晶采光電科技股份有限公司
AMPIRE CO., LTD.

Specifications for LCD module

Customer	
Customer part no.	
Ampire part no.	**AM-800480BTMQW-TG0H-B**
Approved by	
Date	

☐**Preliminary Specification**

■ **Approved Specification**

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RECORD OF REVISION

Revision Date	Page	Contents	Editor
2018/02/14	-	New release	Mark
2018/08/08		Update the drawing	Mark

1. Features

It's a 7 inches Amorphous-TFT-LCD (Thin Film Transistor Liquid Crystal Display) module. This module is composed of a 7" TFT-LCD panel, LED backlight.

(1) Construction: 7" a-Si TFT active matrix, White LED Backlight.
(2) Resolution (pixel): 800(R.G.B) X480
(3) Number of the Colors : 16.7M colors (R , G , B 8 bit digital each)
(4) LCD type : Transmissive, normally White
(5) Interface: LVDS
(6) Viewing Direction: 6 o'clock (Gray inversion)
(7) Capacitive touch panel:
  - Controller: EXC3132
  - Cover Glass :1.1mm
  - With Double side adhesive on Cover Glass
(8) Without LED driver

2. PHYSICAL SPECIFICATIONS

Item	Specifications	unit
LCD size	7 inch (Diagonal)	
Resolution	800 x (RGB) x 480	dot
Pixel pitch	0.192(W) x 0.1805(H)	mm
Active area	153.6(W) x 86.64(H)	mm
Module size	184.0(W) x 128.0(H) x 10.9(D)	mm
Color arrangement	RGB-stripe	
interface	Digital	

3. ABSOLUTE MAX. RATINGS

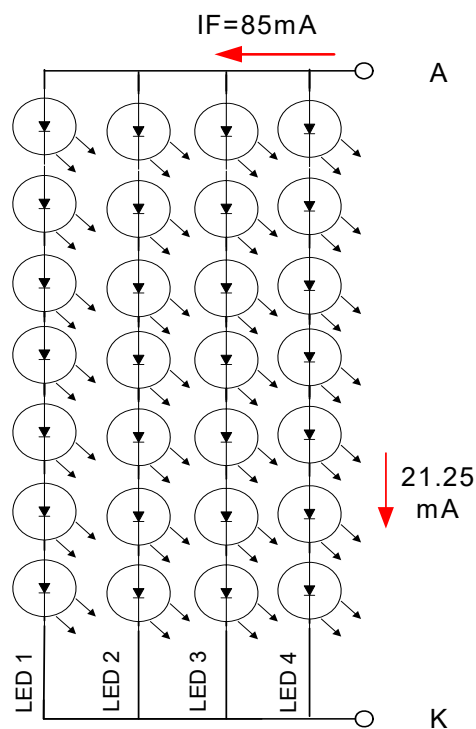| Item	Symbol	Values			Unit	Remark
		MIN	TYP	MAX		
Power Voltage	VDD	-0.5	--	5	V	
Operation Temperature	T_{OP}	-20	-	70	℃	
Storage Temperature	T_{ST}	-30	-	80	℃	

Note 1 The absolute maximum rating values of this product are not allowed to be exceeded at any times. Should a module be used with any of the absolute maximum ratings exceeded, the characteristics of the module may not be recovered, or in an extreme case, the module may be permanently destroyed.

4. Backlight Driving Conditions

ITEM	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
LED voltage	VAK	--	23.1	--	V	Note 1
LED current	IF	--	85	--	mA	Note 1
LED life time	--	--	30	--	kHrs	Note 2

Note 1 The LED Supply Voltage is defined by the number of LED at Ta=25℃ and IF=85 mA.

Note 2 The "LED life time" is defined as the module brightness decrease to 50% original brightness at Ta=25℃ and IF=85mA. The LED lifetime could be decreased if operating IF is larger than 85mA.

Note 3 When LCM is operated over 40℃ ambient temperature, the IF should be follow :

Allowable Forward Current IF (mA) vs Ambient Temperature Ta (℃)
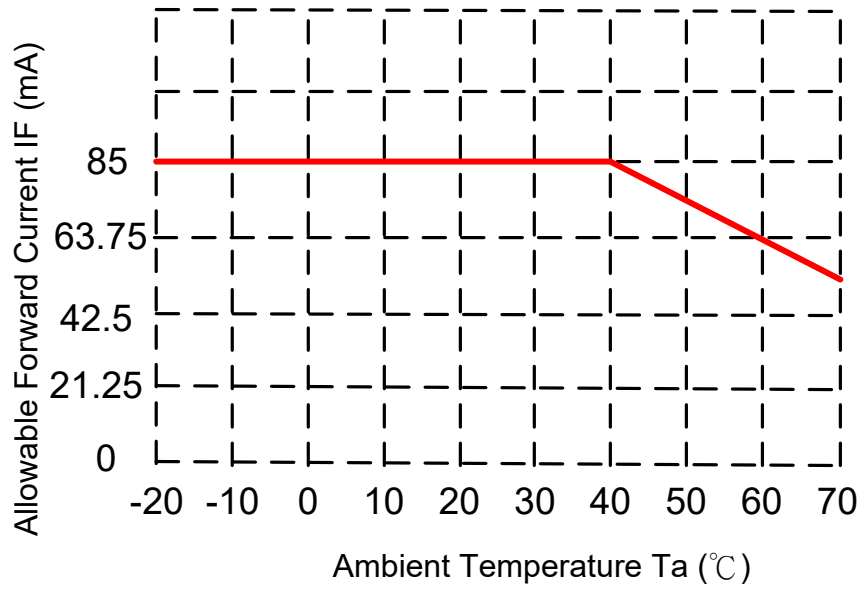
5. Optical Specifications

Item	Symbol	Condition	Values			Unit	Note
			Min.	Typ.	Max.		
Viewing angle (CR≧10)	θL	Φ = 180° (9 o'clock)	60	70	--	degree	Note1
	θR	Φ = 0° (3 o'clock)	60	70	--		
	θT	Φ = 90° (12 o'clock)	40	50	--		
	θB	Φ = 270° (6 o'clock)	50	60	--		
Response time	TON		--	5	7	msec	Note3
	TOFF		--	20	28	msec	
Contrast ratio	CR		400	500	--	--	Note4
Color chromaticity	WX	Normal θ =Φ=0°	0.26	0.31	0.36	--	Note5 Note6
	WY		0.32	0.37	0.42	--	
	RX		0.57	0.62	0.67		
	RY		0.31	0.36	0.41		
	GX		0.30	0.35	0.40		
	GY		0.55	0.60	0.65		
	BX		0.06	0.11	0.16		
	BY		0.07	0.12	0.17		
Luminance (central point)	L		340	425	--	cd/m^2	Note6
Luminance uniformity	YU		70	75	--	%	Note6

Test Conditions:

VDD = 3.3V, I_F = 120 mA (Backlight current), the ambient temperature is 25℃.

The test systems refer to Note 2.

Note 1 Definition of viewing angle range
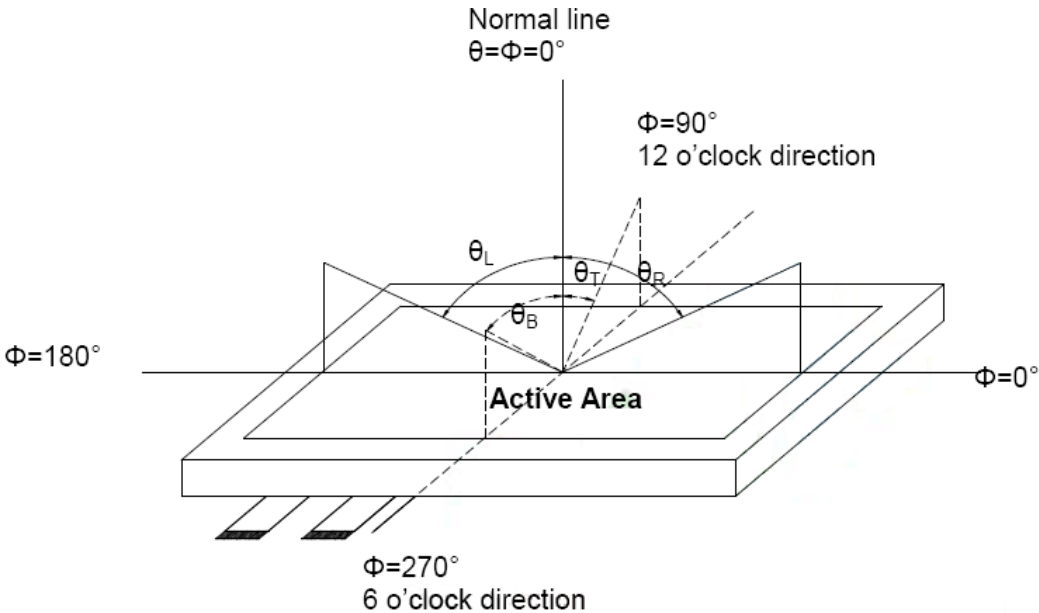
Note 2 Definition of optical measurement system

The optical characteristics should be measured in dark room. After 30 minutes operation, the optical properties are measured at the center point of the LCD screen. (Response time is measured by Photo detector TOPCON BM-7, other items are measured by BM-5A/Field of view: 1° / Height: 500mm.)
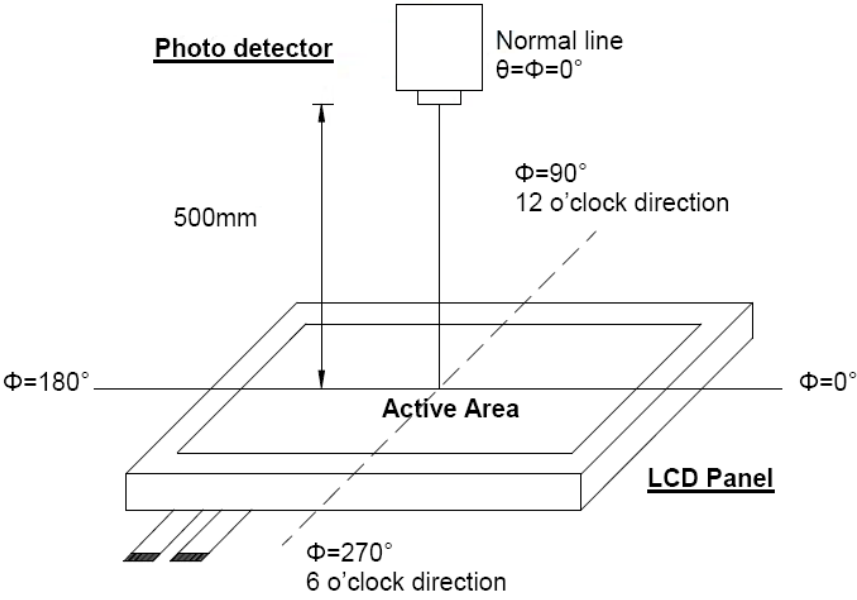
Note 3 Definition of Response time

The response time is defined as the LCD optical switching time interval between "White" state and "Black" state. Rise time (TON) is the time between photo detector output intensity changed from 90% to 10%. And fall time (TOFF) is the time between photo detector output intensity changed from 10% to 90%.
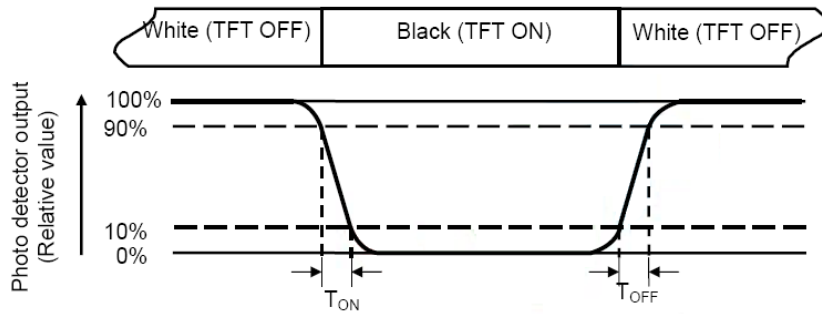
Note 4 Definition of contrast ratio

$$\text{Contrast ratio(CR)} = \frac{\text{Luminance measured when LCD on the "White" state}}{\text{Luminance measured when LCD on the "Black" state}}$$

Note 5 Definition of color chromaticity (CIE1931)

Color coordinated measured at center point of LCD.

All input terminals LCD panel must be ground when measuring the center area of the panel.

Note 6 Definition of Luminance Uniformity

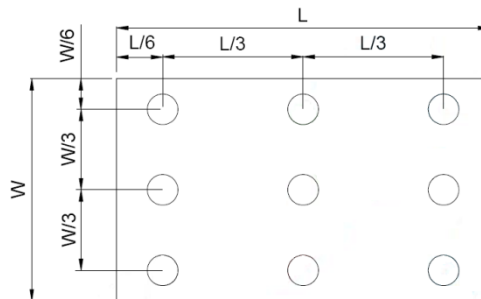Active area is divided into 9 measuring areas (Refer to bellow figure).

Every measuring point is placed at the center of each measuring area.

$$\text{Luminance Uniformity (Yu)} = \frac{B_{min}}{B_{max}}$$

L ----- Active area length   W ----- Active area width

Bmax : The measured maximum luminance of all measurement position.

Bmin : The measured minimum luminance of all measurement position.

6. INTERFACE

CN2:P1.0 20Pin/CP-100-S20G-H16 or Equivalent

Pin No.	Symbol	Function
1	VDD	POWER SUPPLY
2	VDD	POWER SUPPLY
3	GND	Power Ground
4	GND	Power Ground
5	IN0-	Transmission Data of Pixels
6	IN0+	Transmission Data of Pixels
7	GND	Power Ground
8	IN1-	Transmission Data of Pixels 1
9	IN1+	Transmission Data of Pixels 1
10	GND	Power Ground
11	IN2-	Transmission Data of Pixels 2
12	IN2+	Transmission Data of Pixels 2
13	GND	Power Ground
14	CLK-	Sampling Clock
15	CLK+	Sampling Clock
16	GND	Power Ground
17	IN3-	Transmission Data of Pixels 3
18	IN3+	Transmission Data of Pixels 3
19	GND	Power Ground
20	GND	Power Ground

I: input, O: output, P: power

7. ELECTRICAL CHARACTERISTICS

7.1 DC Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit	Condition
Digital Power Supply Voltage	VDD	3.0	3.3	3.6	V	
Digital Power Supply Current	IDD	--	110	--	mA	
Differential Input High Threshold	VTH	--	--	100	mV	VCM=1.2V
Differential Input Low Threshold	VTL	-100	--	--	mV	
Input current	IIN	-10	--	+10	uA	
Differential input Voltage	|VID|	0.2	--	0.6	V	
Common Mode Voltage Offset	VCM	$\dfrac{\|VID\|}{2}$	1.25	$2.4-\dfrac{\|VID\|}{2}$	V	
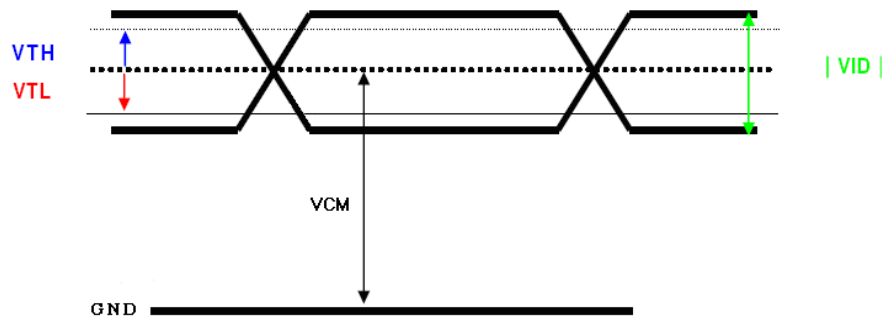
7.2 AC Characteristics

LVDS timing

RECEIVER

t_{RCP}	CLK OUT Period	11.76	T	50.0	ns
t_{RCH}	CLK OUT High Time		4T/7		ns
t_{RCL}	CLK OUT Low Time		3T/7		ns
t_{RCD}	RCLK+/- to CLK OUT Delay		5T/7		ns
t_{RS}	TTL Data Setup to CLK OUT	3T/7-2.5			ns
t_{RH}	TTL Data Hold from CLK OUT	4T/7-3.5			ns
t_{TLH}	TTL Low to High Transition Time		3.0	5.0	ns
t_{THL}	TTL High to Low Transition Time		3.0	5.0	ns
t_{RIP1}	Input Data Position 0 (T=11.76ns)	-0.4	0.0	0.4	ns
t_{RIP0}	Input Data Position 1 (T=11.76ns)	T/7-0.4	T/7	T/7+0.4	ns
t_{RIP6}	Input Data Position 2 (T=11.76ns)	2T/7-0.4	2T/7	2T/7+0.4	ns
t_{RIP5}	Input Data Position 3 (T=11.76ns)	3T/7-0.4	3T/7	3T/7+0.4	ns
t_{RIP4}	Input Data Position 4 (T=11.76ns)	4T/7-0.4	4T/7	4T/7+0.4	ns
t_{RIP3}	Input Data Position 5 (T=11.76ns)	5T/7-0.4	5T/7	5T/7+0.4	ns
t_{RIP2}	Input Data Position 6 (T=11.76ns)	6T/7-0.4	6T/7	6T/7+0.4	ns
t_{RPLL}	Phase Lock Loop Set			10.0	ms
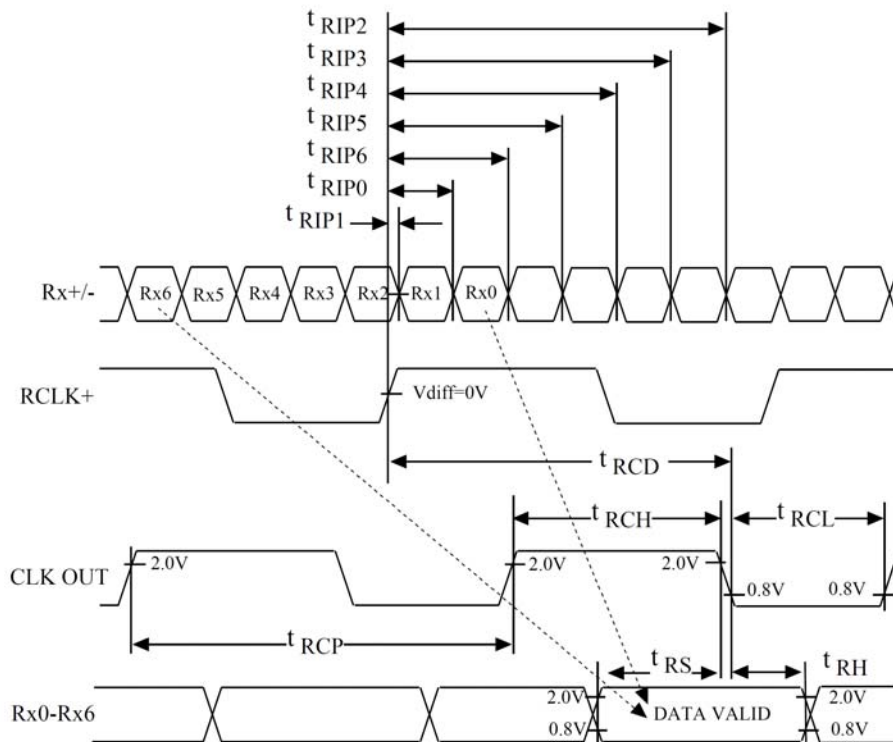
Note:
1) Vdiff = (RA+) - (RA-), ... (RCLK+) - (RCLK-)

TTL

- Horizontal timing

Parameter	Symbol	Spec			Unit
		Min.	Typ.	Max.	
H-Display Area	thd		800		DCLK
DCLK Frequency	fclk	--	30	50	MHz
One Horization Period	th	862	1056	1200	DCLK
HS Pulse Width	thpw	1	--	40	DCLK
HS Back Porch (Blanking)	thb		46		DCLK
HS Front Porch	thfp	16	210	354	DCLK
DE Mode Blanking	th-thd	85	256	400	DCLK

- Vertical timing

Parameter	Symbol	Spec			Unit
		Min.	Typ.		
V-Display Area	tvd		480		th
VS period Time	Tv	513	525		th
VS pulse width	tvpw	3	--		th
VS Back Porch (Blanking)	tvb		23		th
VS Front Porch	tvfp	7	22	147	th
DE Mode Blanking	tv-tvd	30	45	170	th

Horizontal Input Timing
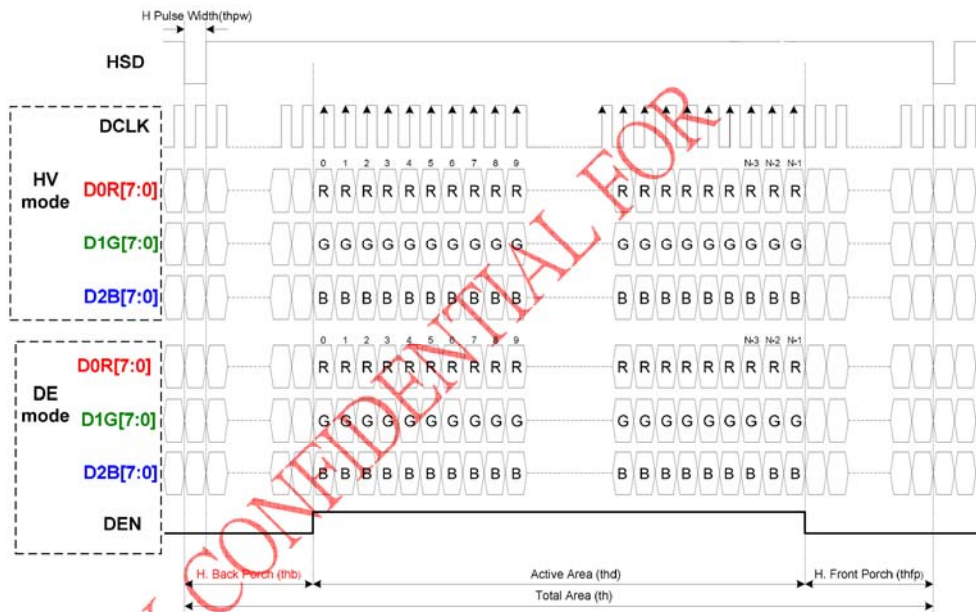
Vertical Input Timing
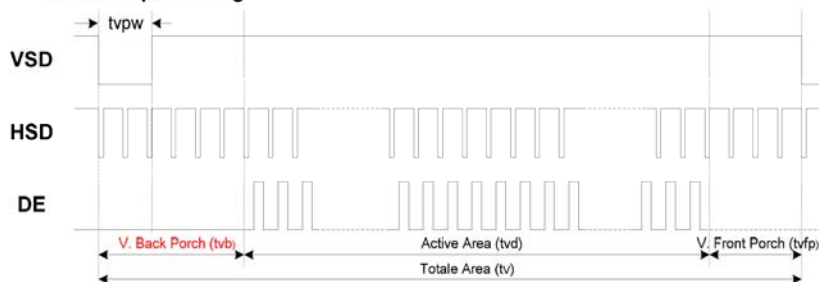
7.3 Power ON/OFF sequence

VDD power and LED on/off sequence are as follows. Interface signals are also shown in the chart. Signal shall be Hi-Z state or low level when VDD is off.
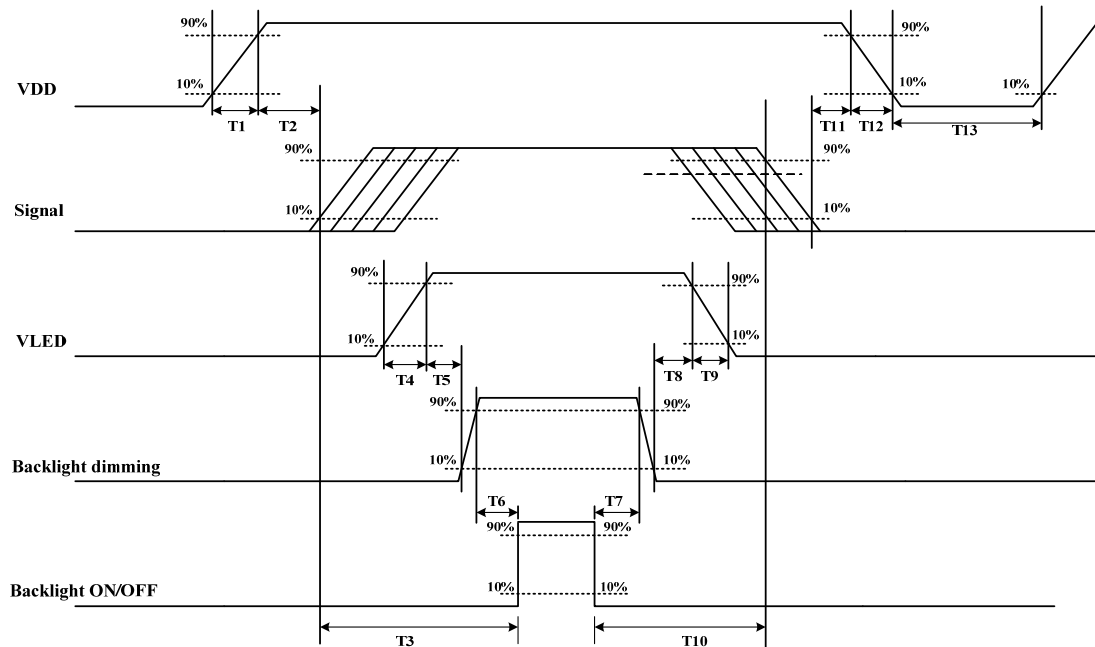
Parameter	Value			Units
	Min.	Typ.	Max.	
T1	0.5	-	10	[ms]
T2	0	40	50	[ms]
T3	200	-	-	[ms]
T4	0.5	-	10	[ms]
T5	10	-	-	[ms]
T6	10	-	-	[ms]
T7	0	-	-	[ms]
T8	10	-	-	[ms]
T9	-	-	10	[ms]
T10	110	-	-	[ms]
T11	0.5	16	50	[ms]
T12	-	-	100	[ms]
T13	1000	-	-	[ms]

7.4 24-BIT LVDS Input Data Format
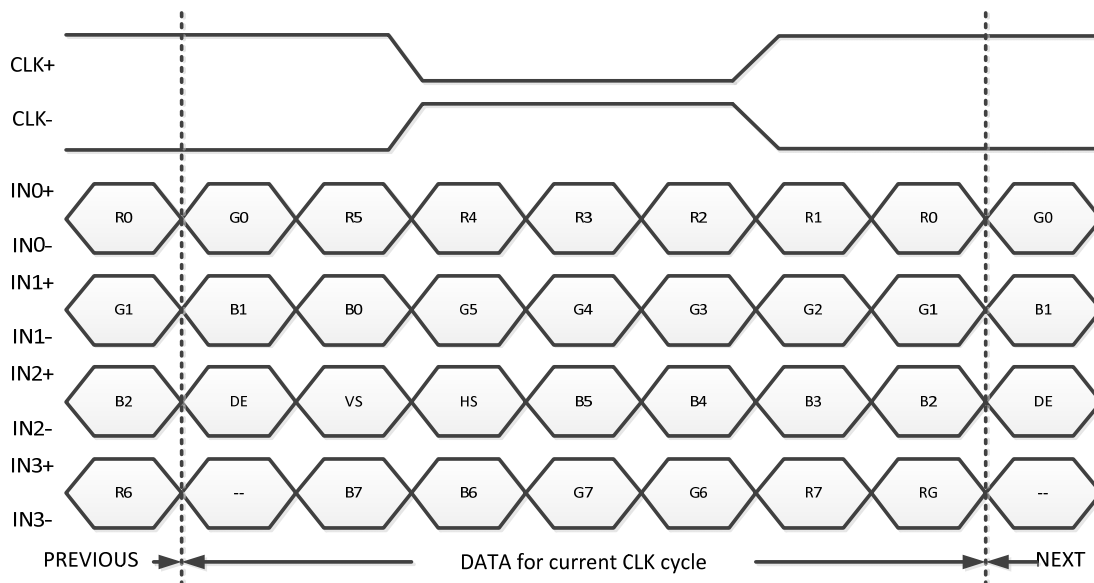
Note: R/G/B data 7: MSB, R/G/B data 0: LSB

Signal Name	Description	Remark
R7 R6 R5 R4 R3 R2 R1 R0	Red Data 7 (MSB) Red Data 6 Red Data 5 Red Data 4 Red Data 3 Red Data 2 Red Data 1 Red Data 0 (LSB)	Red-pixel Data Each red pixel's brightness data consists of these 8 bits pixel data.
G7 G6 G5 G4 G3 G2 G1 G0	Green Date 7 (MSB) Green Date 6 Green Date 5 Green Date 4 Green Date 3 Green Date 2 Green Date 1 Green Date 0 (LSB)	Green-pixel Data Each green pixel's brightness data consists of these 8 bits pixel data.
B7 B6 B5 B4 B3 B2 B1 B0	Blue Data 7 (MSB) Blue Data 6 Blue Data 5 Blue Data 4 Blue Data 3 Blue Data 2 Blue Data 1 Blue Data 0 (LSB)	Blue-pixel Data Each blue pixel's brightness data consists of these 8 bits pixel data.
CLK+ CLK-	LVDS Clock Input	
DE	Display Enable	
VS	Vertical Sync Signal	
HS	Horizontal Sync Signal	

8. PROJECTED CAPACITIVE-TYPE TOUCH PANEL ELECTRICAL SPECIFICATION SPECIFICATION

ITEM	SPECIFICATION
Type	Projective Capacitive Touch Panel
Activation	Two-fingers or Single-finger
X/Y Position Reporting	Absolute Position
Touch Force	No contact pressure required
Calibration	No need for calibration
Report Rate	Approx 100 points/sec
Interface	I2C
Control IC	EETI3132

Item	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	VDD	3	3.3	3.6	V
Low Level Input Voltage	VIL	0	--	0.8	V
High Level Input Voltage	VIH	0.8*VIN	--	VIN	V

Interface

CN6		
Pin No.	Symbol	Function
1	GND	GND
2	SDA	I2C Data
3	SCL	I2C Clock
4	VDD	Power Supply for TP controller
5	INT	Interrupt Request pin
6	/RES	Rest pin to Master Chip

Power- on Timing Chart
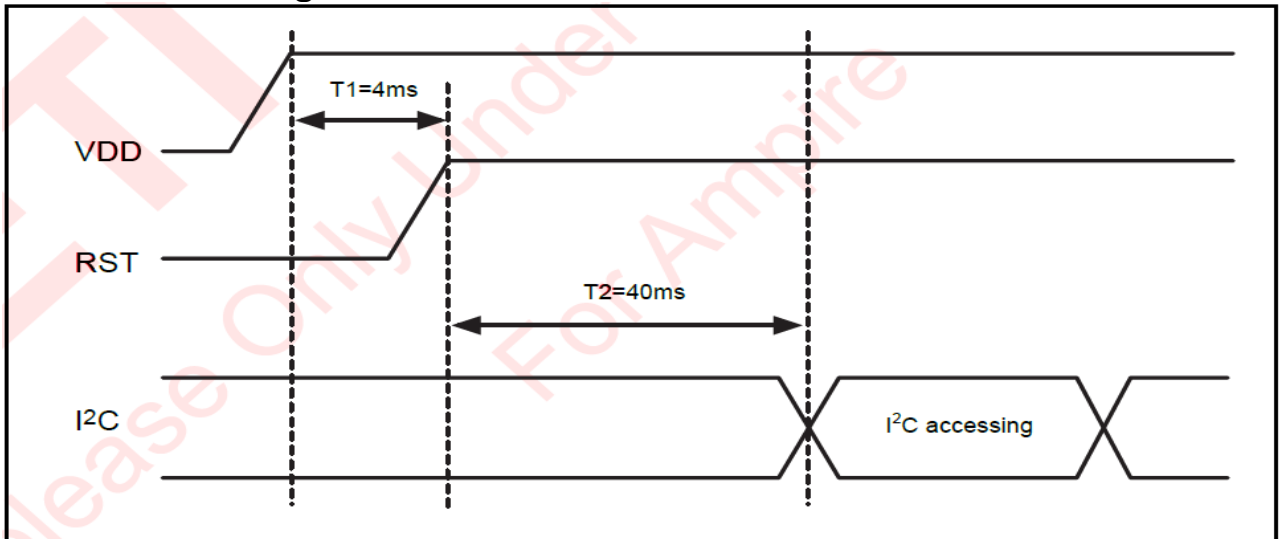
I2C AC Waveform
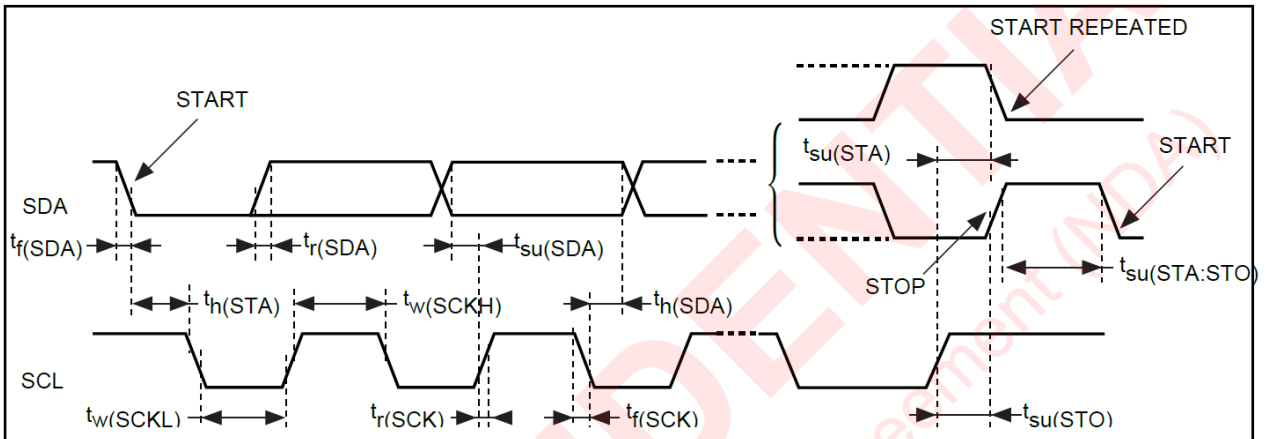
I2C Characteristics

Symbol	Parameter	SCL = 100KHz		SCL = 400KHz		Unit
		Min	Max	Min	Max	
$t_{W(SCLH)}$	SCL clock high time	4.7		1.3		μs
$t_{W(SCLL)}$	SCL clock low time	4.0		0.6		
$t_{su(SDA)}$	SDA setup time	250		100		
$t_{h(SDA)}$	SDA data hold time	0		0	900	
$t_{r(SDA)}$ $t_{r(SCL)}$	SDA and SCL rise time		1000		300	ns
$t_{f(SDA)}$ $t_{f(SCL)}$	SDA and SCL fall time		300		300	
$t_{h(STA)}$	Start condition hold time	4.0		0.6		
$t_{su(STA)}$	Repeated Start condition setup time	4.7		0.6		μs
$t_{su(STO)}$	Stop condition setup time	4.0		0.6		μs
$t_{W(STO:STA)}$	Stop to Start condition time (bus free)	4.7		1.3		μs

Software Protocol

I2C Transaction Frame: each I2C transaction frame transfers one I2C packet data.

The IRQ pin is low level trigger.

The controller will pulls IRQ pin low until no data in the controller buffer.
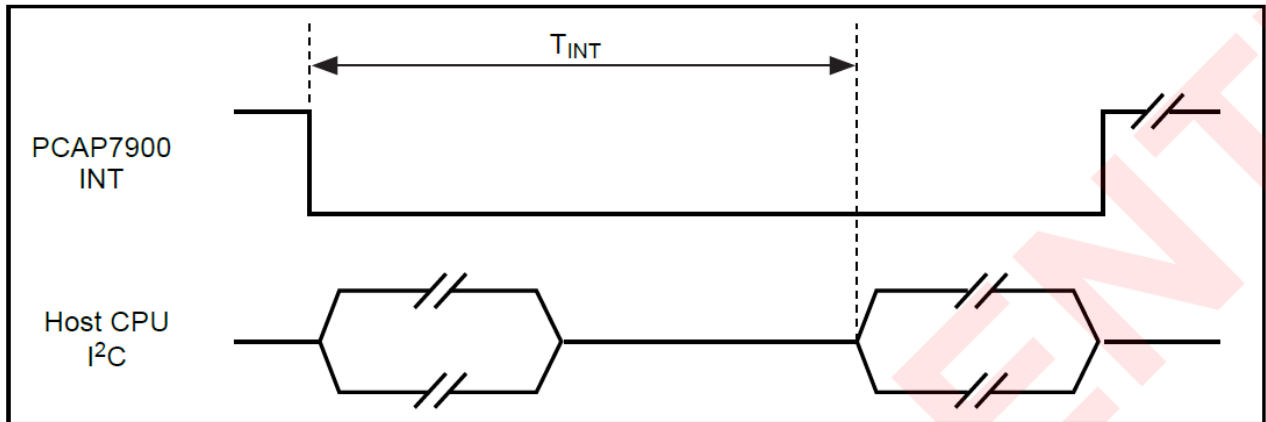
Report rate = 1 / TINT , it depends on properties of touch screen such as resistive value, I2C clock rate, channel number, thickness and material of cover lens, etc.

For better touch performance, we strongly recommend using the 400K clock rate.

	From Host to Device
	From Device to Host

S = START condition
Sr = Repeat START condition
P = STOP condition
R = Data direction READ (SDA HIGH)
W = Data direction WRITE (SDA LOW)
Ack = Acknowledge (SDA LOW)
Nak = Not acknowledge (SDA HIGH)
Address = 7-bit (0x2A)
DATA = 8-bit

Read mode: Host-receiver, Device-transmitter.

S	Address	R	Ack	Len-LSB	Ack	Len-MSB	Ack	DATA	Ack

DATA	Ack		〰		DATA	Nak	P
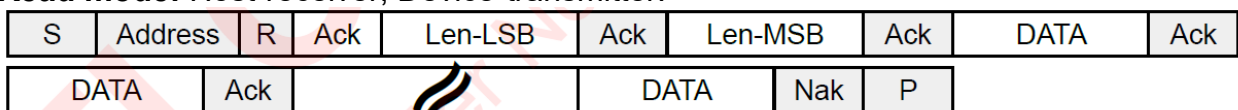
Host need to read 66 Bytes for input report retrieval. The total 66 Bytes contains 2 Bytes "Length" and 64 Bytes data payload. The value of "Len" is calculated by 2 Bytes for "Len" field and n Bytes for valid "Input Data" in the payload.

The input data packet format inside the I2C payload is defined as

Report ID	Data

According to different report ID, there are different data format as below.
Report ID = 6, for parallel mode multi-touch data.

Multi-Touch format:

Byte0	Byte1
Report ID = 0x06	Num Of Fingers*

Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9	Byte10	Byte11
Contact data 1									
Byte12	Byte13	Byte14	Byte15	Byte16	Byte17	Byte18	Byte19	Byte20	Byte21
Contact data 2									
Byte22	Byte23	Byte24	Byte25	Byte26	Byte27	Byte28	Byte29	Byte30	Byte31
Contact data 3									
Byte32	Byte33	Byte34	Byte35	Byte36	Byte37	Byte38	Byte39	Byte40	Byte41
Contact data 4									
Byte42	Byte43	Byte44	Byte45	Byte46	Byte47	Byte48	Byte49	Byte50	Byte51
Contact data 5									

Byte52	Byte53	Byte54	Byte55
Scan Time			

The device input report contains maximum 5 contacts in one I2C frame. If it must report 10 contacts, device will break these down into 2 I2C frames that report 5 contacts each.

The "Nums of Fingers" indicates the actual contact in this report. The actual contact number is reported in the first frame. The other frames should have an actual count of 0. For 10 contacts example, the actual count in the first frame has a value of 10, and the second frame has an actual count of 0.

Contact data format:

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
State**	Finger ID	X *** (LSB)	X (MSB)	Y *** (LSB)	Y (MSB)	reserved		reserved	

** tate: Bit0=Down/Up bit, Bit0 = 1 for Touch Down, Bit0 = 0 for Lift off.
*** The X/Y resolution is 4096.

Report ID = 3, for vendor specific diagnostics data.

Diagnostics packet format

Byte0	Byte1	
Report ID = 0x03	Length	data stream

The "Length" indicates the length of the coming data stream. This data stream must follow EETI eGalax diagnostics format. The software integrator must be carefully handling this data stream.

Write mode: Host-transmitter, Device-receiver.

S	Address	W	Ack	0x67	Ack	0x00	Ack		
	Len-LSB		Ack	Len-MSB	Ack	DATA	Ack	DATA	Ack
	DATA		Ack	〰		DATA	Ack	P	

Host need to write 2 Bytes [0x67] [0x00] to device first, and follow 2 Bytes length field and data payload. Each I2C transaction always contains 64 Bytes data payload so the length field should be always as 66 Bytes (2 Bytes for "Len"+64 Bytes for "Data" payload).If the data to be sent to the controller is less than 64 Bytes, 0 padding is necessary.

The packet format in the payload is defined as diagnostics packet.
Diagnostics packet format:

Byte0	Byte1	〰
Report ID = 0x03	Length	data stream

The "Length" indicates the length of the coming data stream. This data stream must follow EETI eGalax diagnostics format. The software integrator must be carefully handling this data stream.

Command Example

Query firmware version

Host → Device

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x67	0x00	0x42	0x00	0x03	0x01	'D'	0x00	0x00	0x00

Byte10 → Byte67
0x00

↓

<Device triggers INT pin low. Host call the read function to retrieve the device response data>

↓

Device → Host

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x42	0x00	0x03	0x07	'D'	'0'	'.'	'0'	'0'	'2'

Byte10	Byte11 → Byte65
0x00	0x00

Query controller model name

Host → Device

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x67	0x00	0x42	0x00	0x03	0x01	'E'	0x00	0x00	0x00

Byte10 → Byte67
0x00

<Device triggers INT pin low. Host call the read function to retrieve the device response data>

Device → Host

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x42	0x00	0x03	0x0C	'E'	'P'	'7'	'9'	'0'	'0'

Byte10	Byte11	Byte12	Byte13	Byte14	BYTE15	Byte16 → Byte65		
'-'	PID				0x00	0x00		

Note: Byte[11:14] = 001A stands for model PID 001A
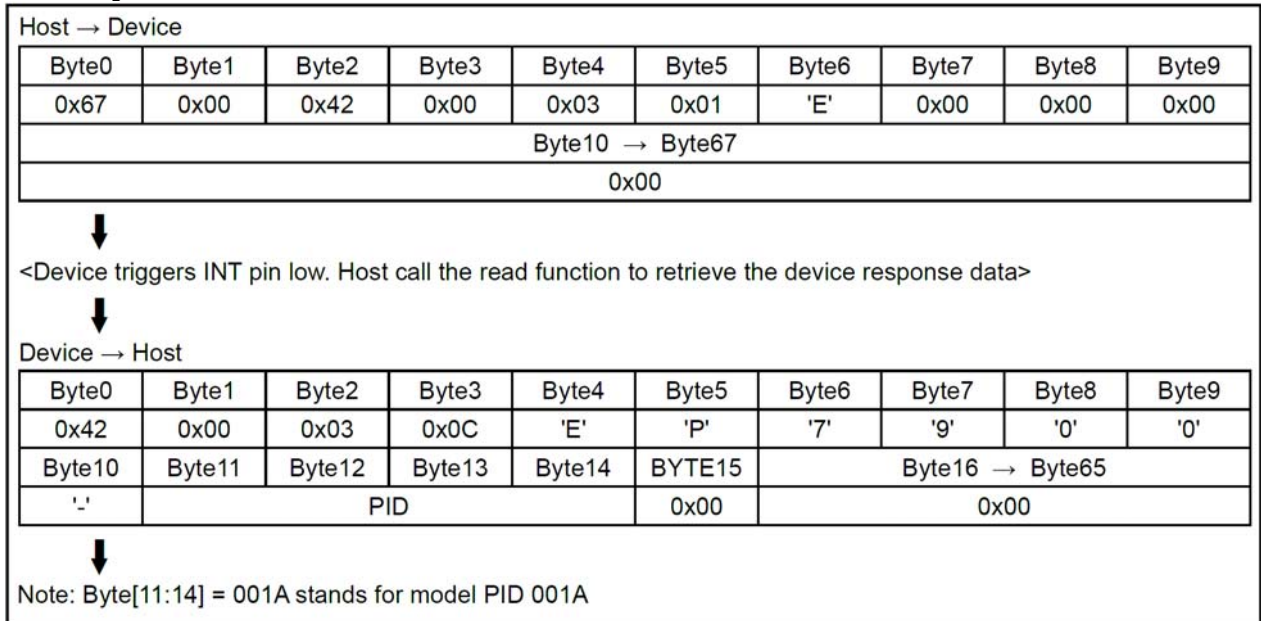
Power Saving Mechanism

EXC7900 - supports 3 working mode for power saving.

Fully working mode:

After reset, the controller module works at full power working state.

Idle mode:

After EXC7900 receives a software packet from host computer to request MCU entering idle state, this controller module will enter idle state. At idle state, IRQ pin will be released to high state. Host computer can wake up this controller module via generating a falling edge signal at IRQ pin. When controller transfers to fully working mode, it will reply a wakeup command to host.

Set idle command

Host → Device

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x67	0x00	0x42	0x00	0x03	0x04	0x36	0x3F	0x01	T

Byte10 → Byte67
0x00

Host computer send this command as above for idle state configuration setting. Where, T means the scanning interval when in idle state. The touch controller will wakeup every that period of time to scan touch screen to check if the touchscreen touched or not. Once it detects sensor touched, the controller will back to fully working state automatically.

The default value of T is 30, the interval = T x 0.25 = 7.5ms

Sleep mode:

Whenever the host computer wants to deep sleep, it issues a sleep command packet to controller. Once the controller firmware receives such sleep command, it enters deep sleep state and does not response until it wakes up from this sleep state. Only host computer can wake up this device via generating a falling edge signal at IRQ pin.

When controller transfers to fully working mode, it will reply a wakeup command to host.

Set sleep command

Host → Device									
Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x67	0x00	0x42	0x00	0x03	0x03	0x36	0x3F	0x02	0x00
Byte10 → Byte67									
0x00									

Host computer send above command packet to touch controller device to make the device enter sleep state for power saving.

Wakeup notification command

Once the controller transfers to working state from idle and sleep state, it will trigger INT pin low and reply below command to host.

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
0x42	0x00	0x03	0x03	0x36	0x3F	0x01	0x00	0x00	0x00
Byte10 → Byte65									
0x00									

9. RELIABILITY TEST CONDITIONS

Test Item	Test Conditions	Note
High Temperature Operation	70±3°C , t=240 hrs	
Low Temperature Operation	-20±3°C , t=240 hrs	
High Temperature Storage	80±3°C , t=240 hrs	1,2
Low Temperature Storage	-30±3°C , t=240 hrs	1,2
Storage at High Temperature and Humidity	60°C, 90% RH , 240 hrs	1,2

Note 1 Condensation of water is not permitted on the module.

Note 2 The module should be inspected after 1 hour storage in normal conditions
(15-35°C, 45-65%RH).

10. General Precautions

10.1 Safety

(1)   Liquid crystal is poisonous. Do not put it your month. If the liquid crystal touches you skin or clothes, you need to wash it off immediately with the soap and water.

10.2 Handling

1. The LCD panel is plate glass. Do not subject the panel to mechanical shock or excessive force on its surface.
2. The polarizer which attached to the display is easily damaged. Please handle it carefully to avoid scratch or other damages.
3. To avoid contamination on the display surface, do not touch the module surface with bare hands.
4. Keep a space so that the LCD panels do not touch other components.
5. Put on cover board such as acrylic board, which covers on the surface of LCD panel to protect panel from damages.
6. Transparent electrodes may be disconnected if you use the LCD panel under environmental conditions where the condensation of dew occurs.
7. Do not leave module in direct sunlight to avoid malfunction of the ICs.

10.3 Mechanism

(1)   Please mount LCD module by using mounting holes arranged in four corners tightly.
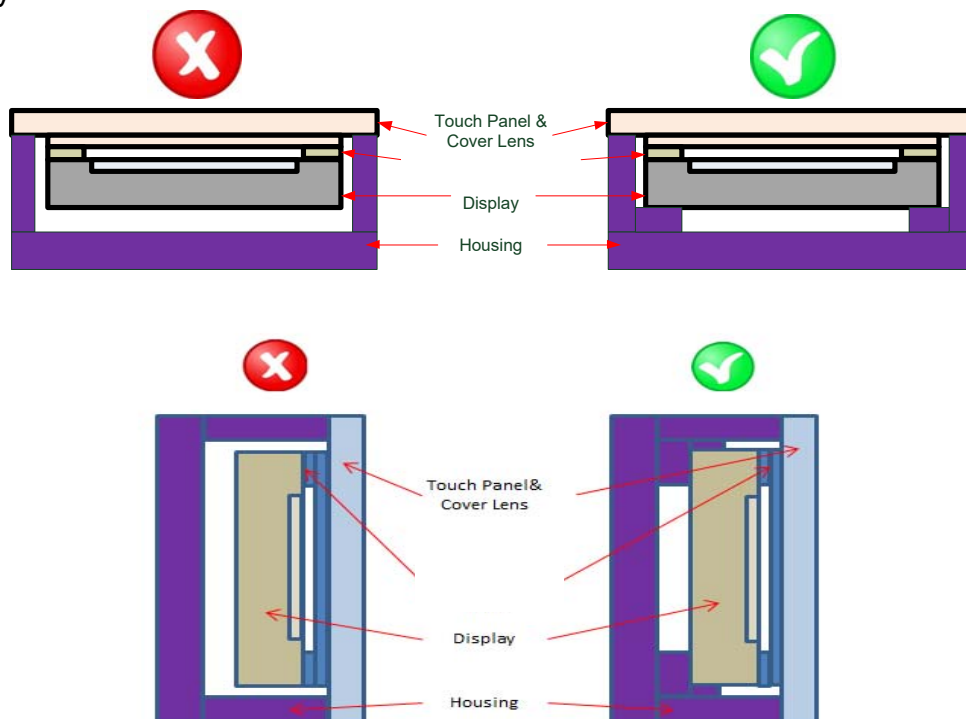
10.4 Static Electricity

1. Be sure to ground module before you turn on power or operation module.
2. Do not apply voltage which exceeds the absolute maximum rating value.

10.5 Storage

1. Store the module in a dark room where it must keep at +25±10℃ and 65%RH or less.
2. Do not store the module in surroundings which are containing organic solvent or corrosive gas.
3. Store the module in an anti-electrostatic container or bag.

10.6 Cleaning

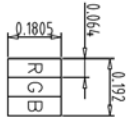1. Do not wipe the polarizer with dry cloth. It might cause scratch.
2. Only use a soft sloth with IPA to wipe the polarizer, other chemicals might permanent damage to the polarizer.

10.7 Others

1. AMIPRE will provide one year warrantee for all products and three months warrantee for all repairing products.
2. Do not apply fixed pattern data signal to the LCD module as you are using the product.

11. OUTLINE DIMENSION

I2C interface:

1	GND
2	SDA
3	SCL
4	VDD
5	INT
6	/RES

LVDS 8bit

1	VDD	11	IN2-
2	VDD	12	IN2+
3	GND	13	GND
4	GND	14	CLK-
5	IN0-	15	CLK+
6	IN0+	16	GND
7	GND	17	IN3-
8	IN1-	18	IN3+
9	IN1+	19	GND
10	GND	20	GND

A Block

| 1 | A |
| 2 | K |

Note:
1. Unless indicated, Tolerance "±0.3".
2. UV Glue For OLB Protection.
3. CN2:P1.0 20Pin/CP100-S20G-H16 or Equivalent.
4. CN1:P0.5 50Pin/CSF-2082-501R or Equivalent.
5. LCD 800X3(R.G.B)x480=> 7.0" Digital TFT LCD
6. T/P Controller board: ENTERY 3808K-F06N-03L or Equivalent ②

6			
5			
4	TFT-800480-314-O	10	
3	Without LED Driver	9	
2	TP(PCB(I2C interface/3132))	8	
1	800480B-A0	7	

TOLERANCE GRADE(±)	A	B	12
DIM.			11
MM	IE NO.		
D'WN.	EMILY	DATE 09-29-17'	
CHK.		DATE	
APPD.		DATE	

PART'S NO.LCM
800480B-TG0-B

AMPIRE 晶采光電科技

TITLE 800480B-TG0-B

DWG. NO. *1709116MB　SHEET 1 OF 1 ②

REV REVISION RECORD | DATE | NAME
0 | NEW RELEASE | 09-29-17 | EMILY
1 | TFT-800480-314-O Rename to 800480B-TG0-B | 11-23-17 | EMILY
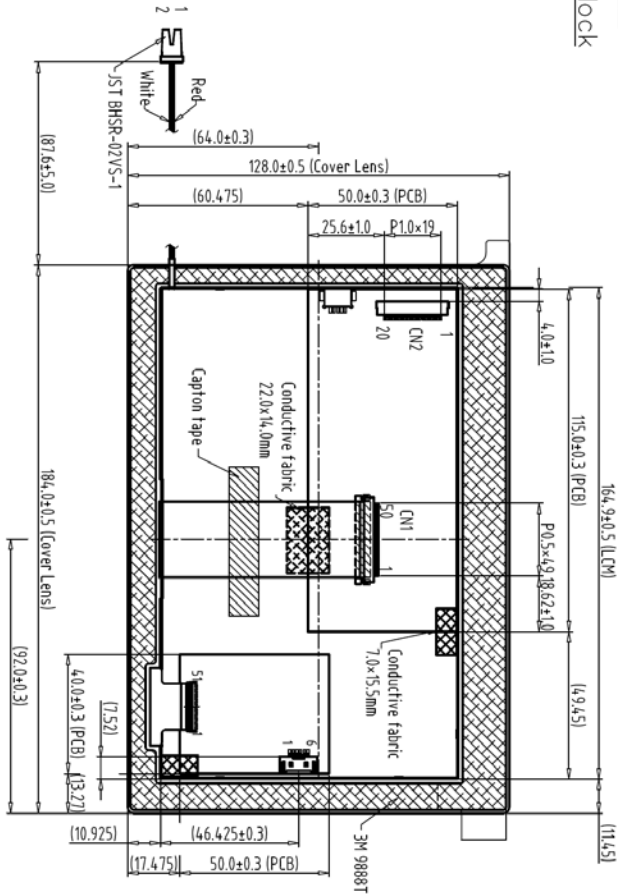2 | Modify Note 6:T/P Controller board Connector | 08-03-18 | EMILY

1	A
2	K

I2C interface:

1	GND
2	SDA
3	SCL
4	VDD
5	INT
6	/RES

LVDS 8bit

1	VDD	11	IN2-
2	VDD	12	IN2+
3	GND	13	GND
4	GND	14	CLK-
5	IN0-	15	CLK+
6	IN0+	16	GND
7	GND	17	IN3-
8	IN1-	18	IN3+
9	IN1+	19	GND
10	GND	20	GND

A Block

R
G
B

0.1805
0.064
0.192

JST BHSR-02VS-1
White
Red.

Note:
1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. CN2:P1.0 20Pin/CP100-S20G-H16 or Equivalent
4. CN1:P0.5 50Pin/CSF-2082-501R or Equivalent.
5. LCD 800x3(R.G.B)x480=> 7.0" Digital TFT LCD
6. T/P Controller board: ENTERY 3808K-F06N-O3L or Equivalent

Back View

(64.0±0.3)
128.0±0.5 (Cover Lens)
(60.475)
50.0±0.3 (PCB)
25.6±1.0
P1.0×19
(87.6±5.0)
4.0±1.0
CN2
20 1
115.0±0.3 (PCB)
Conductive fabric
22.0×14.0mm
Capton tape
CN1
50 1
164.9±0.5 (LCM)
P0.5×49 18.62±1.0
184.0±0.5 (Cover Lens)
(92.0±0.3)
Conductive fabric
7.0×15.5mm
(4.9±5)
5
40.0±0.3 (PCB)
(7.52)
6 1
(11.45)
3M 9888T
(10.925)
(46.425±0.3)
(17.475)
50.0±0.3 (PCB)
(13.27)

6								
5								
4	TFT-800480-314-0							10
3	Without LED Driver							9
2	TP(PCB(I2C interface/3132))							8
1	800480B-A0							7

TOLERANCE GRADE(±)	A	B	DIM.	MM	D'RN.	D'WN.	DATE
					EMILY		

IB NO.
PARTS NO. LCM-1
800480B-TG0-B

CHK.
APPD.
DATE
09-29-17'

DATE

Back View

| 12 |
| 11 |
| 10 |
| 9 |
| 8 |
| 7 |

AMPIRE 晶采光電科技

TITLE: 800480B-TG0-B
DWG. NO. *1709117MB
SHEET 1 OF 1