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- 1.Controller FW

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1.Contants

This standard is for projected capacitive type touch panel that can be one module of LCD

2.General Standard Specification

Item	Specification	
Structure (not including liner)	Cover Glass	1.8 mm
	TOP OCA	0.1 mm
	TOP ITO Film	0.125 mm
	MID OCA	0.1 mm
	BOT ITO Film	0.05 mm
	Total thickness	2.175 mm ± 0.2 mm
Operating Temperature Range	-20°C ~+70°C ,20%RH ~85%RH (Except for de gathering.)	
Storage empe ature Range	-30°C ~+80°C ,20%RH ~90%RH (Except for dew gathering.)	
Light Transparency	87%min	
Package Drop	No damage the product.(1corner edge, 2 ridges, 4 surfaces, drop from 50 cm height)	
Controller FW	PCAP3188UR_2263_v00_T4b_000000_C000_Avalue_UR_DThqa	

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3. Optical Characteristic.

(3-1) test by light measure device and the result should be 87% min.

4. Electrical characteristics

TBD

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5. Reliability Test(Non operating.)

(5-1) High Temperature Test.

The requirements in 3 and 4 shall be satisfied after exposing at 80°C for 240 hours and at normal temperature and humidity for 24 hours.

(5-2) Low Temperature Test.

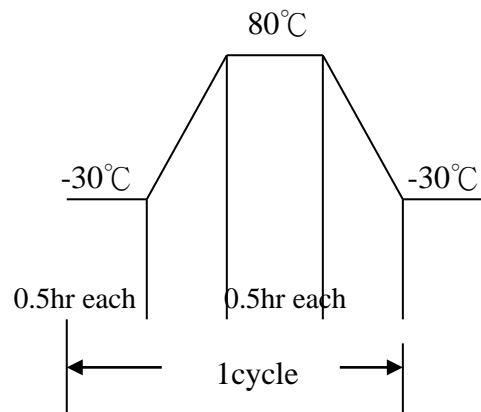
The requirements in 3 and 4, shall be satisfied after exposing at -30°C for 240 hours and at normal temperature and humidity for 24 hours.

(5-3) High Temperature 、 High Humidity Test.

The requirements in 3 and 4, shall be satisfied after exposing at 60°C, 90%RH for 240 hours (after dehumidifying in the chamber 40°C and 50% max.) and at normal temperature and humidity for 24 hours.

(5-4) Thermal Shock Test.

The requirements in 3 and 4, shall be satisfied after exposing under the conditions between -30°C (0.5hr each) and 80°C (0.5hr each) by 50 cycles (taking out at 80°C) and at normal temperature and humidity for 24 hours.



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6. Appearance Inspection Standard

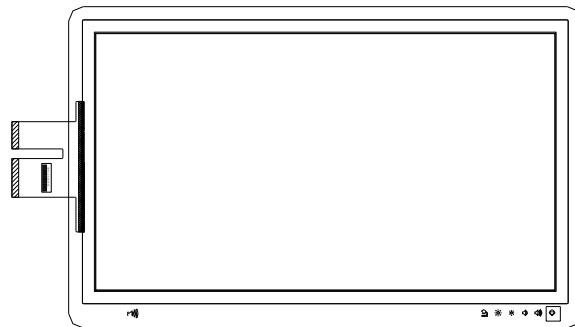
Unveil product appearance inspection standard and to assurance product quality Level.

(6-1).Scope :

TOUCH PANEL View area.

(6-2). Inspection Area(Inspection on front side only):

Appearance inspection of View area(VA) and black printing area are define at 6-5.



(6-3). Limit Sample:

If the definition of appearance inspection is out off the description mentioned in this specification, we will base on the both parties agreed limit sample. Both parties will have the same standard limit sample and the appearance definition will be based on the limit sample priority

(6-4). Inspection Conditions:

- The brightness in test site: 700 ± 300 Lux
- Inspection distance: $35 \text{cm} \pm 5 \text{cm}$
- Visible Angle : 30°
- Light Source: Be inspected under general daylight lamp.
- It's should be used by module upper component or adapter.
- Inspection background: using black and white background separately.

(6-5) Criteria

Based on above inspection condition, the defect can be found within 15 to 20 second is major defect.

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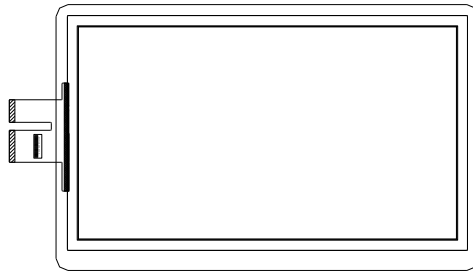
項目		檢驗標準	判定
線狀不良	划痕/刮傷	1. W(寬度)/L(長度),N(數量) 2. $W \leq 0.1\text{mm}, L \leq 20\text{mm}$, 3. $0.1\text{mm} < W \leq 0.2\text{mm}, L \leq 15\text{mm}, N \leq 5$ 4. $W > 0.2\text{mm}$ or $L > 20$ NG	判定 忽略 PASS NG
	纖維/毛絮/雜質	1. $W \leq 0.1\text{mm}, L \leq 15\text{mm}$, 2. $0.1\text{mm} < W \leq 0.3\text{mm}, L \leq 15\text{mm}$, $N \leq 5$, 間距 $\geq 5\text{mm}$ 3. $W > 0.3\text{mm}$ or $L > 15\text{mm}$	忽略 PASS NG
點狀不良	可視區	1. $(W+L)/2=D$ (直徑) , N(數量) 2. $D \leq 0.2\text{mm}$, 3. $0.2\text{mm} < D \leq 0.6\text{mm}, N \leq 5$ 間距 $\geq 5\text{mm}$ 4. $D > 0.6\text{mm}$	判定 忽略 PASS NG
	印刷區	1. $D \leq 0.2\text{mm}$, 2. $0.2\text{mm} < D \leq 0.6\text{mm}, N \leq 5$ 間距 $\geq 5\text{mm}$ 3. $D > 0.6\text{mm}$	忽略 PASS NG
	凹凸點	1. $D \leq 3\text{mm}$ 2. $D > 3\text{mm}$	不計數 NG
	(ICON 攝像孔 圖標)氣泡	不允許	NG
印刷不良	針孔	Judged only from the front of TP 1. $D \leq 0.6\text{mm}, N \leq 4$ 間距 $\geq 2\text{mm}$ 2. $D > 0.6\text{mm}$	N/A 忽略 NG
	鋸齒	1.黑框區可接受:高點至最低點距離 $\leq 0.2\text{mm}$ 2. Logo/icon 區可接受: 高點至最低點距離 $\leq 0.2\text{mm}$ (\leq 圖形本身的 1/4)	PASS PASS
	掉漆	Cover 掉漆不得有, sensor 不計 在 VMI 站可補漆	NG PASS
	LOGO/OSD/ICON 顏色	依限樣 follow	比對不合 格-NG
	印刷色差	Be follow by customer's AI drawing and "PANTO" or checked by golden sample	比對不合 格-NG
切割研磨 不良	切割	N/A	N/A
	研磨	研磨不完全	NG
其他不良	FPC(含金手指處)	死折&破損	NG
	玻璃裂痕	不得有	NG
	破損不良	X:長, Y:寬, Z:高, N(數量), T(玻璃厚度)	判定
	角落破損	1.COVER 允許 2.SENSOR $X \leq 3.0\text{mm}, Y \leq 3.0\text{mm}, Z \leq T/2\text{mm}$	PASS PASS
	邊緣破損 	1.COVER 允許 2.SENSOR $X \leq 3.0\text{mm}, Y \leq 3.0\text{mm}, Z \leq T/2\text{mm}$ 各邊允收 $N \leq 3$, 兩間距離 $\geq 10\text{mm}$	PASS PASS

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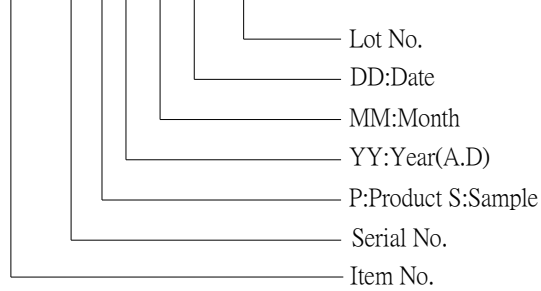
7. Package

(7-1) The touch panel should be cover by protect film both sides before put into box.

(7-2) The Lot No. will be printed on the glass during the Silver Pattern Printing Process for future tracing. Please see attached drawing.



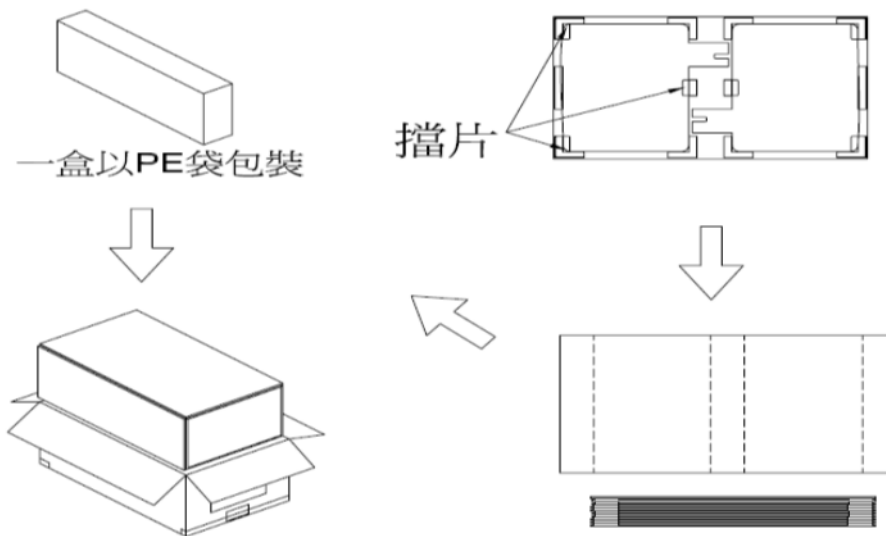
H8593H-XX-SXXXXXXXX-XXXX



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(7-3)Package

Using paper box to package, inside of box using PP tray.



(7-4)Transportation

Can not transport the product under the environment that may destroy the quality of product, such as, high humidity, extraordinarily high or low temperature.

8.Others.

- (8-1) Any question about this standard should discuss each other and answer it.
- (8-2) Any change of this standard should be approved by both parties. It can not be changed if not approved.
- (8-3) If having difference between general standard and specific standard, we adopt specific standard.
- (8-4) Providing one year warranty under the shelf life condition which meets the standard procedure and electrical properties. Ref.(8-5).
- (8-5) This product should keep in the condition 10~69% RH, temperature between 10~35°C, away the sunlight directly. Please avoid prolonged exposure to sunlight.Avoid the heavy material stack above to prevent the ITO film distortion.
- (8-6) Please put the carton down gently and prevent dropping the carton.
- (8-7) The validity of this specification
 - a) This document would be considered as a temporary specification.
 - b) This document is considered as an official specification, when this file was sent for one month without debate or signed.



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9.Return:

- (9-1) If received unsatisfied product, please contact with us within one month. If you would like to return the product, please keep the product in the original status. And send it back only touch panel itself.
- (9-2) Product specification assures only the quality of touch panel itself.
- (9-3) After carefully read product specification, please stamp with agree mark, and send it back our sales department. Two months after production been issued, and dent out to you, if we still not get any response from you. We will assume that you understand and accept all contains of production specification.
- (9-4) YFO do not accept any RMA after FPC assembly process or front lens/cover/window lamination process by Customer.
- (9-5) YFO does not accept any RMA which havebeen shipped over 1 month.

CN1

	PIN		PIN		PIN
1	NC	21	TX10	41	TX30
2	NC	22	TX11	42	TX31
3	NC	23	TX12	43	TX32
4	NC	24	TX13	44	TX33
5	NC	25	TX14	45	TX34
6	NC	26	TX15	46	TX35
7	NC	27	TX16	47	TX36
8	NC	28	TX17	48	TX37
9	NC	29	TX18	49	TX38
10	NC	30	TX19	50	TX39
11	TxShileding	31	TX20	51	TX40
12	TX1	32	TX21	52	TX41
13	TX2	33	TX22	53	TX42
14	TX3	34	TX23	54	TX43
15	TX4	35	TX24	55	TX44
16	TX5	36	TX25	56	TxShileding
17	TX6	37	TX26		
18	TX7	38	TX27		
19	TX8	39	TX28		
20	TX9	40	TX29		

CN2

	PIN		PIN		PIN		PIN		PIN
1	RxShileding	21	RX59	41	RX39	61	RX19		
2	RX78	22	RX58	42	RX38	62	RX18		
3	RX77	23	RX57	43	RX37	63	RX17		
4	RX76	24	RX56	44	RX36	64	RX16		
5	RX75	25	RX55	45	RX35	65	RX15		
6	RX74	26	RX54	46	RX34	66	RX14		
7	RX73	27	RX53	47	RX33	67	RX13		
8	RX72	28	RX52	48	RX32	68	RX12		
9	RX71	29	RX51	49	RX31	69	RX11		
10	RX70	30	RX50	50	RX30	70	RX10		
11	RX69	31	RX49	51	RX29	71	RX9		
12	RX68	32	RX48	52	RX28	72	RX8		
13	RX67	33	RX47	53	RX27	73	RX7		
14	RX66	34	RX46	54	RX26	74	RX6		
15	RX65	35	RX45	55	RX25	75	RX5		
16	RX64	36	RX44	56	RX24	76	RX4		
17	RX63	37	RX43	57	RX23	77	RX3		
18	RX62	38	RX42	58	RX22	78	RX2		
19	RX61	39	RX41	59	RX21	79	RX1		
20	RX60	40	RX40	60	RX20	80	RxShileding		



EXC84H5680STAG

Projected Capacitive Touchscreen Controller

The EXC84H5680STAG is a projected capacitive (PCAP) touch screen controller that powered by EETI's high performance MCU EXC80H84. By integrating the advantages of self and mutual capacitance sensing technology, built-in high driving voltage transceiver and a powerful MCU, this controller incorporate most desired features to boost the noise immunity, and support high demand applications in most categories.

Features

- USB, RS-232 and I2C interface
- Support advanced water resistance
- Support active stylus
- Support RS232 flow control
- Support OGS, SITO, DITO, G/F, G/F/F, G/G, and Metal Mesh sensor.
- Comprehensive driver support
- eGalaxTouchManger tool support
- API support
- RoHS compliant

OS Support Matrix

OS	Version	Interfaces
Windows	Windows 10 IOT (#1) / Windows 10 / Windows 8 / Windows 7 Windows Vista / Windows 2000 / Windows XP (#1: Windows 10 IOT: support it with inbox driver only) (#2: I2C interface: need additional system configuration)	USB / RS232 I2C (#2)
	Win Embedded Compact 2013 / Win Embedded Compact 7 WinCE 6 / WinCE.Net	USB / RS232
Linux	CentOS, Debian, Fedora, Gentoo, Mandrake (Mandriva), Meego, Red Hat, Slackware, SuSE (OpenSuSE), Ubuntu (Xubuntu) and Yellow Dog etc. <i>Support most 32/64 bit Linux distribution versions, including Kernel 2.6.x / 3.x.x / 4.x.x</i>	USB / RS232 I2C
Android	Android 2.3 to latest version	USB / I2C
Mac	OSX 10.7.5 to 10.12	USB
QNX	RTOS V6.3 to V6.6	USB/ I2C

Technical Specifications

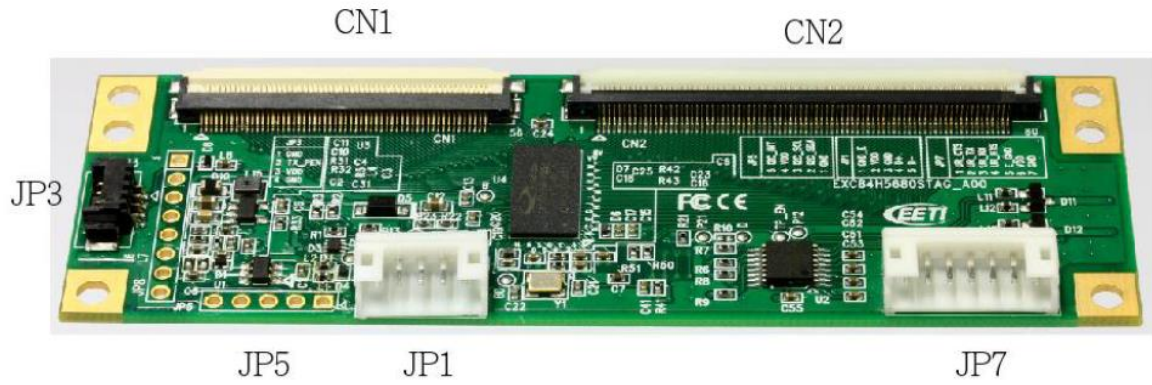
Circuit Board Dimension	33mm x 100mm x 8.1mm
Channels of Panel	Max.Tx:46 Rx:80 channels (include shielding pin)
Input Voltage	3.5V~5.5V.Typical 5V.
Operating Temperature	-40 to 85 °C
Storage Temperature	-40 to 90 °C
Relative Humidity	95% at 60 °C, RH Non-condensing
Linearity*	Line drawing accuracy : 1pt +/- 1mm offset /10mm Touch (point) accuracy : 1pt +/- 1mm
Interface	USB 2.0 compliant full speed with LPM L1 supported. Configurable Serial Interface. UART: baud rate 115200, none parity, 8 data bits, 1 stop bit, support hardware flow control I2C: up to 400KHz, Voltage Level 3.3V.
Resolution	16384 ×16384 resolution
Power consumption(mA)	Active Mode: < 90mA Idle Mode : depends on firmware
Report rate(points/sec)*	> 100 Hz
Response time	Average < 25 ms

Disclaimer

- Performance spec such as report rate can be vary depends on touch sensor channel number, cover thickness, system condition and other parameters.
- Reference sensor channel pitch should be ranged from 5.0mm (Win10) to 8mm (Non-Win10).
- Special input performance can be influenced depends on module condition, contact material and volume, subjects including through thick glass touch, gloved-hand input, water resistance and noise immunity etc.
- Special features require to be pre-defined and pre-tuned during project development.
- For product that needing Windows 7/8/10 WHQL logo certification, please contact your supplier for a WHQL logo grade touch module.

Accessory Cables

- ETP-CB-SXU00, External USB cable
- ETP-CB-SXU01, Internal USB cable
- ETP-CB-SXR17 , External RS232 cable



FPC Pin Description

CN1					
PN		PN		PN	
1	NC	21	TX34	41	TX14
2	NC	22	TX33	42	TX13
3	NC	23	TX32	43	TX12
4	NC	24	TX31	44	TX11
5	NC	25	TX30	45	TX10
6	NC	26	TX29	46	TX9
7	NC	27	TX28	47	TX8
8	NC	28	TX27	48	TX7
9	TX_S1	29	TX26	49	TX6
10	TX45	30	TX25	50	TX5
11	TX44	31	TX24	51	TX4
12	TX43	32	TX23	52	TX3
13	TX42	33	TX22	53	TX2
14	TX41	34	TX21	54	TX1
15	TX40	35	TX20	55	TX0
16	TX39	36	TX19	56	TX_S0
17	TX38	37	TX18		
18	TX37	38	TX17		
19	TX36	39	TX16		
20	TX35	40	TX15		

CN2					
PN		PN		PN	
1	RX_S1	21	RX58	41	RX38
2	RX77	22	RX57	42	RX37
3	RX76	23	RX56	43	RX36
4	RX75	24	RX55	44	RX35
5	RX74	25	RX54	45	RX34
6	RX73	26	RX53	46	RX33
7	RX72	27	RX52	47	RX32
8	RX71	28	RX51	48	RX31
9	RX70	29	RX50	49	RX30
10	RX69	30	RX49	50	RX29
11	RX68	31	RX48	51	RX28
12	RX67	32	RX47	52	RX27
13	RX66	33	RX46	53	RX26
14	RX65	34	RX45	54	RX25
15	RX64	35	RX44	55	RX24
16	RX63	36	RX43	56	RX23
17	RX62	37	RX42	57	RX22
18	RX61	38	RX41	58	RX21
19	RX60	39	RX40	59	RX20
20	RX59	40	RX39	60	RX19
				80	RX_S0

Connector Pin Configuration

JP1 USB connector

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

JP5 I2C connector

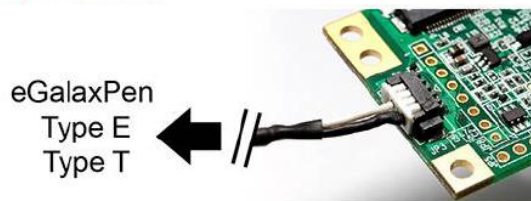
JP5	
1	GND
2	I2C_SDA
3	I2C_SCL
4	VDD
5	I2C_INT

JP7 RS232 connector

JP7	
1	UR_CTS
2	UR_TX
3	UR_RX
4	UR_RTS
5	GND_E
6	VDD
7	GND

JP3 Tethered active stylus connector

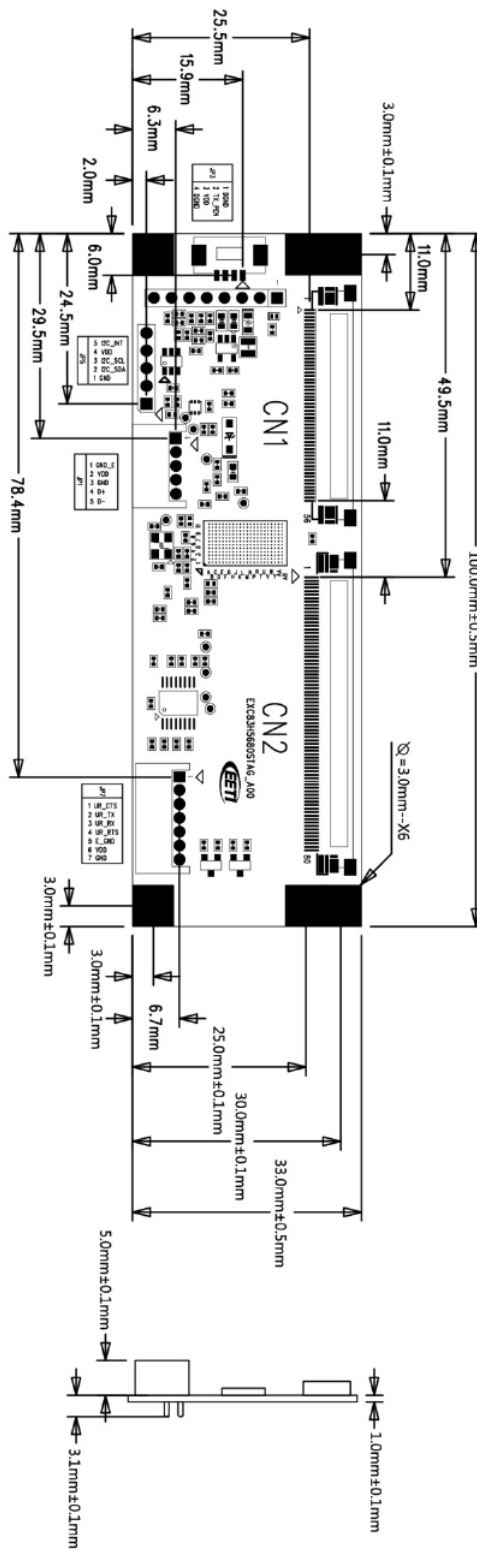
JP3	
1	GND_D
2	TX_PEN
3	VDD
4	GND_D



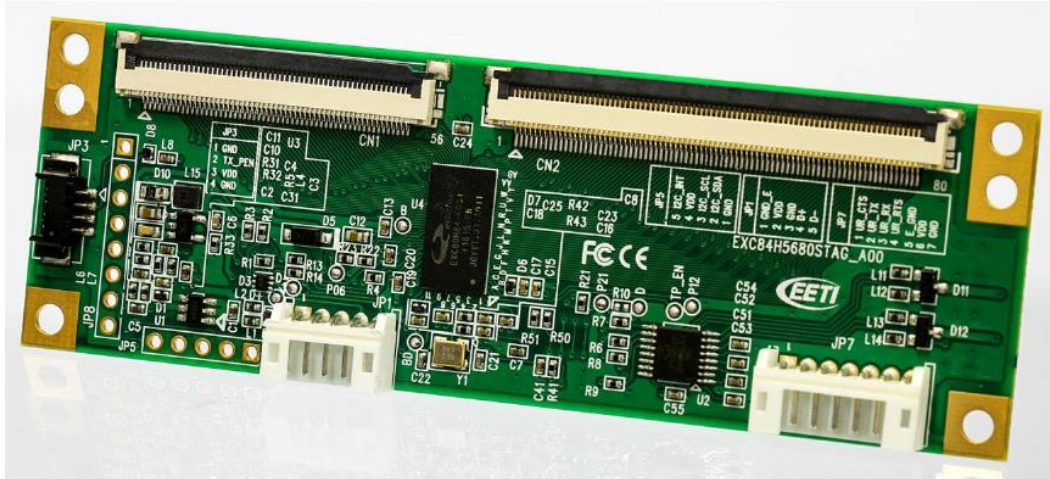
*JP3 connector is reserved for EETI tethered active stylus :
 Type E : Entry-type active stylus
 Type T : Tethered USB active stylus

Mechanical Specification

EXC84H5680STAG



Second Vendor for CN1 and CN2

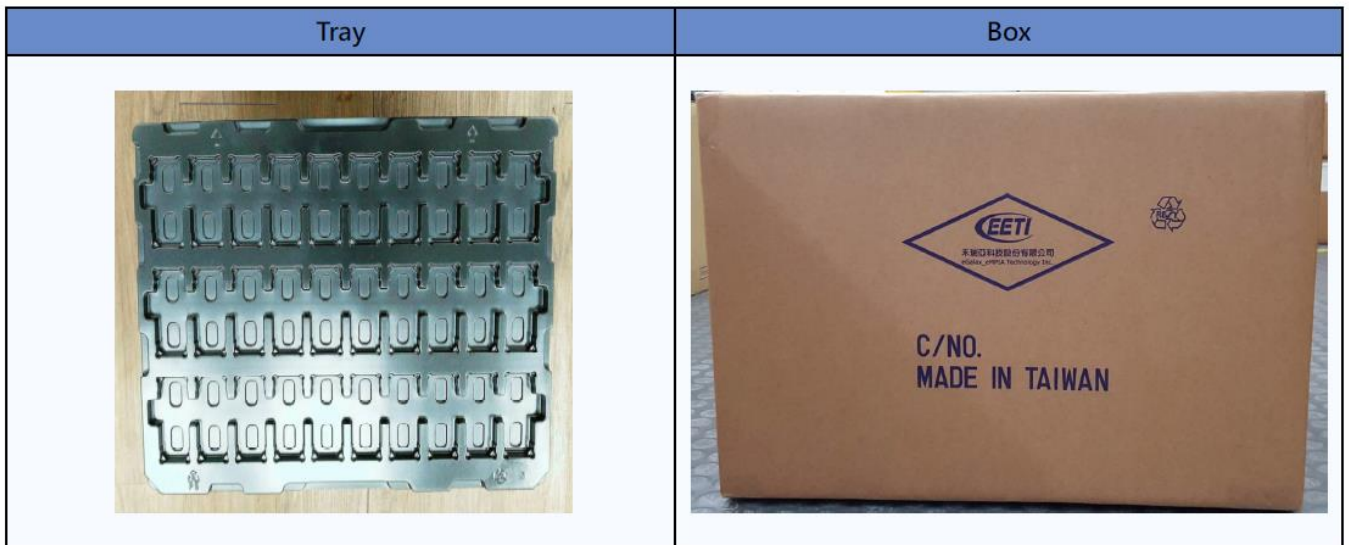


Packing information

Model	PCBA weight(g)	PCBA size(mm)
ETP-MB-EXC84H5680STAG	10.8	100.1x33x8.3

Tray size(mm)	Tray Weight(g)	Controllers in a Tray
483x365x16	151	30

Box size(mm)	Box weight(g)	Tray layer	Total PCBA controllers in a Box(pcs)	Box with controllers total weight(g)
500x376x342	1170	Max. 26 Tray layers (2 Tray layers for only Protection, so max. 24 Tray with controllers)	30X24=720	~ 12872



Carton label information

XXXX 有限公司 XXXX Co., Ltd.	
供應商 Supplier	禾瑞亞科技股份有限公司 eGalax_eMPIA Technology Inc.
訂單號碼 PO no.	
料號 PO Model no.	
供應商料號 Supplier Model no.	
數量 Quantity	xxxx pcs
出貨日期 Delivery Date	YYYY. MM. DD
備註 Note	PID:XXXX FW:VXXXX Color Spot: