

CT10405 Controller Board Specification

PCAP Microchip® mxT1664T3 USB

**Sustaining Quality,
Exceeding Expectations**

DawarTouch®

1. General Description

The CT10405 is a base controller board designed for Dawar’s line of standard projected capacitive (PCAP) touch sensors. The board uses the Microchip® mxT1664T3 maXTouch® controller. The communications interface is standard USB 2.0 full speed. The CT10405 is an unprogrammed board. Programmed versions of this board are assigned custom CT part numbers.

For more information on the mxT1664T3x controller refer to the following Microchip® documentation:

- ▶ mxT1664T3 Datasheet
- ▶ Interfacing with maXTouch Touchscreen Controllers

Both documents are available on [Microchip’s website](#).

2. Functional Description

The CT10405 controller supports the following features:

- ▶ Up to 16 finger touches
- ▶ Stylus touches (stylus diameter depends on sensor design)
- ▶ Glove touches
- ▶ Thick cover lenses (up to 4mm glass, 2mm plastic)
- ▶ Greater than 100Hz report rate
- ▶ Low latency (<10ms for first touch report from idle mode)
- ▶ Automatic self-calibration
- ▶ Aggressive noise avoidance and noise cancellation features
- ▶ Maximum resolution of 4095 x 4095

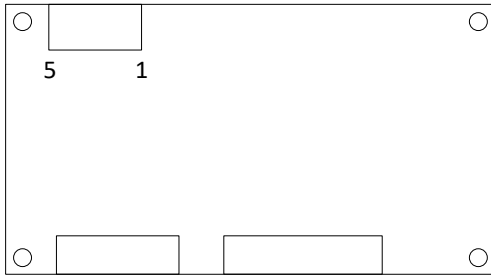
Additional tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	-	5	-	V	USB standard
Active Current	-	36	-	mA	Note 1
Sleep Current	-	3.5	-	mA	
X Electrodes	-	-	30	-	
Y Electrodes	-	-	20	-	

Note 1: Active power depends on configuration settings and number of touches.

4. Connector



Pin	Description
1	GND
2	5V
3	GND
4	D+
5	D-

USB board connector part number is Most Well 2WF2HD-201505T121A01 (compatible with JST S5B-PH-K-S).

Mating cable connector is Most Well 2HG2CT-201105NPA1A01 with crimp contact 2F2CA-PT1701 (compatible with JST PHR-5 and SPH-002T-P0.5L).

5. Environmental Specifications

Parameter	Min	Typ	Max	Units	Remarks
Operating Temperature	-40	-	85	°C	
Storage Temperature	-40	-	90	°C	
Relative Humidity	0	-	95	%RH	Note 1

Note 1: RH is defined at 60°C, non-condensing.

6. Operating System Support

Operating System	Supported	Remarks
Microsoft Windows XP	Yes	Note 1
Microsoft Windows 7	Yes	Note 2
Microsoft Windows 8	Yes	Note 2
Microsoft Windows 10	Yes	Note 2
Linux	Yes	Note 3

Note 1: Requires custom mouse emulation program. Contact Dawar for support.

Note 2: Compatible with Microsoft HID. No driver required.

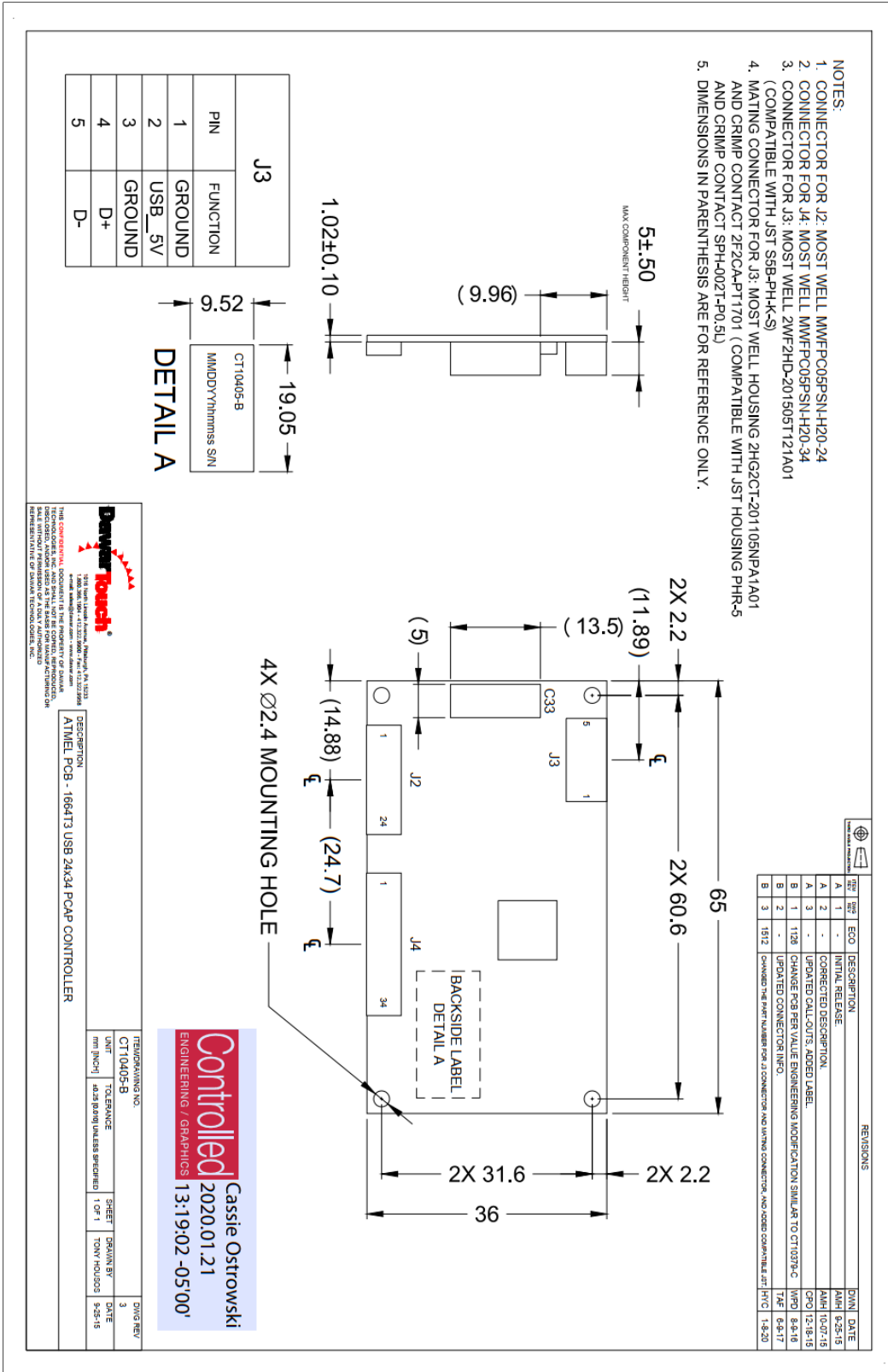
Note 3: Kernel version 2.6.38 or later. Refer to <https://github.com/atmel-maxtouch/linux/wiki/USB>.

7. Product Life

Dawar Technologies is committed to providing products stability and support to our valued

customers throughout the life of the product. All Dawar Touch products meet the following minimum requirements:

- ▶ 5 year minimum product lifecycle
- ▶ 12 month end of life (EOL) notification
- ▶ Last time buy option with EOL notification
- ▶ 60 day change notification for any change that affects form, fit, or function



REV	DATE	DESCRIPTION
A 1	-	INITIAL RELEASE
A 2	-	CORRECTED DESCRIPTION
A 3	-	UPDATED CALL-OUTS, ADDED LABEL
B 1	11/28	CHANGE PCB PER VALUE ENGINEERING MODIFICATION SIMILAR TO CT10378-C
B 2	-	UPDATED CONNECTOR INFO.
B 3	1/12	CHANGED THE PART NUMBER FOR J2 CONNECTOR AND MATING CONNECTOR AND ADDED COMPATIBLE PARTS

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DESCRIPTION: ATINEL PCB - 186413 USB 2A/3A PCAP CONTROLLER

Controlled
2020.01.21
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Cassie Ostrowski

TEMPERATURE	CT10405-B	DATE
DATE	3	DATE
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Revision History

Revision	Date	Content	Author
A	9-6-2019	Initial Release	Tony Gray
B	1-27-2020	Added JST part numbers for USB connector	Tony Gray