



## **CT11105 Controller Board Specification**

**PCAP EETI<sup>®</sup> EXC80H84 USB and I<sup>2</sup>C**

**Sustaining Quality,  
Exceeding Expectations**

**DawarTouch<sup>®</sup>**



## 1. General Description

The CT11105 is a base controller board designed for Dawar's line of standard projected capacitive (PCAP) touch sensors. The board uses the EETI® EXC80H84 controller. The board supports both USB 2.0 full speed and I<sup>2</sup>C. The I<sup>2</sup>C connector is not populated on the base board. Dawar can provide custom SKUs with different I<sup>2</sup>C headers. The CT11105 is an unprogrammed board. Programmed versions of this board are assigned custom CT part numbers.

For more information on the EETI controller contact Dawar Technologies.

## 2. Functional Description

The CT11105 controller supports the following features:

- ▶ Up to 10 finger touches
- ▶ 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

Additional tuning support from Dawar is available for specialized applications.

## 3. Electrical Specifications

### 3.1. USB Interface

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	-	5	-	V	USB standard
Active Current	-	90	-	mA	Note 1
Sleep Current	-	1	-	mA	
X Electrodes	-	-	21	-	
Y Electrodes	-	-	27	-	

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

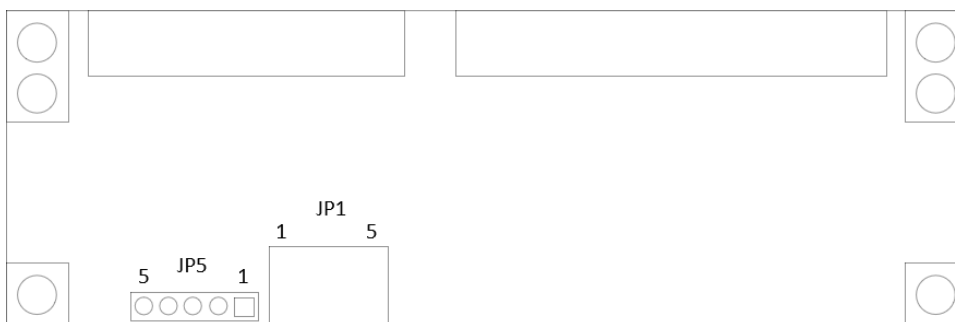
### 3.2. I<sup>2</sup>C Interface

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	3.3	5.0	5.0	V	
Active Current	-	90	-	mA	Note 1
Sleep Current	-	1	-	mA	
X Electrodes	-	-	21	-	
Y Electrodes	-	-	27	-	

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

## 4. Connector

Connector locations are shown below:



### 4.1. USB Interface

JP1 USB	
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).

## 4.2. I<sup>2</sup>C Connector

Pin	Description	Note
1	GND	
2	SDA	I2C data with 4.7k pull-up to 3.3 V
3	SCL	I2C clock with 4.7k pull-up to 3.3 V
4	VDD	
5	/INT	Active low interrupt indicating data is available with 3.3k pull-up to 3.3 V

I<sup>2</sup>C connector is not populated by default. Header layout is standard 0.1" center thru-hole. Dawar can provide custom SKU with customer specified header.

## 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 driver. Contact Dawar for support.

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

Note 3: Kernel version 2.6.38 or later. Refer to <http://www.eeti.com.tw/drivers/Linux.html>.

## 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

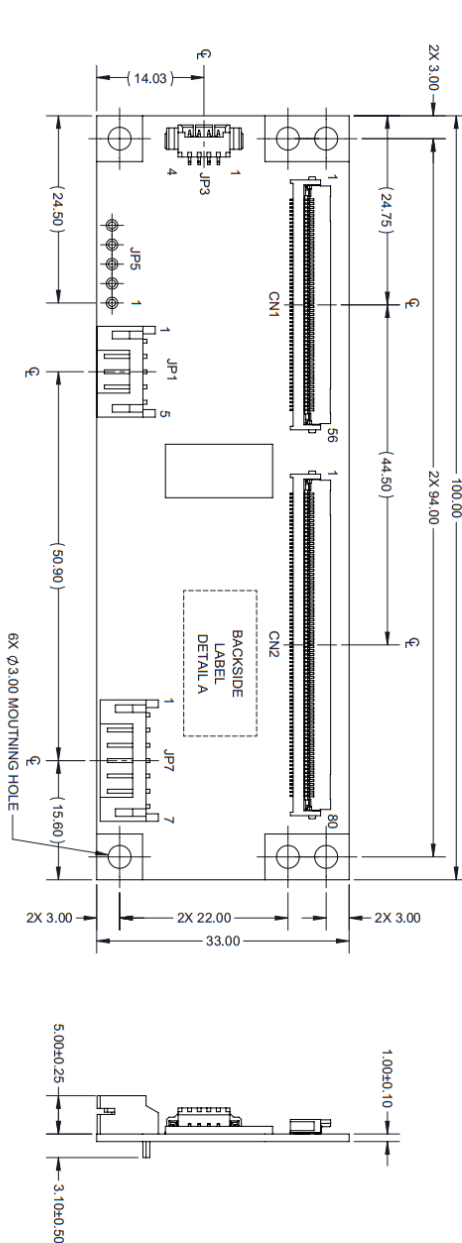
- NOTES:
- CONNECTOR FOR JP1: MOST WELL 2MF2HD-201505T121A01 (COMPATIBLE WITH JST S58-PH-K-S) MATING CONNECTOR FOR JP1: MOST WELL HOUSING 2HG2CT-201105NPA1A01 AND CRIMP CONTACT 2F2CA-PT701 (COMPATIBLE WITH JST HOUSING PHR-5 AND CRIMP CONTACT SPH-002T-P0.5L)
  - CONNECTOR FOR JP7: MOST WELL 2MF2HD-201507T121A01 (COMPATIBLE WITH JST S7B-PH-K-S) MATING CONNECTOR FOR JP7: MOST WELL HOUSING 2HG2CT-201107NPA1A01 AND CRIMP CONTACT 2F2CA-PT701 (COMPATIBLE WITH JST HOUSING PHR-7 AND CRIMP CONTACT SPH-002T-P0.5L)
  - DIMENSIONS IN PARENTHESIS ARE FOR REFERENCE ONLY.

JP1 - USB	
PIN	FUNCTION
1	GND_E
2	VDD
3	GND
4	D+
5	D-

JP3 - STYLUS	
PIN	FUNCTION
1	GND_D
2	TX_PEN
3	VDD
4	GND_D

JP5 - I2C	
PIN	FUNCTION
1	GND
2	I2C_SDA
3	I2C_SCL
4	VDD
5	I2C_INT

JP7 - RS232	
PIN	FUNCTION
1	UR_CTS
2	UR_TX
3	UR_RX
4	UR_RTS
5	GND_E
6	VDD
7	GND



## REVISIONS

ITEM	REV	ECO	DESCRIPTION	DWN	DATE
A	1	-	INITIAL RELEASE	EMK	10/17/19
A	2	1512	UPDATED CONNECTOR PART # FOR J1 & J7	EMK	01/15/20

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ENGINEERING / GRAPHICS 09:02:42 -05'00'

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DESCRIPTION  
PCB EET1 84H 56X80 USB+I2C+RS232 STD. EXC84H5680STAG

ITEM/DRAWING NO.		SHEET		DATE	
CT11105-A	2	1 OF 1	EMK	10/17/19	
UNIT	TOLERANCE	DRAWN BY		DATE	
MM [INCH]	+0.25 (0.010) UNLESS SPECIFIED				



### Revision History

Revision	Date	Content	Author
A	6-29-2020	Initial Release	Tony Gray

