



SPECIFICATION FOR CTP MODULE

MODULE NO: YB-TG1280800C26A-C-A

Doc.Version:10

Customer Approval:

<input type="checkbox"/> Accept	<input type="checkbox"/> Reject
---------------------------------	---------------------------------

YEEBO	NAME	SIGNATURE	DATE
Prepare	Electronic Engineer		2021/12/17
Check	Mechanical Engineer		2021/12/17
Verify			
Approval			2021/12/17

APPROVAL FOR SPECIFICATIONS ONLY

APPROVAL FOR SPECIFICATIONS AN SAMPLE

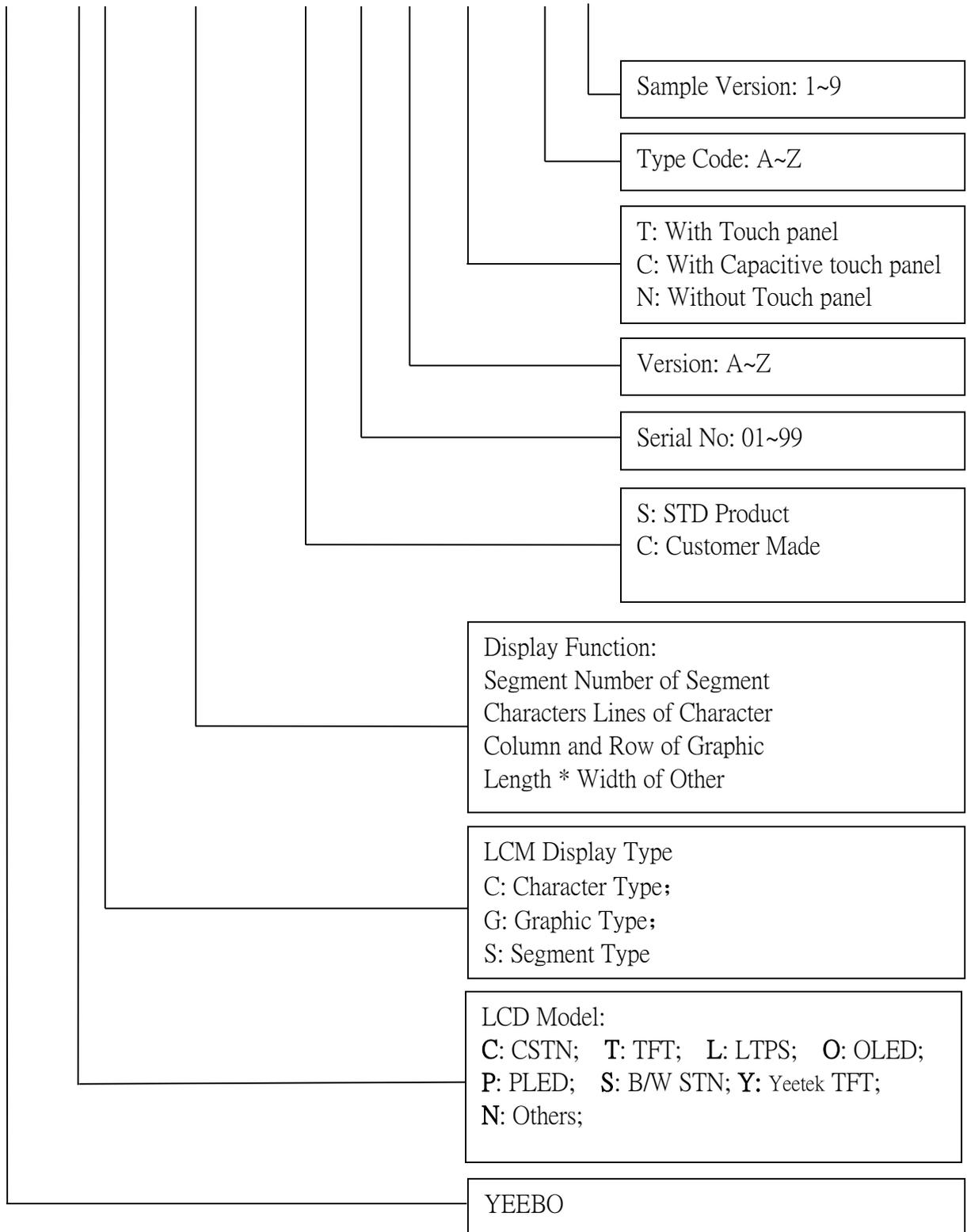
WIMRD005-02-C

2. Table of Contents:

NO	CONTENTS	PAGE
1	Revision History	1
2	Table of Contents	2
3	Module Numbering System	3
4	General Specification	4
5	Drawing	5
6	Electrical Characteristics	6
7	Optical Characteristics	15
8	Interface Pin Assignment	18
9	Backlight	20
10	Standard Specification for Reliability	21
11	Specification of Quality Assurance	23
12	Handing Precaution	27

3. Module Numbering System:

YB- TG 7201280 C 15 A -C – A 0



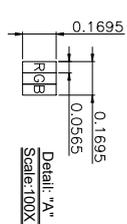
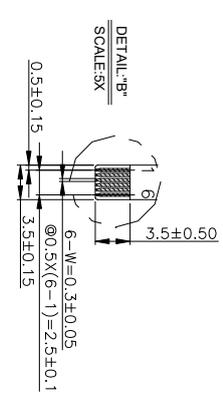
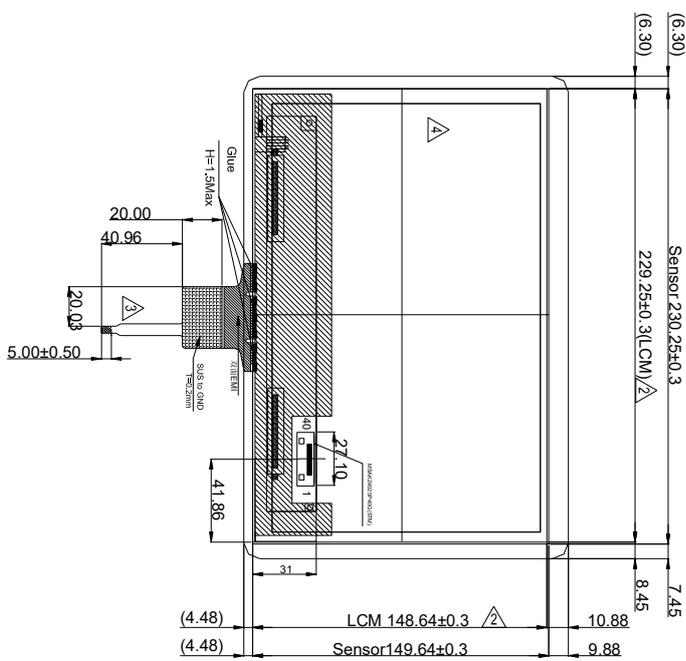
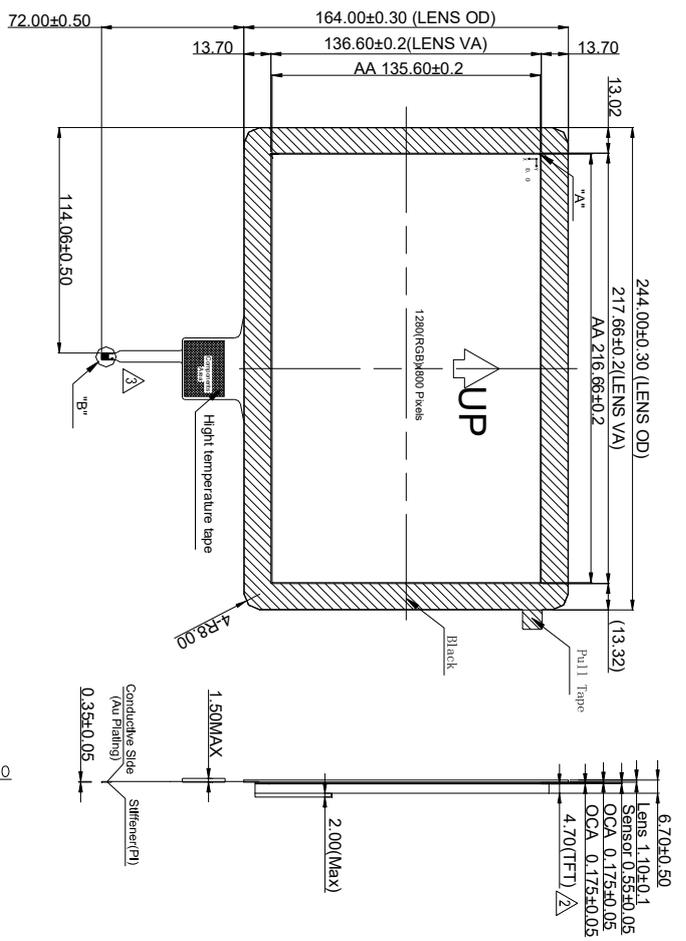
4. General Specification:

ITEM	CONTENTS
Module Size	244(W) * 164(H) *6.70 (T) mm
Module Size(With FPC)	244(W) * 164(H) *6.70(T) mm(Without FPC)
Display Size(Diagonal)	10.1inch
Display Format	1280(RGB) * 800 Pixels
Pixel Pitch	0.0565 (H) *RGB* 0.1695 mm
LCD Type	TFT(16.7M) / Transmissive / Normal Black
Active Area	216.66(W) * 135.6(H) mm
View Angle	Free
TFT Interface	LVDS
CTP IC	ILI2131
CTP Interface	I2C
Weight(g)	≈300
Fireware	ILI2131-9547-20210816.hex
Test Configuration	9547_20210816-1.ini

S

5. Drawing:

Count drawing & Spec. revision record during discussion with customer		
Rev.	Revision content description	Date
01	FIRST ISSUE	2021-05-08
02	更改为L1101WXM-N20-YB	2021-05-21
03	更改IP的PC外形	2021-05-17
04	更改TFT	2021-06-29



- Specification:**
1. Glass Type: GG+TFT
 2. Channel NO.: 33(X) x 21(Y)
 3. T/P Controller IC: ILI2131
 4. Display mode: 10.1" TFT / Transmissive / Normally Black
 5. Viewing Direction: Free
 6. Operating temperature: -20°C to +70°C
Storage temperature: -30°C to +80°C
 7. Unspecified tolerance: ±0.30mm.
 8. ROHS compliant

		UNIT	SIZE	SCALE	DESIGNED	CHECKED	VERIFIED	APPROVED	FILE NAME
		mm	A4	N-T-S					
MOD. Name		YB-TG1280800C26A-C-A			Customer Approval	Sheet		1	
DESIGNED		YB-TG1280800C26A-C-A				Of		1	
Count Dwg.									

Customer NO.

6. Electrical Characteristics

6-1 CTP Electrical Characteristics

6-1-1 TP Absolute Maximum Ratings

(Ta=25°C VSS=0V)

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are for stress ratings. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may remain possibility to affect device reliability.

Table 5-1: Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
USB 5V input power supply voltage	V _{DD5V}	-0.3	6.0	V
V _{DD3A} to GND	V _{DD3A}	-0.3	3.6	V
V _{DD3D} to GND	V _{DD3D}	-0.3	3.6	V
V _{DDIO} to GND	V _{DDIO}	-0.3	3.6	V
V _{DD16} to GND	V _{DD16}	-0.3	1.65	V
V _{GH} to GND	V _{GH}	-0.3	32	V
V _{TX} to GND	V _{TX}	-0.3	32	V
ESD Susceptibility HBM (Human Body Mode)(Note 1)	HBM		4000	V
ESD Susceptibility MM (Machine Mode)	MM		400	V

Note 1: Devices are ESD sensitive. Handling precaution is recommended.

I2C AC Characteristics

Parameter	Symbol	Standard-mode		Fast-mode		Unit
		Min	Max	Min	Max	
SCL clock frequency	f_{SCL}	0	100	0	400	kHz
Hold time START condition	$t_{HD,STA}$	4.0	-	0.6	-	us
LOW period of the SCL clock	t_{Low}	4.7	-	1.3	-	us
HIGH period of the SCL clock	t_{High}	4.0	-	0.6	-	us
Set-up time for a repeated START condition	$t_{SU,STA}$	4.7	-	0.6	-	us
Data hold time	$t_{HD,DAT}$	300	-	300	-	ns
Data set-up time	$t_{SU,DAT}$	250	-	100	-	ns
Rise time of both SDA and SCL signals (30% to 70%)	t_r	-	1000	20	300	ns
Fall time of both SDA and SCL signals (70% to 30%)	t_f	-	300	20	300	ns
Set-up time for STOP condition	$t_{SU,STO}$	4.0	-	0.6	-	us
Bus free time between a STOP and START condition	t_{BUF}	4.7	-	1.3	-	us
Capacitive load for each bus line	C_b	-	400	-	400	pF
Noise margin at the LOW level for each connected device	V_{nL}	$0.1V_{DD}$	-	$0.1V_{DD}$	-	V
Noise margin at the HIGH level for each connected device	V_{nH}	$0.2V_{DD}$	-	$0.2V_{DD}$	-	V

6-2-1 ABSOLUTE MAXIMUM RATINGS

The followings are maximum values which, if exceed, may cause faulty operation or damage to the unit.

< Table 2. Environment Absolute Maximum Ratings >

Parameter		Symbol	Min.	Max.	Unit	Remarks
Power Supply	LCD Module	VDD	VSS-0.3	3.6	V	Ta = 25 °C Note 1&2
Operating Temperature		T _{OP}	-20	+70	°C	
Storage Temperature		T _{ST}	-30	+80	°C	

6-3.0 ELECTRICAL SPECIFICATIONS

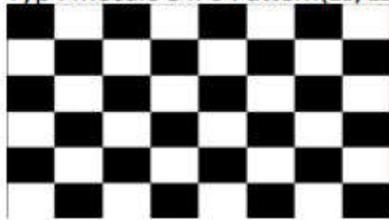
3.1 TFT LCD Module

< Table 3. LCD Module Electrical specifications > [Ta =25±2 °C]

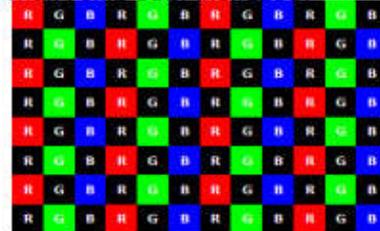
Parameter	Symbol	Values			Unit	Notes
		Min.	Typ.	Max.		
Power Supply Voltage	VDD	3.0	3.3	3.6	V	
	VRP			300	mV	Ripple
Power Supply Current	IDD	-	127	343	mA	Note 1
Power Consumption	PLCD	-	0.42	1.13	W	
Rush current		IRUSH	-	-	3.0	A
CMOS Interface	Input Voltage	VIH	2.7		3.3	V
		VIL	0		0.5	V
	Output Voltage	VOH	2.7		3.3	V
		VOL	0		0.5	V

Notes : 1. The supply voltage is measured and specified at the interface connector of LCM.
 The current draw and power consumption specified is for VDD=3.3V, Frame rate $f_v=60\text{Hz}$ and Clock frequency = 72.4MHz. Test Pattern of power supply current

a) Typ : Mosaic 8 x 6 Pattern(L0/L255)



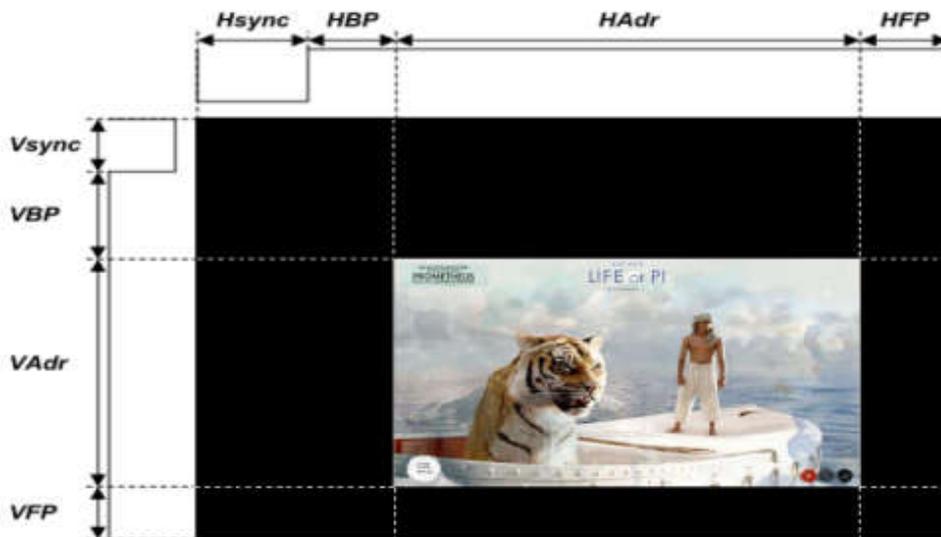
b) Max : skip subPixel(l.255)



6-4 Interface timing Parameter

LVDS Timing Parameter

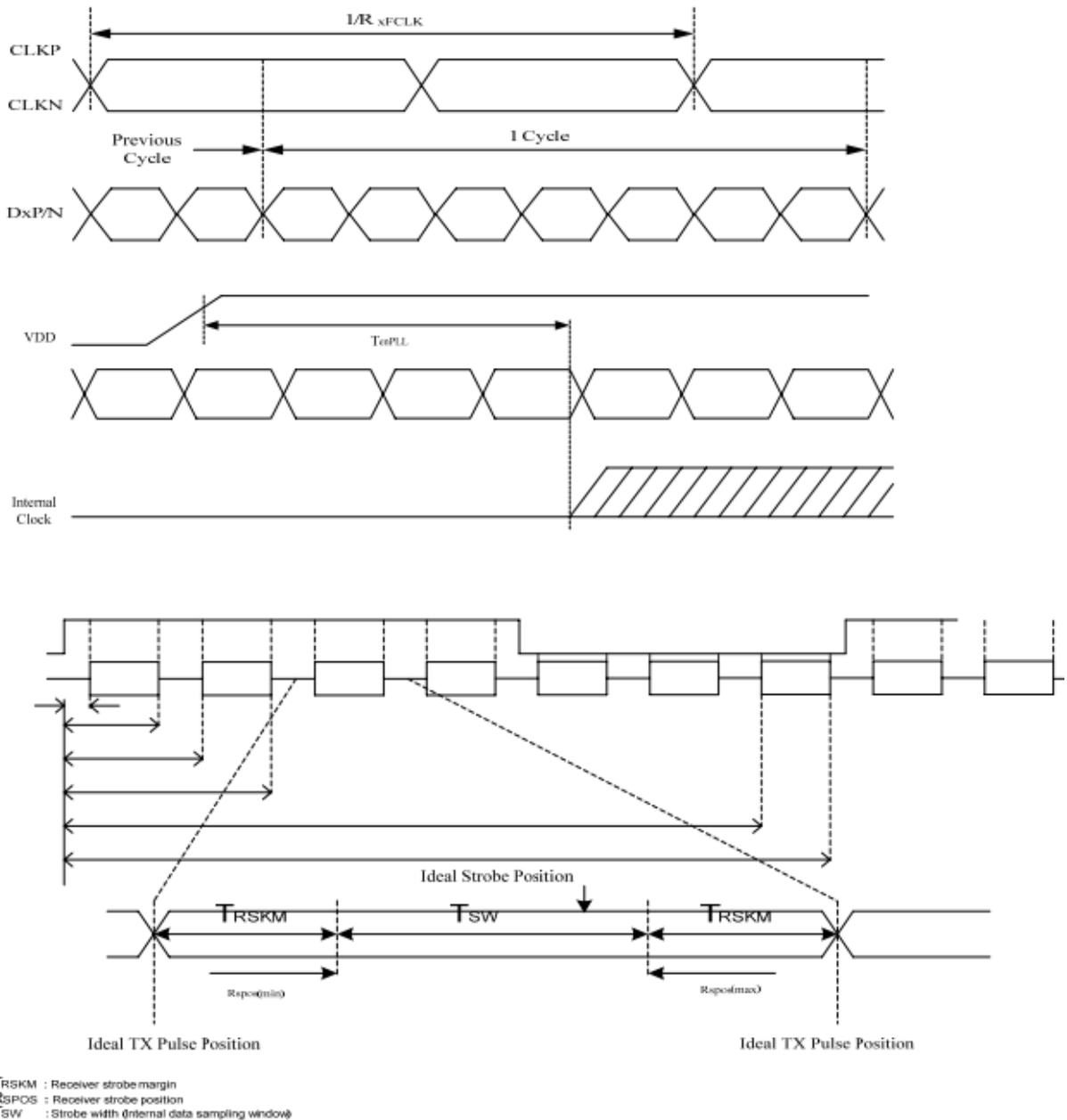
Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
DCLK Frequency	Fdclk	66.3	72.4	78.9	MHz
Horizontal display area	Thd	1280			pixel
HSYNC period time	Th	1380	1440	1500	pixel
HSYNC blanking	thbp+ thfp	100	160	220	pixel
Vertical display area	Tvd	800			H
Frequency	fV	55	60	65	Hz
VSYNC period time	Tv	824	838	872	H
VSYNC blanking	Tvbp+ Tvfp	24	38	72	H



LVDS AC Timing Specification

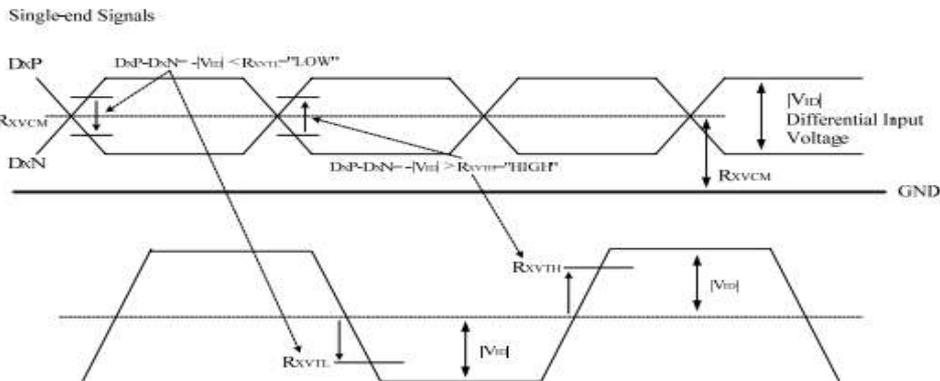
Item	Symbol	Min	Typ	Max	Unit	Remark
Clock frequency	RxFCLK	30	60	74.5	MHz	Refer to input timing table for each display resolution
Input data skew margin	TRSKM	500	-	-	ps	VID = 200mV RxVCM = 1.2V RxFCLK = 81MHz
Clock high time	TLVCH	-	$4/(7 * RxFCLK)$	-	ns	
Clock low time	TLVCL	-	$3/(7 * RxFCLK)$	-	ns	

6-5 Interface timing Parameter

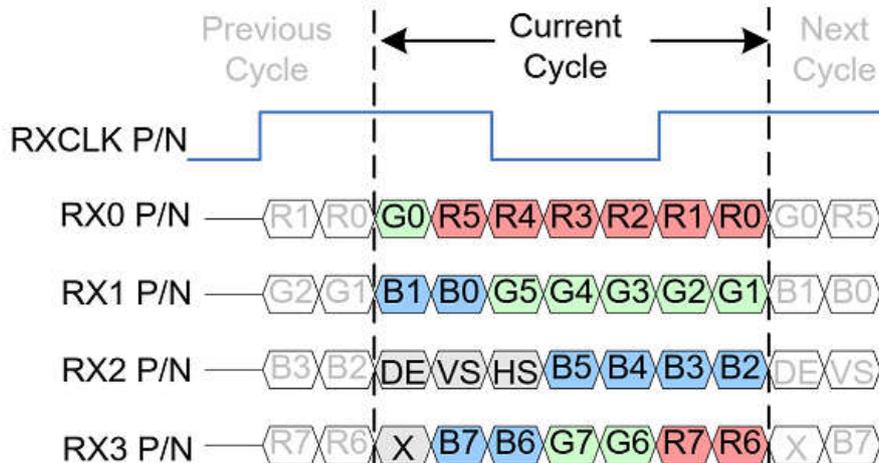


LVDS DC Timing Specification

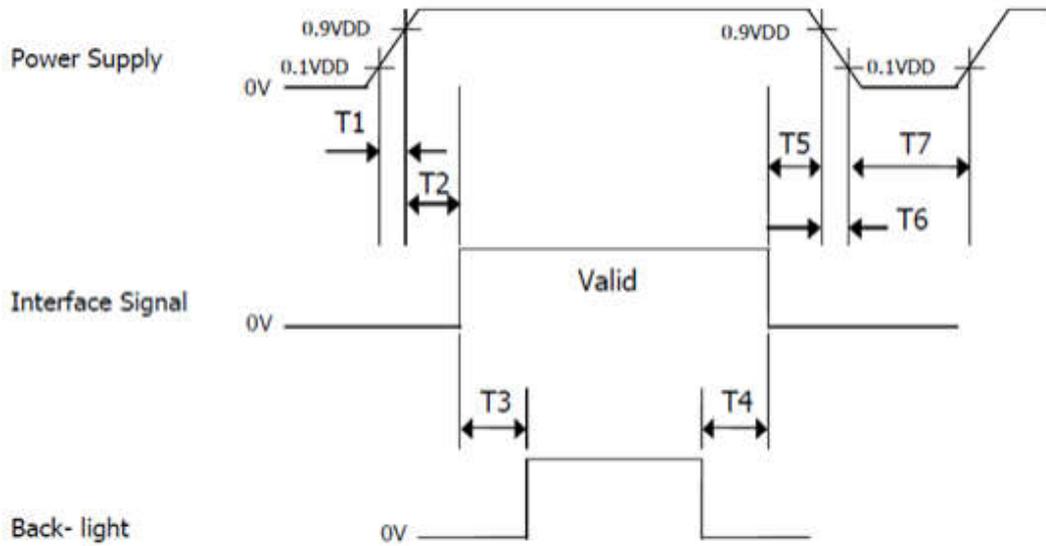
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Differential input high threshold voltage	RXVTH	+0.1	0.2	0.3	V	RXVCM=1.2V
Differential input low threshold voltage	RXVTL	-0.3	-0.2	-0.1	V	
Input voltage range (singled-end)	RXVIN	0.7	-	1.7	V	
Differential input common mode voltage	RXVCM	1	1.2	1.4	V	VID =0.2
Differential input impedance	ZID	80	100	125	ohm	
Differential input voltage	VID	0.2	-	0.6	V	
Differential input leakage current	ILCLVDS	-10	-	+10	uA	
LVDS Digital Operating Current	IVDDMIP I	-	15	20	mA	FDCLK=80MHz, VDD=3.3V, Input pattern: 55h->Aah->55h->Aah
LVDS Digital Stand-by Current	ISTMIPI	-	-	250	uA	Clock & all Functions are stopped



Lane VESA Mode Color Bit Map



6-6 Power Sequence



Sequence Table

Parameter	Values			Units
	Min	Typ	Max	
T1	0	-	10	ms
T2	0	-	50	ms
T3	200	-	-	ms
T4	500	-	-	ms
T5	0	-	50	ms
T6	0	-	10	ms
T7	500	-	-	ms

7. Optical Characteristics:

7.1 Overview

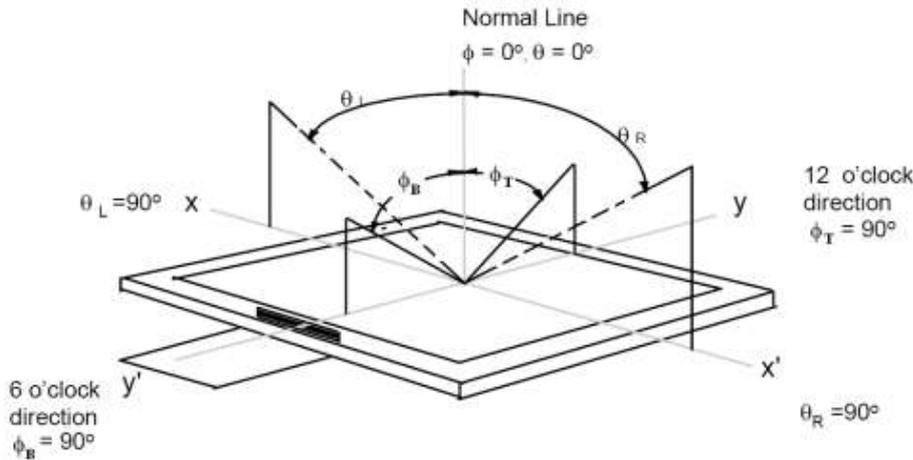
The test of optical specifications shall be measured in a dark room (ambient luminance ≤ 1 lux and temperature = $25\pm 2^\circ\text{C}$) with the equipment of Luminance meter system (Gonio meter system and TOPCON BM-5) and test unit shall be located at an approximate distance 50cm from the LCD surface at a viewing angle of θ and Φ equal to 0° . We refer to $\theta=0$ ($=\theta_3$) as the 3 o' clock direction (the "right"), $\theta=90$ ($=\theta_{12}$) as the 12 O' clock direction ("upward"), $\theta=180$ ($=\theta_9$) as the 9 O' clock direction ("left") and $\theta=270$ ($=\theta_6$) as the 6 O' clock direction ("bottom"). While scanning θ and/or Φ , the center of the measuring spot on the Display surface shall stay fixed.

7.2 Optical Specifications

Item	Symbol	Condition	Min	Typ.	Max	Unit	Note
Viewing Angle	θ_L	$Cr \geq 10$	70	80	--	deg	<u>Note 1</u>
	θ_R		70	80	--		
	ψ_T		70	80	--		
	ψ_B		70	80	--		
Contrast Ratio	Cr	$\theta=0^\circ$	--	1000		-	<u>Note 2</u>
Response Time	$Tr+Tf$	$FF=0^\circ$	--	30	35	ms	<u>Note 3</u>
Color Coordinate of CIE1931	Rx	$\theta=0^\circ$	0.588	0.618	0.648	-	<u>Note 4</u> <u>@C光</u>
	Ry		0.299	0.329	0.359		
	Gx		0.253	0.283	0.313		
	Gy		0.512	0.542	0.572		
	Bx		0.109	0.139	0.169		
	By		0.134	0.164	0.194		
	Wx		0.269	0.299	0.329		
	Wy		0.309	0.339	0.369		
NTSC Ratio	NTSC	CIE1931	45	50	--	%	<u>Note 5</u>
Polarization Direction of Front Polarizer	PdF	-		0		deg	Absorption axis <u>Note 7</u>
Polarization Direction of Rear Polarizer	PdR	-		90		deg	

Note 1: The definition of Viewing Angle

Refer to the graph below marked by θ and ϕ .



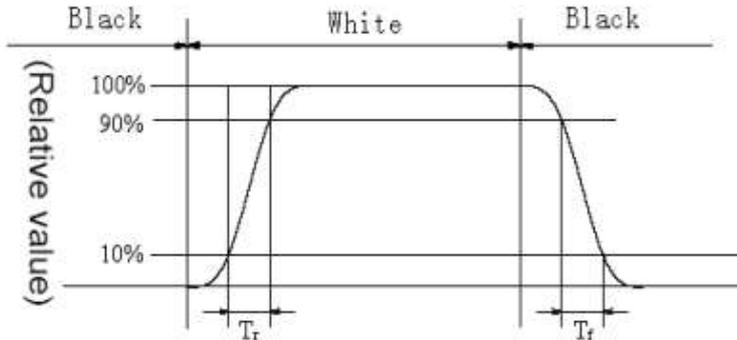
Note 2: The definition of Contrast Ratio

$$\text{Contrast Ratio (CR)} = \frac{\text{Luminance When LCD is at "White" state}}{\text{Luminance When LCD is at "Black" state}}$$

(Contrast Ratio is measured in optimum common electrode voltage)

Note 3: Definition of Response time. (Test LCD using RD80S or similar equipments):

The output sign also photo detector are measured when the input sign also are changed from "black" to "white" (Voltage falling time) and from "white" to "black" (Voltage rising time), respectively. The response time is defined as the time interval between the 10% and 90% of amplitudes. Refer to figures below.



Note 4: Color Coordinates of CIE 1931

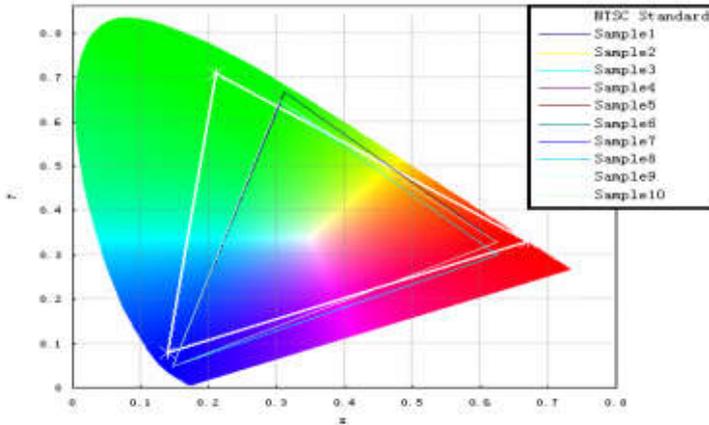
The test condition is at ILED=20mA and measured on the surface of LCD module at 25°C.

Measurement equipment: CS2000 or similar equipments

The Color Coordinate (CIE 1931) is the measurement of the center of the display shown in below figure.

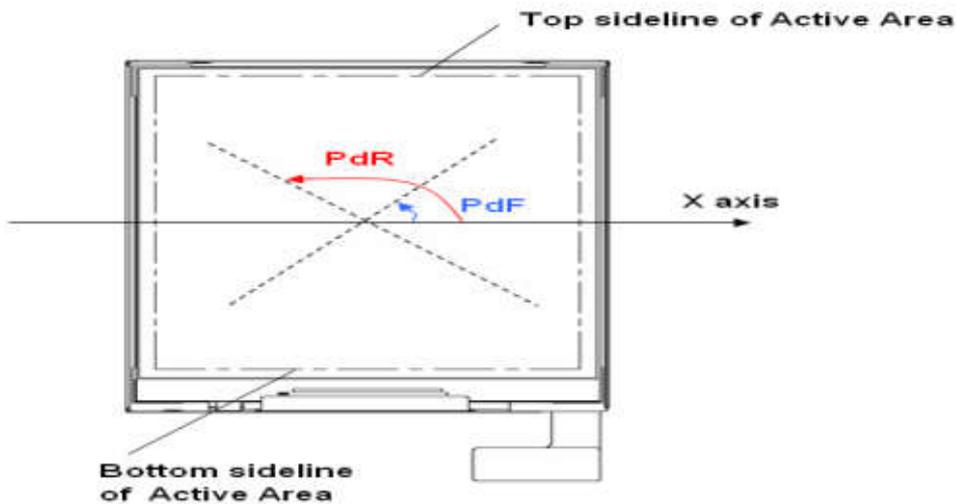
Note 5: Definition of Color of CIE Coordinate and NTSC Ratio.

$$S = \frac{\text{area of RGB triangle}}{\text{area of NTSC triangle}} \times 100\%$$



Note 6: Polarization Direction Definition

- Viewing direction is normal user viewing direction which is vertical to the display surface
- The polarizer which is closer to viewer is defined as Front Polarizer
- The polarizer which is on the rear side of viewer is defined as Rear Polarizer
- The X axis is defined as parallel line to top & bottom sidelines of the Active Area
- PdF which is marked in blue arrow is polarization degree of Front polarizer
- PdR which is marked in red arrow is polarization degree of Back polarizer
- The polarization degree parameter must be indicated in range of 0deg to 180deg according to above definition



8-1 TP FPC Interface

No.	Symbol	I/O	Function
1	GND	P	Ground
2	SDA 3.3V	I/O	I ² C Serial Data
3	SCL 3.3V	I/O	I ² C Serial Clock
4	INT	O	Indicate coordinate data ready
5	RST	I	Active low external reset
6	VDD 3.3V	P	Power Voltage for digital circuit

8.2 INPUT TERMINAL PIN ASSIGNMENT

This LCD employs one interface connections, a 40 pin connector is used for the LCD module electronics interface.

2.1 Pin assignment for LCD module

Connector: MSAK24025P40G (STM) or equivalent

< Table. Pin Assignment for LCD Module Connector >

Pin No.	Symbol	Description	I/O
1	NC	Non Connection	-
2	VDDIN	Power supply VDDIN=3.3V (Typ.)	P
3	VDDIN		P
4	VDDIN		P
5	NC	Non Connection	-
6	GND	GROUND	P
7	GND	GROUND	P
8	RIN0-	LVDS Negative data signal (-)	I
9	RIN0+	LVDS Positive data signal (+)	I
10	GND	GROUND	P
11	RIN1-	LVDS Negative data signal (-)	I
12	RIN1+	LVDS Positive data signal (+)	I
13	GND	GROUND	P
14	RIN2-	LVDS Negative data signal (-)	I
15	RIN2+	LVDS Positive data signal (+)	I
16	GND	GROUND	P
17	LVDS_CLK-	LVDS Negative CLK signal (-)	I
18	LVDS_CLK+	LVDS Positive CLK signal (+)	I
19	GND	GROUND	P
20	RIN3-	LVDS Negative data signal (-)	I

Pin No.	Symbol	Description	I/O
21	RIN3+	LVDS Positive data signal (+)	I
22	GND	GROUND	P
23	NC	Non Connection	-
24	NC	Non Connection	-
25	GND	GROUND	P
26	SCL_S	Reserved for LCD manufacturer' s use , not connection	-
27	SDA_S	Reserved for LCD manufacturer' s use , not connection	-
28	GND	GROUND	P
29	NC	Non Connection	-
30	NC	Non Connection	-
31	GND	GROUND	P
32	GND		
33	GND		
34	NC	Non Connection	-
35	LED_PWM	LED PWM signal pin	I
36	NC	Non Connection	-
37	NC	Non Connection	-
38	LED+	LED Anode	P
39	LED+		P
40	LED+		P

Note: I/O type: P=Power pin, I=Input pin, O=Output pin

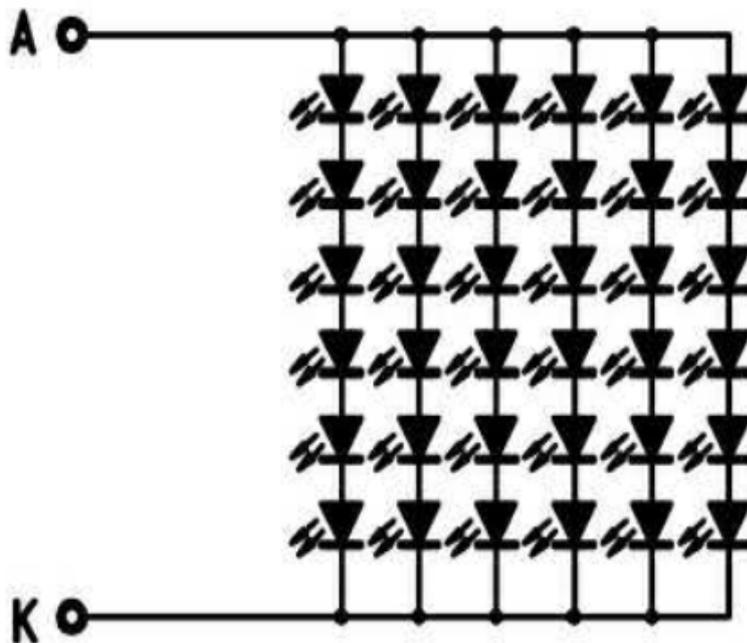
9. Backlight: ELECTRICAL SPECIFICATIONS

Back-light Unit

< Table 4. LED Driving guideline specifications > [Ta=25±2 °C]

Parameter	Symbol	Values			Unit	Notes	
		Min.	Typ.	Max.			
LED voltage input range Value for Back light	VLED	9	12	21	V		
LED current input range Value for Back light	ILED	120	220	280	mA	-	
Luminous Intensity	IV	400	560	720	Cd/m ²	-	
LED Life Time		-	30000	-	Hr	-	
EN Control level	Backlight on	VENH	1.2	-	18	V	En logic high voltage
	Backlight off	VENL	-	-	0.4		En logic low voltage
PWM Control level	PWM High Level	VPWH	1.2	-	18	V	-
	PWM Low Level	VPWL	-	-	0.4		-
PWM	PWM duty Ratio		1	-	-	%	-
Control	PWM Frequency	FPWM	5	-	100	kHZ	-

CIRCUIT DIAGRAM (LED 6 串 X 6 并=36dies)



10. Standard Specification for Reliability:

10-1. Standard Specifications for Reliability of (LCD+CTP) Module

No	Item	Description
01	High temperature operation	The sample should be allowed to stand at 70°C for 120 hours under driving condition and then returning it to normal temperature condition, and allowing it stand for 2 hours.
02	Low temperature operation	The sample should be allowed to stand at -20°C for 120 hours under driving condition and then returning it to normal temperature condition, and allowing it stand for 2 hours.
03	High temperature storage	The sample should be allowed to stand at 80°C for 120 hours under no-load condition, and then returning it to normal temperature condition, and allowing it stand for 2 hours.
04	Low temperature storage	The sample should be allowed to stand at -30°C for 120 hours under no-load condition, then returning it to normal temperature condition, and allowing it stand for 2 hours.
05	Moisture storage	The sample should be allowed to stand at 40°C,90%RH MAX for 120 hours under no-load condition, then taking it out and drying it at normal temperature for 2 hours.
06	Thermal shock storage	The sample should be allowed to stand the following 10 cycles : -0°C for 30 minutes → normal temperature for 5 minutes → +50°C for 30 minutes → normal temperature for 5 minutes, as one cycle.
07	Packing vibration	Frequency range : 10Hz ~ 55Hz Amplitude of vibration : 1.5mm Sweep time: 12 min X,Y,Z 2 hours for each direction.
08	Packing drop test	According to ISTA 1A 2001.

*Sample size for each test item is 3~5pcs

10 - 2. Testing Conditions and Inspection Criteria

For the final test the testing sample must be stored at room temperature for 24 hours, after the tests listed in Table 12.2, Standard specifications for Reliability have been executed in order to ensure stability.

No	Item	Test Model	In section Criteria
01	Current Consumption	Refer To Specification	The current consumption should conform to the product specification.
02	Contrast	Refer To Specification	After the tests have been executed, the contrast must be larger than half of its initial value prior to the tests.
03	Appearance	Visual inspection	Defect free.

10- 3. MTBF

MTBF	Functions, performance, appearance, etc. shall be free from remarkable deterioration within 20,000 hours under ordinary operating and storage conditions room temperature ($25\pm 5^{\circ}\text{C}$), normal humidity ($50\pm 10\%$ RH), and in area not exposed to direct sun light.
------	---

11. Specification of Quality Assurance:

11-1. Purpose

This standard for Quality Assurance should affirm the quality of LCD module products to supply to purchaser by YEEBO CORPORATION (Supplier).

11-2. Standard for Quality Test

a. Inspection:

Before delivering, the supplier should take the following tests, and affirm the quality of product.

b. Electro-Optical Characteristics:

According to the individual specification to test the product.

c. Test of Appearance Characteristics:

According to the individual specification to test the product.

d. Test of Reliability Characteristics:

According to the definition of reliability on the specification for testing products.

e. Delivery Test:

Before delivering, the supplier should take the delivery test.

(i) Test method: According to MIL-STD105E.General Inspection Level II take a single time.

(ii) The defects classify of AQL as following:

Major defect: AQL = 0.65

Minor defect: AQL = 2.5

Total defects: AQL = 2.5

11-3. Non- conforming Analysis & Deal With Manners

a. Non- conforming Analysis:

(i) Purchaser should supply the detail data of non- conforming sample and the non-conforming.

(ii) After accepting the detail data from purchaser, the analysis of non- conforming should be finished in two weeks.

(iii) If supplier can not finish analysis on time, must announce purchaser before 3 days.

b. Disposition of non- conforming:

(i) If find any product defect of supplier during assembly time, supplier must change the good product for every defect after recognition.

(ii) Both supplier and customer should analyze the reason and discuss the disposition of non- conforming when the reason of nonconforming is not sure.

11-4. Agreement items

Both sides should discuss together when the following problems happen.

a. There is any problem of standard of quality assurance, and both sides should think that must be modified.

b. There is any argument item which does not record in the standard of quality assurance.

c. Any other special problem.

11-5. Standard of The Product Appearance Test

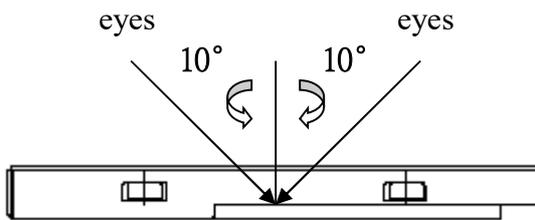
a. Manner of appearance test:

(i) The test must be under 20W × 2 or 40W fluorescent light, and the distance of view must be at 30±5cm.

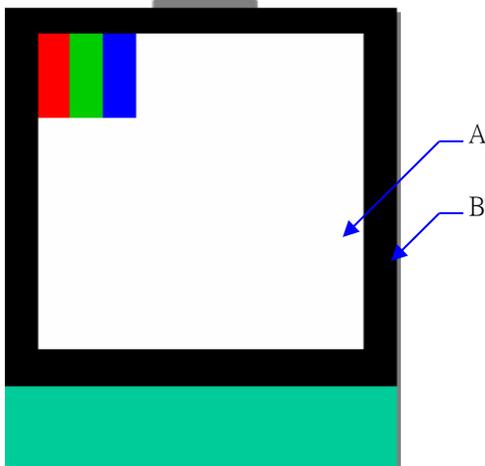
(ii) When test the model of transmissive product must add the reflective plate.

(iii) The test direction is base on around 10° of vertical line.

(iiii) Temperature: 25±5°C Humidity: 60±10%RH



(iv) Definition of area:



A. Area: Viewing area.

B. Area: Out of viewing area.

(Outside viewing area)

b. Basic principle:

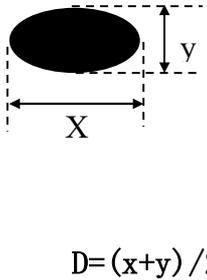
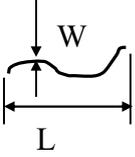
(i) It will accord to the AQL when the standard can not be described.

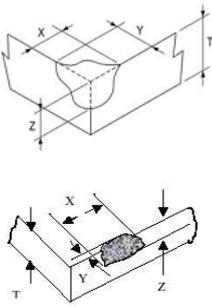
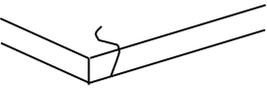
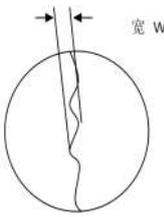
(ii) The sample of the lowest acceptable quality level must be discussed by both supplier and customer when any dispute happened.

(iii) Must add new item on time when it is necessary.

d. Standard of inspection: (Unit: mm)

11-6. Inspection specification

Item	Specification			Unit : mm	AQL	
Electrical Testing	1.1 Open 1.2 Short 1.3 T/P failure 1.4 Missing vertical, horizontal segment, segment contrast defect. 1.5 Missing character, dot or icon. 1.6 Display malfunction. 1.7 No function or no display. 1.8 Current consumption exceeds product specifications. 1.9 LCD viewing angle defect. 1.10 Mixed product types. 1.11 Flicker				0.65	
Black spots / White spots /Bright spots/ Color spots /polluted inside/ punctured	Product type	D	Acceptable numbers	 <p>$D = (x+y) / 2$</p> <p>1.Product's front side checked according to this specification, back side ignored, but light leakage is not allowed. 2.Printing ink peel off is not allowed. 3、 The particle will be ignored when it is removable by cleaning</p> <p>* Densely spaced: No more than two spots within 10mm</p>	2.5	
	LAD	≤ 0.3	ignored (No more than five spots within 5mm)			
		$0.3 < D \leq 0.5$	4			
		$0.5 < D \leq 1.$	2			
		$1.0 < D \leq 1.5$	2			
	$D > 1.5$	NG				
Linear Object: Fiber, scurf, scratches and other linear defects (not affecting function)	Product type	W	L	Acceptable numbers		2.5
	LAD	≤ 0.05	≤ 8	ignored No more than five lines within 5mm)		
		$0.1 < W \leq 0.3$	≤ 8	4		
	$W > 0.3$		NG			
<p>The reverse side scratches, not affect to the electronic circuit, cannot find the scratches from the front side is acceptable</p> <p>* Densely spaced: No more than two lines within 10mm</p>						

Glass edge chipping、edge breakage	Edge breakage can't affect visual effect (edge breakage can't cause damage to circuit); over lens have no visual damage			2.5
	Product type	conditions		
	LAD	$X \leq 3\text{mm}, Y \leq 2\text{mm}, Z \leq T$	5	
Glass broken	Visual broken is NG, and there is no potential fault.			0.65
				
1. V/A printed edges sawtooth inspected according to this standard 2. LOGO's sawtooth	Some contentious defect judged according to samples			2.5
	Product type	Conditions		
	Same size	1、 width below 0.2 inch (included) ignored, above 0.2 NG 2、 Length not accounted		
Specific dimension	In accordance with product outline drawing or specification (key dimension) or engineering sample.			2.5
Glue overflow/Frame	1. Glue overflow exceed 0.2mm to the black frame is not allowed.			2.5
				
FPC	Bonding bubble/Misalignment	FPC golden finger hot pressure's bubble or impurity diameter shall be below 1/2 of the pressed area, pressed deviation shall not exceed 1/2 of the silver line width, and 40X microscope cannot have obvious cracks.		0.65
	Folded mark (minor fault)	Linearity irreversibility folded mark and acute angle folded mark is NG.		2.5
	EMI FILM (minor fault)	Surface broken, scratched $\leq 0.3\text{mm}$ Surface broken below 5mm can be modified by print ink, after modified, the result shall be achieved to EMI		2.5

12. Handling Precaution:

12.1 Warranty

This product has been manufactured to specifications as a part for use in your company's general electronic products. It is guaranteed to perform according to delivery specifications. For any other use apart from general electronic equipment, we will not take responsibility if the product is used in medical devices, nuclear power control equipment, aerospace equipment, fire and security systems, or any other applications in which there is a direct risk to human life and where extremely high levels of reliability are required. If the product is to be used in any of the above applications, we will need to enter into a separate product liability agreement.

1. We cannot accept responsibility for any defect arise after additional process of the product (including disassembly and reassembly), after product delivery.
2. We cannot accept responsibility for any defect, which may arise after the application of strong external force to the product.
3. We cannot accept responsibility for any defect, which may arise due to the application of static electricity after the product has passed your company's acceptance inspection procedures.
4. We cannot accept responsibility for industrial property, which may arise through the use of your product, with exception to those issues relating directly to the structure or method of manufacturing of our product 3months from YEEBO production.
5. The liability of YB is limited to repair or replacement on the terms set forth below. YB will not be responsible for any subsequent or consequential events or injury or damage to any personnel or user including third party personnel and/or user. Unless otherwise agreed in writing between YB and the customer, YB will only replace or repair any of its CTP which is found defective electrically or visually when inspected in accordance with YB GENERAL CTP INSPECTION STANDARD.

12.2. Precautions in Use of CTP Module

12.2-1. Handling of CTP Module

12.2-1-1 Please operate the capacitive touch panel by touch the panel surface with finger or electric pen

12.2-1-2 Store the products at the temperature and humidity mentioned in the specification in a good package do not expose the products under direct sunlight.

12.2-1-3 Do not hit the capacitive touch panel in strong force , or drop it down, it is made of glass and friable.

12.2-1-4 Put on finger coats ,glovers or mask to protect the products from fingerprint of stain. Do not upload/unload the touch panel by holding the FPC cable. Do not bend the FPC cableoften or pull it hard when installing, as FPC cable is soft and connected to touch panel body.

12.2-1-5 Pay attention to the prevention from high voltage and static electricity.

12.2-2 Storage

12.2-2-1 Store in ambient temperature of $25\pm 5^{\circ}\text{C}$, and relative humidity of $50\pm 10\%\text{RH}$. Do not expose to sunlight or fluorescent light.

12.2-2-2 Storage in a clean environment, free from dust, active gas, and solvent.

12.2-2-3 Store in anti-static electricity container.

12.2-2-4 Store without any physical load.

12.2-2-5 Appearance,3months;Function,1year;within the validity, failed CTP can be replaced 1 to 1

12.3 Guarantee

Our products meet requirements of the environment.YEEBO ROHS requirement is based on European Union Directive 2011/65/EU (ROHS) Requirements and Update.