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

MODEL	:	**TY040WVP06CF**
ISSUED DATE	:	**2025-04-28**
VERSION	:	**1.2**

Version record

Issued Date	Description	Version	Editor	Audit
2024-07-09	First version	1.0	HXY	WPY
2025-3-11	Adding debugging tools	1.1	ZP	
2025-4-28	Updated structural drawings	1.2	Xenia	

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1. Product Specifications

● Product parameter	
Model	TY040WVP06CF
Product serial	With shell
Core processor	TR660
Size	4.0 inch
Resolution	480RGB×480
Active area(mm)	71.86 (W) × 70.18 (H)
Product size(mm)	86.4(W)×86.4(H)×38.85(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 1280*720 pixels)
Audio playback	MP3 and WAV format audio support
Download pictures	Micro USB
Firmware update	Micro USB
● LCD screen	
Display type	TFT LCD
Back light	LED
Brightness(cd/m²)	430
Backlight life(hour)	30000
Contrast	1200
Perspective(T/B/L/R)	(85/85/85/85)
● Touch panel	
Touch mode	Capacitive touch screen
Input mode	Finger
● Environmental electrical parameters	

Voltage	6.7~32V DC, typical 24V
Power consumption	24V/86mA (Maximum starting current) 24V/53mA (Turn off the backlight)
Working temperature	-20℃～70℃
Storage temperature	-30℃～80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
● Communication interface parameters	
Communication mode	485/CAN/Ethernet
Communication plug-in specification	3.81 MM-6P phoenix terminal
● Other hardware specifications	
RTC	Support
Speaker	Support
● Product certification	
Environmental protection grade	RoSH II

2. Reliability Test

2.1. ESD Test

2.1.1. Implementation Standards

Implementation standards	GB/T 17626.2
Performance criteria	B

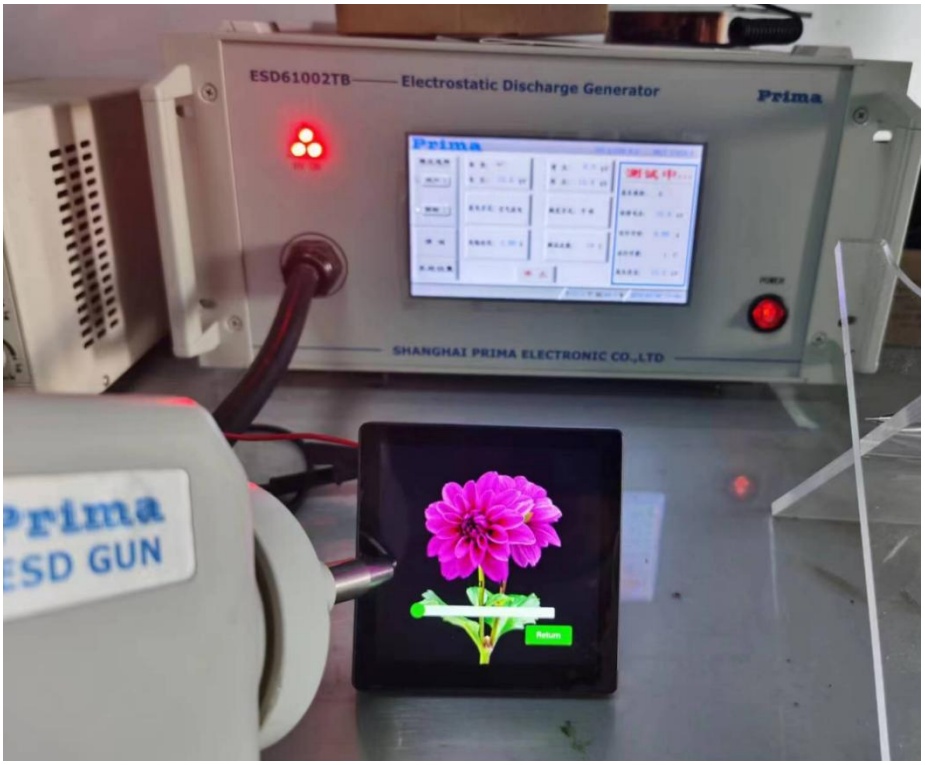
2.1.2. Test Environment

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.*



2.1.3. Test Data Results:

Discharge type	Discharge value	Test Results	Performance Criteria
Contact	±6KV	Test Passed	B
Discharge	±10KV	Test Passed	B

2.2. Electrical fast transient group pulse testing (EFT)

2.2.1. Implementation standards

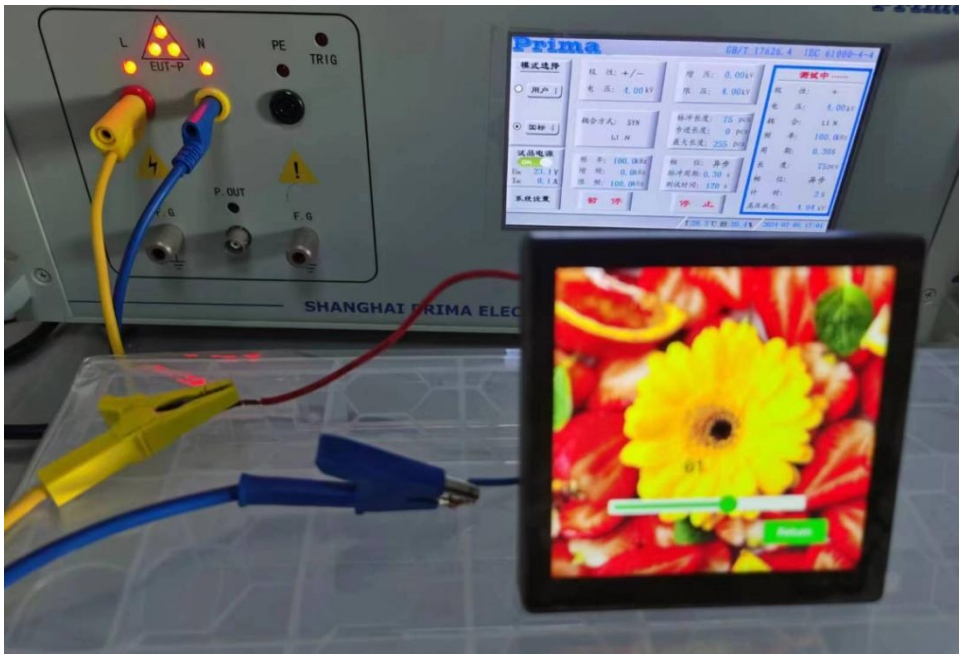
Implementation standards	GB/T 17626.4

2.2.2. 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**.**



2.2.3. Test Data Results:

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

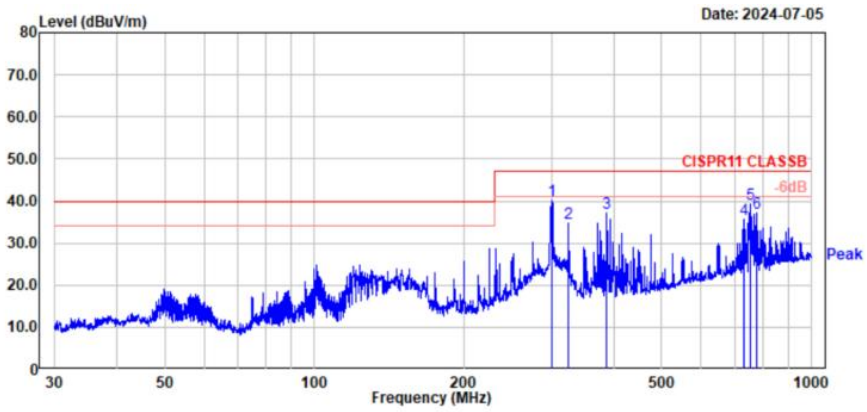
2.3. Radiation Test

2.3.1. Implementation Standards

Implementation standards	EN 55032
Performance criteria	B

2.3.2. Test Data Results

（1）Radiation test horizontal direction test data diagram

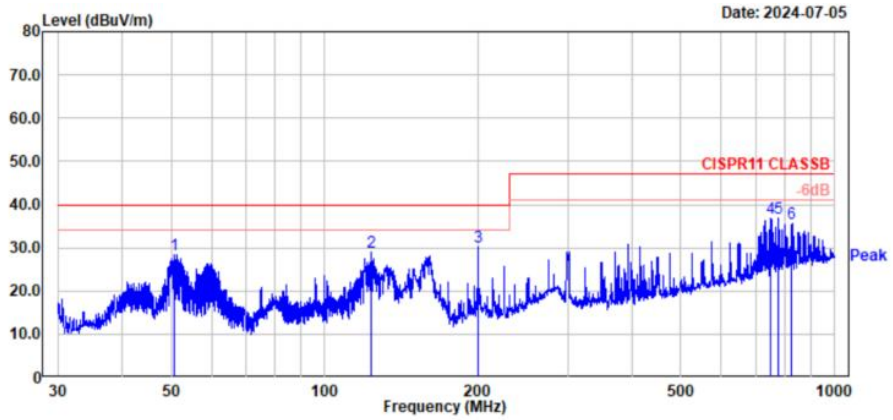



```
Site          : RE #1
Condition     : CISPR11 CLASSB 3m VULB9162-2023 Horizontal
              : DET:Peak
Applicant     : 冠显
EUT           : 4寸480-86盒
M/N           :
S/N           :
Power Supply  : DC 24V
Ambient       : 25'C/54%RH
Test Mode     :
Test Engineer: XY
Memo          : 有视频播放
```

	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	300.772	40.18	24.55	47.00	-6.82	13.41	2.22	Peak	300	90
2	325.216	34.85	18.76	47.00	-12.15	13.80	2.29	Peak	300	312
3	387.729	37.13	19.86	47.00	-9.87	14.80	2.47	Peak	300	288
4	731.571	35.69	12.12	47.00	-11.31	20.28	3.29	Peak	200	134
5	753.325	39.19	15.38	47.00	-7.81	20.48	3.33	Peak	200	290
6	775.726	37.24	13.18	47.00	-9.76	20.68	3.38	Peak	300	90

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

（2）Vertical direction test data chart of radiation test

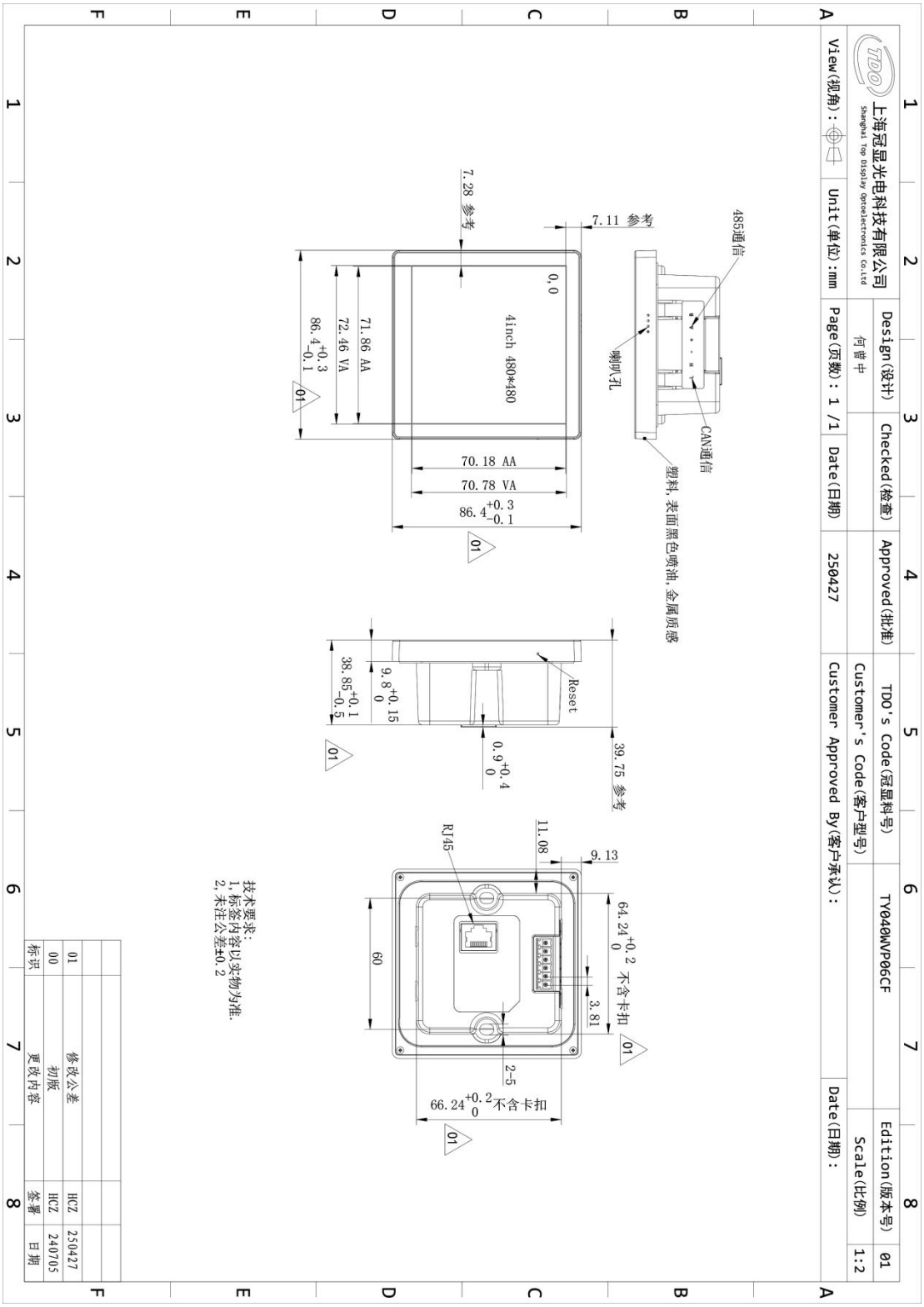


Site : RE #1
Condition : CISPR11 CLASSB 3m VULB9162-2023 Vertical
: DET:Peak
Applicant : 冠显
EUT : 4寸480-86盒
M/N :
S/N :
Power Supply : DC 24V
Ambient : 25'C/54%RH
Test Mode :
Test Engineer: XY
Memo : 有视频播放

	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	50.684	28.52	14.27	40.00	-11.48	13.13	1.12	Peak	100	120
2	123.607	29.00	17.47	40.00	-11.00	9.83	1.70	Peak	400	70
3	200.249	30.20	16.77	40.00	-9.80	11.51	1.92	Peak	400	207
4	748.125	36.69	12.29	47.00	-10.31	21.08	3.32	Peak	100	289
5	777.455	36.78	12.03	47.00	-10.22	21.37	3.38	Peak	100	287
6	825.062	35.61	10.25	47.00	-11.39	21.88	3.48	Peak	100	298

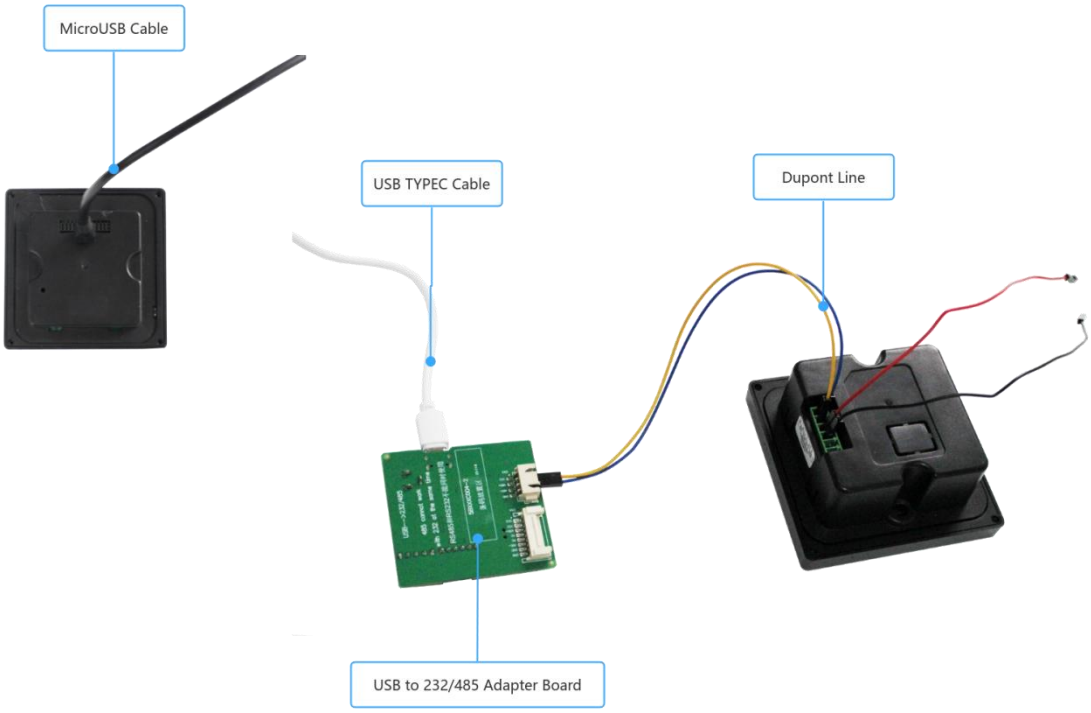
Figure 3.3.3-2 radio test Vertical direction test data diagram

3. Product Size



4. Debugging Tools

It is recommended for new users of TDO smart LCMs to purchase official accessories. For more details, please refer to customer service center.



The above diagram shows the use of the debugging tools, not the product diagram

5. Model Definition

T	Y	040	WV	P	06	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.040->4 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: If 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

This document provides product information about Shanghai Top Display Optoelectronics Technology Co., Ltd. (hereinafter referred to as Shanghai Top Display), which aims to assist customers to speed up product development progress, short development cycles, any routine programs provided in the service process or other channels , technical documents, data manuals, product drawings and other materials and information are for reference only, and customers have the right not to use or to modify and use for their own reference. The company does not provide any guarantee of completeness and reliability. If the customer causes special, incidental or indirect losses for any reason during the use process, the company does not assume any responsibility.