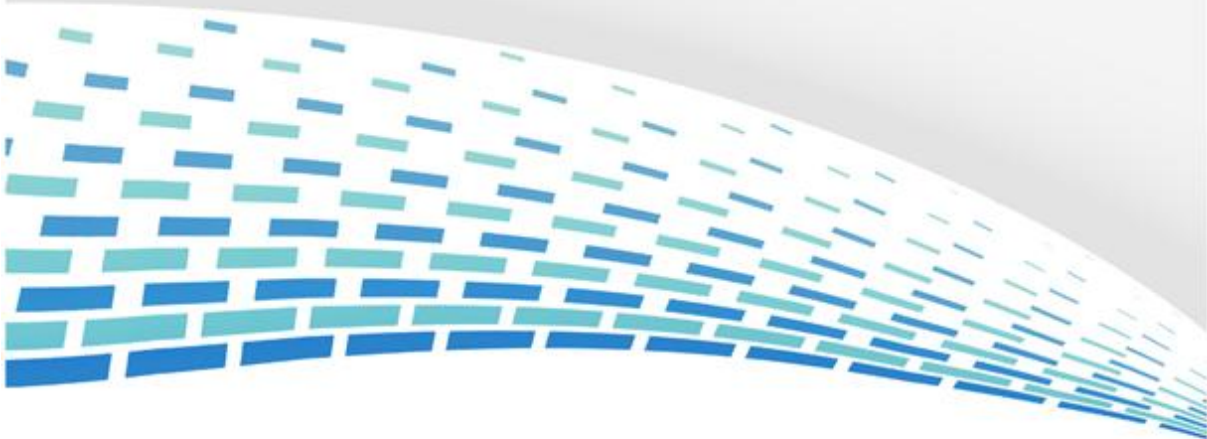


# Screen series

## 7 Inch Smart Central Control Screen Specification



# TDD-CP-SCCS700F-IC-A133P Data Sheet

Version	V1.6
Date	2024-12-05



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# Changelog

Ver.	Date	Description	Editor
V1.0	2024-01-10	Create Document	Jiang Bao
V1.1	2024-03-06	Adding Cover and Background	Jiang Bao
V1.2	2024-04-10	Update core processor Quad-core A53 processor, 1.8GHz	Jiang Bao
V1.3	2024-05-15	Add electrostatic discharge test	Jiang Bao
V1.4	2024-07-06	Increase hole size and package size	Jiang Bao
V1.5	2024-10-09	Modify the cover logo	Jiang Bao
V1.6	2024-12-05	Updated interface notes for v3.0 motherboard (horizontal socket to vertical)	Jiang Bao

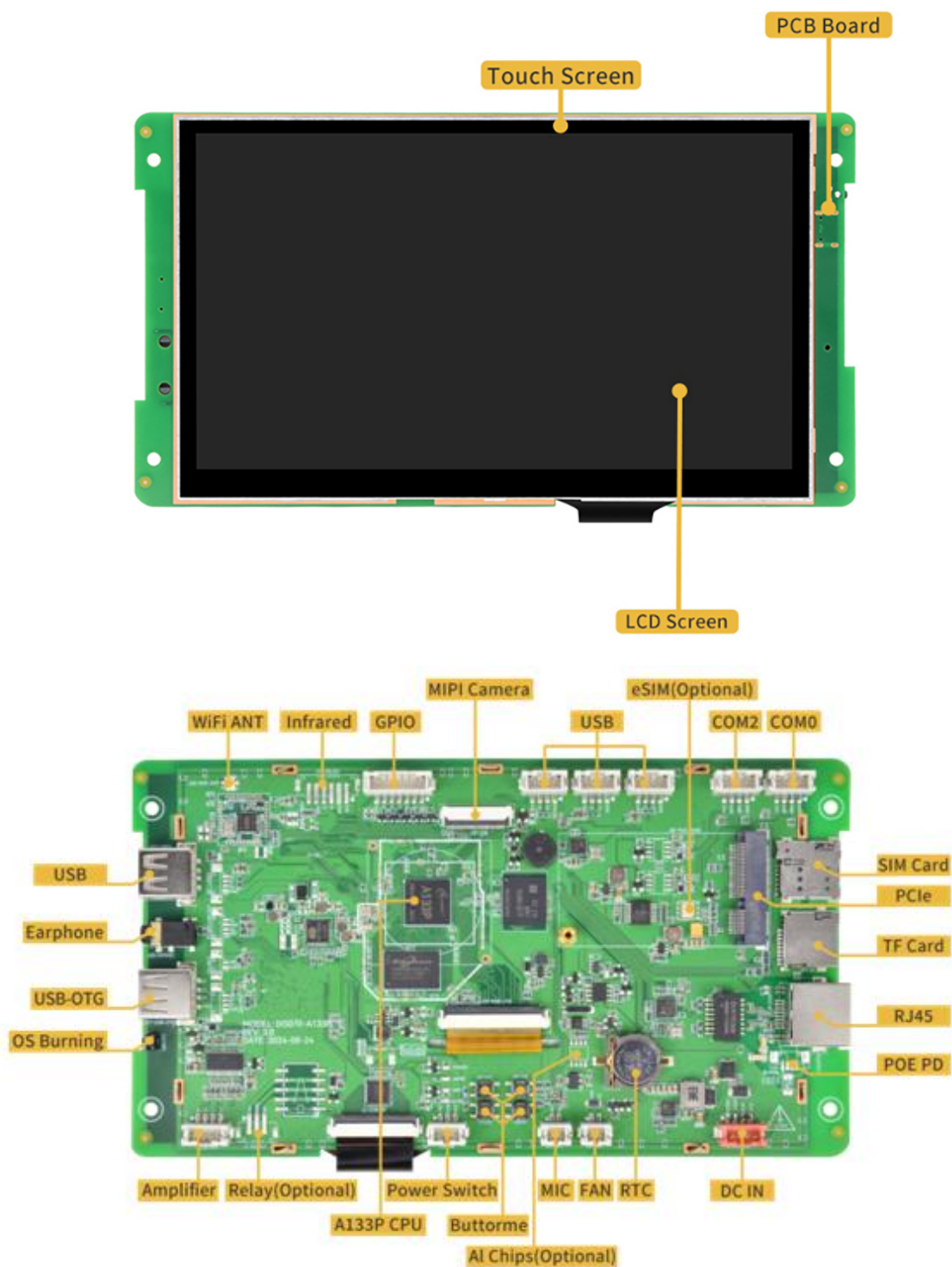
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# 1 Hardware Introduce

This chapter mainly introduces some appearance reference pictures, hardware configuration parameters and product-related test content of the product.

## 1.1 Product Interface



## 1.2 Product Specifications

Product Spec.	Description
Model	TDD-CP-SCCS700F-IC-A133P(Capacitive Touch Panel, with WiFi and RS232)
Series	Center Control Screen Series
Processor	Quad-core A53 processor, 1.8GHz
Operating System	Default Android 10.0, Optional Linux QT, Ubuntu18.04
Memory	Default 1GB (2GB/4GB Optional)
Storage	Default 8GB EMMC NAND Chips, Expandable Up to 128GB
Screen Dimension	7.0 Inch
Screen Resolution	1024*600 Pixel
Install Angle	Support 0°, 90°, 180° and 270° Multi-Angle Display Installing
Image Format	Support JPEG, PNG compression, Supports image storage of any size, supports image rotation, enlargement, reduction and other functions
Colors	16.7Million Colors
Input Voltage	Support 9~24V Widely Voltage DC Input, Standard 12V 2A Power Adapter
Power consumption	Standby: 0.49W
	Running without display: 2.16W
	Running with Minimum Brightness: 3.07W
	Running with Maximum Brightness: 5.23W
Serials Interface	Support RS232/TTL/RS485(Default RS232)
Baud Rate	4800~1000000bps, Typical Baud Rate: 115200bps
External Storage	Support TF Card/U Disk/UART/OTG
Real-time Clock	Ultra-low Power Consumption RTC circuit, Supports alarm clock, timer, stopwatch, year, month, day and other time display, supports scheduled power on and off
Active Area(A.A.)	Length*Width=154.21mm*85.92mm
Product Dimension	Length*Width*Height=190.5mm*105.4mm*22.8mm
Audio	MP3 Audio format (Speaker 8Ω6W, Dual-channel), Shares the same storage with images.
Video	MP4 Video format, Shares the same storage with images.
WiFi Module	Internal XR829 Module, Support IEEE 802.11 b/g/b + HS/BT v4.2, Dufault Single-frequency 2.4GHz WiFi Module.
Ethernet	10/100M Auto-adaptive Ethernet RJ45 Interface

## 2 Hardware Specifications

### 2.1 Display Specification

LCD Monitor	
Screen Panel	IPS LCD Panel
View Angle	Widely Viewing angle, typical 85°/85°/85°/85° (Left/Right/Up/Down)
Resolution	1024*600 Pixel
Brightness	500nit
Active Area	154.21mm (Width)*85.92mm (Height)
Backlight Mode	White LED
Backlight Lifetime	More than 20000 Hours
Backlight Adjustment Accuracy	100 Levels Brightness Adjustment

### 2.2 Touch Specification

Touch Panel	
Touch Panel	Capacitive Touch Panel
Touch Panel Structure	G+G Structure, Tempered Glass Surface, ITO GLASS Inner Layers
Touch mode	5-point touch mode, Support continuous sliding touch
Transmittance	≥85%
Surface Hardness	6H
Touch Lifetime	>1,000,000 Times

### 2.3 Electrical Specifications

Working Environment		
Rated Power	<3W	
Working Voltage	9~24V, Typical 12V	
Working Current	405mA	VCC = +12.2V, Max. Backlight
	213mA	VCC = +12.2V, Min. Backlight
Working Temperature	-10°C ~ 60°C	
Storage Temperature	-20°C ~ 70°C	
Working Humidify	0% ~ 95% (No Condensation)	
Recommended working power supply: 12V 2A DC regulated power supply		

### 3 PCB Interface Function

Function&Interface	Description
<b>A133P Chips</b>	Allwinner A133P Quad Cortex-A53, Clocked Up to 1.8GHz
<b>Headphone and MIC</b>	Support US 4 paragraphs Headset all in one 3.5mm Slot (L-R-Ground-MIC)
<b>Amplifier</b>	8Ω-6W Dual-channel Audio Amplifier Output
<b>MIC</b>	1-channel Single-ended MIC Input(Pin Header Interface)
<b>USB</b>	1*External USB 2.0 Socket, 1*External USB-OTG Socket, 4*Internal USB Pin Header, 1*type-c Header,Support USB Camera Within 2M Pixels
<b>Serial Interface</b>	2*TTL/RS232/RS485 Compatible Built-in(Data Serial Port and Debugging Serial Port)
<b>eSIM Chips</b>	On-board eSIM Chips(Optional), Support Telecommunication with PCIe 4G/5G Module
<b>Mini PCIe 4G/5G</b>	Standard Mini-PCIe 4G/5G Module Interface, With <b>Micro-SIM</b> Slot
<b>TF Card</b>	Self-elastic TF Card Socket, Supports Up to 256GB TF Card
<b>Ethernet</b>	10/100M Auto-adaptive Ethernet RJ45 Interface + 4 Chips PoE PD Socket
<b>GPIO Interface</b>	5-way GPIO Signal, Expandable GPIO Button or 3.3V Input/Output
<b>MIPI Camera</b>	30Pin FPC MIPI Channel HD Camera Interface
<b>Relay</b>	Single Pole Double Throw Access Control Relay Signal (optional)
<b>FAN</b>	2Pin FAN PWR Interface
<b>AI Chips</b>	Supports Megvii face chip and provides algorithm hardware authorization (optional)
<b>Button</b>	Reset, Homepage, Burn, Vol+ and Vol- Button
<b>PCB Dimension</b>	L*W*H(190.5mm*105.4mm*14.8mm)



## 4 Internal Interface Definition

### 4.1 J1 Relay

[J1] Relay (SIP 2.0mm-square pad is pin 1)

Pin#	Definition	Note
1	NO	Access control is always on, software GPIO number 232
2	COM	Access control public terminal
3	NC	Access control public and closed terminals, default COM-NC conduction, software GPIO number 232

### 4.2 J3Power ON/OFF

[J3] Power and Reset (SIP 2.0mm-square pad is pin 1)

Pin#	Definition	Note
1	PW	One-key switch/switch screen signal
2	GND	Digital Ground
3	RES	Hardware reset signal

### 4.3 J5Microphone

[J5] Microphone Header (SIP 2.0mm-square pad is pin 1)

Pin#	Definition	Note
1	MIC-	Single-channel Microphone Input-
2	MIC+	Single-channel Microphone Input+

### 4.4 J6Fan

[J6] Fan interface (SIP 2.0mm - square pad is pin 1), can be controlled by GPIO #363 (high level enable).

Pin#	Definition	Note
1	GND	Digital Ground
2	12V	12V Output (Can be controlled by switch)

### 4.5 J7DC\_IN

[J7] 12V Input Terminal (SIP 2.0mm-square pad is pin 1).

Pin#	Definition	Note
1	12V	Direct Current Input(9~24V)
2	12V	Direct Current Input(9~24V)
3	GND	Power Ground

4	GND	Power Ground
---	-----	--------------

#### 4.6 J8POE PD

[J8] POE PD Header (SIP 1.25mm-square pad is pin 1).

Pin#	Definition	Note
1	CT1	Transformer Center1
2	CT2	Transformer Center2
3	CT3	Transformer Center3
4	CT4	Transformer Center4

Note: The power supply of the POE powered interface comes from the J9 Ethernet port. This interface is externally connected to the POE powered conversion board for 12V power supply conversion. The current size of the 12V power supply is affected by the power supply capability of the POE switch and the conversion capability of the adapter board. The typical current is 1 ~1.5A. This interface only supports POE power supply equipment with 1/2 wires being positive and 3/6 wires being negative.

#### 4.7 J9Ethernet Interface

[J9] RJ45 Ethernet Interface. Support 10/100Mbps Bandwidth.

#### 4.8 J11TF Card Socket

[J11] Standard TF Card Socket. Support 256GB Self-elastic TF Card.

#### 4.9 J12Micro-SIM Deck

[J12] Micro-SIM Deck

**Note: The SIM card slot is the conventional middle card slot, please pay attention to the SIM card notch outward insertion.**

#### 4.10 J13COM0

[J13] Built-in Serial Port 0 (SIP 2.0mm-Square pad is pin 1). The output level is RS-232 by default and it could be setup to TTL 3.3V/RS-485 if required (RS-232 if U35 mounted, RS-485 if U68 mounted).

**The related software device node name is ttyS0.**

Pin#	Definition	Note
1	GND	Digital Ground
2	RX A+	Data receive (TTL or RS-232 or RS-485 level)
3	TX B-	Data transmit (TTL or RS-232 or RS-485 level)
4	VCC	Power output (Default 5V, 3.3V option)

#### 4.11 J14COM2

[J14] Built-in Serial Port 2 (SIP 2.0mm-Square pad is pin 1). The output level is RS-232 by default and it could be setup to TTL 3.3V/RS-485 if required (RS-232 if U35 mounted, RS-485 if U67 mounted).

The related software device node name is `ttyS2`.

Pin#	Definition	Note
1	GND	Digital Ground
2	RX A+	Data receive (TTL or RS-232 or RS-485 level)
3	TX B-	Data transmit (TTL or RS-232 or RS-485 level)
4	VCC	Power output (Default 5V, 3.3V option)

#### 4.12 J15/J16/J17 USB

[J15-J17] USB Header(SIP 2.0mm-square pad is pin 1).

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	5Voltage Output

#### 4.13 J18GPIO Signal

[J18] GPIO Header(SIP 2.0mm-square pad is pin 1).

Pin#	Definition	Note
1	VCC	3.3V Power Supply Output
2	K1	Button1 (GPIO No.66)
3	K2	Button2 (GPIO No.67)
4	K3	Button3 (GPIO No.68)
5	K4	Button4 (GPIO No.71)
6	K5	Button5 (GPIO No.76)
7	GND	Digital Ground

#### 4.14 J19Infrared Remote Control

[J19] Infrared Receiver Header(SIP 2.0mm-square pad is pin 1).

Pin#	Definition	Note
1	5VS	5V Standby Power Supply Output
2	GND	Digital Ground
3	IR	5V level Irda remote control input signal
4	IO	3.3V level GPIO input signal
5	GREEN	Running indicator for external green LED

6	RED	Standby indicator for external red LED
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#### 4.15 J20WiFi Antenna buckle

[J20] Standard IPEX Antenna buckle(Φ2.0mm).

#### 4.16 J21 OTG-USB Header

[J21] OTG-USB Header (SIP 1.25mm-Square pad is pin 1)

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	5V Output

#### 4.17 J22 OTG Socket

[J22]Standard Type-C Socket, this port should only be used as system burn or ADB connection.

#### 4.18 J23 USB Header

[J23] USB 2.0 Host Header (SIP 1.25mm-Square pad is pin 1)

Pin#	Definition	Note
1	GND	Digital Ground
2	D+	USB Differential Data+
3	D-	USB Differential Data-
4	5V	5V Output

#### 4.19 J24 USB Type A Host

[J24] Standard USB 2.0 Type A Host.

#### 4.20 J19 Audio Line Output

[J19] Audio Line Output (SIP 1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	DET	HPdetectionIO signal
2	AR	Stereo output right channel
3	GND	Audio Ground
4	AL	Stereo output left channel

## 4.21 J20Mic Input Header

[J20]Audio Input Header (SIP1.25mm-Square pad is pin 1).

Pin#	Definition	Note
1	GND	Audio Ground
2	MIC	Mono microphone input

## 4.22 J27 Headphones + MIC IN Jack

[J27] The four-section 3.5mm headphone/MIC socket has the same signal as J25/J26 and supports automatic speaker mute when the headphone is inserted.

## 4.23 J28Amplifier

[J28] Amplifier Header(SIP 2.0mm-Square pad is pin 1)

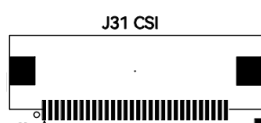
Pin#	Definition	Note
1	R+	Speaker right channel +
2	R-	Speaker right channel -
3	L-	Speaker left channel -
4	L+	Speaker left channel +

## 4.24 J30PCIE 4G/5G Slot

[J30] Mini PCIE 4G/5G Slot. Support CLM920/EC20/EC800M/EC600M Module for mobile network.

## 4.25 J31MIPI Camera

[J31]MIPI camera (FPC-0.5mm 30-Pin lower contact circle is 1 pin).



Pin#	Definition	Note
1	NC	No Connection
2	VDD_2V8	2.8V Power Supply
3	DVDD_1V2	1.2V Power Supply
4	DOVDD_1V8	1.8V Power Supply
5	NC	No Connection
6	GND	Digital Ground
7	AVDD_2V8	2.8V Power Supply
8	GND	Digital Ground
9	I2C_SDA	I2C Serial Data Line
10	I2C_SCL	I2C Clock Line

11	MIPI_RST	Camera Reset
12	PWDN	Camera Enable
13	GND	Digital Ground
14	MCLK	Main Clock
15	GND	Digital Ground
16	MD3P	MIPI Data3+
17	MD3N	MIPI Data3-
18	GND	Digital Ground
19	MD2P	MIPI Data2+
20	MD2N	MIPI Data2-
21	GND	Digital Ground
22	MD1P	MIPI Data1+
23	MD1N	MIPI Data1-
24	GND	Digital Ground
25	MCLKP	MIPI Clock+
26	MCLKN	MIPI Clock-
27	GND	Digital Ground
28	MD0P	MIPI Data0+
29	MD0N	MIPI Data0-
30	GND	Digital Ground

## 4.26 Hardware Button

[RESET] Press the reset button once to initiate a system restart.

[MODE] By pressing the return key once, the system will manually revert to the upper-level operation interface.

[U1/V+] User customization allows for programming adjustments. Pressing the default volume plus button once will increase the multimedia volume of the system by 1%.

[U2/V-] User customization allows for programming adjustments. The default volume reduction button decreases the multimedia volume of the system by 1% when pressed once.

[UBOOT] To enter burning mode, manually press and hold the system burning button, then power on after releasing it about 3 seconds later.

## 5 Reliability test

### 5.1 High and low temperature aging test

➤ Testing Environment

Environment Temperature:  $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Environment Humidity:  $20\% \pm 3\% \text{RH}$

Testing Process: Place the product obliquely in the high and low temperature test box, as shown in Figure 5.1; pass 72H high temperature, low temperature, high and low temperature

Alternately change the aging test, and observe whether the screen resets, restarts, displays abnormally, functions abnormally, etc. during the test process and after the experimental test.



Pic 5.1 High and low temperature aging test

➤ Test data

Model	Temperature	Humidity	Test Result
TDD-CP-SCCS700F-IC-A13	High( $60^{\circ}\text{C}$ )	20%	Normal Operation
	Low( $-10^{\circ}\text{C}$ )	0	Normal Operation

3P	Alternate (-10°C ~ 60°C)	20%	Normal Operation
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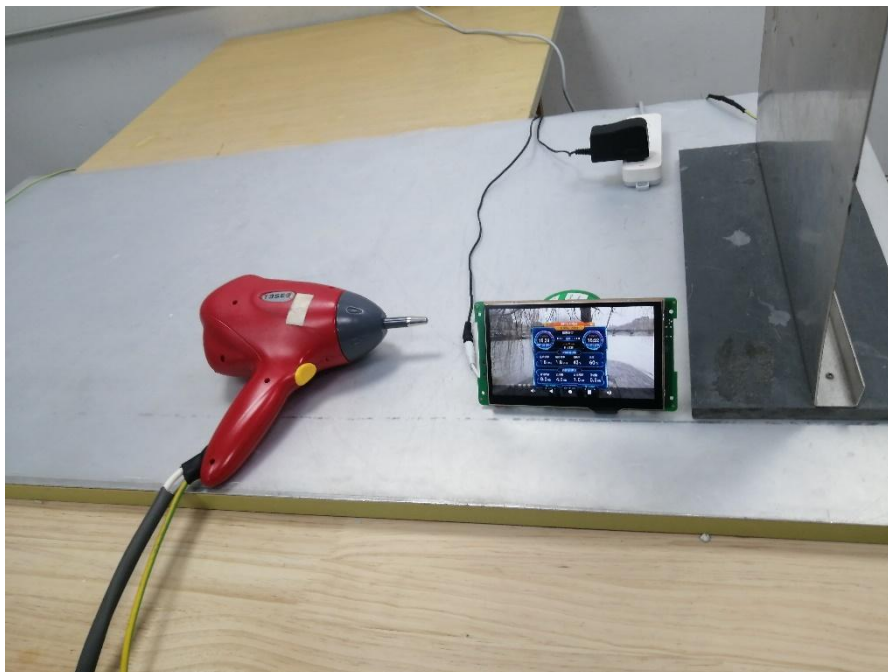
## 5.2 Electrostatic Discharge Test

### ➤ Test environment

Ambient temperature:27°C

Ambient humidity:50%RH

Test Procedure: Place the product flat on the test stand, and conduct contact and air discharge tests on the iron frame of the central control screen and the display area one by one. During the test, observe the screen for any abnormal phenomena such as freezing, black screen, white screen, distorted screen, or restart. The performance must meet the criteria of GB/T 17626.2 B grade or above.



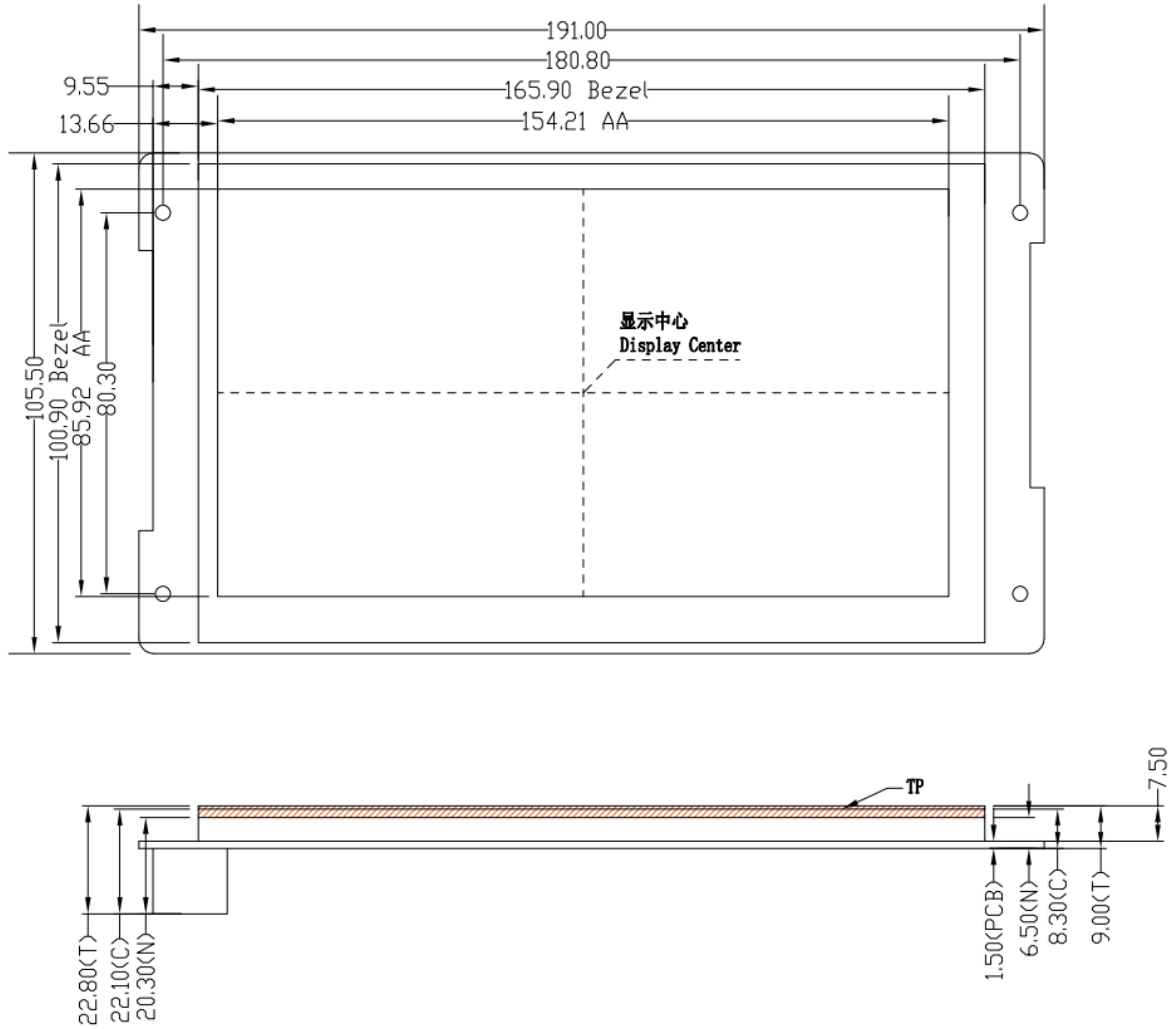
### ➤ Test data

Model	Type of discharge	Level	Discharge value	Test result
TDD-CP-SCCS700F-IC-A13	Contact discharge	3	±6KV	Normal operation
3P	Air discharge	3	±8KV	Normal operation



## 6 Product Dimension

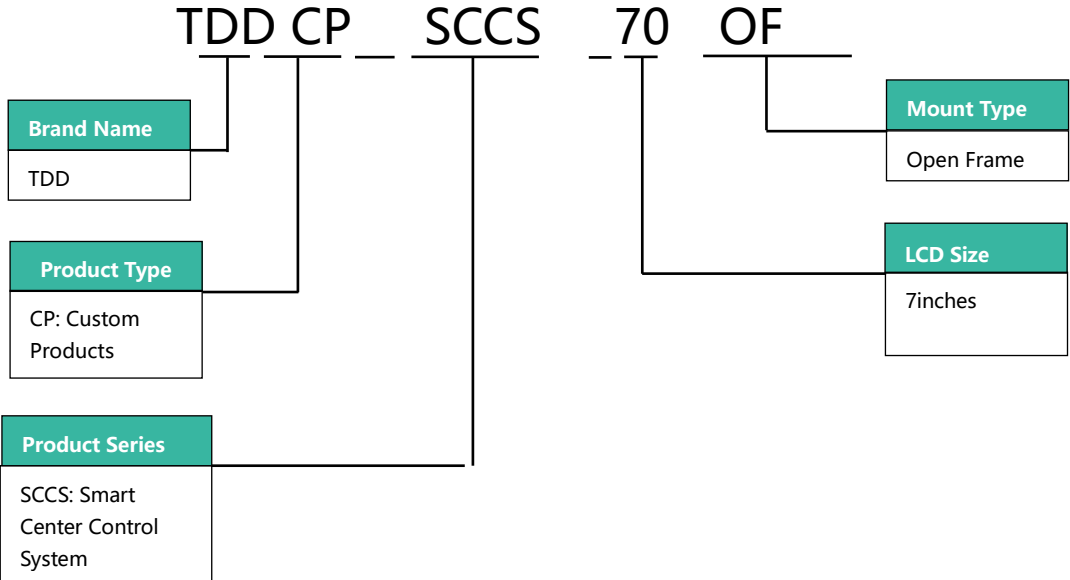
Product's Dimension Picture as follow(Unit: mm, deviation:±0.3)



Model	Overall dimension W x H x D (unit: mm)	Mounting dimension A x B (unit: mm)	Opening size suggested (unit: mm)	
			A+2	B+2
Screen Series 7.0 "center control screen	191 x 105.5 x 22.8	165.9 x 100.9	167.9	102.9

# 7 Model Definition

Product's Model Definition as follow.



## 8 Package & Physical Size

Product Weight				
Net Weight(kg)	0.3			
Overall size(mm)	191 x 105.5 x 22.8			
Packing standard and total weight				
Package Model	Package Size (L*W*H, unit: mm)	Layers	Quantity	Gross Weight(kg)
7.0 "center screen packing box	233*160*52	1	1	0.40

Tips: Gross Weight Not Contain Parts.