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

Enable USB Camera Application Note

September 2016
## Revision history

<table>
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<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>B</td>
<td>September 2016</td>
<td>Update to ‘E’ part</td>
</tr>
<tr>
<td>A</td>
<td>July 2, 2015</td>
<td>Initial release.</td>
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1 Introduction

1.1 Purpose

This application note explains how to enable the USB camera on the DragonBoard™ 410c development board.

1.2 Acronyms and abbreviations

Table 1 Acronyms and abbreviations

<table>
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<tr>
<th>Acronym</th>
<th>Definition</th>
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<tr>
<td>APK</td>
<td>Application Package File</td>
</tr>
<tr>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>HD</td>
<td>High Definition</td>
</tr>
<tr>
<td>SD</td>
<td>Secure Digital</td>
</tr>
<tr>
<td>TTL</td>
<td>Transistor Transistor Logic</td>
</tr>
<tr>
<td>UART</td>
<td>Universal Asynchronous Receiver Transmitter</td>
</tr>
<tr>
<td>USB</td>
<td>Universal Serial Bus</td>
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</table>

1.3 USB camera used

The Creative Cam Sync HD Webcam VF0770 was used for testing.
2 Testing USB Camera on Android Lollipop

2.1 Testing USB camera

The Android build used for testing is dated 6/18/2015 and available on
http://www.96boards.org/product/dragonboard410c/

Android 5.1 (Lollipop)
Linux Kernel 3.10
Release: 15.06

This build has the support for the USB camera enabled by default.
Download the SD card installation package and install the Android images. This should also work
with the default Android images shipped with DragonBoard 410c.
The application used to verify USB camera is UsbWebCam APK.

You can use the “dmesg” on the serial console to detect the new USB camera device as soon as
you connect it to one of the USB2.0 port on DragonBoard 410c. A new /dev/videox device node
should also be created. To see the console trace messages you need to have the USB to UART
TTL 1.8V cable connected to J8 to pin 1 (GND), 11 (UART1_TX), 13 (UART1_RX). Set the
baud rate to 115200. You cannot use the adb shell, as only device mode or host mode is supported
at any time on DragonBoard 410c.
As soon as you click on the UsbWebCam icon you should be able to see the preview from the USB camera. You can also take snapshots or capture video.

**NOTE:** This application is for basic validation purposes only, there may be limitations with the functionality, in which case you would need to implement your own video dev application to stream and capture from the USB camera.
EXHIBIT 1

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