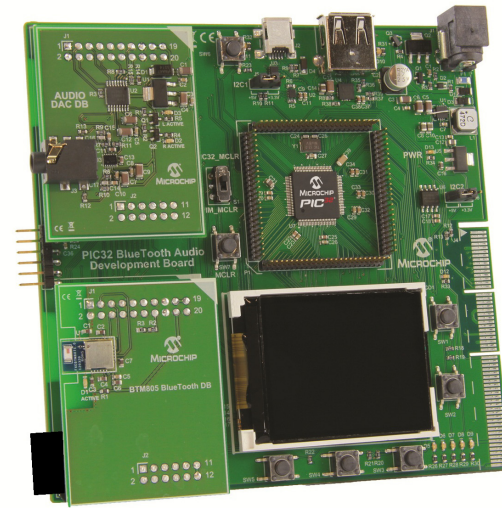


## PIC32 Bluetooth® Audio Development Kit Information Sheet



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DS50002192A

### Description

The PIC32 Bluetooth® Audio Development Kit (DV320032) showcases a high quality Bluetooth audio platform using the PIC32 microcontroller (MCU). The Bluetooth stack on PIC32 supports Advance Audio Distribution Profile (A2DP) and Audio/Video Remote Control Profile (AVRCP) for high quality Bluetooth audio streaming, player control and metadata information.

The development board also supports USB digital audio over Apple® Made for iPod® (MFi) devices, Google Android Open Accessory (AOA) audio devices, and Samsung USB audio devices. Its flexible design uses plug-in daughter boards with various Bluetooth transceiver modules and audio codec modules designed for the board so the user can easily use different combinations of Bluetooth transceivers and audio codecs.

The PIC32 MCU provides Bluetooth capability with an on-chip Bluetooth stack, USB connectivity and high quality audio I2S interface along with many more connectivity options on a single device. The development board also enables MFi support through an expansion connector.

# PIC32 Bluetooth® Audio Development Kit Information Sheet

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## Features

The PIC32 Bluetooth Audio Development Kit contains the following modules:

- PIC32 Bluetooth Audio Development Board
  - PIC32 32-bit microcontroller
  - Headers for Bluetooth transceiver daughter board
  - Header for audio codec daughter board
  - Type-A USB port for the embedded USB Host
  - Mini-B USB Host/Device/OTG port
  - TFT color display
  - Utility switches and potentiometer
  - MFi expansion header/connector
- HCI Bluetooth Transceiver Daughter Board
- 24-bit, 32-192 kHz stereo DAC with Line-out/Headphone Amplifier Daughter Board

Refer to the user's guide for the PIC32 Bluetooth Audio Development Board for more information on the features, hardware and software demonstration that are available for the board.

## Getting Started

The PIC32 Bluetooth Audio Development Kit is pre-programmed with an application that supports Bluetooth audio playback through a media device which supports A2DP and AVRCP profiles, and USB audio streaming over Google media devices which support Google AOA audio, and Samsung media devices that support USB audio.

This demonstration allows playback of high quality stereo audio through headphones.

To run the demonstration, perform these steps:

1. Plug-in a 9V power supply (AC002014 recommended) to 9V jack (J1) on the PIC32 Bluetooth Audio Development Board.
2. Plug in a pair of headphones to the headphones jack (J3) on the audio DAC daughter board.
3. Enable Bluetooth on the media device and scan for Bluetooth devices available for connection in the Bluetooth settings.

4. Select the 'BT Audio Demo 2.5' device from the discovered Bluetooth devices and Pair. Enter PIN as 0000, if prompted during pairing. The display indicates the Bluetooth Pairing event.
5. After pairing, select Connect to establish connection between the media device and the development board, if not already connected. The display indicates the Bluetooth Connect event.
6. Open the default music application on the media device and start playing a music track.
7. Control the volume of playback using the volume rocker wheel P2 on the development board.
8. Disconnect the Bluetooth connection to the 'BT Audio Demo 2.5' device from the Bluetooth settings on the media device.
9. Use a micro-B USB captive cable to plug in a Google media device (that supports Google AOA audio) to the board. Connect the USB type-A end of the cable to USB type-A receptacle (J3) on the board. Wait for the USB device to be detected and enumerated. The display indicates the USB Connect event.
10. Open the default music application on the media device and start playing a music track.
11. Disconnect the USB connection on the USB type-A receptacle.
12. Use a mini-B USB captive cable to plug-in a Samsung media device (that supports USB audio to the board). Connect the USB mini-B end of the cable to USB mini-B receptacle (J2) on the board. Use a Samsung adapter cable (type-A female to micro-B male adapter) to connect the type-A end of the mini-B cable to the Samsung media device. Wait for the USB device to be detected and enumerated. The display indicates the USB Connect event.
13. Open the default music application on the media device and start playing a music track.
14. Switch between Bluetooth audio, Google USB audio, and Samsung USB audio to play audio over respective connections as indicated in the above steps.
15. Switches SW5, SW4, SW3 can be used to skip backward to the previous track, play/pause, skip forward to the next track, and SW1 and SW2 can be used to unpair and disconnect Bluetooth, respectively.

To get started with development, please visit:

[www.microchip.com/pic32tools](http://www.microchip.com/pic32tools)

and click the PIC32 Bluetooth Audio Development Board product link.

For Apple Made for iPod support please send a message to:

[AppleSupport@microchip.com](mailto:AppleSupport@microchip.com)