

PenMount PM2102 PCI Controller Board Data Sheet

1.0 Product

PenMount 2102 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with USB / 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 2102 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 2102 Control Board has the programmable filter, gain amplifier; with the functions of single, dual touch; and the gestures of one and two fingers.

Note:

When there is water on the surface of the PCI touch panel, please wipe it dry. Then the PCI will function properly.

2.0 Specifications

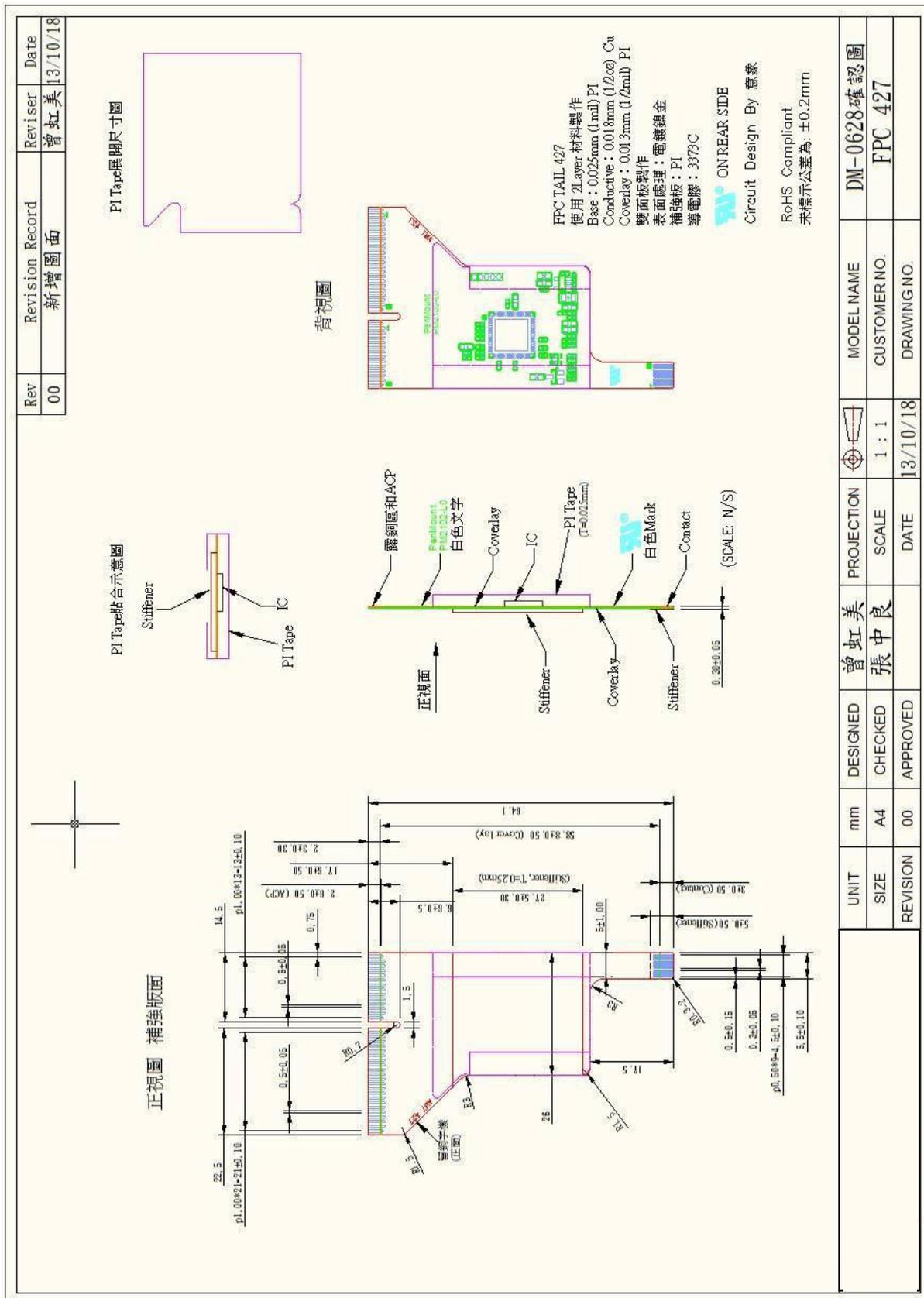
- 2.1 Controller part no : P2-03
- 2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 3" to 4.9"
- 2.3 Interface: USB , I²C, UART
USB: Full-speed, 12Mbps
UART: 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP
I²C: I²C Slave, support 400 kHz specifications
- 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: +3.3V / +5V
- 2.8 Power Consumption : Typical -- Standby Mode : 15.6 mA @ 5V;
Active Mode : 28.0 mA @ 5V;
Sleep Mode : 1.3 mA @ 5V;
- 2.9 Operating temperature: -20°C ~ +70°C
- 2.10 Storage temperature: -40°C ~ +85°C

Note :

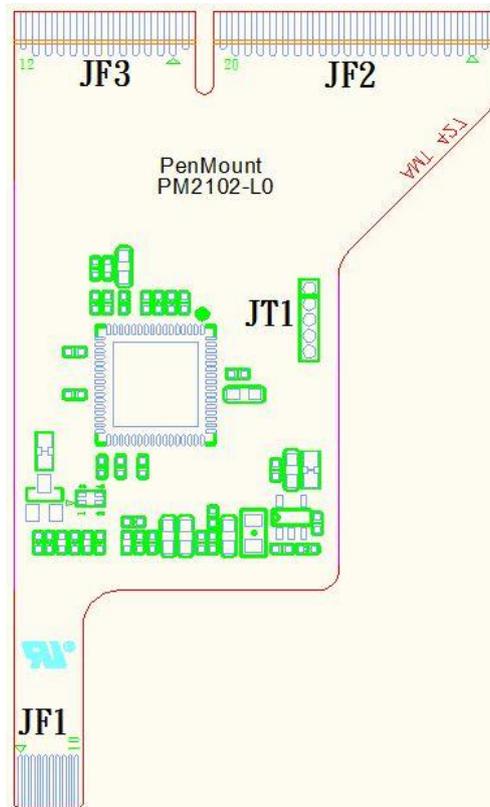
Power consumption and sample rate will vary according to different firmware versions.

3.0 Mechanical Drawing

3.1 Mechanical size

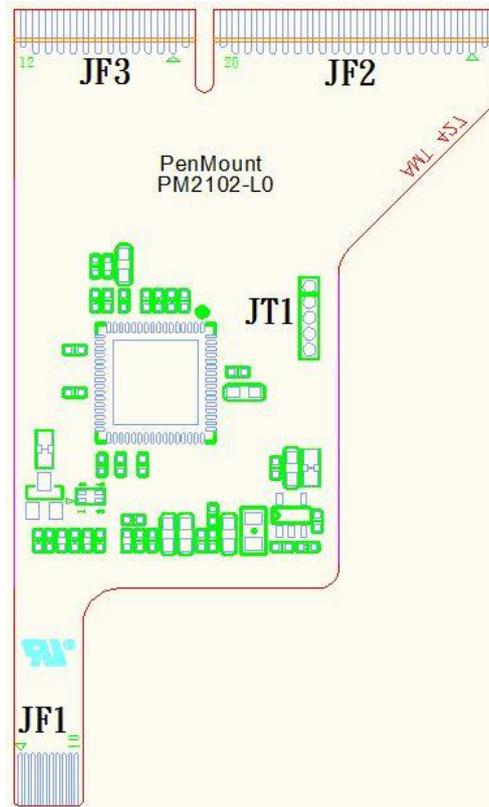


3.2 Touch line pin definition



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



JF1 / 10PIN / USB , I ² C, UART			
PIN NO.	DESIGNATION	PIN NO.	DESIGNATION
1	VCC 5V	6	SDA, TXD
2	D-	7	RESET
3	D+	8	DETECT
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

PM2102 supports interface detection. The firmware uses INTHM and DETECT to select interface. The user needs to set up INTHM and DETECT before PM2102 power-on. Please refer to the diagram below to select your desired interface.

	INTHM (JF1,Pin9)	DETECT (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