



恆顥科技股份有限公司  
*Henghao Technology Co.,Ltd.*

# Specification for

## Projective Capacitance Module

Henghao No. HD-T070WF03-F4SA  
Custome NO. BCX12 (7")  
Version : 6

Customer Approval		HengHao Technology Co. Ltd.		
		Approval	Checked	PM
Signature		Sky	Matt	Parker
Date		2017/3/24	2017/3/24	2017/3/24

- Approval for SPEC
- Approval for Sample



## History of version

Ver.	Date	Description	Page	Note
A01	2015/12/3	initial	-	Spec.
A02	2016/4/1	Modify OCA thickness 100um→75um	3,6	SPEC
A03	2016/6/7	Sample SPEC 1. Add sample Weight 2. Add power supply input current		Sample SPEC
A04	2017/3/9	Sample SPEC 1. Modify the back protective film		Sample SPEC
A05	2017/3/13	Sample SPEC 1. Modify the back protective film		Sample SPEC
A06	2017/3/24	Sample SPEC 1. Modify the Dent inspector view angle		Sample SPEC



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## 1. Product scope

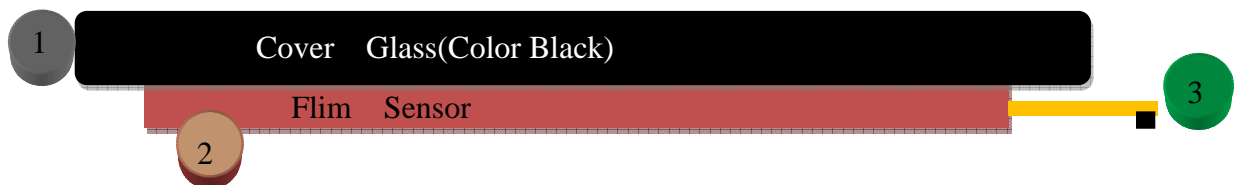
This specification is applied to sensor product made by Henghao Technology Co,Ltd.

## 2. General Characteristics

### 2.1 General

ITEM		Description	Note
1	Size (active area)	7"	-
2	Multi-Touch	10 Fingers	-
3	Interface	I2C	-
4	Approx. Weight	51.1	g
5	TP IC	EETI 3132	

### 2.2 Product (CG+film sensor ) Structure.



### Key component material list

No.	Item	Specification	Remark
1	Cover Glass	CG Sodalime 0.7mm	
2	Flim Sensor	350um	
3	FPCa	2 layer	

### 3. Electrical Characteristics(Touch)

#### 3.1 Absolute Maximum Rating

ITEM	SYMBOL	MIN	TYP	MAX	UNIT	Remark
Operating Temperature	T <sub>A</sub>	0	-	50	°C	
Storage Temperature	T <sub>STR</sub>	-20	-	70	°C	
Static Electricity	Make sure the TP grounded while handing					

Note : The product may be damaged permanently while operating with the restricted conditions.

#### 3.2 Interface Definition

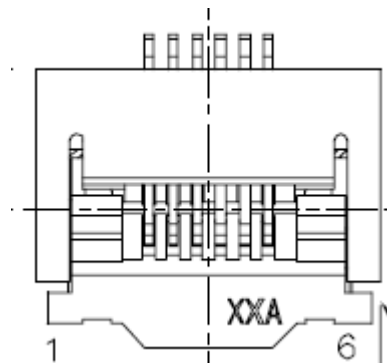
##### 3.2.1 FPCa Connect USB Interface:

NO.	PIN	Define	Description	Note
1	AVDD		Power voltage +3.3v	VDD
2	GND		Ground	GND_E
3	INT		Interrupt Signal	I2C_INT
4	SCL		I2C Serial Clock Line	I2C_SCL
5	SDA		I2C Serial Data Signal	I2C_SDA
6	NC		No Connect	X

##### 3.2.2 FPCa Output Interface

CN1	Pin	Define	Value
	1	VDD	VDD (3.3V)
	2	GND_E	
	3	I2C_INT	(1.8V)
	4	I2C_SCL	(1.8V)
	5	I2C_SDA	(1.8V)
	6	X	

Aces/ 51619-00601-001



#### 3.3 Electrical Characteristic

Parameter	Symbol	Values			Unit	Notes	
		Min	Typ	Max			
Power Supply Input Voltage	AVDD	3.15	-	3.45	V		
Power Supply Input Current	Active	I <sub>ADD</sub>	-	50	100	mA	
	Sleep	I <sub>ADD</sub>	-	-	10	mA	
	Idle	I <sub>ADD</sub>	-	35	40	mA	
Report rate	Report rate	100			Hz	1	

Note 1: Report rate will vary by channel number, cover thickness and other parameters.

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## 4. Physical Characteristics

### 4.1 Optical Characteristics

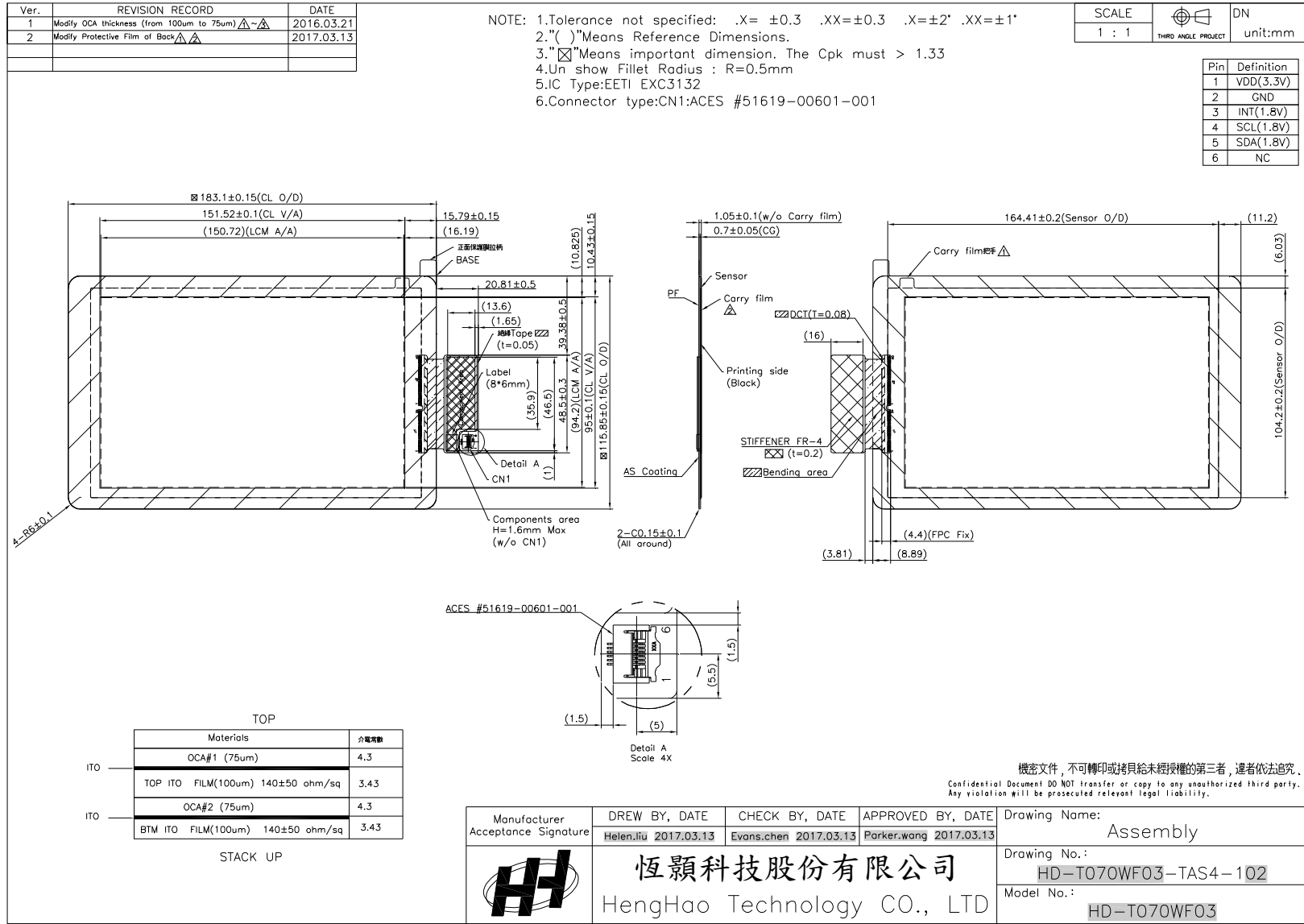
NO.	Item	Specification	Note
1	Panel Transmittance	Min $\geq 85\%$	
2	Haze	Max $\leq 2.5\%$	

### 4.2 Mechanical Characteristics

NO.	Item	Specification	Note
1	Outline Dimension	V: 183.1mm H: 115.85mm	
2	View Area	V: 151.52mm H: 95mm	
3	Total Thickness	1.1mm	
4	Surface Hardness	>7H	
5	Air Gap	>1mm	



4.3 Mechanical drawing





## 5. Reliability Test

No	Item	Specification	Q'ty	Note
1	High Temperature-Storage	$70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ 240hr 1. Change the temperature and humidity to the set value ( $+70 \pm 3^{\circ}\text{C}$ ) during a 1-hour ramp. 2. Hold the temperature for 240 hours. 3. Decrease the temperature to $+21^{\circ}\text{C}$ during a 1-hour ramp. 4. After minimum 3 h at ambient conditions, power on to check functionality.	5pcs	
2	Low Temperature-Storage	$-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ / 240hr 1. Change the temperature and humidity to the set value ( $-10 \pm 3^{\circ}\text{C}$ ) during a 1-hour ramp. 2. Hold the temperature for 16 hours. 3. Decrease the temperature to $+21^{\circ}\text{C}$ during a 1-hour ramp. 4. After minimum 3 h at ambient conditions, power on to check functionality.	5pcs	
3	Thermal shock	$-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ / $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 70 min / cycle, once cycle 30 minutes at each temperature extreme including a 0-5 minute transition time, 30 cycles total. 1. powered off state to the temperature profile for 30 cycles. 2:- After minimum 3 h at ambient conditions, power on to check functionality.	5pcs	
4	Temp/ Humidity Non-OP	$50^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Humidity: $90 \pm 5\%$ RH 24hr	5pcs	

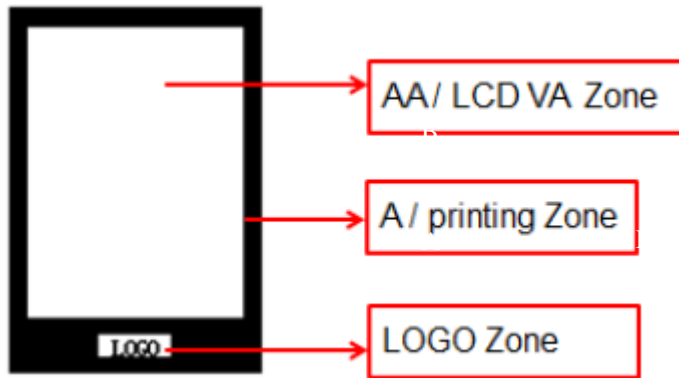


## 6. Appearance inspection

### 6.1 purpose

To establish appearance standard and maintain product quality.

### 6.2 Scope of reject criteria

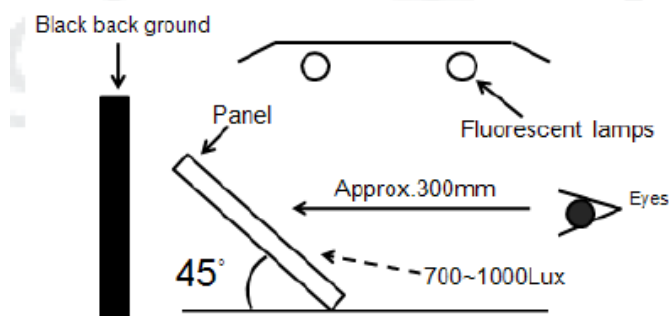


Area	Specification
A	Without any defect point to effect on normal operation.
B	Outside Active Area, None-specify.

### 6.3 Inspection Rule

#### 6.3.1 Inspection condition

- (A) Environmental luminance : 800~1200 Lux, light source distance 50cm~55cm
- (B) Light source : Fluorescent lamp
- (C) Light source color temperature :6500K
- (D) Distance between human eyes and panel : 30cm ~50cm
- (E) Visual angle : 15 degree of all around
- (F) Background : Black
- (G) Inspection Time : 5S~8S



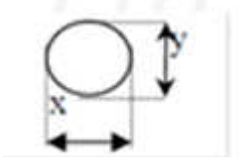
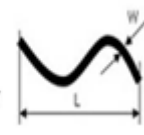
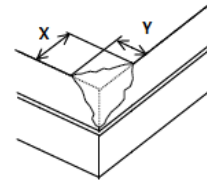
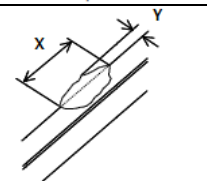
#### 6.3.2 Judge criterion

Judgment under above mentioned criterion (panel must be tested under light transparent), testing goods defect can be visible within 10 seconds, which will be judged as major defects.

#### 6.3.3 FQC Sampling standard:

Sampling criteria: MIL-STD-150E Level II AQL MA:1.0 , MI: 1.5

## 6.4 inspection criteria

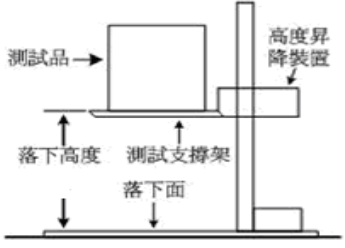
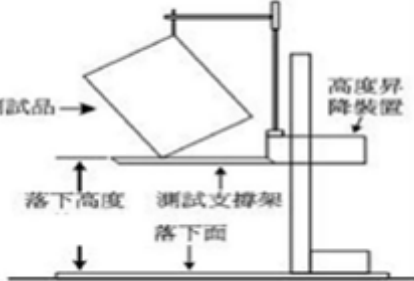
Item	Reject criteria			Defect level
Dot defect (particle/dust/light/ Dent/ dot) With Zone AA/ Zone logo / Zone A (Dent item the vision of inspector should be perpendicular to the surface of the module)	$D \leq 0.15\text{mm}$	Ignore	$D = (X+Y)/2$ 	MI
	$0.15\text{mm} < D \leq 0.25\text{mm}$ , $DS > 15\text{mm}$	$n \leq 3$		
	$0.25\text{mm} < D$	0		
Bubble With Zone AA	$D \leq 0.1\text{ mm}$	Ignore		MI
	$0.1\text{mm} < D \leq 0.15\text{mm}$ , $DS > 15\text{mm}$	$n \leq 3$		
	$0.15\text{mm} < D \leq 0.2\text{mm}$ , $DS > 20\text{mm}$	$n \leq 2$		
	$0.2\text{mm} < D$	0		
Line defect (Scratch , fibre , foreign matter) With Zone AA/ Zone logo / Zone A	$W \leq 0.05\text{mm}$ , $L \leq 3.0\text{mm}$	Ignore	$W$ : Width $L$ : Lenth $N$ : Number 	MI
	$L \leq 3\text{mm}$ $0.03\text{mm} < W \leq 0.04\text{mm}$	$n \leq 3$		
	$L \leq 5\text{mm}$ $0.04\text{mm} < W \leq 0.06\text{mm}$	$n \leq 2$		
	$W > 0.06\text{mm}$ or $L > 3.0\text{mm}$	0		
Corner · Edge Chipping	$X \leq 1\text{mm}$ and $Y \leq 0.5\text{mm}$ $T \leq \text{Glass thickness}$	$N \leq 3$	 Chip on corner	MI
	$X \leq 2\text{mm}$ and $Y \leq 0.5\text{mm}$ $T \leq \text{Glass thickness}$	Each edge $N \leq 3$	 Chip on edge	
Pin hole	$D \leq 0.1$	ignore		
	$0.1\text{mm} < D \leq 0.15\text{mm}$ , $DS > 20\text{mm}$	$N \leq 5$		
	$D > 0.15\text{mm}$	0		

### Notes :

- Identical particle and dirty by visual, will judged as Dot defect.
- D 直徑、W 寬度、L 長度、DS 間距、N 數目

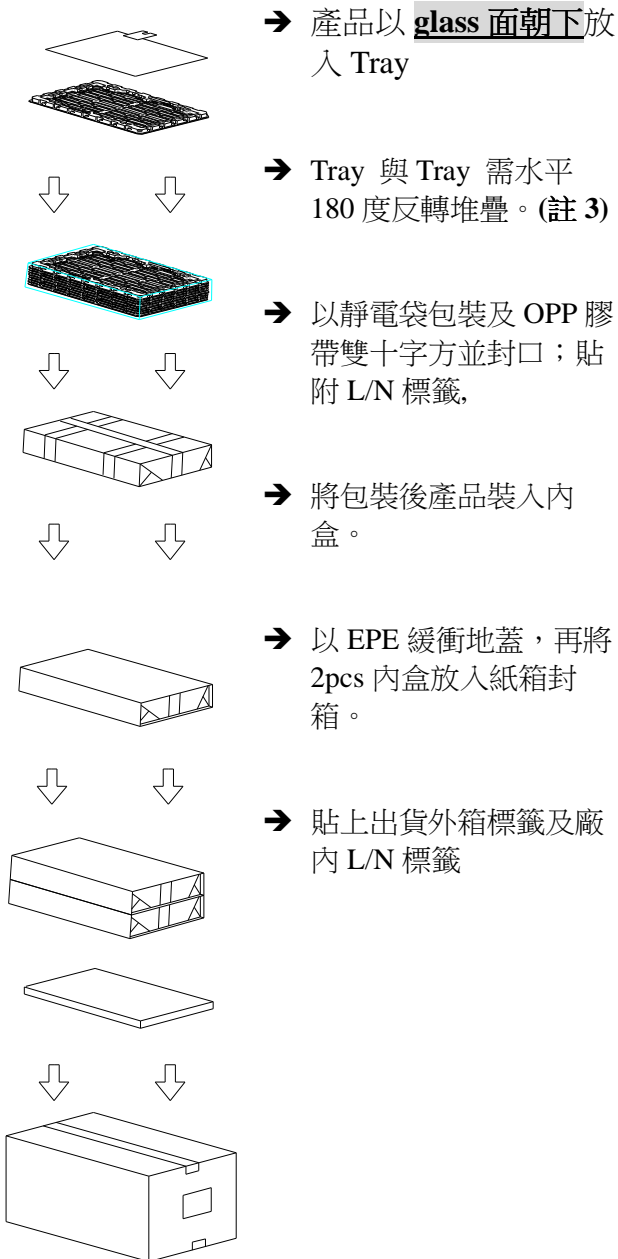
## 7. Packing flow

### 7.1 Package drop test

Spec	Remarks
<p>By using the material of PET and EPE, go through the product test by 1 corners/3 edges/6 faces drop test. The test result need to meet the follow criteria :</p>	<p style="text-align: center;"><b>落下測試</b> <b>正面測試作業方示意图</b></p>  <p style="text-align: center;"><b>落下測試</b> <b>側面測試作業方示意图</b></p> 

## 7.2 Packing procedure

### 一、包裝流程：

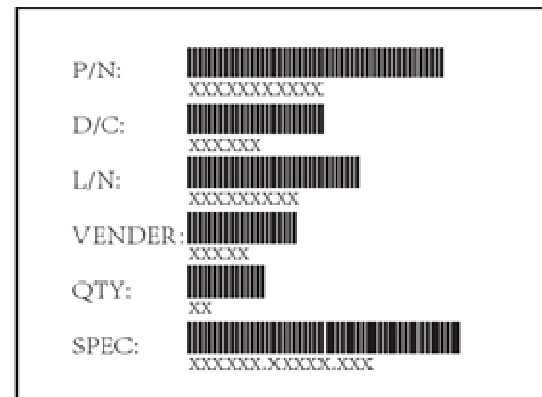


### 二、包裝配置：

成品數量：	1pcs Module / per Tray	4 pcs
成品數量：	16+1 Tray / per S-Bag	64 pcs
成品數量：	2 S-Bag / per Carton	128 pcs
成品數量：	24 Carton / per Pallet	3200 pcs

### 三、包裝標籤規格：

- 出貨標籤格式：110mm x 70mm (字型 Arial ,黑色字體)  
 P/N：依照業務訂單及工單所示編號  
 D/C：為製造日期 YYMMDD 共 6 碼  
 L/N：為 HH 工單號碼  
 VENDER：依照業務訂單及工單所示編碼。  
 Q'TY：為實際包裝數量。  
 SPEC：產品料號(17 碼) - 尾碼(1 碼)

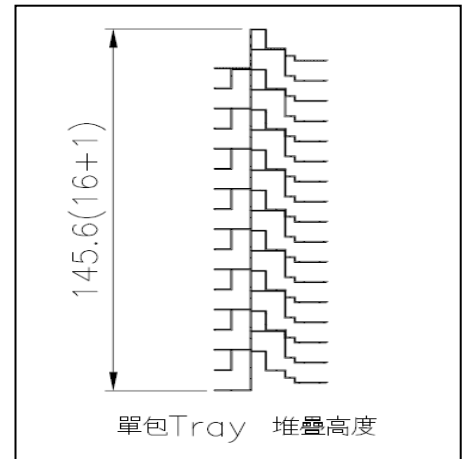
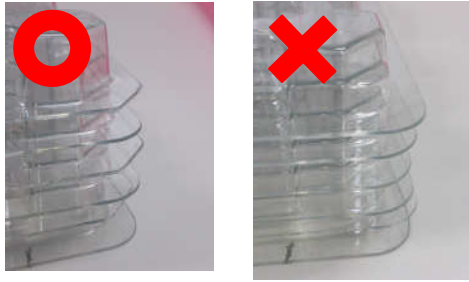


- L/N.標籤：80mm x 40mm (字型 Arial ,黑色字體)

HengHao	(HH P/N )
批號(L/N)：	(數量)
(條碼)	(總數量)

#### 四、Tray 堆疊方式：

1. 單包設計堆疊高度, 如右圖。
2. 產品拿取需從短邊兩側取出或放入, 且不可一次多片同時作業。
3. 需確認此防呆斜角及 R 角堆疊是否正確 180 度旋轉, 正確堆疊如下。



#### 五、注意事項 Note：

1. 產品拿取需從短邊兩側取出或放入, 且不可一次多片同時作業。
2. 進出口海(空)運建議使用熏木、塑膠或膠合棧板；內陸運輸或長途陸運建議使用塑膠及木棧板；
3. 棧板堆疊空運運輸含棧板高度不可超過 150cm；內陸運輸或長途陸運含棧板高度不超 180cm
4. 廠內通用棧板建議尺寸表：
  - 一般木頭(煙燻)棧板：1100 mm\*1000 mm \*140mm
  - 塑膠棧板：1100 mm\*900 mm \*140mm (HK 現有品)
  - 瓦楞紙棧板：1150 mm \*920 mm \*120mm (HK 現有品)
  - 1050 mm \*800 mm \* 140mm (KS 現有品)
5. 使用木棧板每層最多可堆疊六箱, 其餘打包建議流程參考” WI-MP10-A002 “包裝倉儲作業標準。

## 7.3 Packaging

### 7.3.1 Storage

#### 7.3.1.1. Storage condition

Temperature: 20~30°C / Humidity: 50~60%RH

7.3.1.2. Goods must be kept in original package for long term storage.

7.3.1.3. Don't expose goods under sunshine.

7.3.1.4. Please store the carton according to the UP/DOWN mark for the proper direction.

### 7.3.2 Taking off package

7.3.2.1. When unpack the package, please open the carton according to the UP/DOWN mark for correct procedure.

## 7.4 Delivery

Avoid of high humidity and high temperature. Extremely high or low temperature will have serious influence on the quality.

## 8. Precautions in use of touch panel

### 8.1 Purpose

In order to prevent accidental use and performance deterioration, please keep the following precautions and inhibited points.

### 8.2 Cautions for storage

Store the products at the temperature and humidity mentioned in the specification in a state of package with care not to expose the products to the direct sunlight or stresses. Do not store the touch panel in a high temperature and humidity for a long period of time and avoid storage in the environment where condensation could arise.



### 8.3 Cautions for unpacking

Check the vertical direction before unpacking.

### 8.4 Cautions for handling

8.4.1 Transparency is an important factor for the product. So, please wear clean finger sacks, gloves and mask to protect the products from fingerprint or stain attach, and also hold the portion outside the view area when handling the panel.

8.4.2 Do not put a heavy, hard or sharp object on the product. Film of traces by T-bar area do not pinched .

8.4.3 When attaching a protection sheet on this product at customer side, please confirm its characteristic in advance whether any damage is given to this product. Although some changes may arise in the function of this product by the protection sheet attachment such as operation, cosmetic, etc., however those changes are out of our guarantee.

8.4.4 Even when attaching a protection sheet with adhesion material by our side based on the request from customer, some changes may arise in the function of this product by the protection sheet attachment such as operability, cosmetic, etc., however those changes are out of our guarantee.

## 9. Product Substance Management

9.1 Base on internal document WI-NP04-A001(綠色產品管制物質標準) to control the material restriction.

## 10. Others

10.1 Any issue or dispute on the specification, must be subjected to change after negotiation.

10.2 Revision of the spec. must follow up with written documentation first then is valid.

10.3 If Spec. sheet is different to individual spec., please follow up individual spec.

10.4 HengHao has no liability for any random spec. modification by buyers without both parties agreement.

10.5 HengHao will provide (sensor 3 Months, module 6 month) un-packing product guarantee under operation condition described in this specification.

10.6 The clean operation is allowed only Dehydrated alcohol.

10.7 HengHao do not guarantee the product specification with re-work samples which do not process in HengHao.