Test Plan and Procedure – P1.1.2

ECE 3740 – Ken Ferens – Fall 2017

Assignment 1

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1. INTRODUCTION

1.1 Purpose of the Test Plan Document

Since the board will be used with a TCP/IP stack, this document tests whether it works to upload the board with it, and tests very basic functionality: pinging the board with a host computer via Ethernet.

2. TESTING

2.1 Test Plan and Cases

Item to Test	Test Description	Test Date	Responsibility
TCP/IP ping functionality.	Load the MX7CK board with a TCP/IP stack, and make sure it is working by testing to see if it pings the computer.		Daniel Lovegrove

2.2 Test Procedures

2.2.1 TCP/IP Stack ping functionality

Prerequisites: Be using a Windows machine with MPLAB X installed, as well as the XC32 compiler and the PIC32 peripheral libraries. You must have the project zip file downloaded, and a MX7CK board with a micro USB cable and Ethernet cable.

Instruction	P/F
1. Using the file explorer GUI, copy the folder v2 to C:\tmp\v2	
2. Connect the MX7CK board to your computer with a micro USB cable and Ethernet cable. The small end of the USB should be plugged into the DEBUG port. The Ethernet cable should be connected between the board and the computer. Turn the board ON	
3. Open MPLAB X IDE by clicking its icon.	
4. In MPLAB X, click File->Open Project. Using the file explorer that was opened, open the project C:\tmp\v2\TCPIP\"Demo App"\XC32-PIC32_ETH_SK_ETH795.X	
5. Once the project is open, in MPLAB X click Debug->Debug Project. This will load the project onto the board. If a dialogue pops up for "Licensed Debugger not Found," click CerebotMX7CK under Licensed Debugger and click OK. Wait for the project to start running (LEDs will start rotating).	
6. Open a command prompt by pressing the Windows button and R at the same time, then type cmd.exe and press Enter.	

7. Ping the board by typing the following command in the command prompt you just opened (without quotation marks): “ping 192.168.1.214”. This is the IP address of the board.	
8. Verify that the board is being pinged. There should be responses showing up in the command window that look like this: “Reply from 192.168.1.214: bytes=32 time<1ms TTL=100”	
9. Once the ping functionality is verified to be working, exit the command prompt and stop debugging by clicking Debug->Finish Debugger Session. Optionally, delete the project from C:\tmp\v2.	

3. TEST PLAN TEMPLATE APPROVAL

The undersigned acknowledge they have reviewed the P1.1.2 Test Plan and Procedure document and agree with the approach it presents. Any changes to this Requirements Definition will be coordinated with and approved by the undersigned or their designated representatives.

Signature (TA) _____ Date: _____

Print Name: _____

Title: _____

Role: _____

4. REFERENCES

K. Ferens, “ECE 3740 Systems Engineering Principles 1,” 15 September 2001. [Online]. Available: http://ece.eng.umanitoba.ca/undergradutate/ECE3740/. [Accessed 17 September 2017].