The Qualcomm Smart Audio Platform is designed specifically to help streamline the process for developing smart and networked speakers at a range of price points.

Many audio manufacturers today are seeing the opportunities presented by the rapidly increasing demand for smart speaker products, however the process of developing a differentiated smart speaker can be complex and challenging - requiring the integration of an array of features and advanced capabilities.

The Qualcomm Smart Audio Platform, based on the APQ8009, is designed to bring together a powerful combination of processing, connectivity options, voice user interfaces and premium audio technologies to help deliver a highly flexible, unique single-vendor smart speaker solution. With our proprietary audio technologies integrated, the platform supports high resolution audio, whole-home networked audio, echo cancellation, beamforming, noise suppression and barge-in wake-word detection.

### Highlights

#### Integrated single-vendor platform

Helps to more efficiently scope and design a smart speaker, reduce BOM sources, eliminate the need to develop, integrate and tune complex far-field voice technologies with wake-word detection and beamforming, as well as helping reduce Wi-Fi certification time and cost.

#### Superior far-field voice, noise suppression and keyword detection

Supports superior voice performance and reduce voice UI development complexity with our multi-microphone far-field voice and wake-word detection, noise suppression, beamforming and stereo echo cancellation technology, pre-tuned and available with a comprehensive example design.

#### Supports multiple premium audio features

Designed to support world-class connectivity and Bluetooth/Wi-Fi coexistence, high definition (24-bit) audio and networked audio, our proprietary technologies including Qualcomm® aptX™ audio and compatibility with our Qualcomm® DDFA™ digital amplifier and leading voice services.

#### Comprehensive development kit

Further reduce development time and complexity for richly featured smart speakers using our unique development kit with end-to-end example design. As well as its other components, the kit includes a Wi-Fi certified system-on-module, reference speaker casing with bi-amped, two-way speakers, and a six-microphone array board for high performance far-field voice user interface.
Qualcomm Smart Audio Platform Applications

- Smart Speakers
- Networked Speakers

Features

- Single, flexible platform designed for developing a smart speaker
- Processor with integrated DSP including integrated far-field voice pick up technologies with keyword detection, echo cancellation and beamforming
- Pre-integrates Qualcomm Technologies’ proprietary voice interface technologies - keyword detection, multi-mic far-field EC/NS/beamforming, barge-in, VoIP/HFP speech enhancements
- Support for leading voice platforms including Amazon Alexa Voice Services and Microsoft Cortana
- Support for high resolution 24-bit audio, with aptX and aptX HD audio codecs, DDFA Class D amplifiers and powerful audio post-processing
- Qualcomm® AllPlay™ Smart Media Platform
- Multi-room networked audio pre-integrated
- Advanced wireless connectivity options, with Bluetooth/Wi-Fi coexistence solutions
- Comprehensive development kit available with example design and supporting documentation

Capabilities

- Qualcomm Smart Audio Platform
  - CPU
    - APQ8009
  - Wi-Fi
    - 11ac Wi-Fi
    - 2x2 802.11ac MU-MIMO
    - Peak Speed: 364 Mbps
  - Bluetooth
    - 4.2
  - Display
    - 720p
  - DSP
    - Qualcomm® Hexagon™ 536 DSP
  - GPU
    - Qualcomm® Adreno™ 304
  - Audio
    - aptX, Multi-mic noise suppression, Beamforming, Echo cancellation, Keyword detection, DDFA
  - Operating Systems
    - Linux

Related Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualcomm Smart Audio Platform Dev Kit with acoustics</td>
<td>DK- SMART-AUDIO-APQ8009-0-A</td>
</tr>
<tr>
<td>Qualcomm Smart Audio Platform Dev Kit (without acoustics)</td>
<td>DB- SMART-AUDIO-APQ8009-0-A</td>
</tr>
</tbody>
</table>

For additional Qualcomm product information go to: createpoint.qti.qualcomm.com

Product Kit: Speaker
- APQ8009 Linux Smart Speaker (Platform)

To learn more visit: qualcomm.com

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