



# 深圳市信承科技有限公司 SHENZHEN XCTOUCH TECHNOLOGY CO., LTD

## 电容式触摸屏承认书

### SPECIFICATION FOR CAPACITIVE TOUCH PANEL

PRODUCT NAME 产品名称: \_\_\_\_\_

CUSTOMER 客户名称: \_\_\_\_\_

CUSTOMER MODEL 客户型号: \_\_\_\_\_

PRODUCT NO 项目编号: \_\_\_\_\_ XC0400102 \_\_\_\_\_

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XC TOUCH Approval 信承确认		
Written 制定	Check 审核	Approval 批准
CUSTOMER Approval 客户确认		
R&D 研发	Quality 品质	Purchase 采购

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## 1.Scope 范围

This product is a capacitive touch panel, the direct use of finger operation, mainly used for industrial Products 本产品是一个电容式触控面板，直接用手指操作，主要用于工控产品

## 2. Features 特征

Item 项目	Specification 规格
TP Structure 触摸屏结构	Glass +Glass
Sensor Structure 功能片结构	DITO
Controller IC 触控方案	GT911
Sensing	Mutual capacitance
Touch Points 触点数量	Max 5 Points
Interface Type 通信方式	I <sup>2</sup> C
Connector (with Host) 连接器	ZIF
TP OD (with Cover) 触摸屏外形	65.4*112.9mm
TP AA 触摸屏动作区	53.54*88.1 mm
TP VA 触摸屏视窗区	52.54*87.1 (4.0 inch)
Channel 通道	10*15
Operation Temperature 操作温度	-20~70°C
Storage Temperature 储存温度	-30~80°C
Humidity 湿度	20~85%RH

Detailed information refer to attachment drawings 详细信息参照附件图纸

### 3. Mechanical 机械特性

Item 项目	Description 描述	Note 备注
Operate 操作方式	Finger 手指	
Linearity 线性度	<5%	
Surface hardness (H) 表面硬度	≥6H	750g
FPC Peeling 柔性线路板剥离力	500g	Peeling direction: 90°; Velocity: 50mm/min.
FPC Bending 柔性线路板弯折	≤100 times bending (by R1 mm), Electrical performance should be OK. FPC 弯折 100 次以下, 电气性能 OK。	
Surface hydrostatic pressure test	No cracks or damages; Function OK	∅8mm,R10mm Cylindrical steel bar, Pressure:160N,Velocity :1mm/min, Test points: VA average 9 points.

### 4. Optical 光学特性

Item 项目	Description 描述	Note 备注
Light transmittance 透光率	≥85%	JIS-K7105,ASTMD1003,@550nm

### 5.Environmental 可靠性

Item 项目	Description 描述	Remarks 备注
5-1 Operating temperature and humidity 操作温度和湿度	-20~70℃, 20~85% RH	Except for dew gathering 无结露
5-2 storage temperature and humidity 存储温度和湿度	-30~80℃, 20~85% RH	Except for dew gathering 无结露

<p>5-3 Humidity resistance 高温高湿</p>	<p>The requirement in 6 shall be satisfied after exposing at 55°C, 90% RH for 240 hours and at normal temperature and humidity for 24 hours. 在 60°C, 90% RH 条件下存放 240 小时, 取出在常温常湿下再存放 24 小时后, 满足第 4 点所要求的各项电气参数。</p>	<p>Except for dew gathering 无结露</p>
<p>5-4 Heat resistance 高温存储</p>	<p>The requirements in 6 shall be satisfied after exposing at 60°C, for 240 hours and at normal temperature and humidity for 24 hours. 在 60°C 条件下存放 240 小时, 取出在常温常湿下再存放 24 小时后, 满足第 4 点所要求的各项电气参数。</p>	<p>Except for dew gathering 无结露</p>
<p>5-5 Cold resistance 低温存储</p>	<p>The requirements in 6 shall be satisfied after exposing at -10°C, for 240 hours and at normal temperature and humidity for 24 hours 在-20°C 条件下存放 240 小时, 取出在常温常湿下再存放 24 小时后, 满足第 4 点所要求的各项电气参数。</p>	<p>Except for dew gathering 无结露</p>
<p>5-6 Thermal shock 冷热冲击</p>	<p>The requirements in 6 shall be satisfied after exposing under the conditions of -20°C(0.5hour)→60°C(0.5hour) by 10 cycles ,and at normal temperature and humidity for 24 hours。 按照-10°C (0.5 小时) →60°C (0.5 小时) 的条件循环 20 次, 取出在常温常湿下再存放 24 小时后, 满足第 4 点所要求的各项电气参数。</p>	<p>Except for dew gathering 无结露</p>
<p>5-7 Vibration resistance 抗振动</p>	<p>The requirements in “Operation force” of the item 3-1 Mechanical .Characteristics and 6 Electric characteristics shall be satisfied after sweep vibration. of 20 m/s<sup>2</sup>, 10 Hz to 55 Hz (1 min) is given for 30 min. each in the directions of X, Y, Z.</p>	

## 6. Electrical 电器参数

Item 项目	Description 描述	Note 备注
Power supply voltage 供电电压	3.3V	
I/O supply voltage 芯片供电电压	2.8V	
Current consumption 正常电流 (Normal mode)	6mA	
Current consumption 节能电流 (Green mode)	4mA	
Current consumption 休眠电流 (Sleep mode)	0.03mA	
Supply noise 电流噪声	≅ 100mV	

Remark: The actual power consumption according to using environmental decision

注：根据环境决策的实际能耗

## 7. I/O Terminal 引脚定义

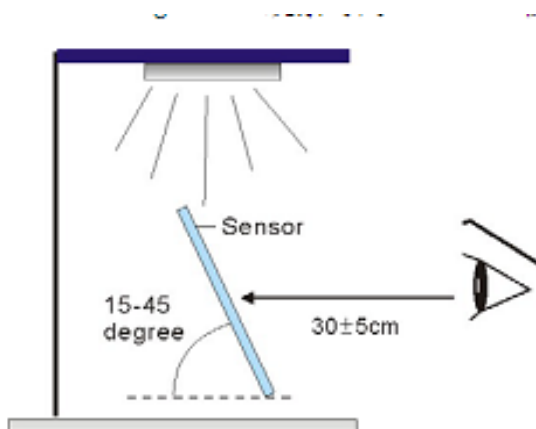
PIN NO.	Symbol 符号	Function Description 功能描述
1	GND	Ground
2	SDA	I2C Serial Data
3	SCL	I2C Serial Clock
4	VDD	Supply voltage
5	INT	External interrupt INT to the host, It is active low when finger touching on the screen.
6	RST	Reset

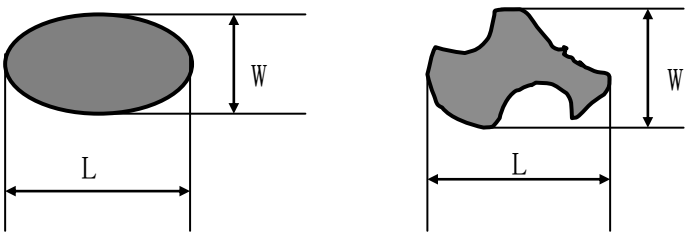
## 8. Cosmetic Inspection 外观检验

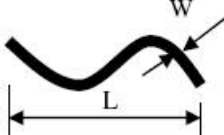
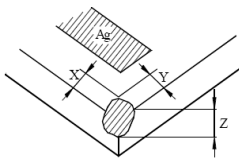
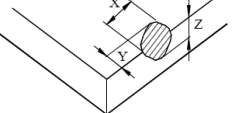
Inspection Condition 检验条件

1). Light source: 800~1000Lux fluorescent lamps 光源：800~1000 lux 荧光灯

- 2). Environment: 22±3°C 温度22±3°C
- 3). Inspection distance: 30±5cm 检测距离30±5cm
- 4). Humidity: 55±5%RH 湿度55±5%RH
- 5). Background color: Black 底色为黑色
- 6). Inspection equipment: Naked eye 裸眼检测
- 7). Angle of Visual: Vertical Rotation Angle: 45±15° from normal (top to bottom); Horizontal
- 8). Viewing time: Front surfaces: 10±5 Seconds, each side: 1~2 Seconds



Item项目	Specification Unit: mm W=Width;L=Length;GT=Glass thickness
Circular Defects 圆形缺陷  (Particle/Dirt/ Inclusion / Pin Holes/Bubble)	1、 D<0.20mm; Can't string of point; Disregard
	2、 0.20mm≤D≤0.25mm,N≤3; the defect gap>10mm
	Other is not allowed
	Circular Defect 
Linear Defects 线状杂物	1、 W<0.01mm;Disregard
	2、 0.01mm≤W≤0.03mm; L≤2mm; N≤3; the defect gap>10mm
	3、 0.03mm<W<0.05mm; L≤2mm; N≤2; the defect gap>15mm
	Other is not allowed.

	Linear Defect	
Dent 粒状杂物 (	1、 $D < 0.1\text{mm}$ ; Disregard	
	2、 $0.1\text{mm} \leq D \leq 0.2\text{mm}$ ; $N \leq 3$ ; (distance 10mm over)	
	3、 $0.2\text{mm} \leq D \leq 0.3\text{mm}$ ; $N \leq 2$ ; (distance 10mm over)	
	4、 $0.3\text{mm} \leq D \leq 0.35\text{mm}$ ; $N \leq 1$ ; (distance 10mm over)	
	Other is not allowed.	
Scratch (刮痕)	1、 $W < 0.01\text{mm}$ ; Disregard	
	2、 $0.01\text{mm} \leq W \leq 0.03\text{mm}$ ; $L \leq 5\text{mm}$ ; $N \leq 3$ ; the defect gap $> 10\text{mm}$	
	3、 $0.03\text{mm} < W < 0.05\text{mm}$ ; $L \leq 2\text{mm}$ ; $N \leq 2$ ; the defect gap $> 15\text{mm}$	
	Other is not allowed.	
Conner Chipping 崩角	$X \leq 0.5\text{mm}, Y \leq 0.5\text{mm}, Z \leq 1/2\text{GT}$ ; Disregard	
	X: Length; Y: Width; Z: Thickness	
Edge Chipping 崩边	$X \leq 0.5\text{mm}, Y \leq 0.5\text{mm}, Z \leq 1/2\text{GT}$ ; Disregard	
	X: Length; Y: Width; Z: Thickness	
rake angle	Don't exceed the CG edge	
Crack	Not allowed	
Light leakage	The defect is not found in the black background.	
Color and style	TP color is as standard sample	
	Style and pattern is clear, Style is identical	
	Error $< 0.2\text{mm}$ , Disregard	
	The grounding is secluded	
Remark	1、 Other circular/linear defect refer to Spc. For circular/linear defect	
	2、 Total defect: $N \leq 15$ ; the defect gap $\geq 5\text{mm}$	
	3、 Circular Defects、 Linear Defects、 Dented/bulge、 Edge、 Scratch's inspection standard is for Cover lens AA area., None AA area bottom side defect would be acceptable unless the client's special requirement on it.	

**Sampling Plan & Definition of Defect Classification**

Sampling Plan: Adopt <GB2828.1—2003> (Equal to MIL-STD-105/E) General Inspection Level II.

AQL Definition: Major: AQL=0.65 (Refer to the definition in “3. Inspection Standard” )

Minor: AQL=1.0 (Refer to the definition in “3. Inspection Standard” )

## 9. Packing Method 包装方式

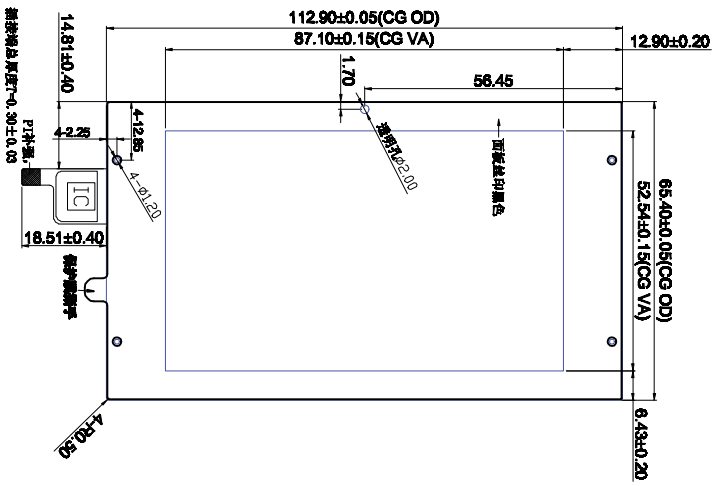
- 9.1 All the products delivery should be packed in bubble bags; 所有的产品交付应该用气泡袋包装
- 9.2 Product label content should conform to the requirements of the customers; 产品标签需满足客户要求
- 9.3 Packing should be in line with customer requirements; 包装需满足客户要求
- 9.4 Before shipment, OQC should conform that every shipment is ok; 出货前, 需确认产品的质量
- 9.5 More than 3 months of inventory should be conformed OK before shipment;  
超过3个月的库存品, 出货前需重新确认产品质量

## 10. Precautions 注意事项

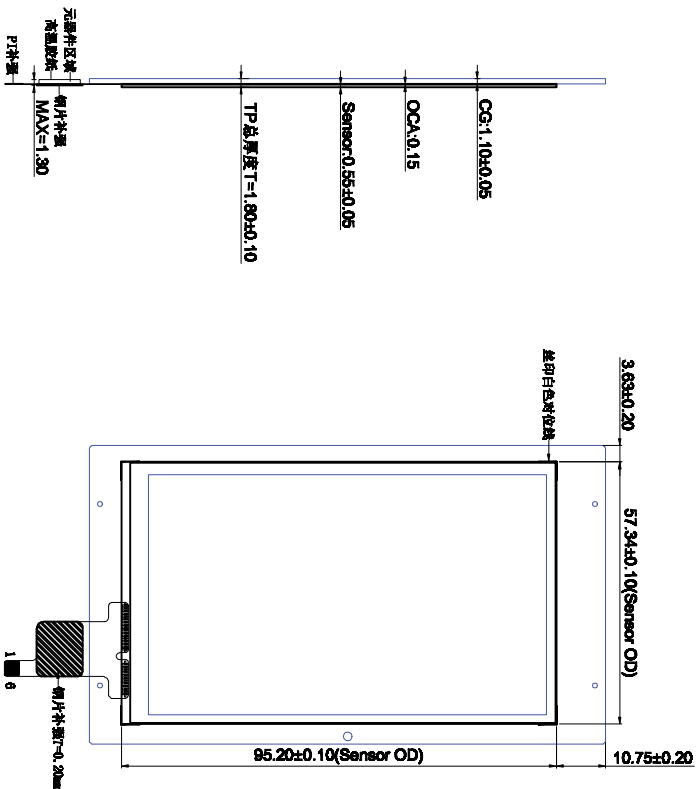
When using the touch panel, please note the following: 使用触摸屏时, 请注意以下要求

- 10.1. When testing and installing the touch panel, please pay attention to high voltage and electrostatic, electrostatic protection, wearing electrostatic bracelet and the workbench's grounding  
在测试和安装触摸屏时, 请注意高压及静电, 需佩戴静电手环且工作台面要接地
- 10.2. To avoid damage of the touch panel, please notice no collision, buckling, or falling  
为防止损害触摸面板, 请不要碰撞、弯折、跌落产品
- 10.3. Please do not stress when storage or handling and use special boxes and packing way of XC Touch  
在储存或搬运过程中, 请使用信承专用包装箱且禁止重压。
- 10.4. To avoid poor electrical of short circuit, avoid direct contact of the FPC of touch panel and Other metals  
为防止电器短路, 请不要使用导电材料接触触摸屏的排线
- 10.5. To avoid poor electrical of broken stitching, donot bend and pull the FPC when testing and installing the touch panel;  
在测试和安装触摸屏时, 为了避免电器性能损伤, 请不要随意弯曲、拉扯排线
- 6. To avoid ink scratch, donot touch the ink area of touch panel with hard matter;  
为防止油墨损伤, 请不要使用坚硬材料接触触摸屏
- 7. To avoid smudginess, donot touch the active area of touch panel  
不要接触触摸屏有效区域, 造成脏污
- 8. Please operate touch panel with finger or soft conductive pen;  
请用手指和软性导电笔操作触摸屏
- 9. To tear off the protective film and Clean before installing the touch panel. The protective film which is covered  
在安装触摸屏之前, 若表面覆有保护膜, 需撕掉进行全面清洁

版次/版次	变更点	变更数	内容描述	绘图人	绘图日期
A0			初始版本	lhui	2017.09.01
A/1			更改盖板孔径和圆角	lhui	2017.10.30



正面图



侧面图

背面图

IC/元件	GT911
1	PIN 定义
2	GND
3	SDA-2.8V
4	SCL-2.8V
5	VDD-3.3V
6	INT
	RST

- 技术要求:
1. 结构: G+G
  2. 透过率:  $\geq 86\%$  (550nm).
  3. 所有未标注公差:  $\pm 0.10\text{mm}$ .
  4. IC: GT911
  5. 钢化度: 110g钢球, 高度35cm跌落不破碎, 表面硬度测试:  $\geq 6H$  (铅笔硬度测试).
  6. CG未标注处按键孔及边缘安全倒边 $\leq 0.20\text{mm}$ .
  7. 工作温度:  $-20^\circ\text{C}$ 至 $80^\circ\text{C}$ , 存储温度 $-30^\circ\text{C}$ 至 $10^\circ\text{C}$ .
  8. 重点管控尺寸.

Main Structure

1.10t Lens
0.15t OCA
0.05t CG

深圳市信承科技有限公司	SHENZHEN XINCHENG ELECTRONIC CO. LTD	单位 (unit)	mm	比例 (ratio)	1:1	客户编号 (Customer NO.)	CTP-H1049A-V02
核准 (approved)	核对 (checked)	绘图 (drawing)	lhui	材料 (material)	知悉于材质	产品编号 (Part NO.)	HGM40207A0-V1