

Bluetooth® and MSP430 Audio Source Reference Design Quick Start Guide

The BT-MSPAUDSOURCE-RD is a TI Design that enables streaming out Bluetooth audio (SBC encoded) using the SimpleLink™ CC2560 Bluetooth controller, the MSP430F5229 ultra-low power microcontroller, and the TLV320ADC3101 low-power ADC plus a BQ24055 USB charge management device. This reference design is a cost-effective Bluetooth audio implementation with full design files provided for evaluation and end-product development. The software supported includes Stonestreet One Bluetopia® Bluetooth stack (certified and royalty free).

This document will help you quickly get started on the BT-MSPAUDSOURCE out-of-the-box experience demo.

This design is compliant with the following standards:

- FCC/IC Regulatory Compliance
- FCC Part 15 Class A Compliant
- IC ICES-003 Class A Compliant

This kit contains:

- One BT-MSPAUDSOURCE board
- One mini-USB cable
- One stereo audio cable with 3.5-mm plug connectors

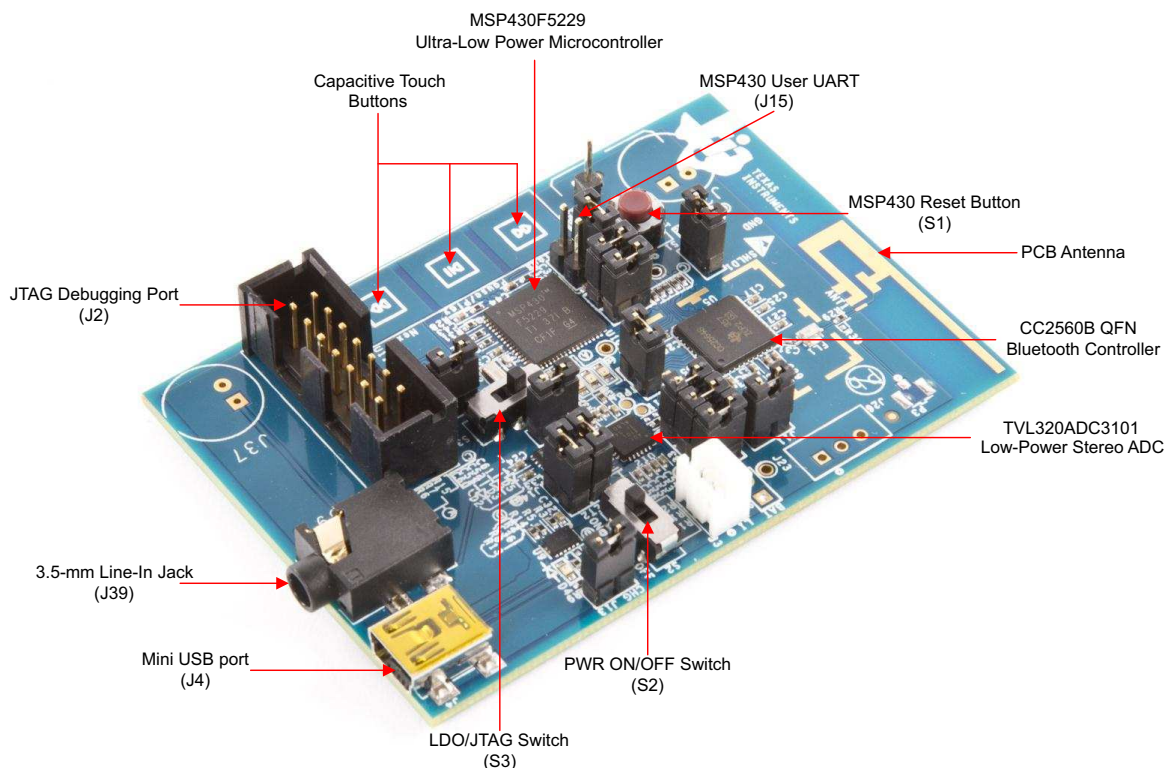


Figure 1. BT-MSPAUDSOURCE Board

Step 1: Set Remote Bluetooth Audio Sink Device Ready

Turn on the remote Bluetooth audio sink device and make sure it is ready to connect.

NOTE: The remote Bluetooth device must support the A2DP profile and sink role (for example, a Bluetooth speaker or Bluetooth headphones).

NOTE: TI's Bluetooth and MSP430 Audio Sink Reference Design (BT-MSPAUDSINK board) can be used as the remote Bluetooth device.



Figure 2. Bluetooth Audio Sink Device Examples

Step 2: Connect Audio Line-In

Connect an audio source device to the BT-MSPAUDSOURCE board by plugging in the stereo audio cable to the 3.5-mm line-in jack (J39). The audio source can be any device with a 3.5-mm audio stereo output, such as laptops, phones, and so on.

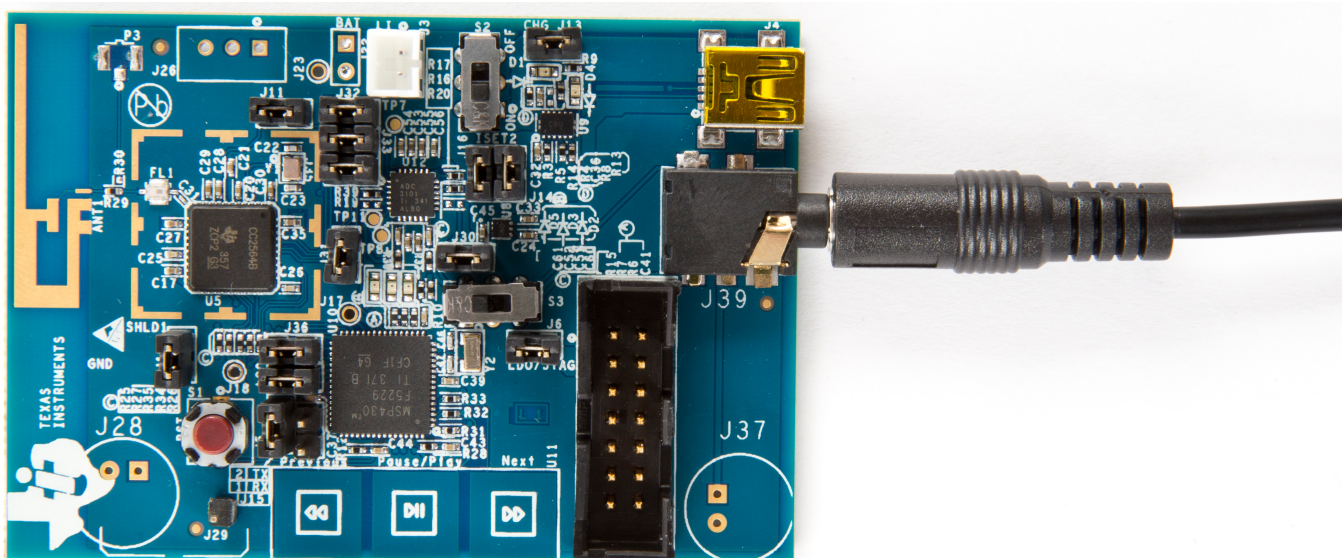


Figure 3. Audio Line-In Connection

Step 3: Turn On the BT-MSPAUDSOURCE Board

Connect the mini-USB cable to the mini-USB port (J4) to apply power to the board. Turn on the board using the PWR ON/OFF Switch (S2) so that the switch points towards the inside of the board.

NOTE: The board can also be powered from rechargeable batteries (J3), which can be purchased separately.

Step 4: Automated Pairing and Connection Process

Check the green and red LEDs. These LEDs remain lit when the connection is established and the audio is being played correspondingly.

NOTE: The BT-MSPAUDSOURCE automatically scans for Bluetooth audio sink devices available in range. The device lists the Bluetooth audio sink devices in the order they were discovered and gives priority to the BT-MSPAUDSINK boards. The BT-MSPAUDSOURCE will connect to the first device available in this list. This procedure can take up to 10 seconds after turning on the board.

Step 5: Listen to the Audio

Use the capacitive touch buttons to play and pause the audio.

For further information, see the [Bluetooth and MSP430 Audio Source User's Guide](#).

BT-MSPAUDSOURCE-RD Rev A History

Changes from Original (August 2014) to A Revision	Page
• Added compliance standards	1

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

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- 3.1 *United States*

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

3.2 Canada

3.2.1 For EVMs issued with an Industry Canada Certificate of Conformance to RSS-210

Concerning EVMs Including Radio Transmitters:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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http://www.tij.co.jp/lstds/ti_ja/general/eStore/notice_01.page

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2. Use EVMs only after User obtains the license of Test Radio Station as provided in Radio Law of Japan with respect to EVMs, or
3. Use of EVMs only after User obtains the Technical Regulations Conformity Certification as provided in Radio Law of Japan with respect to EVMs. Also, do not transfer EVMs, unless User gives the same notice above to the transferee. Please note that if User does not follow the instructions above, User will be subject to penalties of Radio Law of Japan.

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