

# Qualcomm Announces Highly Flexible Smart Speaker Platform with Unique Combination of Support for Voice Assistants and Multi-Room Streaming Audio Capability

**Qualcomm Smart Audio Platform combines premium audio solutions, advanced far-field voice capture, wake-word detection, Qualcomm AllPlay multi-room audio technology, and support for voice assistants to help innovative voice interactions**

SHENZHEN, China, June 14, 2017 /PRNewswire/ -- Qualcomm Technologies International, Ltd., a subsidiary of Qualcomm Incorporated (NASDAQ: QCOM), today introduced at its voice and music developer conference in Shenzhen, a new Qualcomm® Smart Audio Platform to help manufacturers accelerate the development and commercialization of smart and networked speakers. The flexible solution offers two Qualcomm® SoC options based on APQ8009 and APQ8017, with a range of software configurations that are designed to allow OEMs to create truly optimized smart speakers across various product tiers and categories. The integrated platform brings together a unique combination of processing capability, connectivity options, voice user interfaces and premium audio technologies to help meet increasing consumer demand for comprehensively featured, highly intuitive smart speakers.

The integrated high-quality performance voice solution is designed to deliver advanced multi-mic far-field voice capability with highly responsive voice activation and beamforming technologies. The platform's voice software also incorporates echo-cancellation, noise suppression and "barge-in" capability, supporting a reliable voice interface in loud or noisy environments even when users are far from the smart speaker.

Qualcomm® AllPlay™ multi-room audio technology supports OEMs to utilize Qualcomm's high performance open ecosystem for whole-home audio music streaming. AllPlay compatible speakers are designed to be easily configured to play synchronized music across multiple rooms, different music in multiple speaker zones, and multi-channel wireless surround sound to multiple speakers in the same room. Consumers can play music from popular cloud-based streaming music services including Hi-Res 32-bit/192kHz content, local music libraries on mobile phones, or DLNA media servers. The AllPlay ecosystem includes a growing number of manufacturers and commercially available speakers from OEMs including, but not limited to, Panasonic, Hitachi, House of Marley, and Magnat, providing consumers with the flexibility to mix and match different brands of speakers in their audio network. Moreover, the new platform supports Qualcomm® aptX™ HD audio technology, which is designed to deliver 24-bit high-definition wireless audio over Bluetooth®.

"The Qualcomm Smart Audio Platform combines high-performance processing power, world-class Bluetooth and Wi-Fi, advanced far-field voice capture and wake-word detection, AllPlay multi-room audio streaming technology, and support for major voice ecosystems in a single solution," said Anthony Murray, senior vice president and general manager, voice and music, Qualcomm Technologies International, Ltd. "This platform is ideal for traditional speaker manufacturers wanting to make the move to a connected platform as it is designed to bring together all the necessary hardware, software and tools needed to reduce development time. It also offers a great degree of flexibility for those manufacturers who want to push the boundaries when it comes to possible future applications for smart speakers."

## Key benefits:

- **Rapid Time to Commercialization:** The platform's unique combination of processing capabilities, voice user interface options, flexible wireless connectivity configurations, and premium audio technologies enables manufacturers to rapidly develop and commercialize high-performance speaker solutions.

- **High-Performance CPU and DSP Processing:** The Qualcomm Smart Audio Platform includes processor options that are designed to deliver the same industry-leading scalability, performance, and advanced computing features that currently support a wide range of customers across a variety of product categories including smartphones, IoT, wearables, networking, smart cities, and automotive.
- **Premium Voice Performance:** Advanced far-field voice technology is designed to significantly improve voice-based user interaction with voice assistants by integrating industry-leading voice capture technology, break-through noise suppression algorithms, and robust voice activation capabilities.
- **Comprehensive Wireless Connectivity:** The Qualcomm Smart Audio Platform pre-integrates a range of high-performance Wi-Fi® and Bluetooth® solutions including improvements for Wi-Fi and Bluetooth coexistence. This flexible set of options are designed to allow customers to select from a variety of dual-band 802.11b/g/n/ac Wi-Fi chips with both 1x1 and 2x2 MIMO, Bluetooth 4.2, and Bluetooth Low Energy. This flexibility empowers customers to mix and match connectivity options as needed to rapidly commercialize speakers with reduced engineering investment.
- **Best-In-Class Audio Performance:** The Qualcomm Smart Audio Platform is designed to deliver premium audio quality with a comprehensively integrated set of industry-leading audio codecs including high-performance Bluetooth audio using aptX and aptX HD. The platform also supports customers in their deployment of new premium DDFA audio amplifiers, as well as low-latency AllPlay networked audio technology for whole-home synchronized audio streaming.

#### Key software features:

- Operating system: Linux and Android Things
- Far-Field Voice multi-microphone technology including:
  - voice activation, beamforming and echo cancellation
  - barge-in and voice capture in highly noisy environments
  - software supporting virtual assistants
  - support for high-quality hands-free voice calls over both VoIP and HFP
- Support for Amazon Alexa Voice Service (AVS) (available later this year)
- Support for the Google Assistant (available later this year)
- Support for Android Things along with Google Cast for Audio (available later this year)
- AllPlay networked audio solution, comprehensively interoperable with existing and future AllPlay ecosystem products
- High-performance Bluetooth audio encode and decode with aptX and aptX HD
- Audio playback from a wide range of industry audio codecs including MP3, AAC, OggVorbis, FLAC, AIFF, WAV, PCM, ALAC
- Qualcomm® Hexagon™ DSP SDK
- Key Bluetooth profiles including HFP/AG, PBAP, PANU and NAP, A2DP, AVRCP
- High-performance Bluetooth/Wi-Fi coexistence for optimal audio performance

To help reduce development time and overheads there are a number of system-on-module solutions and reference designs available now from ODMs including but not limited to Wistron, Compal, Quanta and Pegatron. Comprehensive Developer Platforms for APQ8009 and APQ8017 is expected to be available from Qualcomm Technologies International, Ltd. for customers who prefer more development flexibility.

The Qualcomm Smart Audio Platform is expected to be available Q3 2017 (planned, subject to change). For more information on how to get started, please visit the [press kit](#).

#### About Qualcomm

Qualcomm's technologies powered the smartphone revolution and connected billions of people. We pioneered 3G and 4G—and now we are leading the way to 5G and a new era of intelligent, connected devices. Our products are revolutionizing industries, including automotive, computing, IoT, healthcare and data center, and are allowing millions of devices to connect with each other in ways never before imagined. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, all of our engineering, research and development functions, and all of our products and services businesses, including, our QCT semiconductor business. For more information, visit Qualcomm's website, OnQ blog, Twitter and Facebook pages.

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*Qualcomm Smart Audio Platform, APQ8009, APQ8017, Qualcomm Hexagon and Qualcomm AllPlay are products of Qualcomm Technologies, Inc. Qualcomm aptX is a product of Qualcomm Technologies International, Ltd.*

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