Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF70-800480A2H#008-FC

APPROVED BY: (FOR CUSTOMER USE ONLY)	PCB VERSION: DATA:

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			周园园
ISSUED DATE: 2022/09/23			

General Specifications

Item	Dimension	Unit
Size	7.0	inch
Dot Matrix	800 x RGBx480(TFT)	dots
Module dimension	202.0 x 135.5x 25.88(MAX)	mm
Active area	154.08 x 85.92	mm
Dot pitch	0.0642 x 0.179	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
Aspect Ratio	16:9	
Controller IC	TFP401 or equivalent	
Backlight Type	LED,Normally White	
TFT Interface	HDMI(only for DVI)	
CTP IC	ILI2511 or equivalent	
CTP Interface	USB (I2C available)	
CTP FW Version	0x06.0x00.0x00.0x00.0x07.0x065.0x00.0x01	
CTP Resolution	16384*9600	
With /Without TP	With CTP	
Surface	Glare	

*Color tone slight changed by temperature and driving voltage.

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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
Storage Temperature	TST	-30	—	+80	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above

1. Temp. 60℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

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Electrical Characteristics

1. Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VDD	–	4.9	5	5.1	V	-
Supply Current For LCM	IDD	–	–	760	1140	mA	Note 1
LED Life Time	–	–	–	50,000	–	Hr	Note 3

Note 1 : This value is test for VDD =5.0V , Ta=25 only

Note 2 : Please make sure to support enough current.

Note 3: The “LED life time” is defined as the module brightness decrease to 50% original brightness at Ta=25 and IL =180mA. The LED lifetime could be decreased if operating IL is lager than 180mA.

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Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0°、Φ=0°	-	25	50	.ms	Note 3
Contrast ratio		CR	At optimized viewing angle	500	800	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.26	0.31	0.36	-	Note 2,5,6
		Wy		0.28	0.33	0.38	-	
Viewing angle (Gray Scale Inversion Direction)	Hor.	ΘR	CR≧10	60	70	-	Deg.	Note 1
		ΘL		60	70	-		
	Ver.	ΦT		50	60	-		
		ΦB		60	70	-		
Brightness		-	-	250	350	-	cd/m2	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃, IL=180mA

Note 1: Definition of viewing angle range

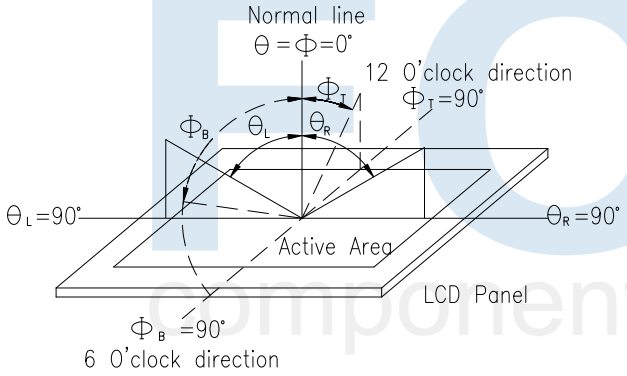
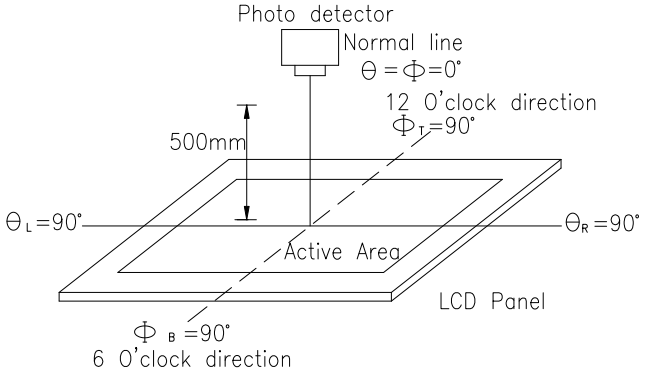


Fig. 6.1. Definition of viewing angle

Note 2: Test equipment setup:

After stabilizing and leaving the panel alone at a driven temperature for 10 minutes, the measurement should be executed. Measurement should be executed in a stable, windless, and dark room. Optical specifications are measured by Topcon BM-7orBM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.



Interface

HDMI (DVI)

Pin No.	Symbol	I/O	Function	Remark
1	Rx2+	I	+LVDS Differential Data Input	
2	GND	P	Ground	
3	Rx2-	I	-LVDS Differential Data Input	
4	Rx1+	I	+LVDS Differential Data Input	
5	GND	P	Ground	
6	Rx1-	I	-LVDS Differential Data Input	
7	Rx0+	I	+LVDS Differential Data Input	
8	GND	P	Ground	
9	Rx0-	I	-LVDS Differential Data Input	
10	RxC+	I	+LVDS Differential Clock Input	
11	GND	P	Ground	
12	RxC-	I	-LVDS Differential Clock Input	
13-14	NC	-	No connection	
15	SCL	I/O	DDC(Data Display Channel) Clock	
16	SDA	I/O	DDC(Data Display Channel) Data	
17	GND	P	Ground	
18	5V	P	Power Supply	
19	Detect	I/O	Hot plug detect	

I: input, O: output, P: Power

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2. CTP PIN Definition

Pin	Symbol	Function	Remark
1	USB_VSS	System ground	
2	USB_VDD 5V	Power supply	
3	USB_D+	Data +	
4	USB_D-	Data -	
5	VSS	System ground	
6	SDA	I2C data input and output	
7	SCL	I2C clock input	
8	RST	External Reset, Low is active	
9	INT	External interrupt to the host	
10	VDDT 3.3	Power supply	

Note: Interface can support both USB and I2C,USB is main function

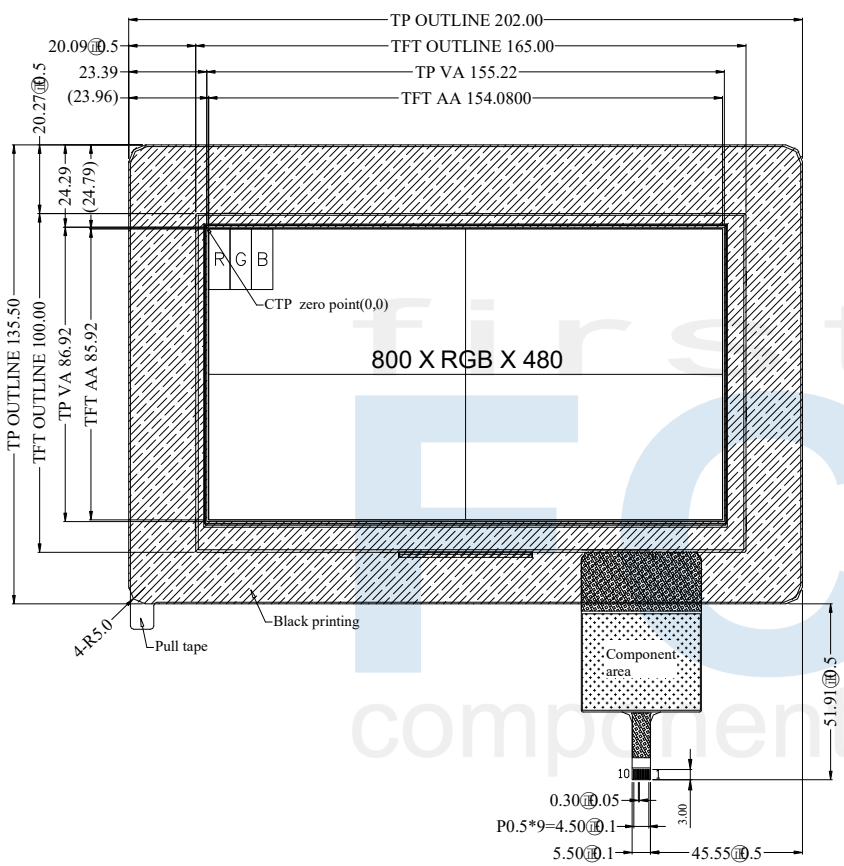
3. POWER JACK

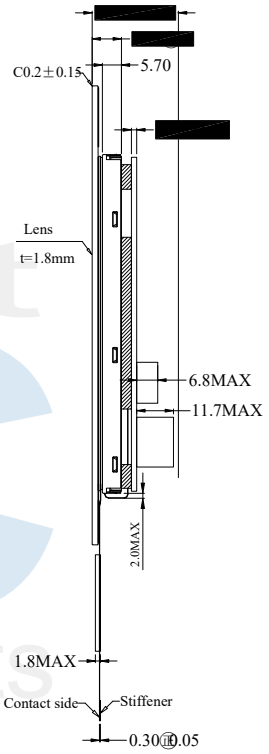
Pin No.	Symbol	I/O	Function	Remark
1	5V	P	Power Supply (5V)	
2	GND	P	Ground	
3	NC		No connection	

＊Display need to use power jack to power on due to HDMI port not able to fulfill the supply current

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Contour Drawing





CTP

PIN NO.	SYMBOL
1	USB_VSS
2	USB_VDD 5V
3	USB_D+
4	USB_D-
5	VSS
6	SDA
7	SCL
8	RST
9	INT
10	VDDT 3.3

The non-specified tolerance of dimension is ±0.3 mm .

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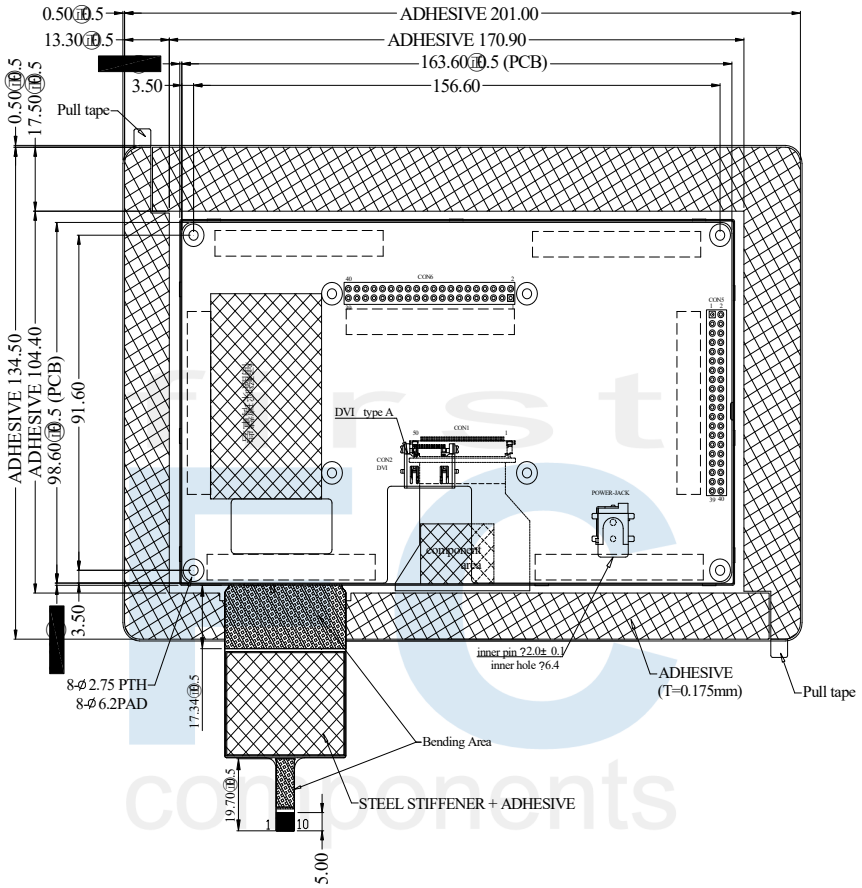
DVI

PIN NO.	SYMBOL
1	RX2+
2	GND
3	RX2-
4	RX1+
5	GND
6	RX1-
7	RX0+
8	GND
9	RX0-
10	RXC+
11	GND
12	RXC-
13	NC
14	NC
15	SCL
16	SDA
17	GND
18	5V
19	Detect

POWER JACK

PIN NO.	SYMBOL
1	5V
2	GND
3	NC

2 — ◎ — 1
(GND) (5V)



The non-specified tolerance of dimension is ±0.3 mm .