

Revision History

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

1.0 Product

PenMount 2101 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with I²C / UART interface supporting 3" to 4.9" projected capacitive touch screens; complemented by the superbly developed PenMount drivers which can be used directly in Windows 8.

PenMount 2101 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 4.9". PenMount 2101 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

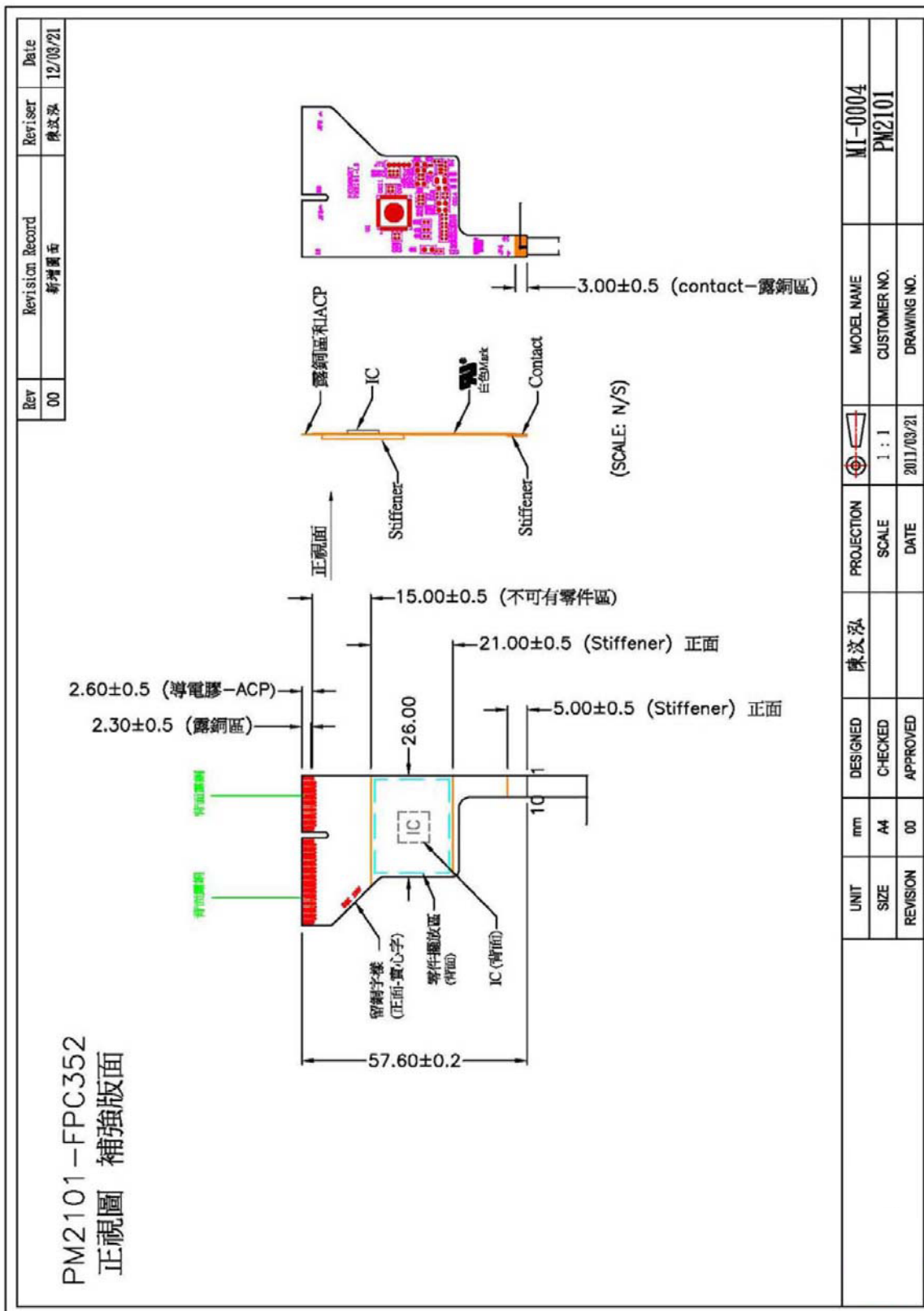
- 2.1 Controller part no : P2-02
- 2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 3" to 4.9"
- 2.3 Interface: I²C, UART
UART Interface 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP
I²C, Slave, support 400 kHz specifications
- 2.4 ADC resolution: 10bits
- 2.5 Max Touch Line : 17 Driving lines, 10 Sensing line
- 2.6 Sampling rate: One Point 100 sps / Two Point 80 sps
- 2.7 Operating Voltage: +5V DC
- 2.8 Power Consumption : Typical -- Typical -- Standby Mode : 4.5 mA
Active Mode : 8.8 mA
Sleep Mode : 0.2mA
- 2.9 Operating temperature: -20°C ~ +70°C
- 2.10 Storage temperature: -40°C ~ +85°C

Note :

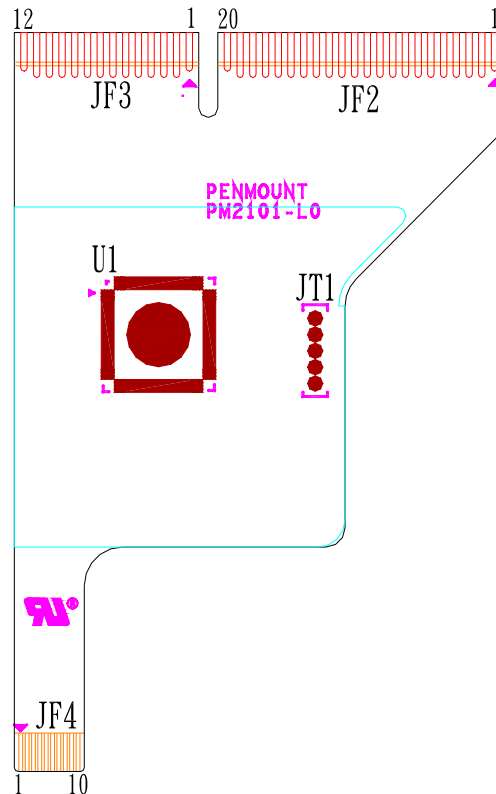
Power consumption and sample rate will vary according to different firmware versions.

3.0 Mechanical Drawing

3.1 Mechanical size

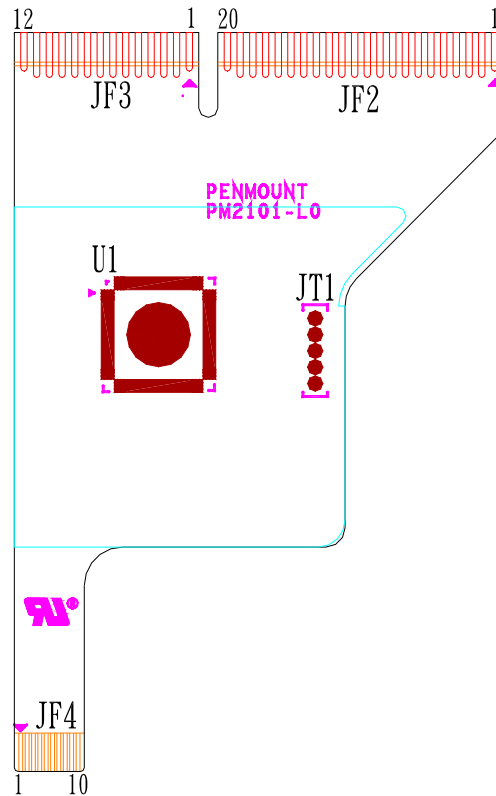


3.2 Touch line pin definition



JF3							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	GND	4	Cap Sense Y7	7	Cap Sense Y4	10	Cap Sense Y1
2	Cap Sense Y9	5	Cap Sense Y6	8	Cap Sense Y3	11	Cap Sense Y0
3	Cap Sense Y8	6	Cap Sense Y5	9	Cap Sense Y2	12	GND
JF2							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	GND	6	Cap Drive X13	11	Cap Drive X8	16	Cap Drive X3
2	GND	7	Cap Drive X12	12	Cap Drive X7	17	Cap Drive X2
3	Cap Drive X16	8	Cap Drive X11	13	Cap Drive X6	18	Cap Drive X1
4	Cap Drive X15	9	Cap Drive X10	14	Cap Drive X5	19	Cap Drive X0
5	Cap Drive X14	10	Cap Drive X9	15	Cap Drive X4	20	GND
JT1							
1	MCLR	3	GND	5	PGC(ICSPCLK)		
2	VCC	4	PGD(ICSPDAT)				

3.3 Interface pin definition



JF4 / 10PIN / I ² C, UART			
PIN NO.	DESIGNATION	PIN NO.	DESIGNATION
1	VCC 5V	6	SDA, TXD
2	NC	7	NC
3	NC	8	NC
4	GND	9	INTHM
5	SCL, RXD	10	NC

Note :

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

3.4 Interface detection

PM2101 supports interface detection. The firmware uses INTHM to select I²C or UART interface. The user needs to set up INTHM before PM2101 power-on. Please refer to the diagram below to select your desired interface.

	INTHM (JF4,Pin9)
I ² C	Float
UART	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 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