PenMount PM2201 PCI Controller Board Data Sheet

Revision History

Rev.	Date	By	Summary	Remark
1.0	2013/07/16	Ken Hsu	New release	

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1.0 Product

PenMount 2201 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with USB / I²C / UART interface supporting 5” to 7.9” projected capacitive touch screens; complemented by the superbly developed PenMount drivers which can be used directly in Windows 8.

PenMount 2201 Control Board uses Microcontroller, which is a capacitive sensing IC designed for AMT Projected Capacitive Input (PCI) touch panel and other projected capacitive touch panel. It is designed for PCI touch screen size up to 7.9”. PenMount 2201 Control Board has the programmable filter, gain amplifier; with the functions of single, dual touch; and the gestures of one and two fingers.

2.0 Specifications

2.1 Controller part no : P2-03

2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 5” to 7.9"

2.3 Interface: USB , I²C, UART
USB: Full-speed, 12Mbps
UART Interface 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP
I²C, Slave, support 400 kHz specifications

2.4 ADC resolution: 10bits

2.5 Max Touch Line : 24 Driving lines, 15 Sensing line

2.6 Sampling rate: One Point 100 sps / Two Point 80 sps

2.7 Operating Voltage: +3.3V / +5V

2.8 Power Consumption : Typical -- Typical -- Standby Mode : 16 mA / 5V;
Active Mode : 28.8 mA / 5V;
Sleep Mode : 1.4 mA / 5V;

2.9 Operating temperature: -20°C ~ +70°C

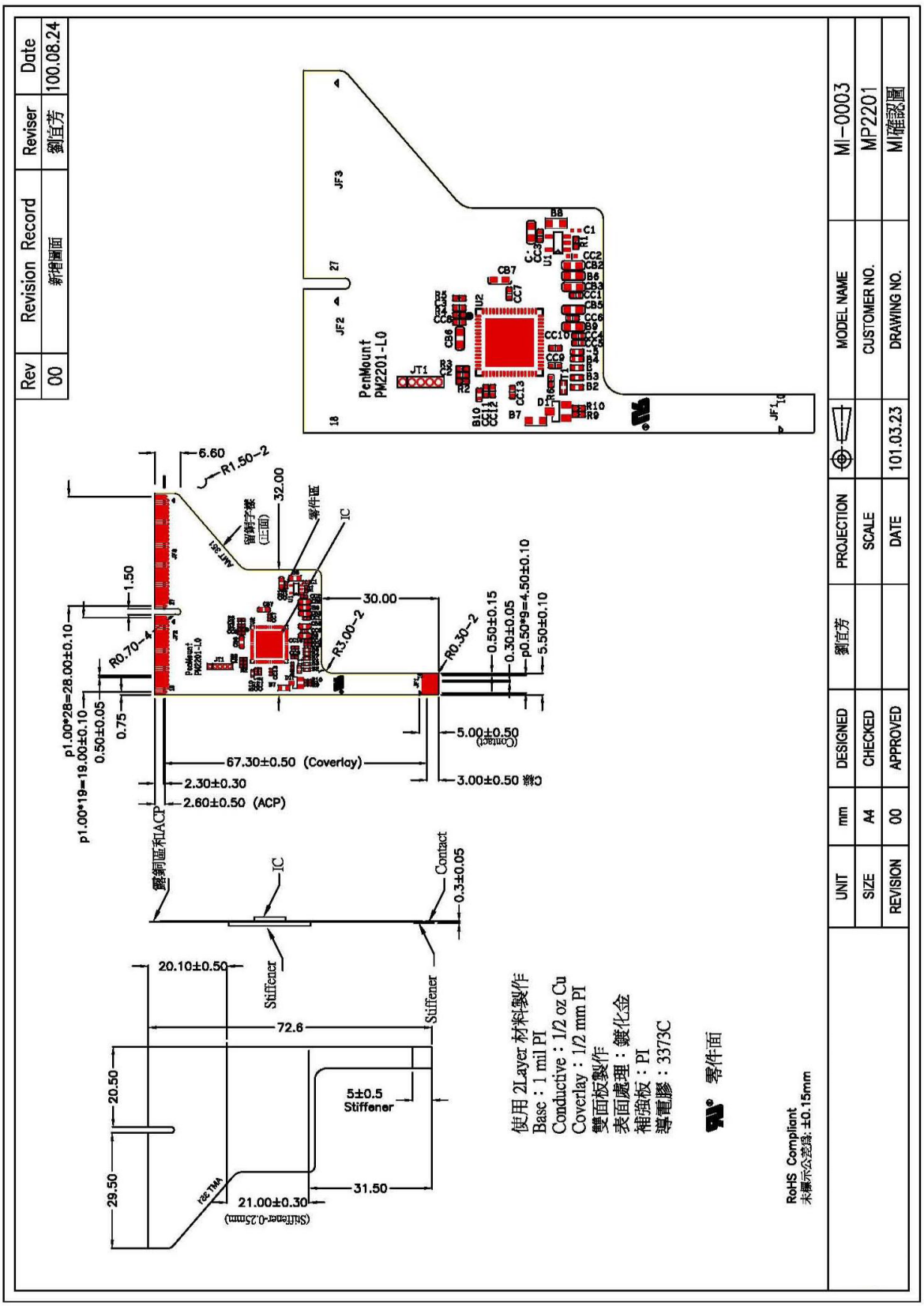
2.10 Storage temperature: -40°C ~ +85°C

Note :

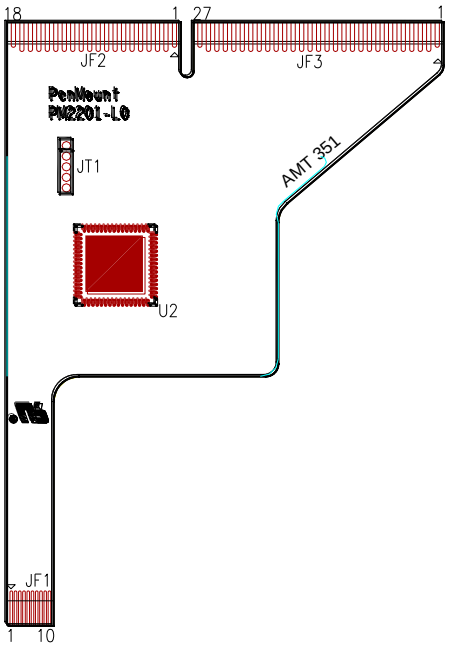
Power consumption and sample rate will vary according to different firmware versions.

3.0 Mechanical Drawing

3.1 Mechanical size



3.2 Touch line pin definition

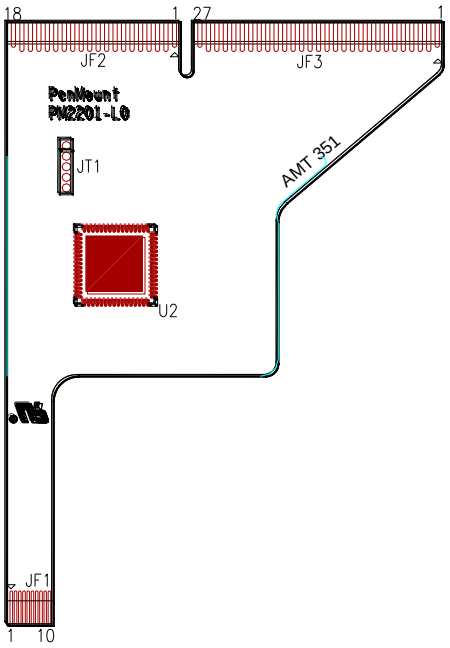


JF2							
PIN	**Description**	**PIN**	**Description**	**PIN**	**Description**	**PIN**	**Description**
1	GND	**6**	Cap Sense Y0	**11**	Cap Sense Y9	**16**	Cap Sense Y14
2	Cap Sense Y4	**7**	Cap Sense Y5	**12**	Cap Sense Y10	**17**	GND
3	Cap Sense Y3	**8**	Cap Sense Y6	**13**	Cap Sense Y11	**18**	GND
4	Cap Sense Y2	**9**	Cap Sense Y7	**14**	Cap Sense Y12		
5	Cap Sense Y1	**10**	Cap Sense Y8	**15**	Cap Sense Y13		

JF3							
PIN	**Description**	**PIN**	**Description**	**PIN**	**Description**	**PIN**	**Description**
1	GND	8	Cap Drive X18	15	Cap Drive X11	22	Cap Drive X4
2	GND	9	Cap Drive X17	16	Cap Drive X10	23	Cap Drive X3
3	Cap Drive X23	10	Cap Drive X16	17	Cap Drive X9	24	Cap Drive X2
4	Cap Drive X22	11	Cap Drive X15	18	Cap Drive X8	25	Cap Drive X1
5	Cap Drive X21	12	Cap Drive X14	19	Cap Drive X7	26	Cap Drive X0
6	Cap Drive X20	13	Cap Drive X13	20	Cap Drive X6	27	GND
7	Cap Drive X19	14	Cap Drive X12	21	Cap Drive X5		

JT1							
1	MCLR	3	GND	5	PGC(ICSPCLK)		
2	VCC	4	PGD(ICSPDAT)				

3.3 Interface pin definition



JF1 / 10PIN / USB , I²C, UART			
PIN NO.	DESIGNATION	PIN NO.	DESIGNATION
1	VCC 5V	6	SDA,TXD
2	D-	7	NC
3	D+	8	NC
4	GND	9	INTHM
5	SCL,RXD	10	VCC 3.3V

Note :

If you use I²C interface, please add pull-up resistor 2.2K at SCL / SDA / INTHM.

3.4 Interface detection

PM2201 supports interface detection. The firmware uses INTHM and CS to select interface. The user needs to set up INTHM and CS before PM2201 power-on. Please refer to the diagram below to select your desired interface.

	INTHM (JF1,Pin9)	CS(JF1,Pin8)
USB	Low / Float	Float
I2C	Float	Low
UART	Low	Low

Note: This feature might be turned off in the parameters. Please verify using PCIMSet V1.49 or above.

4.0 Drivers, Utilities

4.1 Drivers:

For I²C:

Windows CE : Provide binary driver for freescale iMX platform. Other platform by request.

Linux / Android : Provide source code for integration.

For USB , UART

Windows 2000, XP, 2003: single touch, mouse driver.

Windows Vista: single touch, inbox driver.

Windows 7,8: dual touch, Inbox driver.

Linux: Ubuntu, Android, other Linux distributions under development.

4.2 Utility:

Firmware adjustment utility is ready for user to fine tune the touch panel sensitivity.

Note :

Drivers, Utilities : all the drivers are available in AMT and PenMount website. The PenMount utilities is also available, contact us

5.0 Others

5.1 ROHS compliance: This control board is met ROHS compliance

5.2 For EMC protection recommendations please refer to the AMT touch screen integration guides.

5.3 Warranty: one year