CC32xx Wifi Audio Application

Objective

This example demonstrates 'Bi-directional Audio Application' on a CC3200 LaunchPad setup. The system comprises of two LPs (in STA mode). Audio is streamed from one LP and rendered on another LP over wifi.

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Prerequisites

Hardware

1. 2x CC3200 LaunchPad Rev-3.0B
2. 2x Audio Codec BoosterPack Rev-2.0A
3. 2x Headphones/Speakers
4. 2x Audio Sources
5. Android Device (For Smart Config)

ECOs and Jumper settings

1. The following ECOs are mandatory on the Audio BP

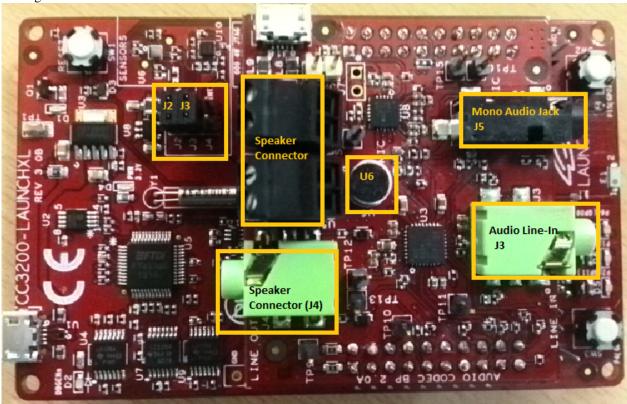| Standard ECOs	
R35	0R
R36	NC
R37	0R
R38	NC
R8	0R
R9	NC
R33	0R
R34	NC
For enabling on-board MIC	
R70	2.2K
C86	Remove CAP and populate 0R
C93	Remove CAP and populate 0R

2. Ensure J2 and J3 jumpers are connected on the launchpad.

Software

1. CC3200 wifi audio app binary
2. CC3200 SDK
3. Uniflash Tool [1]
4. Smart Config Android Application [2]

System Configuration

1. Mount 'Audio Codec Booster Pack' on 'CC3200 LaunchPad' as shown below. Ensure 'J1 & J2' of the booster-pack are aligned with 'P1-P3 & P4-P2' of CC3200-LaunchPad

2. For 'Power'/'Mode' selection and other details, refer [CC32xx LaunchPad Hardware]

3. For Bi-directional audio player

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Connect headphone or speaker on J4 of 'Audio Codec Booster Pack'
J3 on Audio Codec BP can be used for LINE -IN
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Alternatively,

Onboard MIC (U6) or Mono-Jack (J5) of 'Audio Codec Booster Pack' can be used for MIC-IN and U4, U5 can be used to connect speakers(Left & Right).
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Flashing binaries on CC3200 Launchpad

1. Follow the **Uniflash Guide** to flash the .bin file to CC3200 device.

Setting up Bi-directional Audio Demo

1. Once the Audio-BP and LaunchPad connections are intact, binaries are flashed appropriately, remove jumper on SOP-2 of CC3200-LP if it was mounted for flashing the binaries and reset the board.

Connecting in Smart Config Mode

2. Choose an AP that you want to configure on CC3200 Device. Connect your Android device to an AP. Power ON both the launch pads.

3. Boot the application on both Launchpads.

4. On your Android device, Launch the SmartConfig [2] Android Application to configure CC3200 devices. Once the CC3200 device is connected to the AP (Green LED off), stop the application.

- Green LED will come up and blinks for few seconds. Green LED blink means device is trying to connect to an AP

- If not able to connect to an AP (Configured by SmartConfig), Green LED will glow up continuously.

- If device connects to an AP (Configured by SmartConfig), Green LED will turn off.
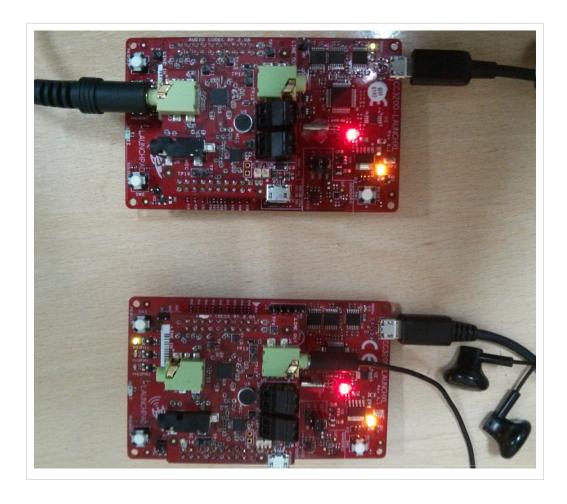
Audio Streamer/Player

On the launchpads, the following switches invoke microphone and speaker on/off actions.

SW3 - Microphone

SW2 - Speaker

1. Ensure Line - IN and Line - OUT points are connected appropriately on both the launch pads.

2. Upon successful Smart Config connection, Press SW3 (on LP1) to start the streaming and SW2 (on LP2) to playback the audio. Similarly Press SW3 (on LP2) to start the streaming and SW2 (on LP1). The switch press can be used to handle MIC and Speaker ON/OFF actions. The below picture shows the bidirectional audio in action.

- **Green LED** indicates Microphone task is running.
- **Orange LED** indicates Speaker task is running
- **Red LED** indicates audio is being played

Known Issues

none.

References

[1] http://processors.wiki.ti.com/index.php/Category:CCS_UniFlash

[2] http://www.ti.com/tool/wifistarter

Article Sources and Contributors

CC32xx Wifi Audio Application *Source*: http://processors.wiki.ti.com/index.php?oldid=180363 *Contributors*: A0221015, Codycooke, Jitgupta, Made4engineering, Malokykle, Malokyle

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