上海冠显光电科技有限公司
Shanghai Top Display Optoelectronics Co., LTD

☐ Pre-specification

☑ Final-specification

MODEL	:	**TY150XGM02CF**
ISSUED DATE	:	**2024-10-23**
VERSION	:	**1.1**

Version record

Issued Date	Description	Version	Editor	Audit
2024-10-23	Final-specification	1.1	ZYZ	WPY

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1. Hardware Introduction

This chapter mainly introduces the product appearance diagram and hardware configuration diagram.

1.1. Product Appearance

The following is the appearance of the product corresponding to this model (hardware interfaces, etc., vary according to the specific model of backplane components), as shown in Figure 1.1-1

Note: There is no key structural process modification or major layout adjustment, only changes in product process or reliability. The company will not initiate changes to the outside product appearance. The specific items are subject to the received goods.



Figure 1.1-1 TY150XGH02CF structure appearance reference diagram

1.2. Connector Pin Definitions

Pin Name	Type	Reset state	Internal Configurable Pull-up and Pull-down Resistors	Default drive capability (mA)	Voltage	Function
VCC	POWER	-	-	-	-	POWER-INPUT DC 12 V
VCC	POWER	-	-	-	-	POWER-INPUT DC 12 V
NC	-	-	-	-	-	Not connected
TXD	-	-	-	-	5V	UART3-TX (to user's RX)
RXD	-	-	-	-	5V	UART3-RX (to user's TX)
RXD	-	-	-	-	5V	UART3-RX (to user's TX)
GND	POWER	0V	-	-	0V	POWER-GND
GND	POWER	0V	-	-	0V	POWER-GND

2. Product Specifications

● Product parameter	
Model	TY150XGM02CF
Product serial	Standard series
Core processor	TR660
Size	15.0inch
Resolution	1024RGB×768
Active area(mm)	304.13(W)×228.1(H)
Product size(mm)	253.5(W)×326.5(H)×30.7(T)
Color	16.7M, 24 bit RGB
Storage	Customer available 60M Bytes
Pictures format	JPG/PNG
Video playback	H.264 format video only (Up to 1024*768 pixels)
Download pictures	USB / TF
Firmware update	USB
● LCD screen	
Display type	TFT LCD IPS
Back light	LED
Brightness(cd/m²)	230
Contrast	1000
Life time(hour)	50000
Perspective(T/B/L/R)	(89/89/89/89)
● Touch panel	
Touch mode	Capacitive touch screen
Input mode	Finger
● Environmental electrical parameters	
Voltage	12 DC

Power consumption	12V/1.05A
Working temperature	-20℃～70℃
Storage temperature	-30℃～80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
● Communication interface parameters	
Communication mode	RS-232/5V TTL
Baud	1200~115200,typical value is 115200
Data frame format	8N1
Communication plug-in specification	MOLEX 353620850
● Other hardware specifications	
Buzzer	Support
TYPE-C	Support
RTC	Support
SD card	Support

3. Reliability Test

3.1. ESD Test

3.1.1. Implementation Standards

Implementation standards	GB/T 17626.2
Performance criteria	B

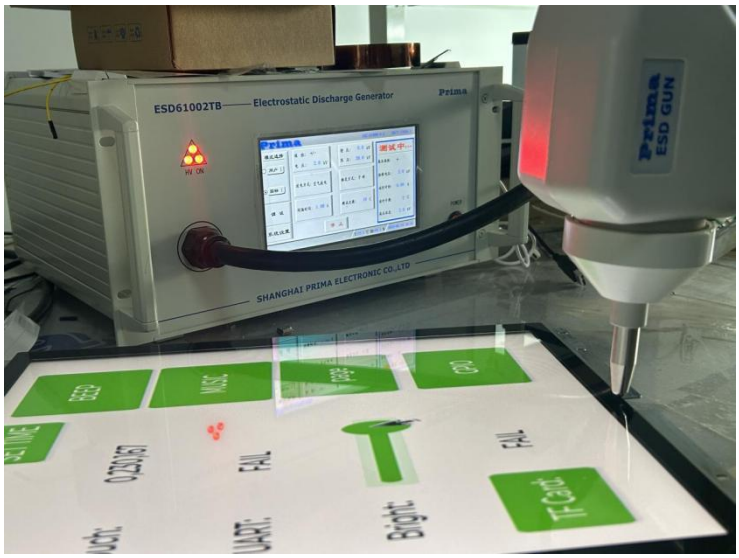
3.1.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

Test process: place the product on the test bench, conduct contact and air discharge in turn around the iron frame of the serial port screen and the display area, and observe whether there is any abnormal reset and restart display.

Test remarks: *The current tests are all bare product tests. On the actual product assembly machine, keep the screen and the machine well grounded, or the touch panel surface is protected by PVC or a cover plate, the ESD performance index of the whole machine will be higher.*



3.1.3. Test Data Results:

Discharge type	Discharge value	Test Results	Performance Criteria
Contact	±8KV	Test Passed	B
Discharge	±15KV	Test Passed	B

3.2. Electrical fast transient group pulse testing (EFT)

3.2.1. Implementation standards

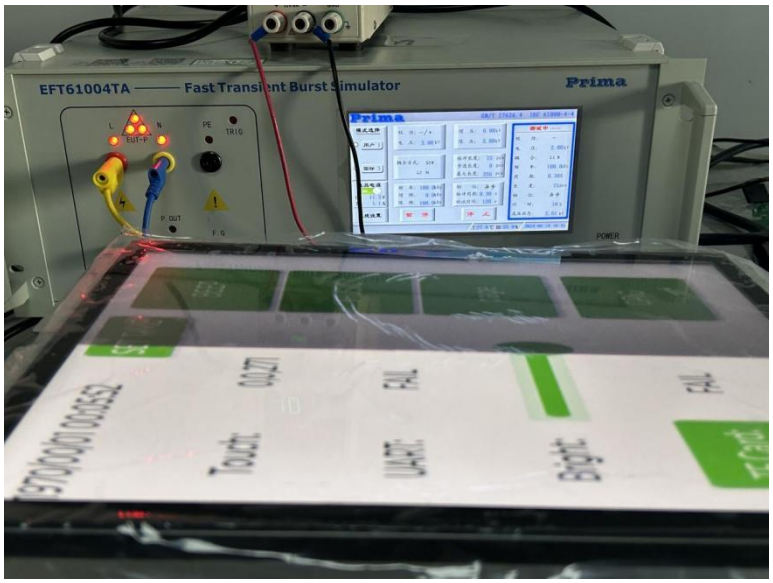
Implementation standards	GB/T 17626.4

3.2.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena**.**

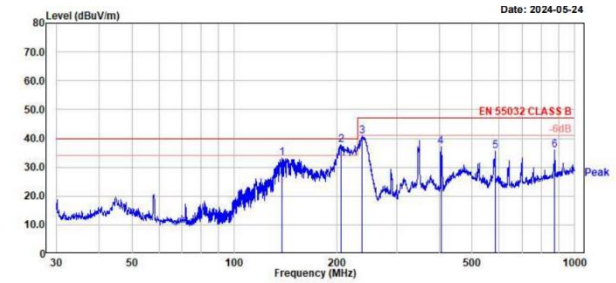


3.2.3. Test Data Results:

Implementation standards	GB/T 17626.4
Performance criteria	B
Test environment	4.0KV ; 100KHZ ; 120S

3.3. Radiation test

3.3.1. Radiation test horizontal direction test data diagram

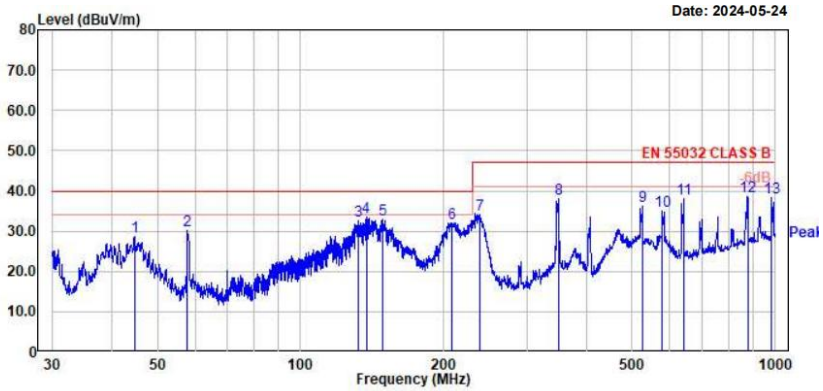



```
Site          : chamber
Condition     : EN 55032 CLASS B 3m VULB 9168 Horizontal
              : DET:Peak
Applicant     : 冠显
EUT           : 显示屏
M/N           : 15寸
S/N           :
Power Supply  : DC 12V
Ambient       : 25'C/54%RH
Test Mode     :
Test Engineer: WJM
Memo          :
```

	Freq	Level	Read Level	Limit Line	Over Limit	Ant Factor	Cable Loss	Remark	APos	TPos
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m	dB		cm	deg
1	137.903	33.17	19.59	40.00	-6.83	12.16	1.42	Peak	200	104
2	206.398	37.73	26.42	40.00	-2.27	9.62	1.69	Peak	100	130
3	237.476	40.64	27.68	47.00	-6.36	11.15	1.81	Peak	100	108
4	404.667	37.23	19.37	47.00	-9.77	15.39	2.47	Peak	100	96
5	583.765	35.51	13.23	47.00	-11.49	19.23	3.05	Peak	179	1
6	875.247	35.84	8.89	47.00	-11.16	23.18	3.77	Peak	100	194

Figure3.3.3-1 radio test horizontal direction test data diagram

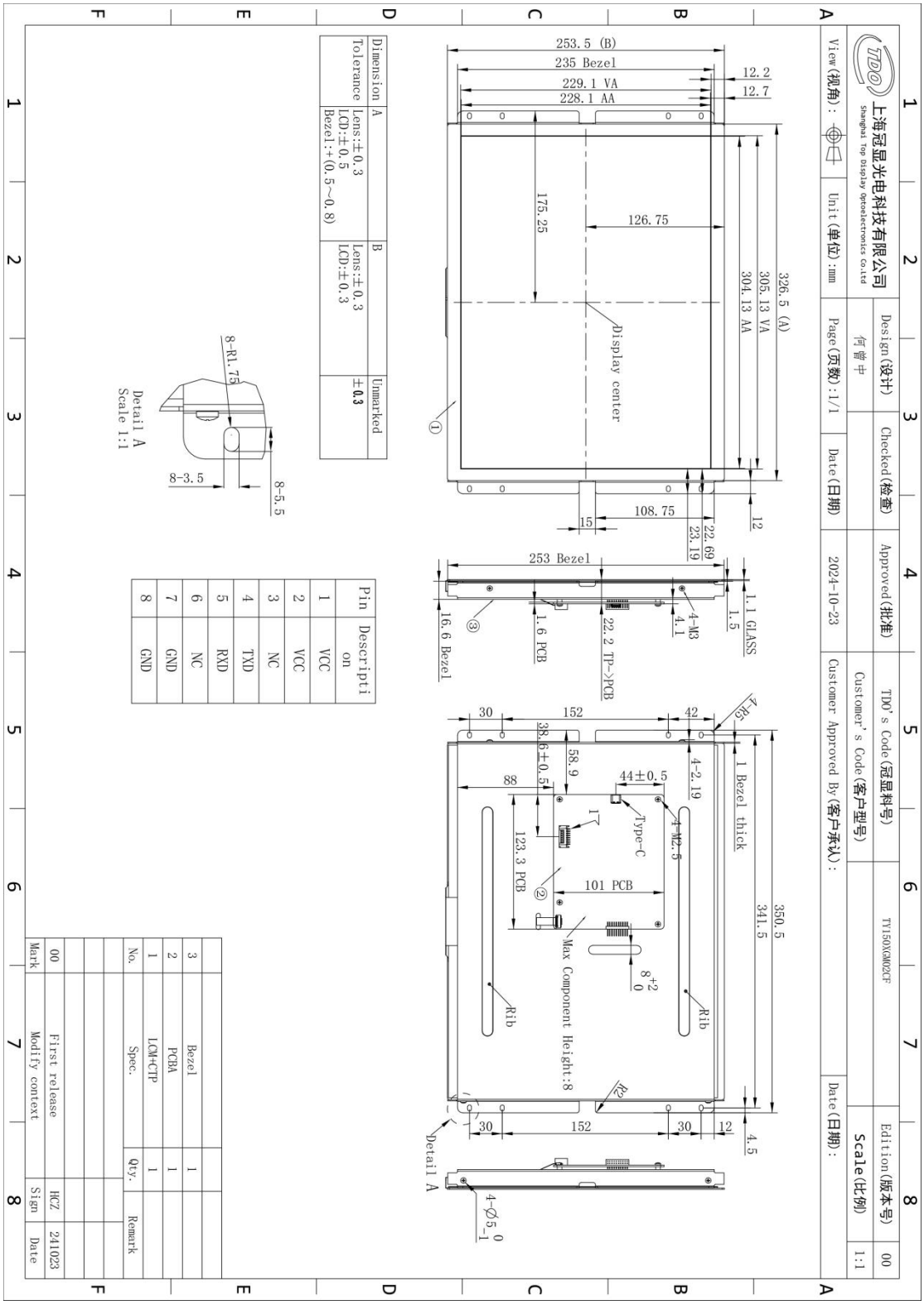
3.3.2. Vertical direction test data chart of radiation test




```
Site          : chamber
Condition     : EN 55032 CLASS B 3m VULB 9168 Vertical
              : DET:Peak
Applicant     : 冠显
EUT           : 显示屏
M/N           : 15寸
S/N           :
Power Supply  : DC 12V
Ambient       : 25'C/54%RH
Test Mode     :
Test Engineer: WJM
Memo          :
```

Figure 3.3.3-2 radio test Vertical direction test data diagram

4. Product Size



5. Model Definition

T	Y	150	XG	M	02	C	F
1	2	3	4	5	6	7	8

① : 1 position--TDO abbreviation, fixed。

② : 1 position--U(U series serial port)/P(parallel port)/Y(Y series serial port)/H(HDMI interface type)/S(adapter board)/L

③ : 3 position--size,eg.150->15.0 inch

④ : 2 position--resolution abbreviation

⑤ : 1 position--H (standard series)/C (basic series)/L (MINI board series)/P (with housing series)/M (medical series)/A (AV series)

⑥ : 2 position---serial number

⑦ : 1 position---C (with capacitive touch panel)/R (with resistive touch panel)/N (without touch panel)

⑧ : 1 position-----Platform: F-TR660 / G-TR540 / H-TR230M /J -TR240 / K-TR661 / D-TR670 / 0-Android / 1-Linux

Note: There is no key structural process modification or major layout adjustment, only changes in product process or reliability. The company will not initiate changes to the outside world. The specific items are subject to the received items.

6. Sale and Service



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7. Disclaimer

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