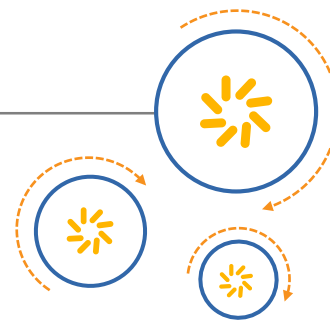




Qualcomm Technologies, Inc.



## DragonBoard™ 410c based on Qualcomm® Snapdragon™ 410 processor

# Stereo Connector and Audio Routing on DragonBoard 410c Application Note

October 2015

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Questions or comments: <https://www.96boards.org/DragonBoard410c/forum>

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LM80-P0436-43 Rev A

## Revision history

Revision	Date	Description
A	October 1, 2015	Initial release

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# 1 Introduction

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## 1.1 Purpose

This application note provides instructions on how to solder a stereo connector on a J7 connector on the DragonBoard 410c and provides mixer settings needed to route audio through the stereo connector instead of HDMI.

## 1.2 Additional information

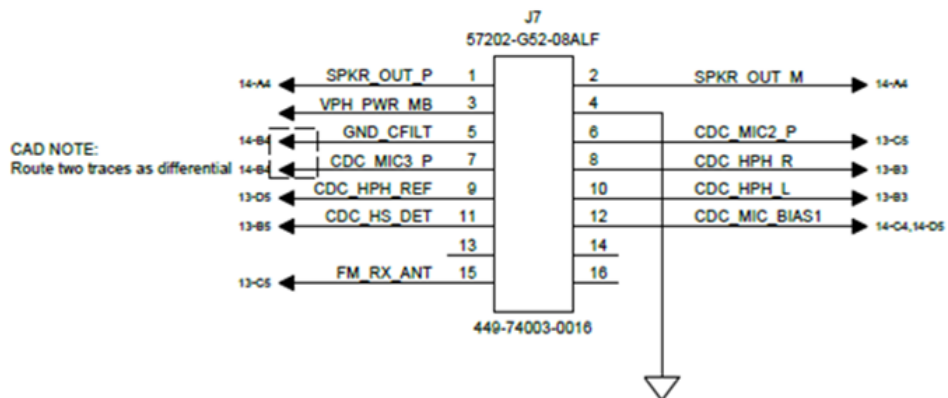
For additional information, go to <https://www.96boards.org/DragonBoard410c/docs>.

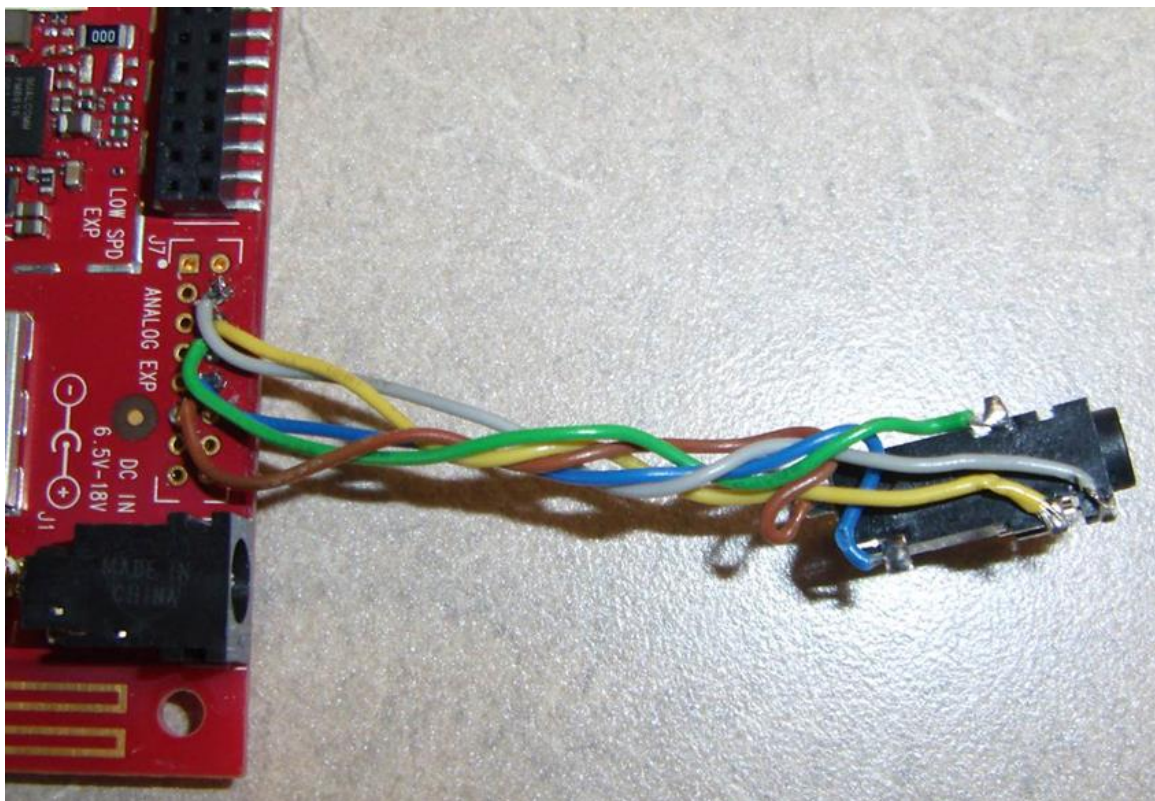
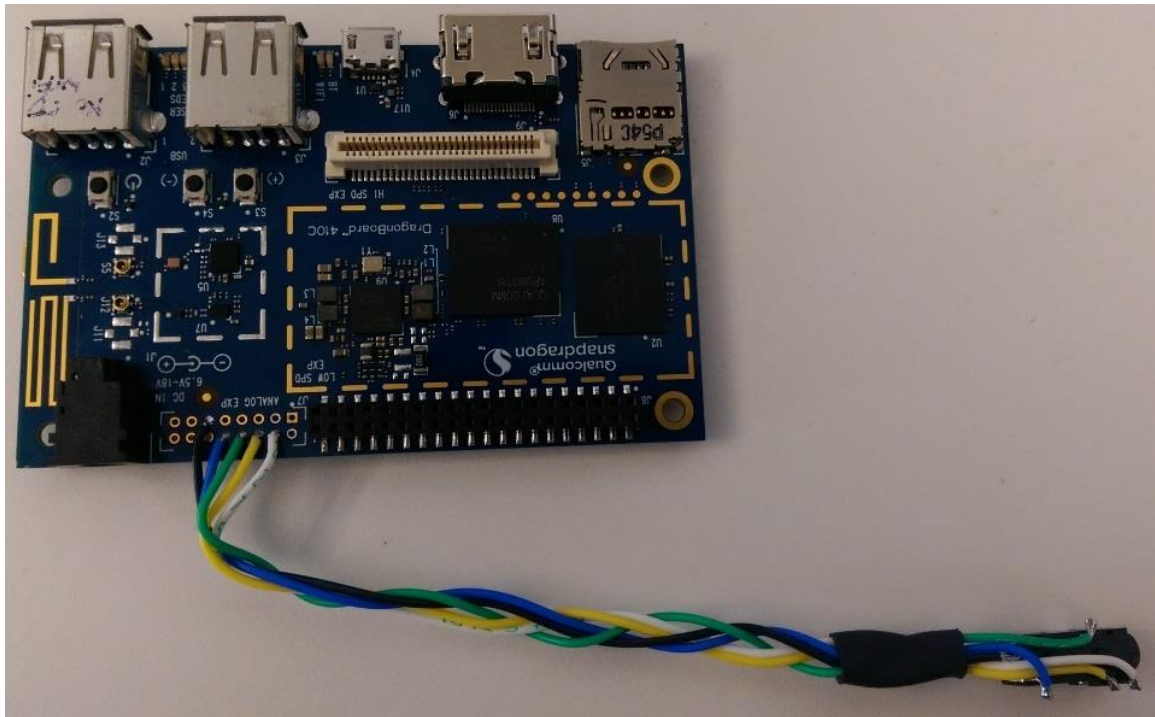
## 2 Adding Stereo Connector

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### 2.1 Soldering stereo connector (for both blue and red DragonBoard 410c boards) to J7 analog expansion connector

## ANALOG EXPANSION





Connector used:

<http://www.digikey.com/product-detail/en/SJ-43515TS-SMT-TR/CP-43515TSSJCT-ND/669733>

As shown in the picture, connect the following 5 wires:

1. Headset Jack Tip (furthest from the wire) -> Analog Expansion pin 10 (CDC\_HPH\_L)
2. First ring (close to tip) -> Analog expansion pin 8 (CDC\_HPH\_R)
3. Second ring -> Analog expansion pin 4 (GND)
4. Third ring (closest to the wire) -> Analog Expansion pin 6 (CDC\_MIC2\_P)
5. Headset switch (one of the pads on the jack) -> Analog Expansion Pin 11 (CDC\_HS\_DET) – this one may be optional depending on the software.

## 2.2 Mixer commands to test the audio routing through stereo connector

To play audio through the stereo connector, at the adb shell prompt, enter the following commands:

```
adb root
adb remount
adb shell
su
tinymix 'PRI_MI2S_RX Audio Mixer MultiMedia1' 1
tinymix 'RX1 MIX1 INP1' 'RX1'
tinymix 'RX2 MIX1 INP1' 'RX2'
tinymix 'RDAC2 MUX' 'RX2'
tinymix 'HPHL' 'Switch'
tinymix 'HPHR' 'Switch'
tinymix 'MI2S_RX Channels' 'Two'
tinyplay /data/test.wav
```

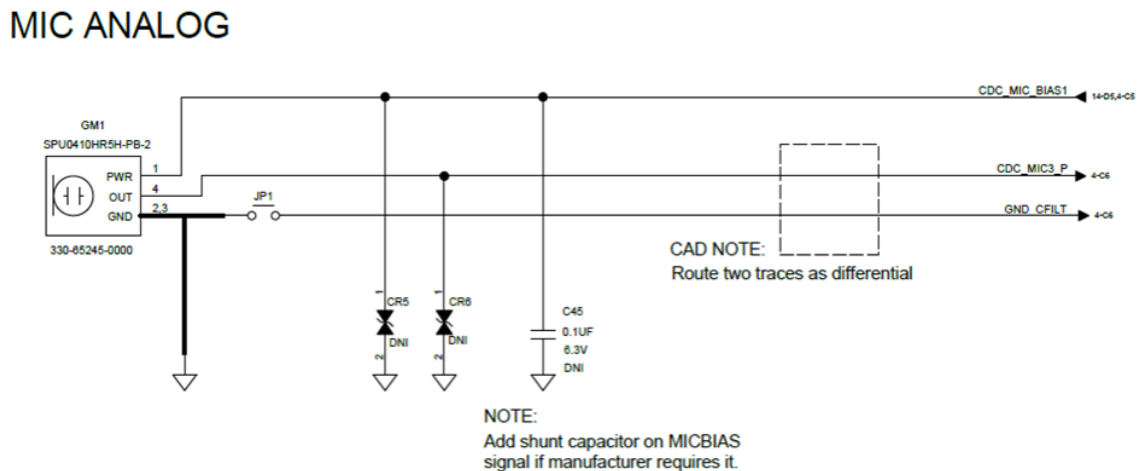
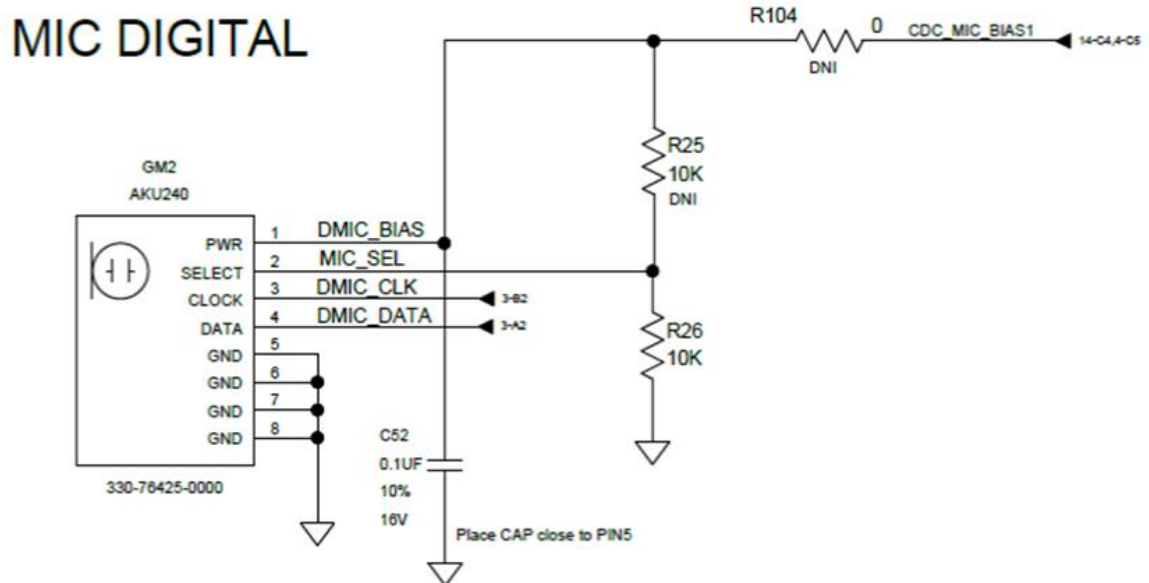
You should be able to hear playback on the earphone connected to the stereo connector.

Playback using Android Music player would play the audio over HDMI, as that is the default setting. To change the default behavior, edit the file

device/qcom/msm8916\_32/mixer\_paths\_sbc.xml based on the use case and push the file into DragonBoard 410c via adb to /system/etc/.

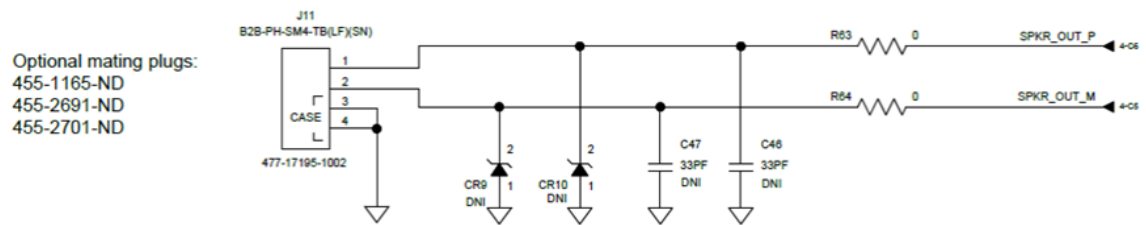
## 3 Adding Digital and Analog Mic

### 3.1 Connections to add Digital and Analog Mic to J7





## SPEAKER



**NOTE:** Mixer commands would have to be modified to test these interfaces. Default mixer settings are listed in `device/qcom/msm8916_32/mixer_paths_sbc.xml`.

## EXHIBIT 1

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