM) to Pulse Code Modulation (PCM) converter which supports up to four stereo pairs of digital microphones with a dynamic range of up to 120 dB. The Apollo4 Blue Plus also has flexible audio interfaces with full duplex I^2S and asynchronous sample rate conversion (ASRC), which will be helpful when driving a speaker.

"IoT edge original equipment manufacturers increasingly demand the most high-performing, power-efficient, integrated, and compact semiconductor," said Dan Cermak, VP of Architecture and Product Planning at Ambiq. " Our ultra-low-power semiconductor solutions fundamentally address our end customers' needs for low-power processing, connectivity, and AI."

The latest addition to the Apollo4 family provides enhanced graphics display and greater voice capabilities to serve as either an application processor or a coprocessor for battery-powered edge devices. The Apollo4 Blue Plus is now in mass production, targeting smartwatches and smart bands, consumer medical devices, motion and tracking units, and the smart home of the 21st century.

For more product information, visit **www.ambiq.com/apollo4-blue-plus**.

[1] **https://report.counterpointresearch.com/posts/report_view/iot/2747**

About Ambiq

Ambiq's mission is to enable intelligent devices everywhere by developing the lowest-power semiconductor solutions to drive a more energy-efficient, sustainable, and data-driven world. Ambiq is a pioneer of ultra-low-power semiconductor solutions based on the proprietary and patented Sub-threshold Power Optimized Technology (SPOT) platform. SPOT provides a game-changing, multi-fold improvement in energy efficiency for our end customers' electronic products. Ambiq has helped leading manufacturers worldwide develop products that run for

weeks (rather than days) on a single charge, while delivering a maximum feature set in compact industrial designs. Ambiq's goal is to take Artificial Intelligence (AI) where it has never gone before in mobile and portable devices, using Ambiq's advanced ultra-low power system on chip (SoC) solutions. Ambiq has shipped more than 150 million units as of April 2022. For more information, visit **www.ambiq.com**.

Contact
Charlene Wan
VP of Branding, Marketing and Investor Relations
cwan@ambiq.com
+1.512.879.2850

Read Article in: **Japanese** | **Simplified Chinese** | **Traditional Chinese**