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DS50002576A

PIC32MM USB Curiosity Development Board

Quick Start Guide

Overview

The PIC32MM USB Curiosity Development Board (DM320107) is a demonstration, development and experimentation platform based on the PIC32MM0256GPM064 USB low-power, low-cost microcontroller. The board has a built-in programmer/debugger and provides all of the hardware necessary to get started developing a complete embedded application. Some key features of the board include:

- PIC32MM0256GPM064 general purpose USB, 32-bit microcontroller
- PICkit™ On-Board (PKOB) circuit implements basic programming/debugging ability
- MCLR Reset button + three general purpose push buttons
- Red/Green/Blue (RGB) LED + two general purpose indicator LEDs
- 10k potentiometer
- 32.768 kHz crystal
- Female headers for access to microcontroller I/O pins
- Small prototyping area
- Two mikroBUS™ interfaces and two X32 interfaces for hardware expansion:
  - Supports a wide variety of add-on click boards™ from MikroElektronica (www.mikroe.com)
  - Compatible with the AC320100 Audio Codec Daughter Card

Board Power-up

The board is intended to be powered through either micro-B USB connector (USB1 or USB2). A MIC5528 linear regulator (U5) generates the +3.3V rail used by the PIC32MM0256GPM064 microcontroller.

Getting Started

Microchip Technology provides several example projects that can be used to get started with the PIC32MM Curiosity Development Board. The source code, the MPLAB® X IDE, the XC32 C compiler and the MPLAB Code Configurator (MCC) can be obtained from:

http://www.microchip.com/pic32mmusbcuriosity
http://www.microchip.com/curiosity
http://www.microchip.com/mplab
http://www.microchip.com/xc32
http://www.microchip.com/mcc

The preprogrammed "out-of-box" demo project for the PIC32MM USB Curiosity Development Board implements an RGB color mixing application. In the demo, the potentiometer can be used to adjust each color channel intensity, independently, while the push buttons are used to select the channel to be adjusted. Additionally, when connected to a Windows® system-based host computer via USB2, the board enumerates as a custom/vendor class USB device, which can interface with a custom demo application.

In order to use the PKOB programmer/debugger within the MPLAB X IDE (v3.51 or later recommended), connect the board via USB1 and select:

```
Project Properties/Categories: Conf/Hardware Tool/Microchip
Starter Kits/Starter Kits (PKOB)/"PIC32MM USB Cur..."
```

Schematics

The schematics for the PIC32MM USB Curiosity Development Board are shown in Figure 1, Figure 2 and Figure 3.

FIGURE 1: PIC32MM USB CURIOSITY DEVELOPMENT BOARD SCHEMATICS REV. 1.1 (PAGE 1 OF 3)

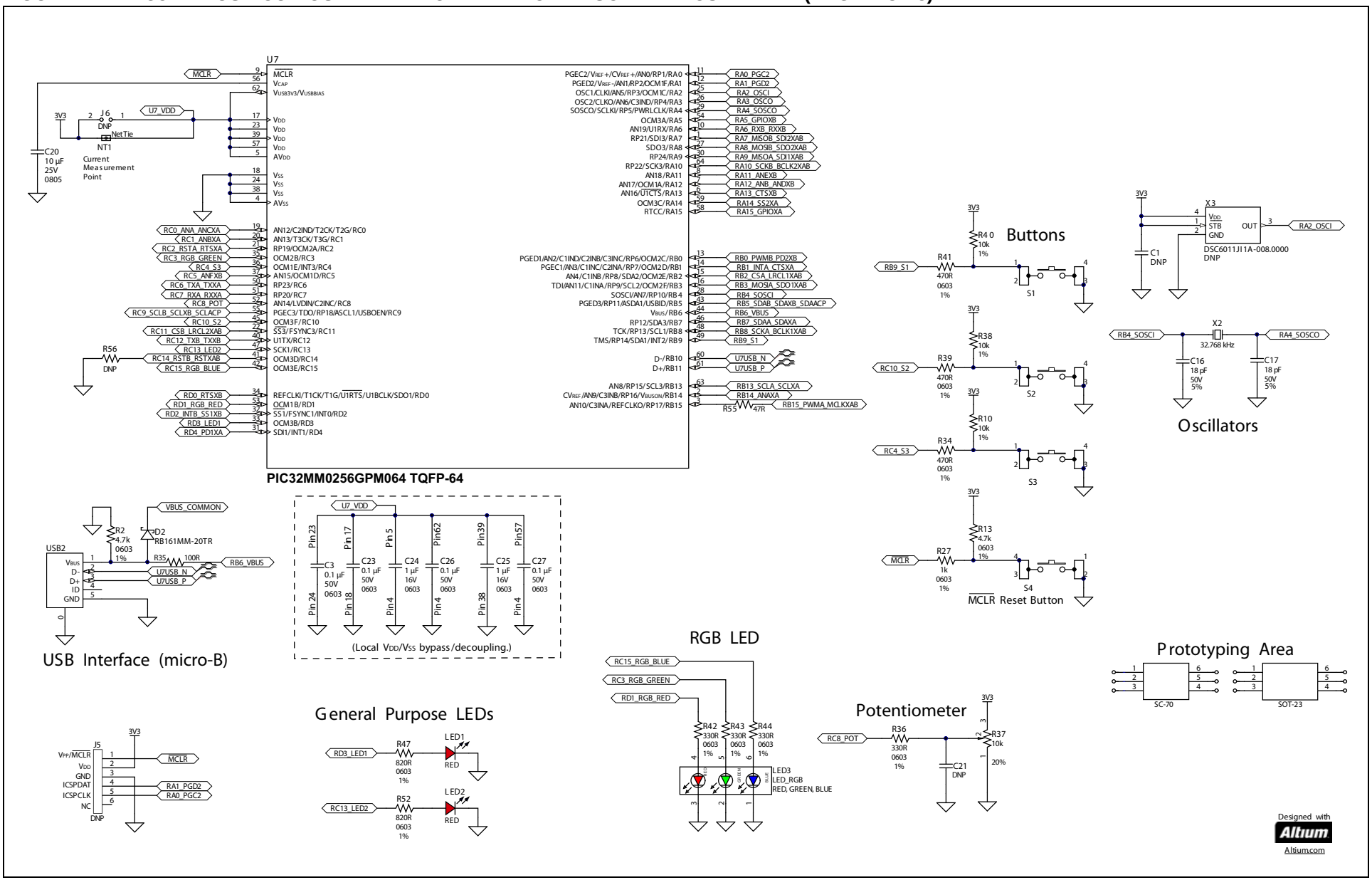

FIGURE 2: PIC32MM USB CURIOSITY DEVELOPMENT BOARD SCHEMATICS REV. 1.1 (PAGE 2 OF 3)

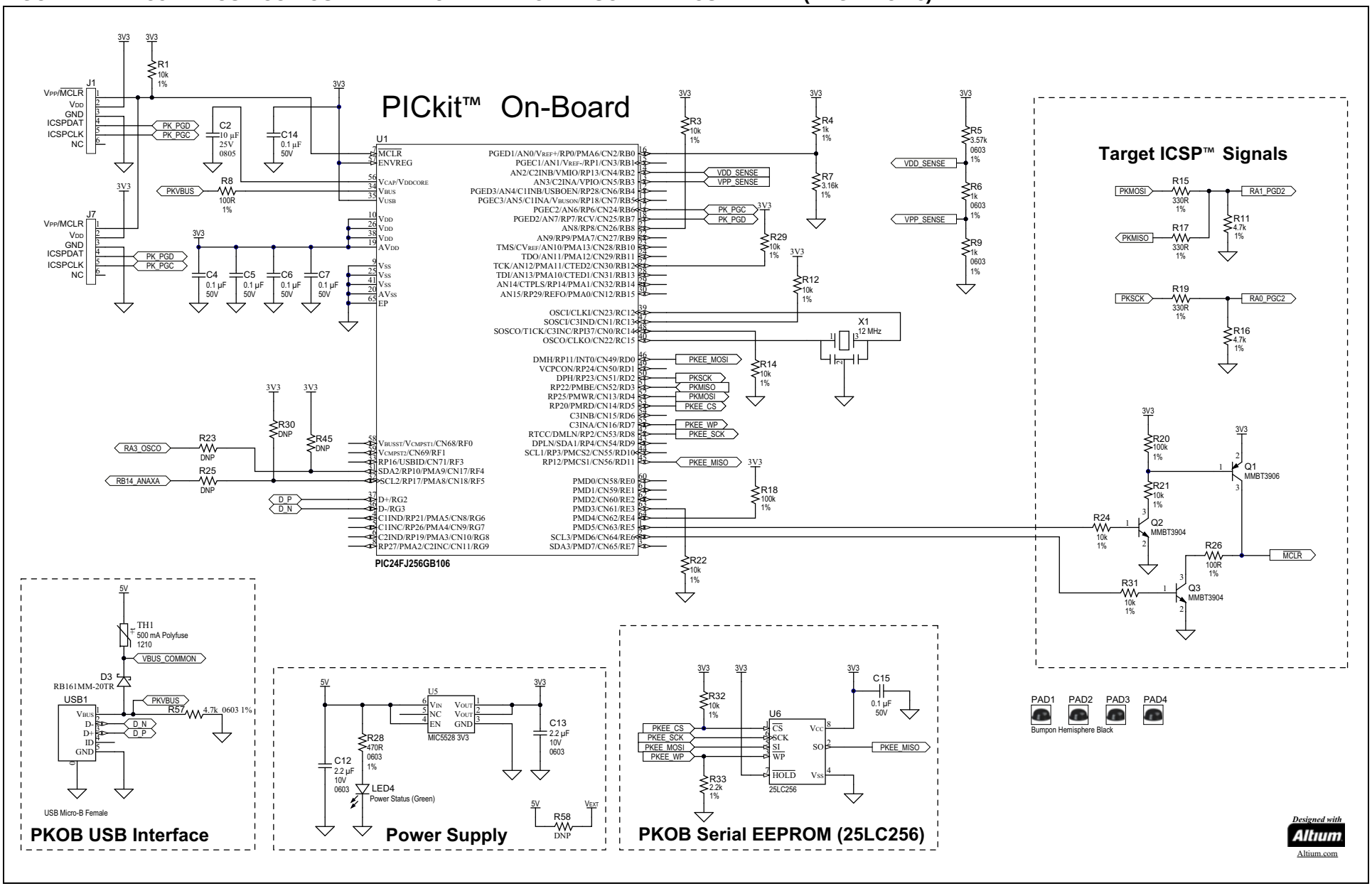
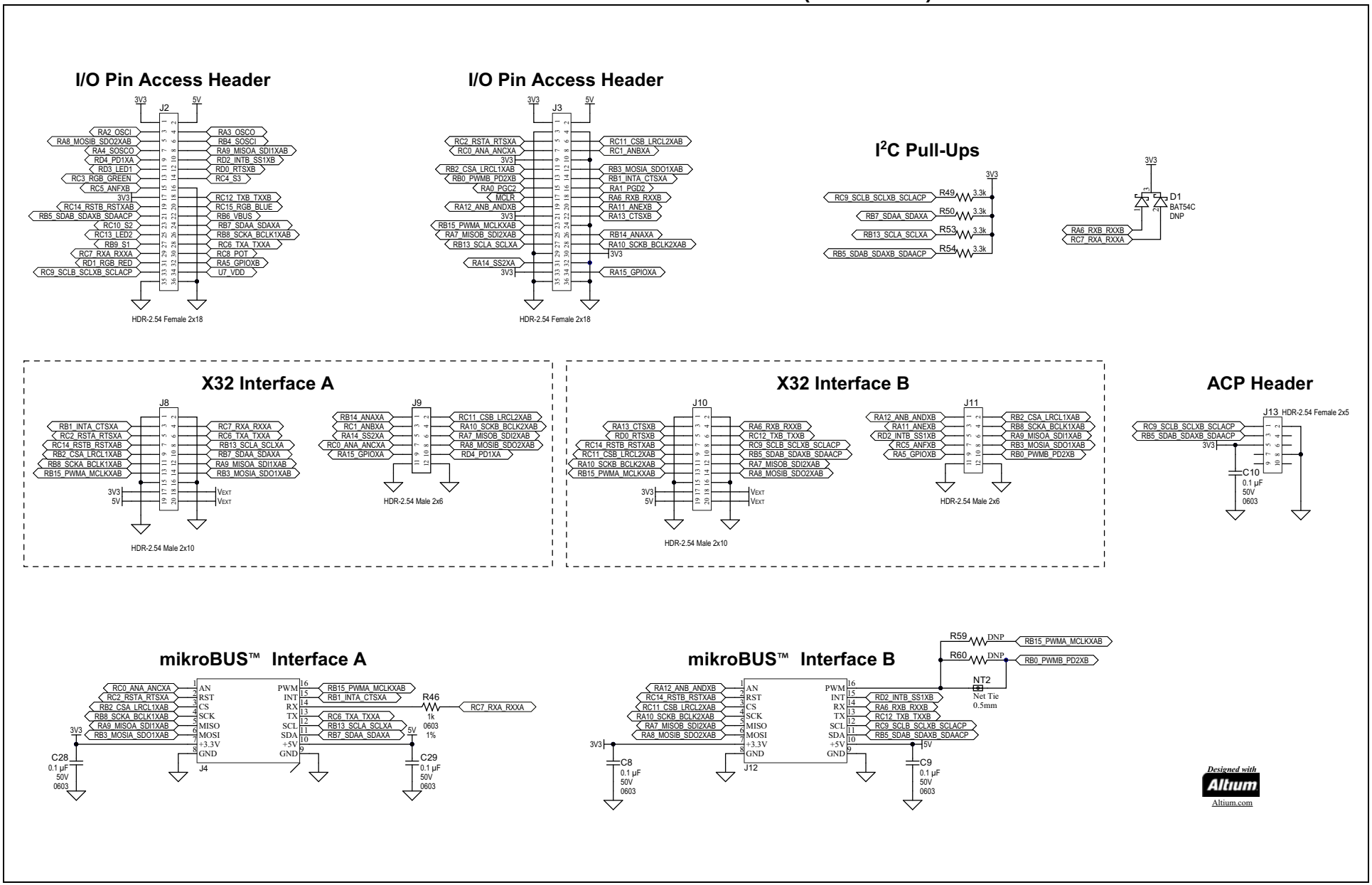
FIGURE 3: PIC32MM USB CURIOSITY DEVELOPMENT BOARD SCHEMATICS REV. 1.1 (PAGE 3 OF 3)