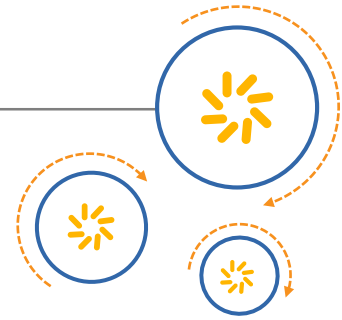# Qualcomm

Qualcomm Technologies, Inc.

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

Connecting the UART to USB Adapter Application Note

August 2015

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

Revision history

Revision	Date	Description
A	August 3, 2015	Initial release

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1 Introduction

1.1 Purpose

The Console UART for the DragonBoard 410c is available on the low-speed expansion connector. The signals on this connector operate at 1.8 V signal levels and are mechanically at 2.0 mm spacing. Legacy single board computers used 3.3 V signaling and connectors with 2.54 mm spacing.

Tectona has designed a custom UART to USB adapter for use with the 96Boards compliant computers (see Appendix: Tectona UART to USB Adapter Mechanical Drawing on page 9 for a detailed mechanical drawing).

Figure 1-1 Tectona UART to USB adapter

1.2 Acronyms, abbreviations, and terms

Table 1-1 provides definitions for the acronyms, abbreviations, and terms used in this document.

Table 1-1 Acronyms, abbreviations, and terms

Term	Definition
COM	Communication
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus

2 Connections and Installation

2.1 Electrical connections

Connect the cable as in Figure 2-1.
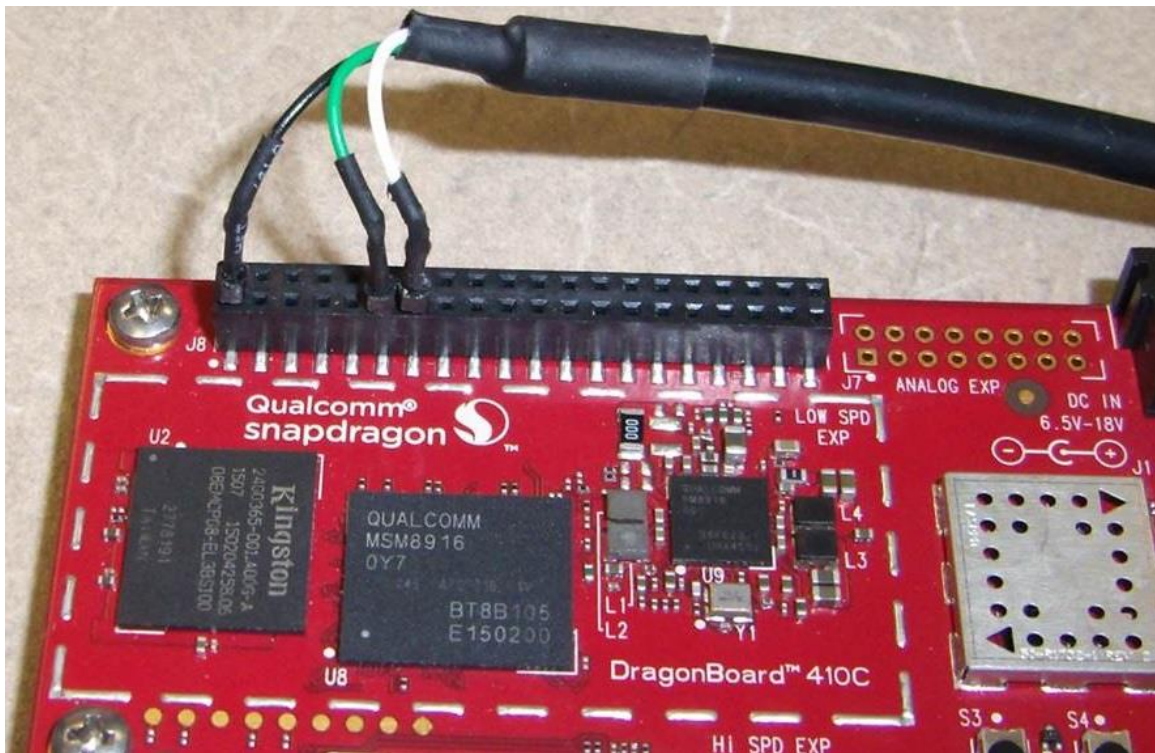

Figure 2-1 Cable connection

- Pin 1 black GND
- Pin 11 TxD -> green RxD
- Pin 13 RxD -> white TxD

The names TxD and RxD depend on your point of view (from the board or from the cable) and may be inputs or outputs. On the DragonBoard 410c pin 11 is UART_TxD and is an output. This gets connected to the green wire on the Tectona cable which is labeled RxD and is an input.

2.2 Drivers

Drivers are available at the following locations:

- Windows: http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=225&pcid=41
- MAC OS X: http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=229&pcid=41
- Android: http://www.prolific.com.tw/US/ShowProduct.aspx?p_id=230&pcid=41

2.3 Installing the software

1. Plug the Prolific adapter into a USB port on a laptop or computer. The software should auto install.

2. Click **Start** -> **Control Panel** -> **Device Manager** -> **Ports (COM and LPT)**.

3. Determine which COM port number has been assigned to the Prolific adapter (COM39 in this example).
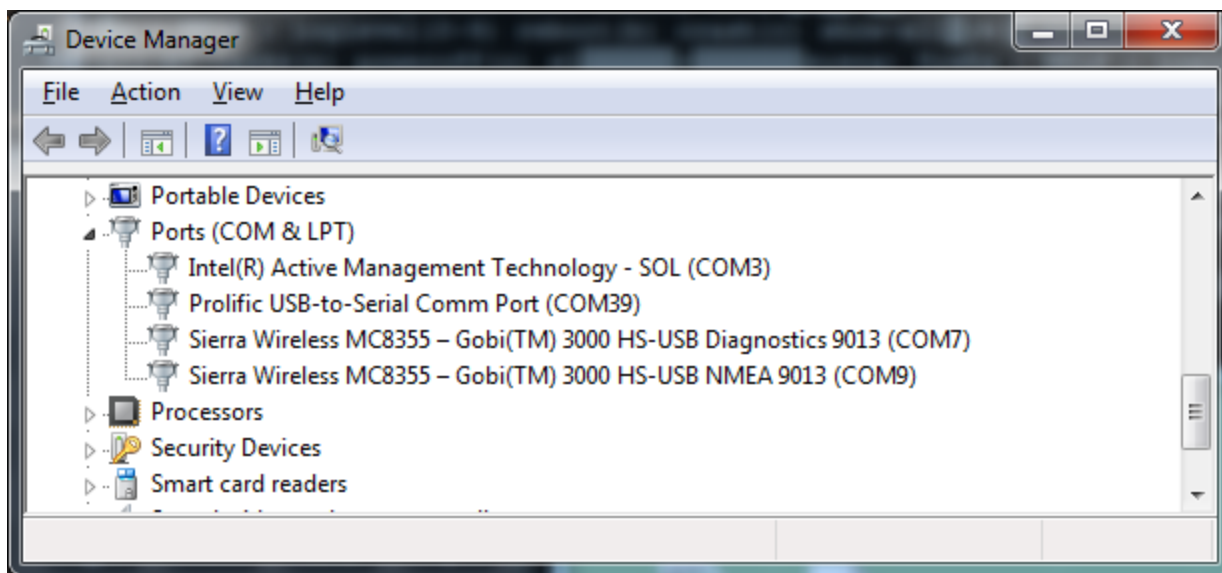
Figure 2-2 Prolific adapter COM port

4. Install PuTTY from http://www.putty.org/ .

   There are many other terminal emulator programs that will work, PuTTY is just one example.

5. Start PuTTY and set up the COM port.
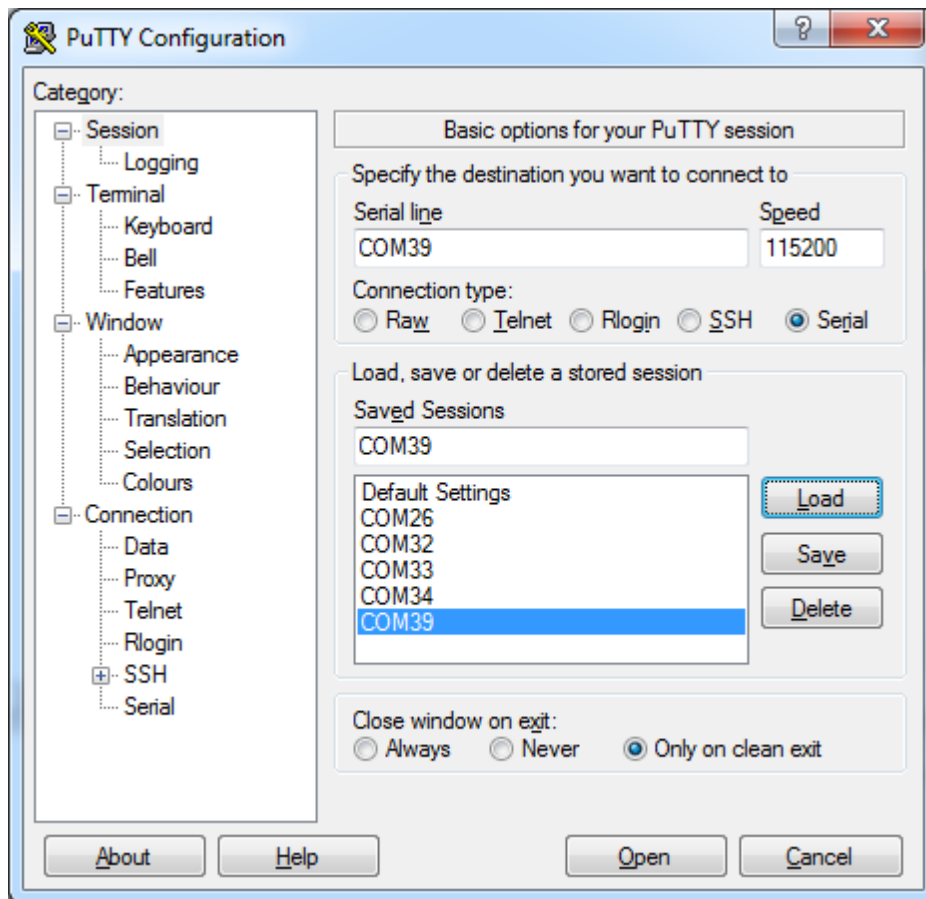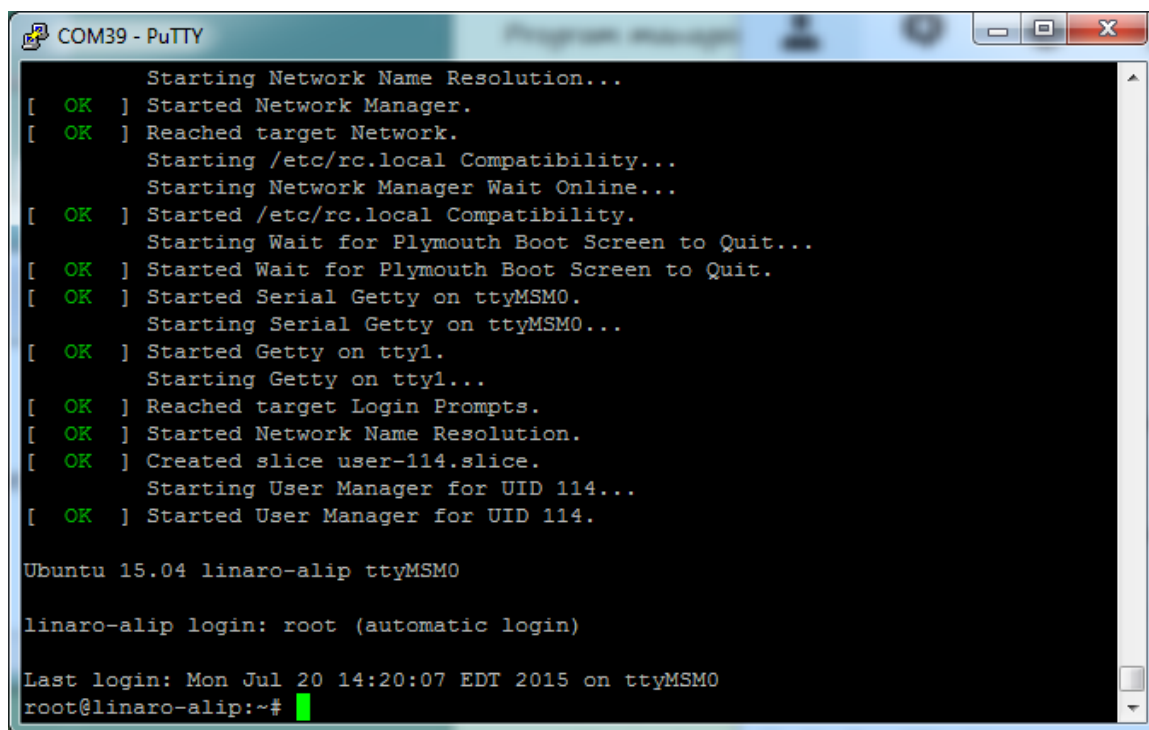
Figure 2-3 PuTTY COM port setup

6.   Open the port and check for console messages when booting the board.

Figure 2-4 Check console messages

7.   Press **Enter** and see that a new prompt is generated.

Figure 2-5 New prompt

A Appendix: Tectona UART to USB Adapter Mechanical Drawing

EXHIBIT 1

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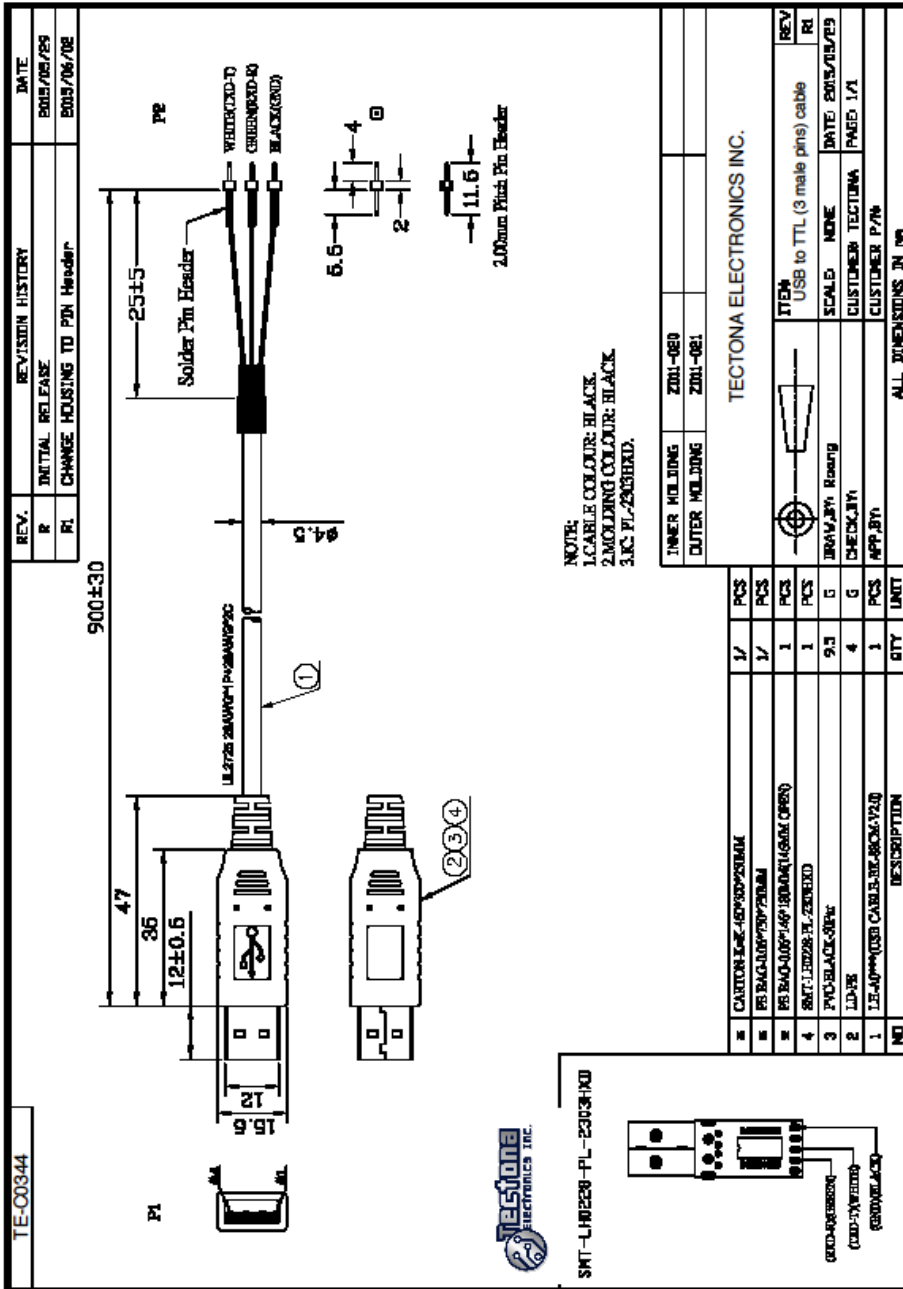1.1   **License.** Subject to the terms and conditions of this Agreement, including, without limitation, the restrictions, conditions, limitations and exclusions set forth in this Agreement, Qualcomm Technologies, Inc. ("QTI") hereby grants to you a nonexclusive, limited license under QTI's copyrights to use the attached Materials; and to reproduce and redistribute a reasonable number of copies of the Materials. You may not use Qualcomm Technologies or its affiliates or subsidiaries name, logo or trademarks; and copyright, trademark, patent and any other notices that appear on the Materials may not be removed or obscured. QTI shall be free to use suggestions, feedback or other information received from You, without obligation of any kind to You. QTI may immediately terminate this Agreement upon your breach. Upon termination of this Agreement, Sections 1.2-4 shall survive.

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