



DT-USB5734 Quick Start Guide

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1 Introduction

This document describes the DT-USB5734 four port USB-C/USB-3 Hub with Battery charging and serial port.

1.1 References

1. USB 3.1 Specification, Revision 1.0, USB-IF, July 26, 2013.
2. Type-C Cable and Connector Specification, USB-IF, Revision 1.1. April 3, 2015.
3. Battery Charging Specification, USB-IF, Revision 1.2. December 7, 2010.
4. USB5734 4-Port SS/HS USB Controller Hub Datasheet, Microchip, DS00001854C
5. UTC2000 Basic USB Type-C Controller Datasheet, Microchip, DS00001957C
6. MIC24055 12V, 12A High-Efficiency Buck Regulator SuperSwitcher II, Microchip, December 2012.

2 DT-USB5734 Overview

2.1 Features

- USB5734 in a 64-pin QFN RoHS compliant package
- USB 3.0 compliant (SS, HS, FS, and LS operation)
- Two downstream USB-C ports, and two USB3-A ports
- Four downstream ports enabled for battery charging:
 - Two USB3-C ports – 3A maximum per port
 - Two USB3-A ports – 1.5A maximum per port
- Microchip MIC24055 based switching regulator circuit can provide up to 10A at 5V when using a 12V 60 watt minimum power supply.
- Up to 9A total battery charging current when using a 12V, 60 watts minimum power supply
- Operates from a single 12VDC external power supply
- USB to Serial bridge with on board RS-232 transceiver and DB9 connector
- TTL level serial signals available on headers for probing
- Port Power LED indicators
- Power LED indicators for on board 5V and 3.3V DC regulators.
- Cable orientation LED indicators for USB-C ports
- Reset pushbutton with LED indicator

2.2 DT-USB5734 Top View

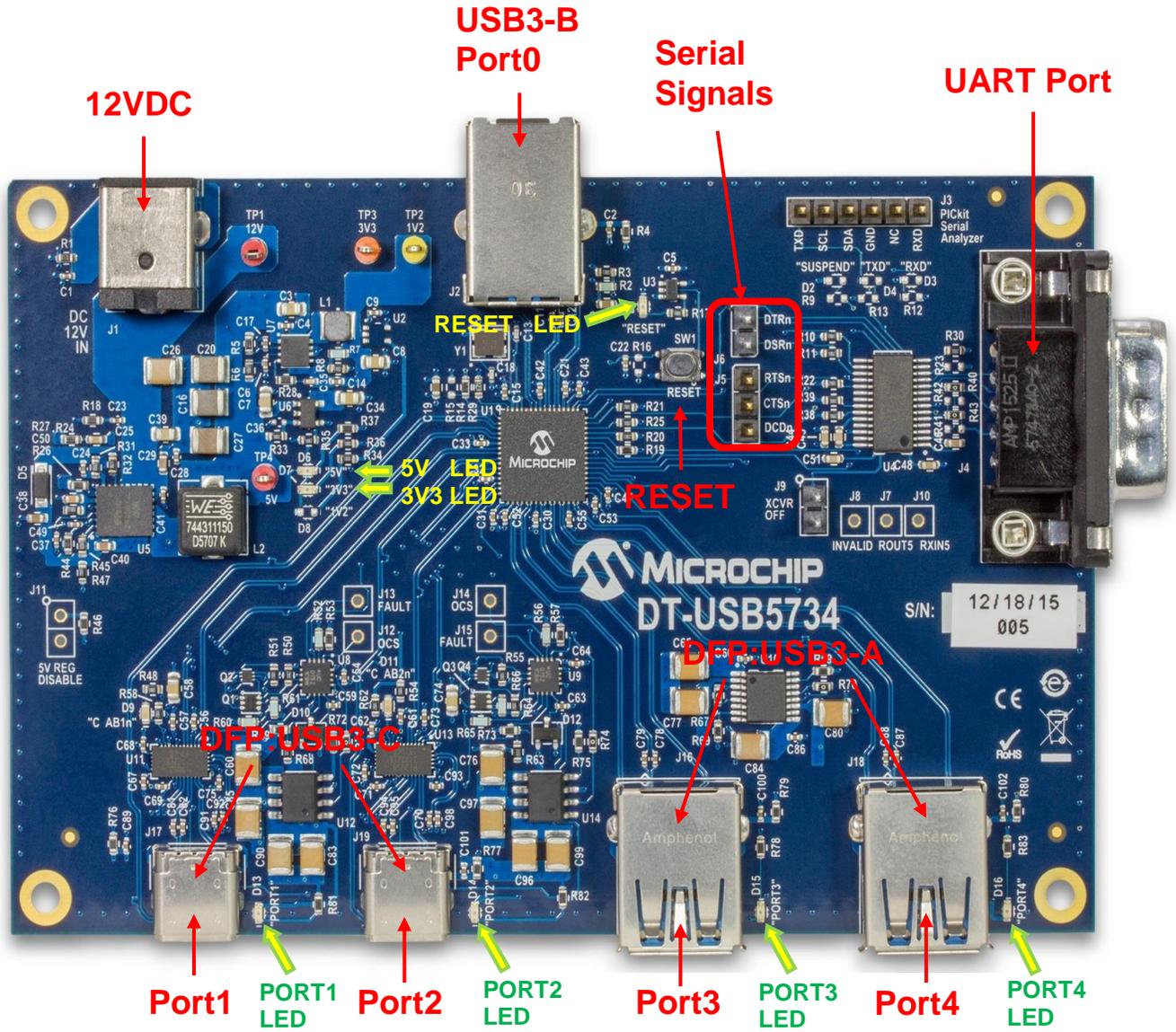


Figure 2.1: DT-USB5734

3 Installation

1. No board switch settings or jumpers are required for normal operation
2. For installation the following items are required which are not included on the kit:
 - a. 12VDC Power supply, minimum 30 watts. For maximum current during USB port battery charging a 12VDC 60 watt supply is recommended.
 - b. USB3-A to USB3-B cable
 - c. USB3-C, USB3, USB2 devices for connecting to USB downstream ports
 - d. DB9 serial cable if using the serial port
3. Connect 12VDC supply to wall outlet and DC plug into the DT-USB5734 DC jack.
4. Connect the USB3-A plug of USB3 cable to PC and USB3-B plug to USB3-B connector on the DT-USB5734.
5. Press reset pushbutton and release, the red reset LED should turn on and off.
6. With nothing connected to the USB downstream ports only 4 LEDs should be on:
 - a. **5V** LED
 - b. **3V3** LED
 - c. **PORT3** LED
 - d. **PORT4** LED
7. At this point the board is ready for use, connect USB devices as required.
8. If a device is connected to USB3-C port 1:
 - a. **PORT1** LED turns on
 - b. If **C_AB1n** LED is off, USB-C A side is active
 - c. If **C_AB1n** LED is on, USB-C B side is active
9. If a device is connected to USB3-C port 2:
 - a. **PORT2** LED turns on
 - b. If **C_AB2n** LED is off, USB-C A side is active
 - c. If **C_AB2n** LED is on, USB-C B side is active

Serial Port

The serial connector is wired as a Data Terminal Equipment (DTE). To use the serial port:

1. Connect a DB9 serial cable to UART Port connector. If connecting to a Modem or other data communications equipment (DCE) a serial straight cable is used. If connecting to a DTE or PC serial port a NULL Modem serial cable is required.
2. A terminal program such as Tera-Term or serial port application is required on the PC where the DT-USB5734 is connected.
3. The serial port from the DT-USB5734 will appear as USB5734 COM Port, see example below for Tera Term. Note that the actual port COM number will most likely be different from the one shown.

