



Qualcomm® Smart Headset Reference Design for the Google Assistant

The Qualcomm Smart Headset Reference Design for the Google Assistant supports push-button activation for the Google Assistant, to help manufacturers evaluate the service on-the-go with a mobile phone.

The process of developing a smart headset that meets high consumer expectations is complex and challenging, requiring the integration of an array of features and advanced capabilities. The Qualcomm® Smart Headset Platform is designed specifically to help reduce time and streamline the process for developing advanced Bluetooth headsets, to help manufacturers participate in the growing smart headset opportunity.

The Qualcomm Smart Headset Reference Design for the Google Assistant is based on our Qualcomm® QCC5100 Bluetooth Audio System-on-Chip (SoC) series. The solution combines ultra-low power consumption to help extend playback time and battery life and Qualcomm® cVc™ noise reduction technology which supports active noise cancellation and superior audio quality while in a voice call. Manufacturers can also add Qualcomm® aptX™ HD audio designed for high-resolution wireless audio.

There is support for the Google Fast Pair spec and features on the QCC5100 SoC series, as well as Qualcomm® QCC302x and Qualcomm® QCC303x. This helps optimize the out of box pairing experience for end users.

Following evaluation via this Reference Design, manufacturers can then step up to the full development environment with a comprehensive suite of software and tools to customize or develop their own headset products.

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Included with the reference design:

- Occluded earbuds with ear interface rubbers available from a 3rd party
- Qualcomm® QCC5124 BGA90, 1x in right side
- Flexy rigid PCB design in both sides
- 2-mic cVc noise reduction technology on right side during voice call
- 60mA battery per side
- Micro USB charging – right side
- Software binary image - ADK based Stereo
- Sink application supporting the Google Assistant
- Detailed hardware design pack available



Qualcomm Smart Headset Development Kit for the Google Assistant

The Qualcomm® Smart Headset Development Kit for the Google Assistant is designed to provide the hardware and software components needed to help manufacturers overcome common and significant design challenges caused by the small form factors and low power requirements of smart headsets. Using this development kit, manufacturers should be able to commercialize their own products quickly and more cost-effectively.

Custom development of the Qualcomm Smart Headset Reference Design is possible with the Qualcomm® Bluetooth Developer License. Additional development products include the Qualcomm® Open Board Development Kit along with a Transaction Bridge.

- Qualcomm Smart Headset Reference Design for the Google Assistant
- Qualcomm Smart Headset Development Kit for the Google Assistant

Features

- Based on the QCC5124 Bluetooth Audio SoC with powerful quad-core processor architecture
- Ultra-low-power consumption for extended playback time and battery life
- Qualcomm Bluetooth Developer License available for custom designs
- 2-mic cVc noise reduction technology for superior audio when in a voice call
- Single-chip Bluetooth containing the power management, audio DSPs, application processor, Bluetooth RF, GPIO and audio inputs and outputs
- Class A/B direct drive of the speakers
- 4-button control and LED user interface
- 13mm speakers to handle low frequency audio to support full range frequency response audio play back
- Ear interface rubbers supplied in small, medium and large sizes

Ordering Information

Available to purchase through Digi-Key Electronics www.digikey.com

Qualcomm Smart Headset Reference Design for the Google Assistant:

Part number: DK-QCC5124-GAHS-A-0

Qualcomm Smart Headset Development Kit for the Google Assistant:

Qualcomm Bluetooth Developer License

Part number: DL-BDEV-10002-1A

The purchase of an open board development kit is recommended, but not essential.

Qualcomm Open Board Development Kit

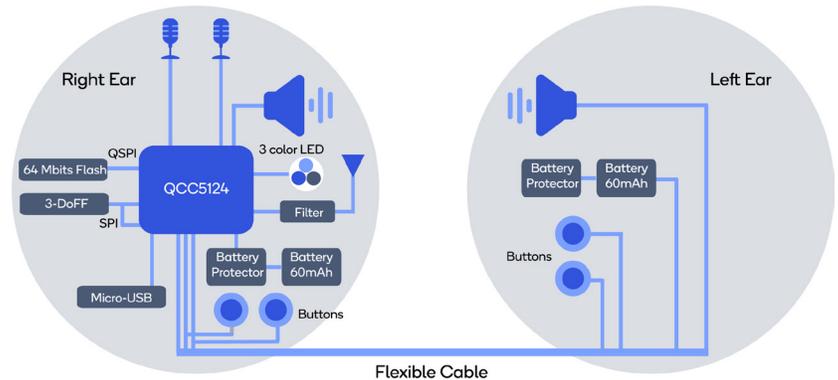
Part number: DK-QCC5124-VFBGA90-A-0

Programming the open board development kit requires use of a Transaction Bridge which is not included in the Open Board Development Kit.

Transaction Bridge for Debugging

Part number: DK-TRB1200-CE684-1

Block Diagram



Qualcomm Smart Headset Development Kit for the Google Assistant

The Qualcomm Smart Headset Development Kit for the Google Assistant is a comprehensive, customizable development kit designed to include the building blocks needed to create a smart headset which supports the Google Assistant, making it simpler for audio manufacturers to start developing straight out of the box. Bespoke development of the Qualcomm Smart Headset Reference Design for the Google Assistant is possible with the Qualcomm Bluetooth Developer License and ADK.

For more detailed hardware development, the Open Board Development Kit can be purchased along with a Transaction Bridge for debugging.

