MST-0417

MWA 550-ATIM I2C PCB

Test: I2C verification

Serial number:	001
Tester:	IM
Date:	7/12/10

Test procedure

1. Ensure temperature monitor boards are not connected to ATIM
2. Connect power from bench supply set at 5V using JIG-00XX
3. Short pin 45 of J10 to pin 49 of J10 to enable U9 & U10 – a header with these pins connected is available as JIG-00XX
4. Connect RS232 port to J9 (baud rate is 57600,N,8,1, no flow control)
   - ☑ ***Verify visually that SL3 is closed, SL4 open***
   - ☑ ***Use terminal program to send ASCII command* X5A *to reset BL233 – should see response* HI I2C v118(LF).** Note ASCII commands are case sensitive and must be entered as shown here.
5. Use terminal program to send ASCII command S9302 to read temperature from U6. The response is four hex characters which can be converted to temperature as follows:

   The first hex digit is 0 for positive or F for negative.
   If positive then take the next three digits, enter them into the Windows calculator in **Hex** mode then divide by 8. Switch to **Dec**imal mode and divide by 2. The answer is in degrees C with 0.5 deg resolution. Eg 01E8 converts to 30.5°C

   Response was 1B0
6. Warm U6 with your finger tip
   - ☑ ***Re-read temperature from U6 using S9302 and verify change in code***
7. If the CPLD has been programmed at some point prior to this then make sure the connector from JIG-00XX that connects Pins 43 & 49 of of J3 is removed otherwise the frequencies you observe will be wrong.
8. Send "S B0 02 10 00 R 02"
   - ☑ ***Verify response of* 10 00 *is received***
9. The previous step tells the DS1077 on the ATIM to turn on OUT0 – ie Mux register is set so that control bits are:

PDN0 = 0	PDN1 = 0
SEL0 = 1	EN0 = 0
0M1 = 0	0M0 = 0
1M1 = 0	1M0 = 0

   For reference, this sets both prescalers in the DS1077 to divide by 1 and directs 40MHz divided by Prescaler 0 to OUT0 and enables OUT1.
   - ☑ ***Observe 40MHz on U1 pin2 (OUT0)***
10. Send "S B0 02 17 80 R 02"
    - ☑ ***Verify response of* 17 80 *is received***
11. This changes both prescalers to divide by 8 and OUT0 should now be 5MHz.

☑***Veriy 5MHz on U1 pin 2***

12. Test is finished, the DS1077 has been verified sufficiently.

Comments