

# Chimei-Innolux Corporation

## BT140GW03 V.2 LCD MODULE SPECIFICATION

( ) Preliminary Specification  
( ) Final Specification

Customer	Checked & Approved by
Acer	

Approved by	Checked by	Prepared by
MKT	PD	PM

Date: 2011/06/10

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## Record of Revision

<b>Version</b>	<b>Revise Date</b>	<b>Page</b>	<b>Content</b>
0	2010/04/01	All	First Edition issued
1	2010/04/08	5	Pin Assignment
		11	Power Sequence Timing Table
		14	Backlight Driving Condition
2	2010/04/15	5	Panel Connector
		8	Typical operating conditions
3	2010/04/26	21	Label
4	2010/05/06	16	Optical specifications
		21	Label
5	2010/05/19	22	Label
6	2010/08/20	8	Power Consumption
		16	Optical specifications
		21	Label Drawing
		4, 24	AA Size & Module Drawing
7	2010/09/20	28	EDID Coding
8	2010/10/04	All	Approval specifications was first issued
9	2010/10/15	23	Packing drawing
10	2010/10/20	6	Add Note(1) : The setting of Color engine and CABC
11	2010/12/22	21, 25	Module Label Definition & Module Drawing, Label Drawing & Position
12	2011/05/04	21,22,25	Label Logo
13	2011/06/10	22	Carton label

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## 1. General Specifications

NO.	Item	Specification	Unit
1	Display resolution (pixel)	1366(H) X 768(V), HD resolution	
2	Active area	309.399(H) X 173.952(V)	mm
3	Screen size	14.0 inches diagonal	Inches
4	Pixel pitch	0.2265(H) X 0.2265(V)	mm
5	Color configuration	Stripe	
6	Overall dimension	320.9(W) X 199.1(H) X 3.6(D) (max)	mm
7	Weight	320Max.	Grams
8	Surface treatment	Glare, 3H	
9	Input color signal	6 bit LVDS	
10	Display colors	262K (6 bit)	
11	Optimum viewing direction	6 o'clock	
12	Backlight	W-LED	
13	Glass thickness	0.5	mm
14	LED life time with LCM	12,000 (min.), T = 25°C	Hours
15	RoHS	RoHS compliance	

## 2. Electrical Specifications

### 2-1 Pin Assignment

#### a. Panel connector

Connector Part No.: 20455-040E-12 (I-PEX) or equivalent

User's connector Part No: 20453-040T-12 (I-PEX) or equivalent

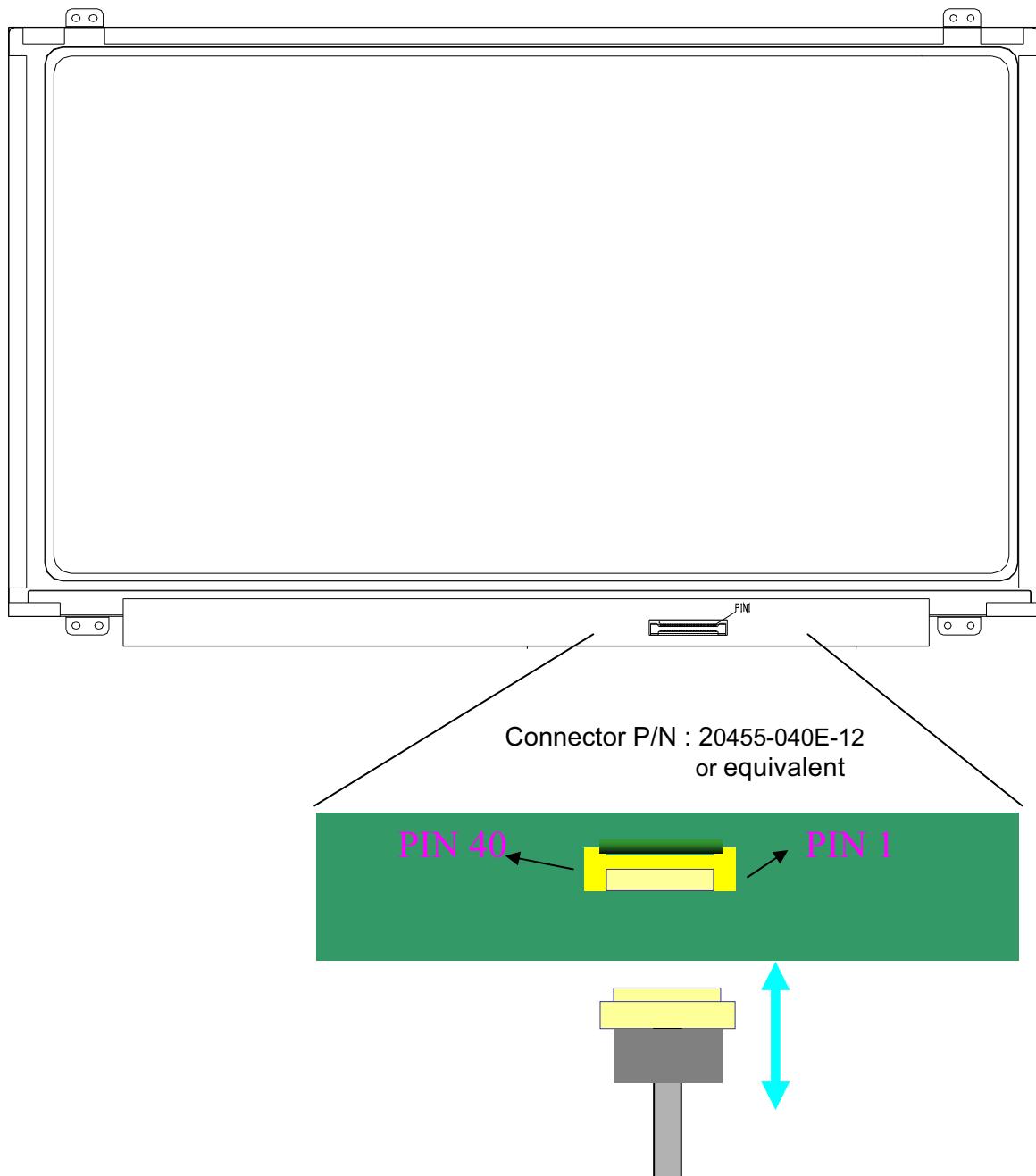
Pin No	Symbol	Description	Remark
1	NC	No connection (Reserve)	
2	V <sub>CC</sub>	Power Supply (+3.3V)	
3	V <sub>CC</sub>	Power Supply (+3.3V)	
4	V <sub>EDID</sub>	DDC Power +3.3V	
5	NC	No connection (Reserve)	
6	Clk <sub>EDID</sub>	DDC Clock	
7	DATA <sub>EDID</sub>	DDC Data	
8	Rxin0-	Differential Data Input	R0~R5,G0
9	Rxin0+	Differential Data Input	
10	GND	Ground	
11	Rxin1-	Differential Data Input	G1~G5,B0,B1
12	Rxin1+	Differential Data Input	
13	GND	Ground	
14	Rxin2-	Differential Data Input	B2~B5,DE,Hsync,Vsync
15	Rxin2+	Differential Data Input	
16	GND	Ground	
17	CLK-	Differential Clock Input	
18	CLK+	Differential Clock Input	
19	CE_EN	Color Engine Enable (Reserve)	
20	NC	No connection (Reserve)	
21	NC	No connection (Reserve)	
22	GND	Ground	
23	NC	No connection (Reserve)	
24	NC	No connection (Reserve)	
25	GND	Ground	
26	NC	No connection (Reserve)	
27	NC	No connection (Reserve)	
28	GND	Ground	
29	NC	No connection (Reserve)	
30	NC	No connection (Reserve)	
31	LED_GND	LED Ground	
32	LED_GND	LED Ground	
33	LED_GND	LED Ground	
34	NC	No connection (Reserve)	
35	LED_PWM	PWM dimming signal input	
36	LED_EN	LED enable pin (3.3V)	
37	CABC_EN	CABC Enable (Reserve)	Note 1
38	V_LED	LED power supply 6.0V~21V	
39	V_LED	LED power supply 6.0V~21V	
40	V_LED	LED power supply 6.0V~21V	

**Note1** : The setting of Color engine and CABC function are as follows.

Pin	Enable	Disable
CE_EN	Hi (3.3V)	Lo or Open
CABC_EN	Hi (3.3V)	Lo or Open

Hi = High level , Lo = Low level

b. General block diagram (Rear Side)



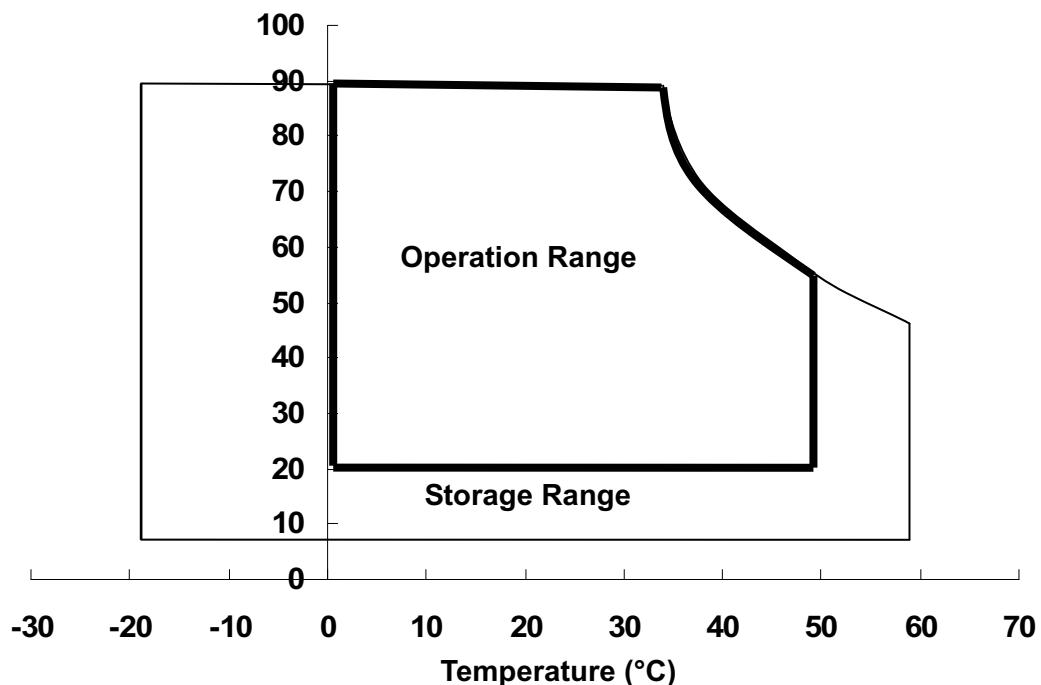
## 2-2. Absolute Maximum Ratings

Parameter	Symbol	Values		Unit	Remark
		Min.	Max.		
Power input voltage	V <sub>CC</sub>	- 0.3	4.0	V	At 25°C
Signal input voltage	V <sub>IN</sub>	- 0.3	4.0	V	At 25°C
Operating temperature	T <sub>OP</sub>	0	50	°C	Note 1
Storage temperature	T <sub>ST</sub>	- 20	60	°C	Note 2

Note 1: The relative humidity must not exceed 90%, non-condensing at temperatures of 40°C or less. At temperatures greater than 40°C, the wet bulb temperature must not exceed 39°C.

Note 2: The unit should not be exposed to corrosive chemicals.

### Relative Humidity (%RH)



**2-3. Electrical Characteristics**

## a. Typical operating conditions

Item	Symbol	Min.	Typ.	Max.	Unit	Remark	
Power input voltage	V <sub>CC</sub>	3	3.3	3.6	V		
Permissive power input ripple	V <sub>RF</sub>	-	-	0.1	V		
Power input current	I <sub>CC</sub>	-		220	mA	Note 1	
Power consumption	P <sub>logic</sub>	-		0.72	Watts	Note 1	
	P <sub>logic-g</sub>	-		0.6	Watts	Note 2	
	P <sub>total</sub>			2.37	Watts	Note 1	
	P <sub>total-g</sub>			1.5	Watts	Note 3	
LVDS interface	Differential input high threshold voltage	V <sub>LVTH</sub>	-	-	+100	mV	V <sub>LVC</sub> =1.2V, Note 4
	Differential input low threshold voltage	V <sub>LVTL</sub>	-100	-	-	mV	V <sub>LVC</sub> =1.2V, Note 4
	Common input voltage	V <sub>LVC</sub>	1.0	1.2	1.4	V	Note 4
	Terminating resistor	R <sub>T</sub>	90	100	110	ohm	
Initial inrush current	I <sub>inrush</sub>	-	-	1.5	A	Note 5	
Stable rush current	I <sub>st-rush</sub>	-	-	0.0025	A <sup>2</sup> sec		
LED initial inrush current	I <sub>LED-inrush</sub>	-	-	3.0	A	Note 6	
LED stable rush current	I <sub>LED-st-rush</sub>	-	-	0.0075	A <sup>2</sup> sec		

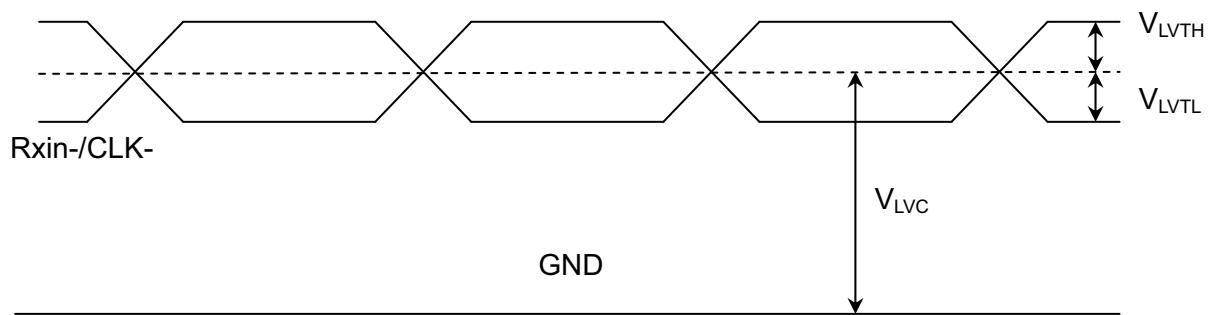
Note 1: The specified input current and power consumption are under the V<sub>cc</sub> =3.3 V, 25°C, f<sub>v</sub>=60Hz (frame frequency) condition whereas mosaic pattern is displayed.

Note 2: The logic power consumption @100 nits with full white pattern under the V<sub>cc</sub> =3.3 V, 25°C, f<sub>v</sub>=60Hz (frame frequency) condition

Note 3: The logic power consumption & BL power consumption @100 nits with full white pattern under the V<sub>cc</sub> =3.3 V, 25 °C, f<sub>v</sub>=60Hz (frame frequency) condition

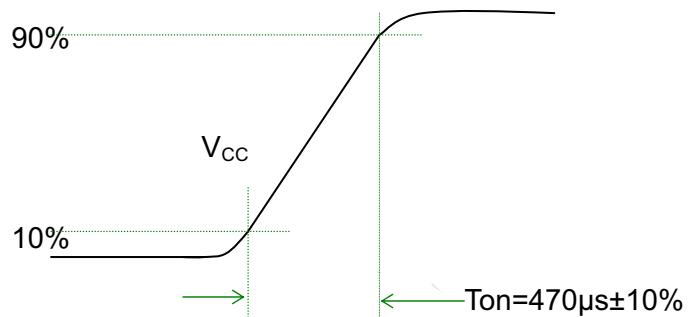
## Note 4: LVDS waveform diagram

Rxin+/CLK+

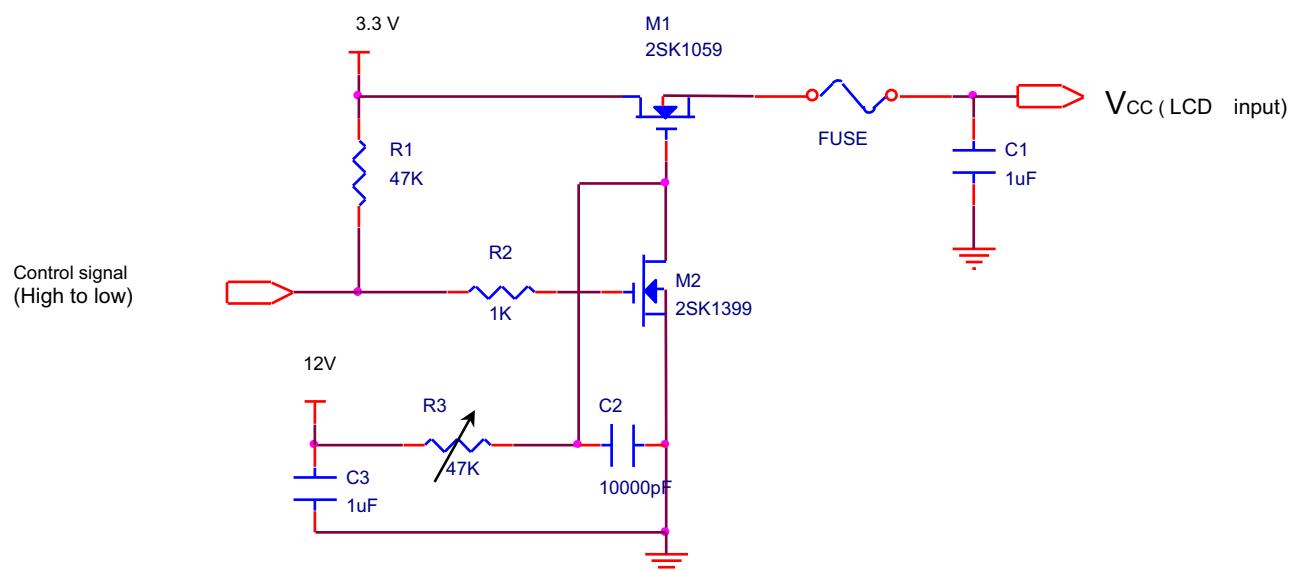


## Note 5: Test condition

- (1) Pattern: Black pattern
- (2)  $V_{CC} = 3.3 \text{ V}$ ,  $V_{CC}$  rising time =  $470 \mu\text{s} \pm 10\%$

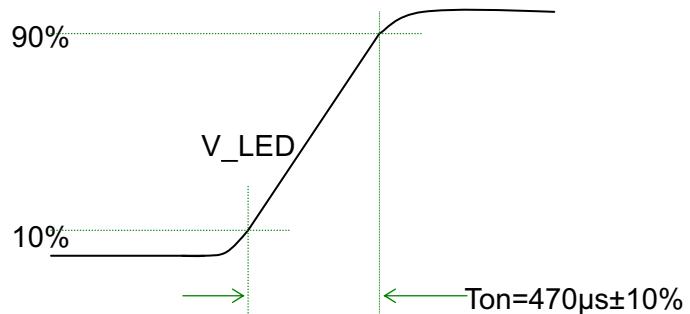


## (3) Test circuit

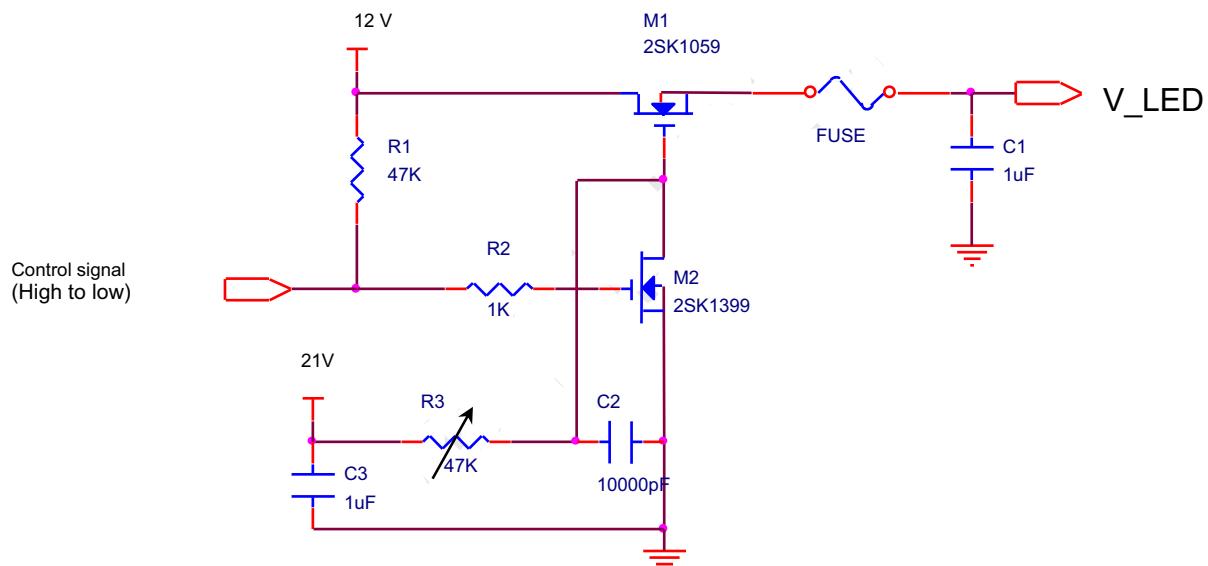


## Note 6: Test condition

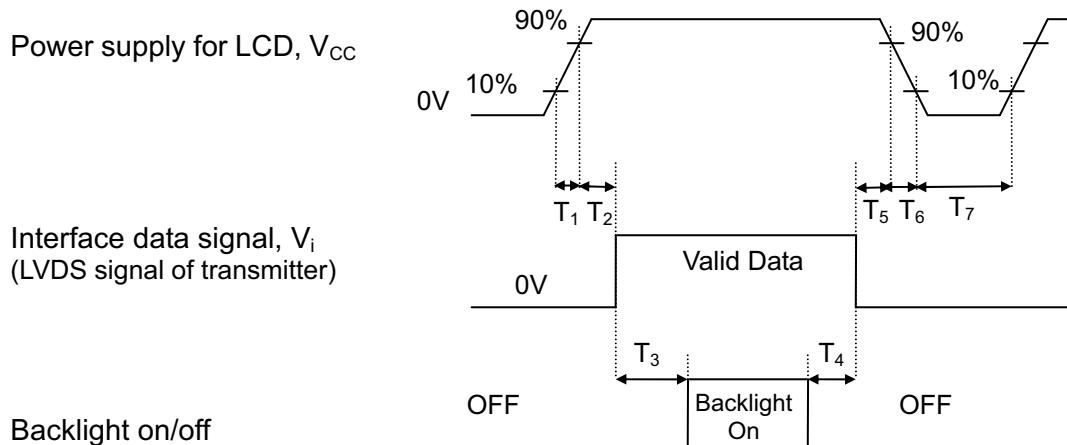
- (1) LED duty 100%
- (2)  $V_{LED} = 12.0V$ ,  $V_{LED}$  rising time =  $470 \mu s \pm 10\%$



## (3) Test circuit



## b. Power sequence

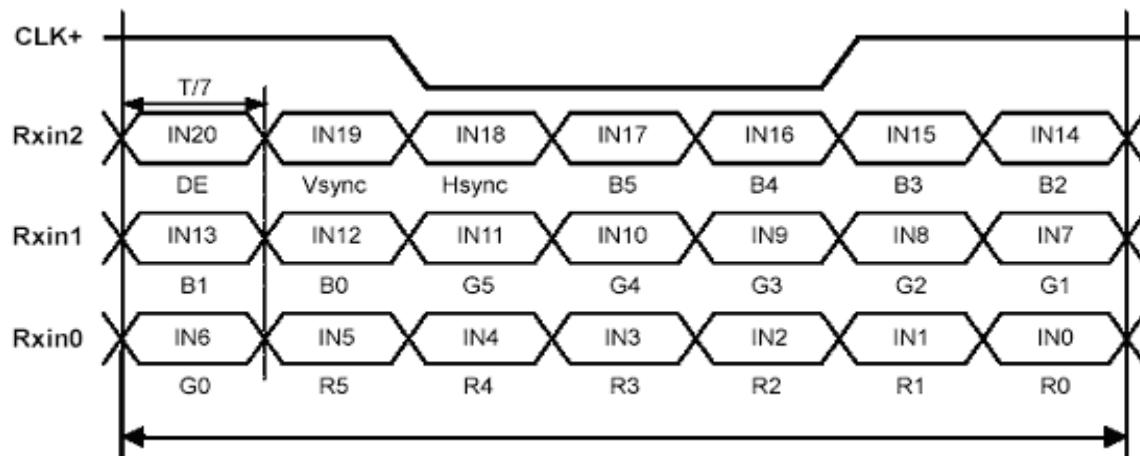


Power sequence timing table

Parameter	Value			Units
	Min.	Typ.	Max.	
$T_1$	0.5	-	10	ms
$T_2$	0	-	50	ms
$T_3$	200	-	-	ms
$T_4$	200	-	-	ms
$T_5$	0	-	50	ms
$T_6$	0.5	-	10	ms
$T_7$	400	-	-	ms

## c. Display color vs. input data signals

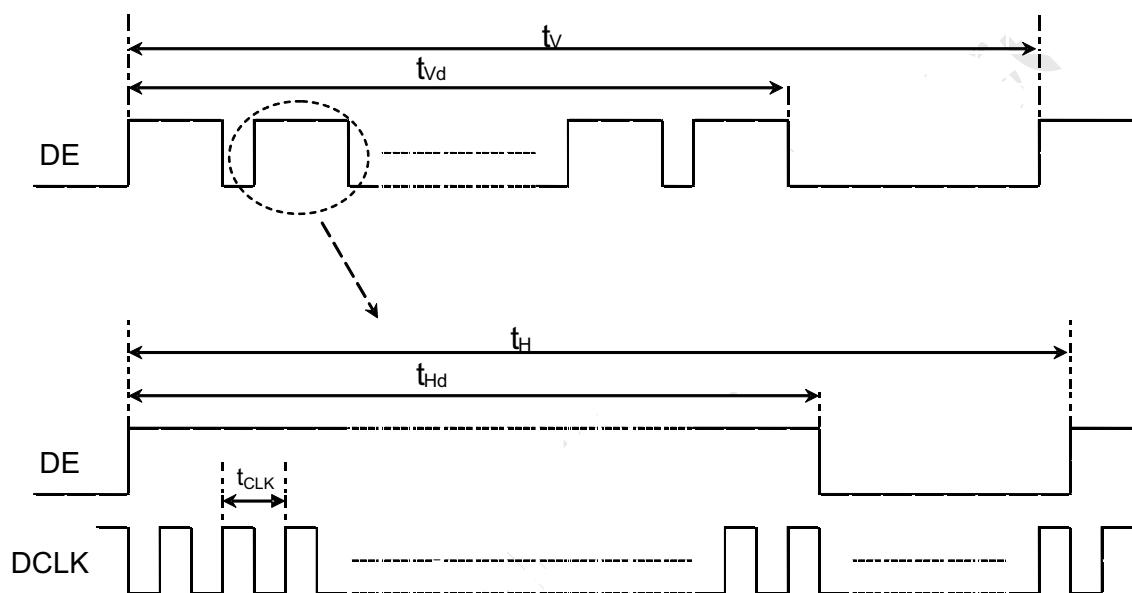
Signal Name	Description	Remark
R5	Red Data 5 (MSB)	Red-pixel data. Each red pixel's brightness data consists of these 6 bits pixel data.
R4	Red Data 4	
R3	Red Data 3	
R2	Red Data 2	
R1	Red Data 1	
R0	Red Data 0 (LSB)	
	<b>Red-pixel Data</b>	
G5	Green Data 5 (MSB)	Green-pixel data. Each green pixel's brightness data consists of these 6 bits pixel data.
G4	Green Data 4	
G3	Green Data 3	
G2	Green Data 2	
G1	Green Data 1	
G0	Green Data 0 (LSB)	
	<b>Green-pixel Data</b>	
B5	Blue Data 5 (MSB)	Blue-pixel data. Each blue pixel's brightness data consists of these 6 bits pixel data.
B4	Blue Data 4	
B3	Blue Data 3	
B2	Blue Data 2	
B1	Blue Data 1	
B0	Blue Data 0 (LSB)	
	<b>Blue-pixel Data</b>	

Signal for 1 DCLK cycle ( $t_{CLK}$ )

## d. Input signal timing

Timing table

Description	Symbol	Min	Typ	Max	Unit
Frame rate	--	40	60	--	Hz
Clock freq.	$1/t_{CLK}$	45	71	85	MHz
Line cycle time	$t_H$	1400	1498	1800	$t_{CLK}$
Line width-active	$t_{Hd}$	1366	1366	1366	$t_{CLK}$
Frame cycle time	$t_V$	780	790	900	$t_H$
V width-active	$t_{Vd}$	768	768	768	$t_H$



## e. Display position

D(1, 1)	D(2, 1)	.....	D(683, 1)	.....	D(1365, 1)	D(1366, 1)
D(1, 2)	D(2, 2)	.....	D(683, 2)	.....	D(1365, 2)	D(1366, 2)
⋮		.....	⋮	.....	⋮	⋮
D(1, 384)	D(2, 384)	.....	D(683, 384)	.....	D(1365, 384)	D(1366, 384)
⋮		.....	⋮	.....	⋮	⋮
D(1, 767)	D(2, 767)	.....	D(683, 767)	.....	D(1365, 767)	D(1366, 767)
D(1, 768)	D(2, 768)	.....	D(683, 768)	.....	D(1365, 768)	D(1366, 768)

## f. Backlight driving conditions

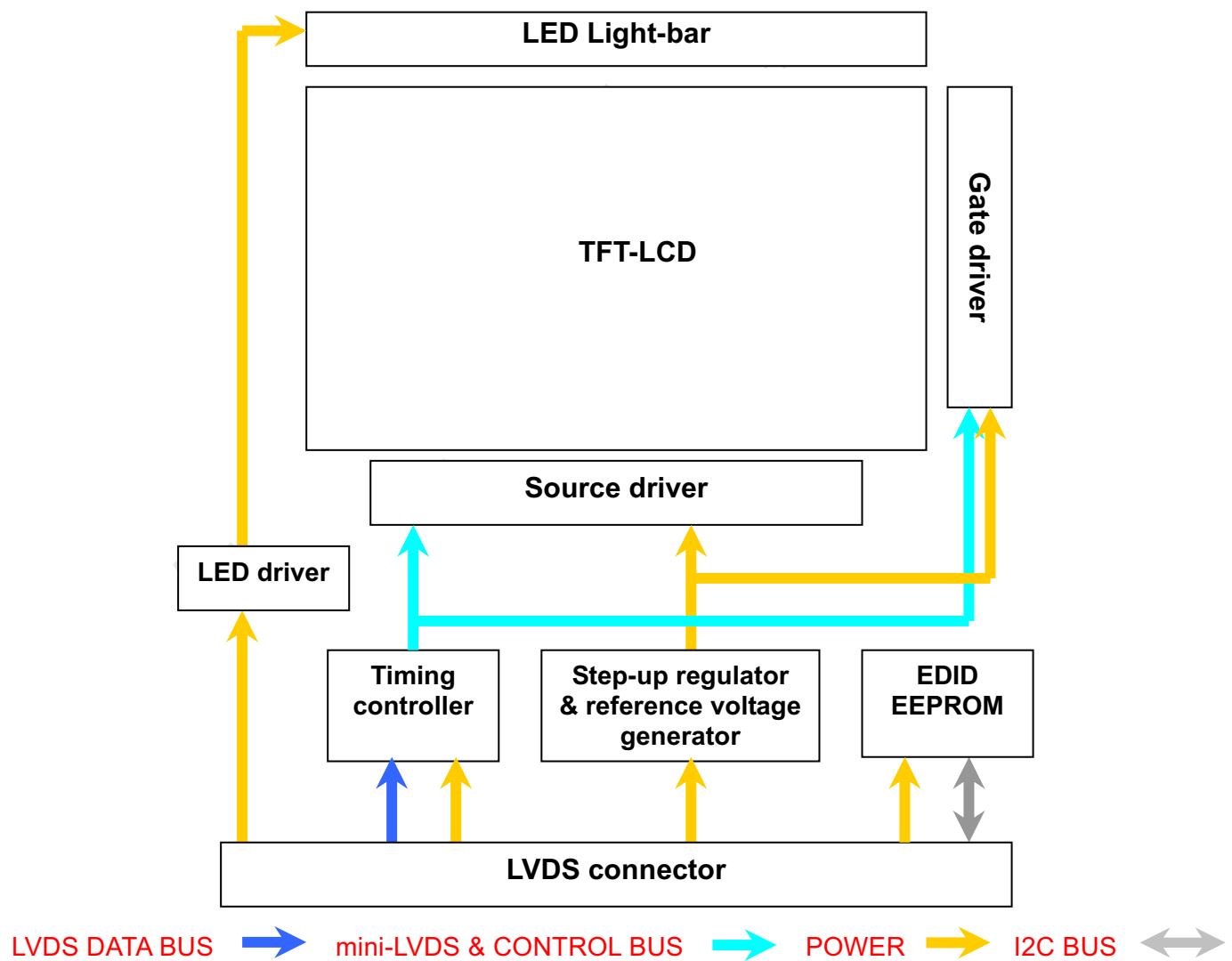
Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED forward voltage	$V_F$	3	3.2	3.4	$V_{rms}$	$T = 25^\circ C$
LED forward current	$I_F$		20		$mA_{rms}$	$T = 25^\circ C$
LED power consumption	$P_{LED}$				W	$T = 25^\circ C$
	$P_{LED-G}$				W	Note 1
Input PWM frequency	$F_{PWM}$	190	1000	2000	Hz	$T = 25^\circ C$
Duty ratio	-	5		100	%	Note 2
LED life time (LED only)	-	15,000			Hr	$T = 25^\circ C$ , Note 3

Note 1: The BL power consumption @100 nits with full white pattern under the  $V_{cc} = 3.3$  V,  $25^\circ C$ ,  $f_V = 60$ Hz (frame frequency) condition

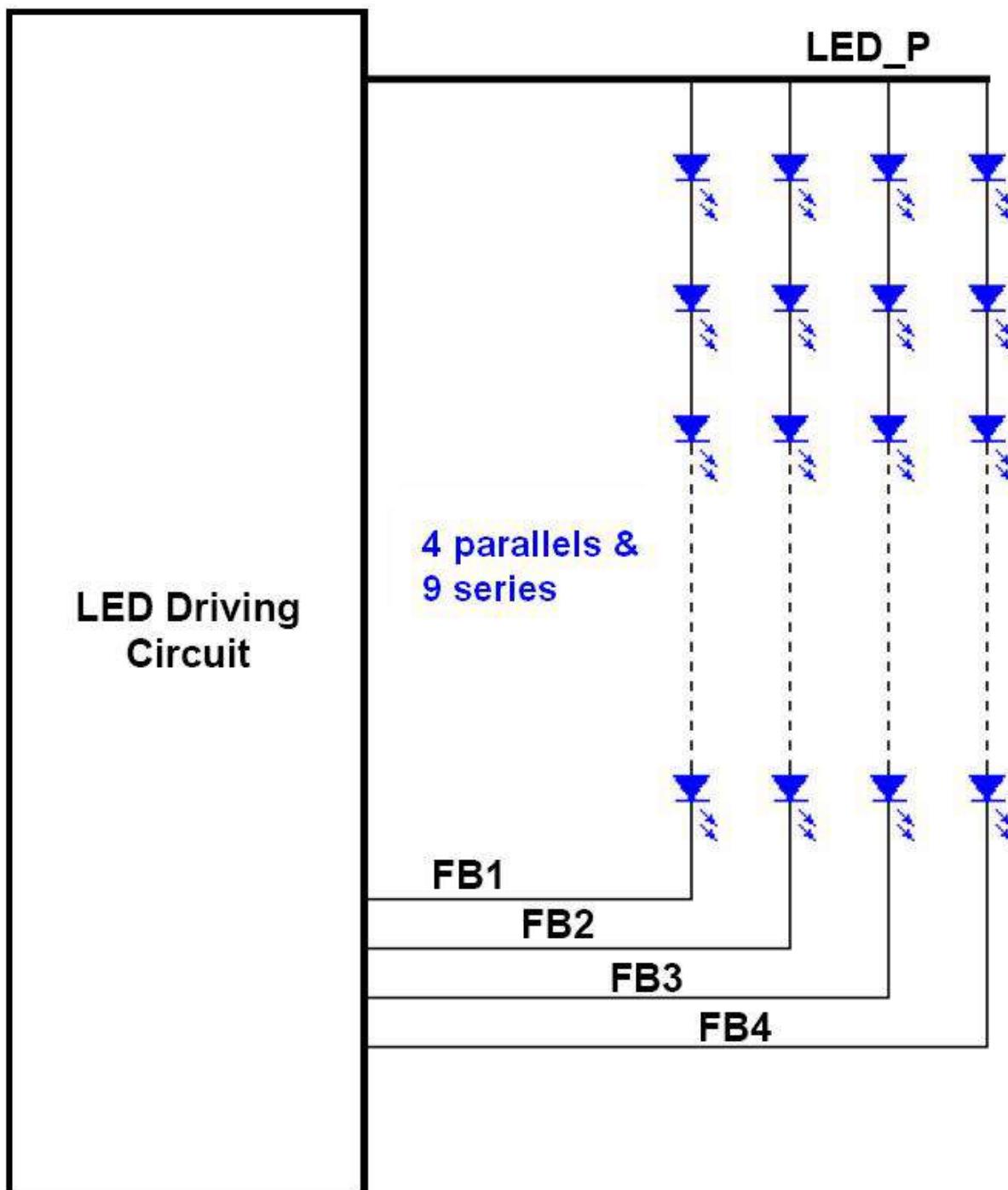
Note 2: PWM duty ratio linearity guarantees 10~100%.

Note 3: LED life time definition is brightness decrease to 50% of initial or abnormal lighting.

#### g. Module function block



## h. LED circuit block



**3. Optical specifications**

Ambient temperature = 25°C

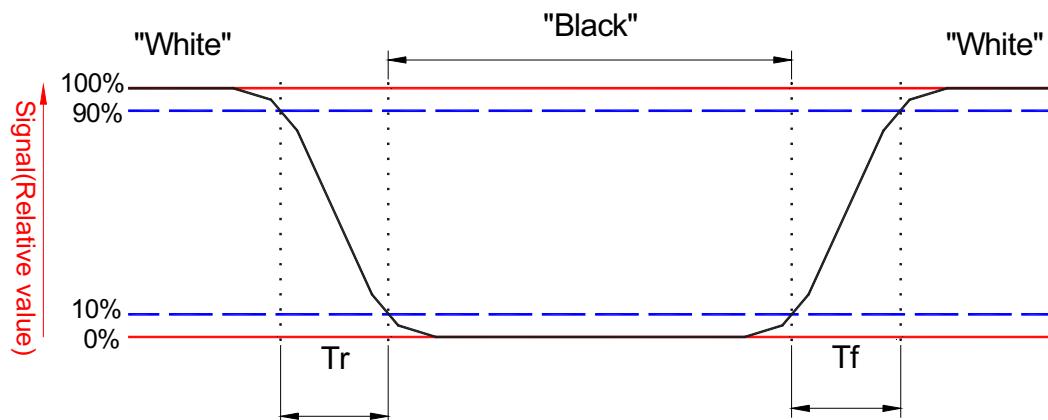
Item	Symbol	Condition	Specification			Unit	Remark
			Min.	Typ.	Max.		
Response time	Tr+Tf	θ= 0°		8	15	ms	Note 3
Contrast ratio	CR	θ= 0°	500	600			Note 2,4
Viewing angle	Top	CR ≥ 10	15			deg	Note 2,4,6
	Bottom		30				
	Left		40				
	Right		40				
	Top	CR ≥ 100	6				
	Bottom		11				
	Left		25				
	Right		25				
Brightness (5 points average)	Y <sub>L</sub>		170	200		nit	Note 2,5
Color chromaticity (CIE)	W <sub>x</sub>	θ= 0°	-0.03	0.313	+0.03	Note 2	
	W <sub>y</sub>			0.329			
	R <sub>x</sub>			0.586			
	R <sub>y</sub>			0.355			
	G <sub>x</sub>			0.317			
	G <sub>y</sub>			0.563			
	B <sub>x</sub>			0.16			
	B <sub>y</sub>			0.144			
Color gamut	NTSC	CIE1931		45		%	-
White uniformity	δ <sub>W(5)</sub>				1.25		Note 2,7
	δ <sub>W(13)</sub>				1.5		
Cross talk	Ct				2%		Note 8

Note 1: To be measured in dark room.

Note 2: To be measured with a viewing cone of 2° by Topcon luminance meter BM-5A.

Note 3: Definition of response time:

The output signals of BM-7 are measured when the input pattern are changed from "Black" to "White" (falling time) and from "White" to "Black" (rising time), respectively. The response time interval is between 10% and 90% of amplitudes. Refer to figure as below.



Note 4: Definition of contrast ratio:

Contrast ratio is calculated with the following formula:

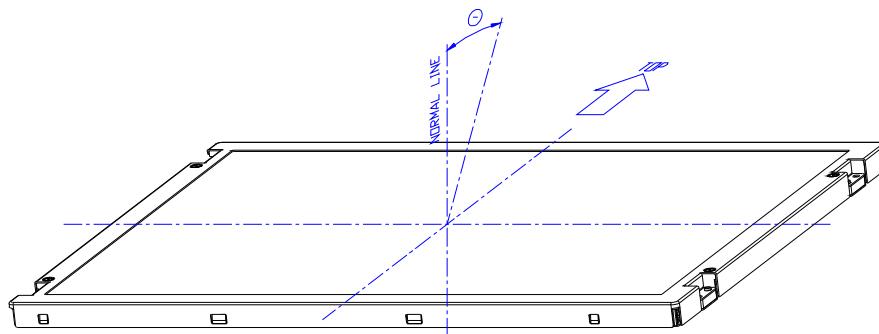
$$\text{Contrast ratio (Avg of 5pts)} = \frac{L_{\text{white}} (\text{Avg of 5pts.})}{L_{\text{Black}} (\text{Avg of 5pts.})}$$

Note 5: Driving current for LED should be 20 mA.

Luminance is measured at the following thirteen points (1~13):

$$Y_L = (Y_5 + Y_{10} + Y_{11} + Y_{12} + Y_{13}) / 5$$

Note 6: Definition of viewing angle



## Note 7: Definition white uniformity

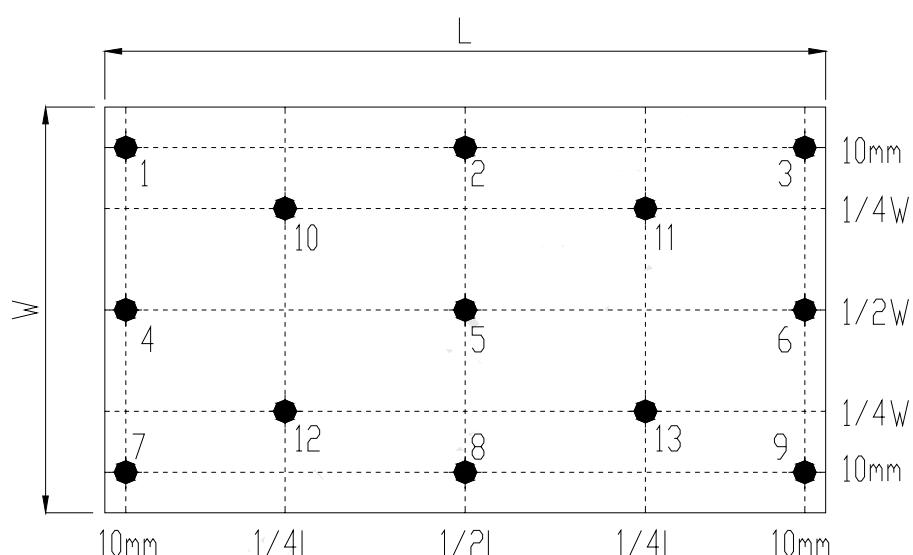
Luminance is measured at the following thirteen points (1~13):

$$\delta_{W(13)} = \frac{\text{Maximum brightness of thirteen points}}{\text{Minimum brightness of thirteen points}}$$

$$\delta_{W(5)} = \frac{\text{Maximum brightness of five points}}{\text{Minimum brightness of five points}}$$

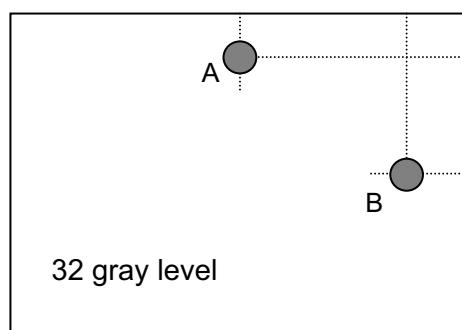
13 point measuring locations refer to the point 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13.

5 point measuring locations refer to the point 5, 10, 11, 12 and 13.

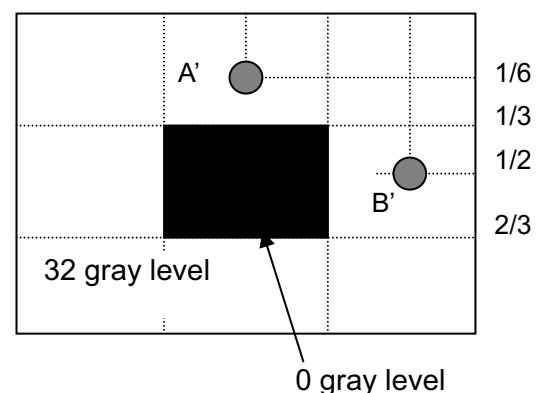


## Note 8:

1/2      1/6



2/3      1/2      1/3      1/6



Unit: percentage of dimension of display area

$|L_A - L_{A'}| / L_A \times 100\% = 2\% \text{ max.}$ ,  $L_A$  and  $L_{A'}$  are brightness at location A and A'

$|L_B - L_{B'}| / L_B \times 100\% = 2\% \text{ max.}$ ,  $L_B$  and  $L_{B'}$  are brightness at location B and B'

#### 4. Reliability test items

Test Item	Test Condition	Judgment	Remark
High temperature storage	60°C, 240 hours	Note 1	Note 2
Low temperature storage	-20°C, 240 hours	Note 1	Note 2
High temperature & high humidity operation	50°C, 80% RH, 240 hours (No condensation)	Note 1	Note 2
High temperature operation	50°C, 240 hours	Note 1	Note 2
Low temperature operation	0°C, 240 hours	Note 1	Note 2
Thermal shock (Non-operation)	-20°C / 30 mins ~ 60°C / 30 mins 100 cycles	Note 1	Note 2
Electrostatic discharge (ESD)	150 pF, 330Ω, Contact: ±8kV, Air: ±15kV	Note 1	
Vibration (Non-operation)	1.5G, 10 to 500 Hz random; 0.5hr in each perpendicular axes ( X, Y, Z ).	Note 1	Note 2
Mechanical shock (Non-operation)	220G/2ms, Half sine wave, ±X, ±Y, ±Z one time for each direction	Note 1	Note 2

Note 1: Pass: Normal display image with no obvious non-uniformity and no line defect.

Fail: No display image, obvious non-uniformity, or line defects.

Partial transformation of the module parts should be ignored.

Note 2: Evaluation should be tested after storage at room temperature more than one hour.

## 5. Safety

### 5-1. Sharp edge requirements

There will be no sharp edges or corners on the display assembly that could cause injury.

### 5-2. Materials

#### a. Toxicity

There will be no carcinogenic materials used anywhere in the display module. If toxic materials are used, they will be reviewed and approved by the responsible InnoLux Toxicologist.

#### b. Flammability

All components including electrical components that do not meet the flammability grade UL94-V0 in the module will complete the flammability rating exception approval process. The printed circuit board will be made from material rated 94-V0 or better. The actual UL flammability rating will be printed on the printed circuit board.

#### c. Capacitors

If any polarized capacitors are used in the display assembly, provisions will be made to keep them from being inserted backwards.

## 6. Display quality

The display quality of the color TFT-LCD module should be in compliance with the InnoLux incoming inspection standard.

## 7. Handling precaution

- (1) Do not apply rough force such as bending or twisting to the module during assembly.
- (2) To assemble or install module into user's system can be only in clean working areas. The dust and oil may cause electrical short or worsen the polarizer.
- (3) It's not permitted to have pressure or impulse on the module because the LCD panel and backlight will be damaged.

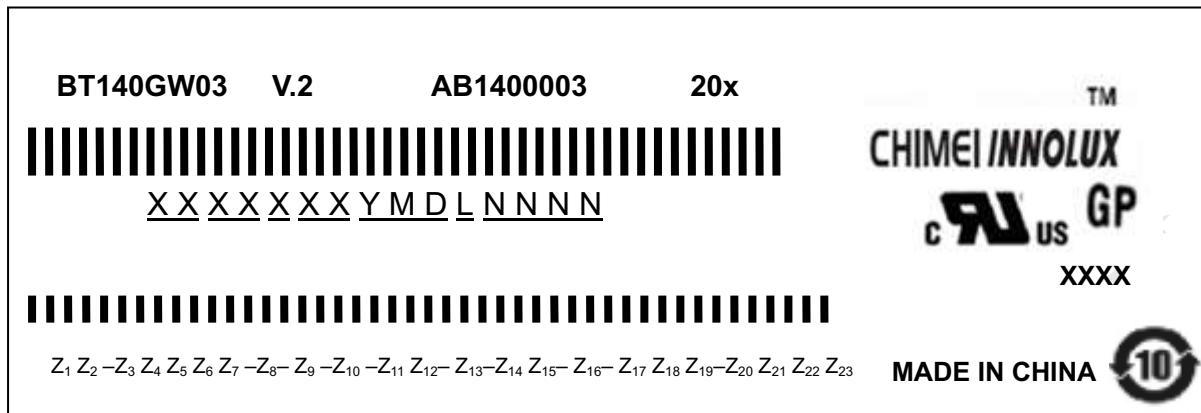
power sequence when LCD module is connecting and

- (5) Do not pull the I/F connector in or out while the module is operating.
- (6) Do not disassemble the module.
- (7) Use a soft dry cloth without chemicals for cleaning, because the surface of polarizer is very soft and easily scratched.
- (8) It is dangerous that moisture come into or contacted the LCD module, because moisture may damage LCD module when it is operating.

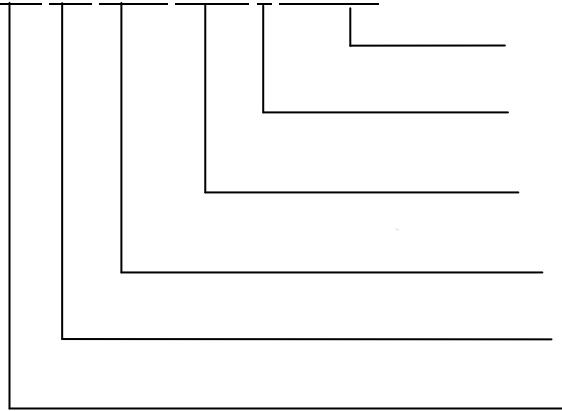
humidity may reduce the performance of module. Please store LCD module within the specified storage conditions.

## 8. Label Definition

### 8-1. Module label



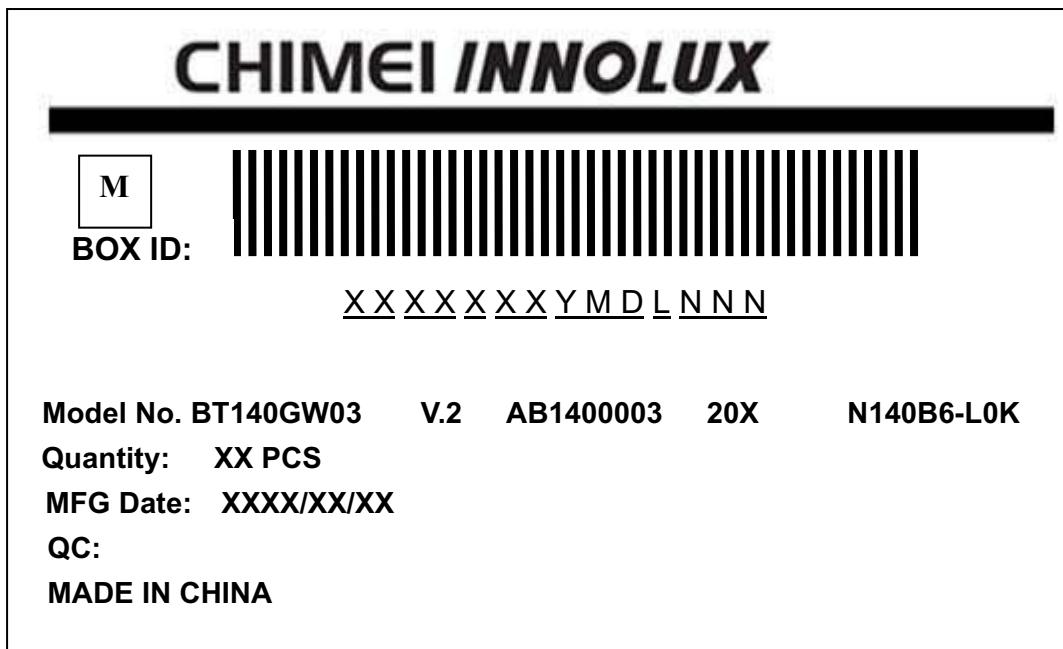
- (a) Model Number : BT140GW03 V.2
- (b) Product Number : AB140000140X
- (c) Serial ID: XX XXX XXX YMDLNNNN



- (d) Production Location: MADE IN XXXX.
- (e) UL/CB logo: "XXXX" especially stands for panel manufactured by CMI Ningbo satisfying UL/CB requirement. "LEOO" "CANO" is the CMI's UL factory code for Ningbo factory.

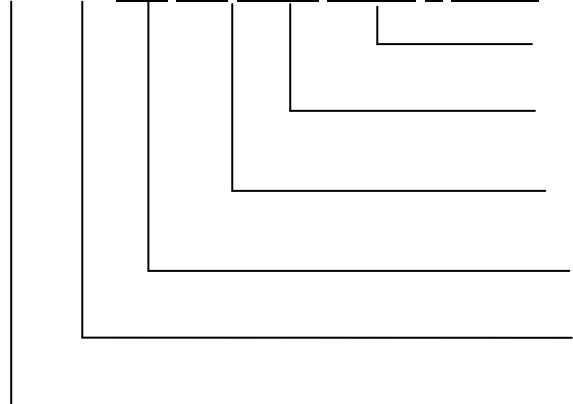
Serial ID II (INL Internal Use):

Z<sub>1</sub> Z<sub>2</sub>-Z<sub>3</sub> Z<sub>4</sub> Z<sub>5</sub> Z<sub>6</sub> Z<sub>7</sub>-Z<sub>8</sub>-Z<sub>9</sub>-Z<sub>10</sub>-Z<sub>11</sub> Z<sub>12</sub>-Z<sub>13</sub>-Z<sub>14</sub> Z<sub>15</sub>-Z<sub>16</sub>-Z<sub>17</sub> Z<sub>18</sub> Z<sub>19</sub>-Z<sub>20</sub> Z<sub>21</sub> Z<sub>22</sub> Z<sub>23</sub>

**8-2. Carton label**

(a) Model No. : BT140GW03 V.2

(b) Package Quantity: XXPCS

(c) Serial ID: XXXXXXX YMDL NNN

Serial No.

Product stroke

Year, Month, Date

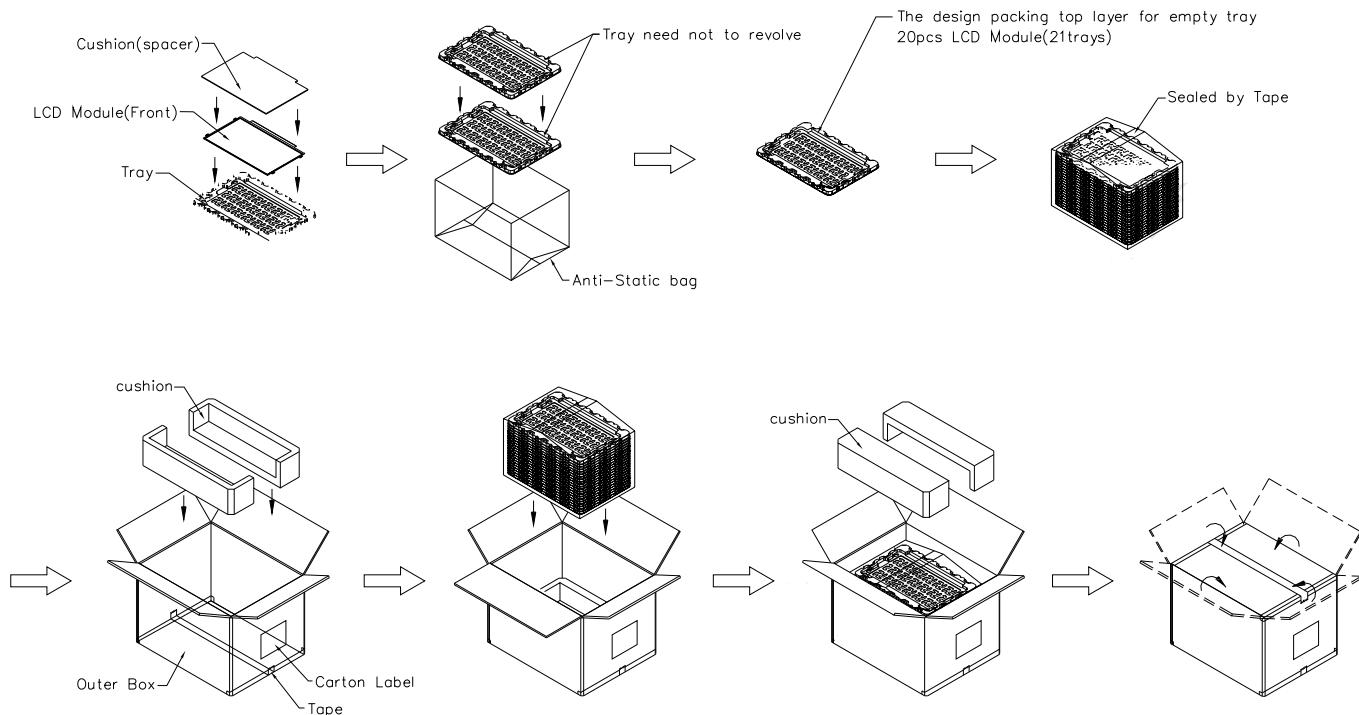
CMI Internal Use

Revision

CMI Internal Use

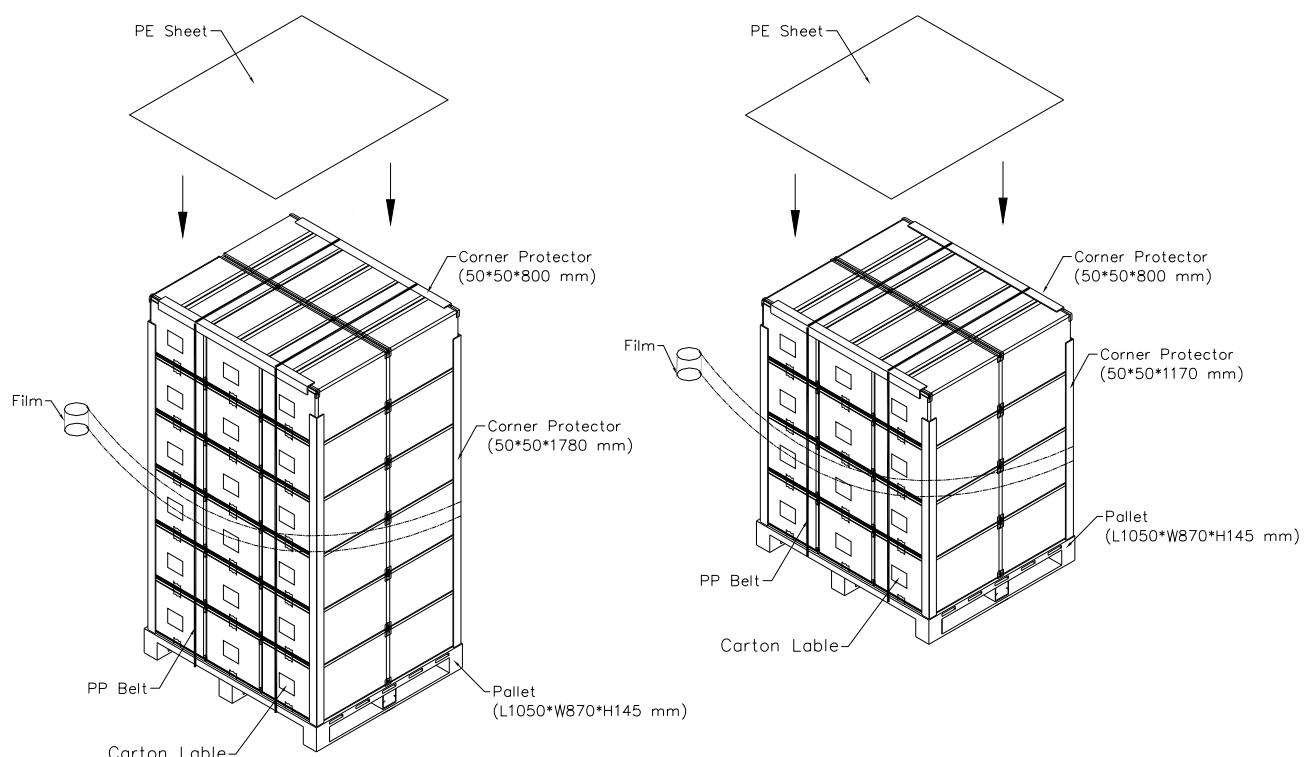
## 9. Packing Form

Box Dimensions : 435(L)\*350(W)\*320(H)  
Weight: Approx. 9.6kg(20 module .per. 1 box)



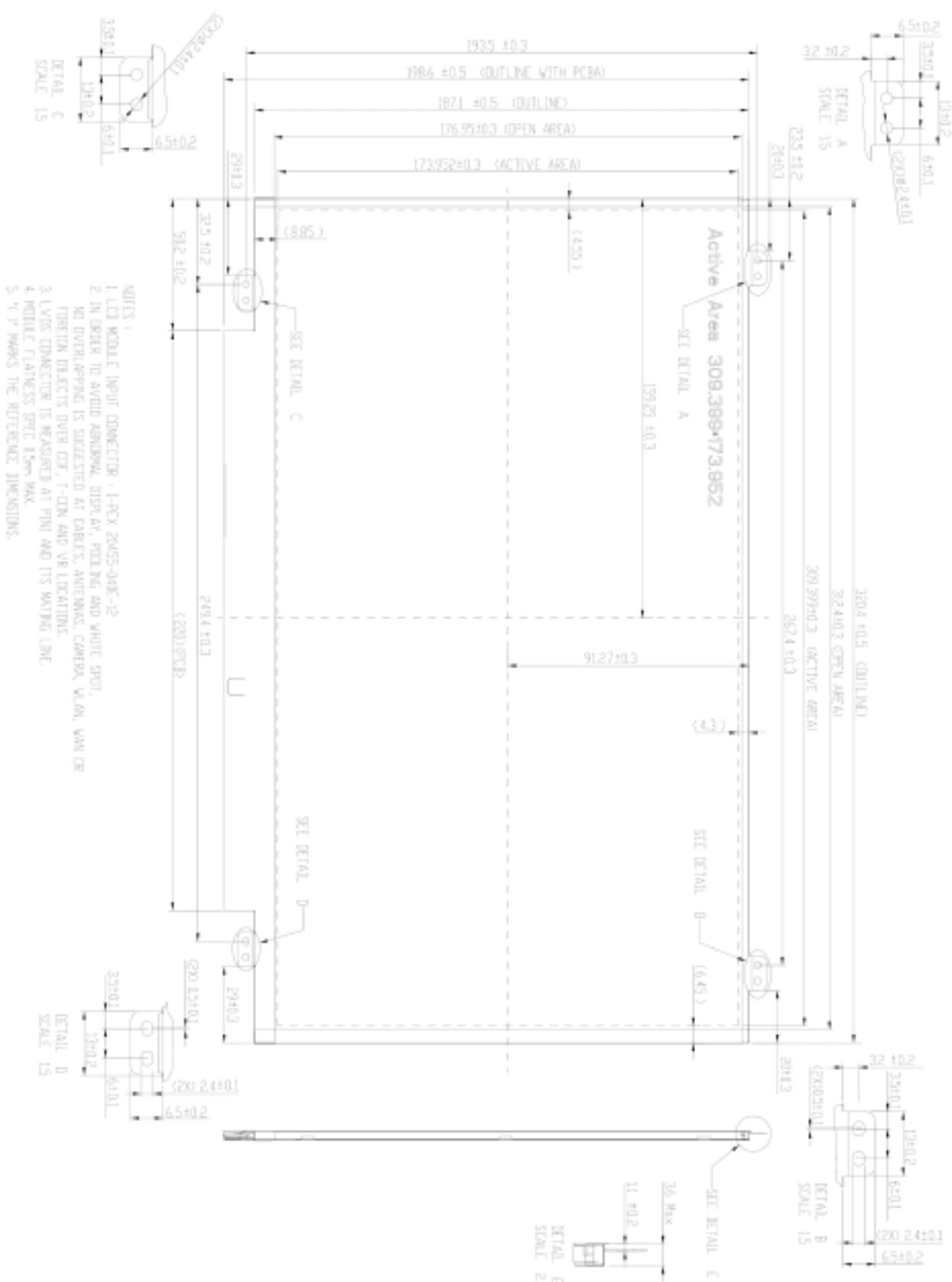
Sea &amp; Land Transportation

Air Transportation

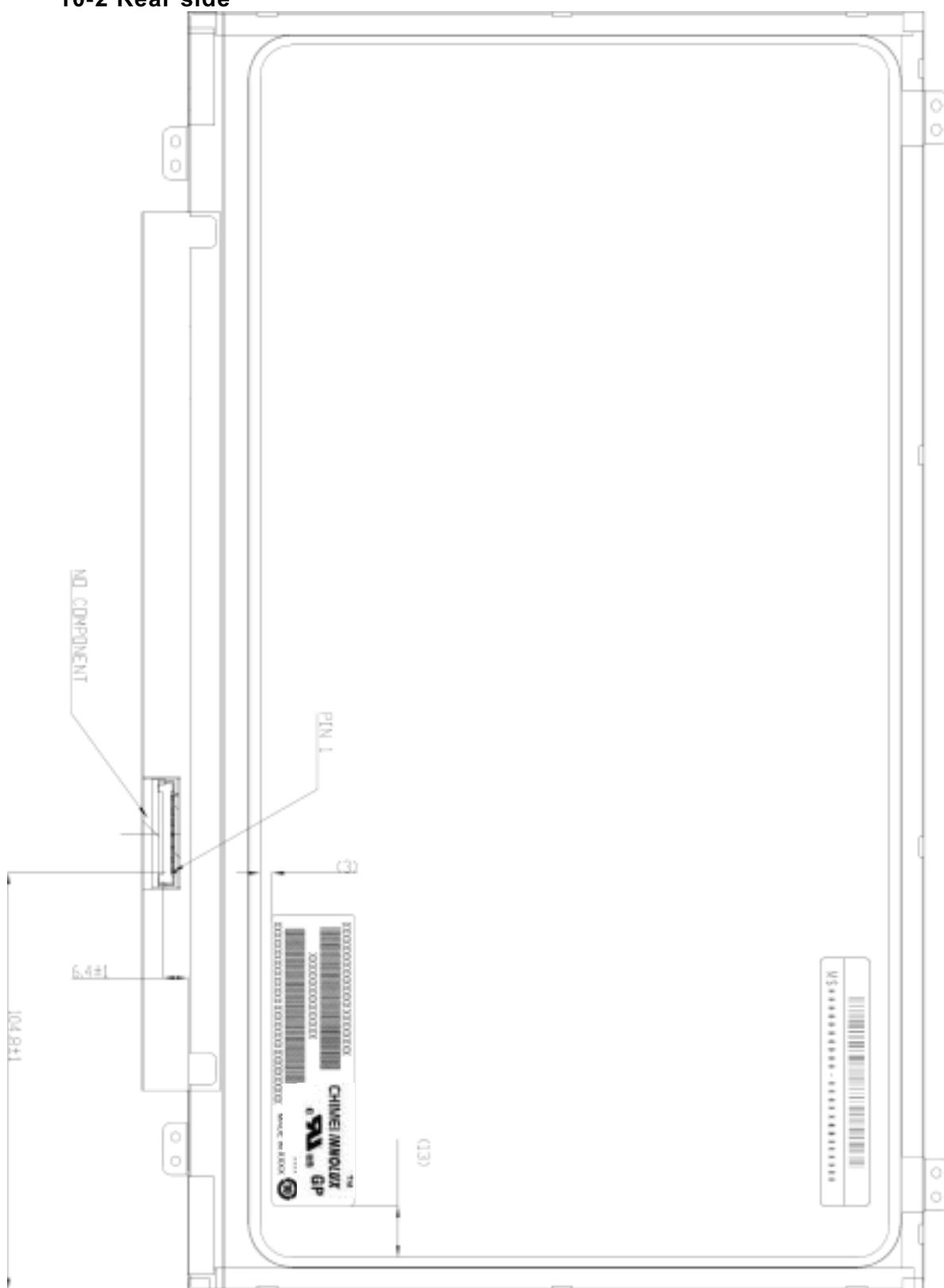


## 10. Mechanical Drawings

### 10-1. Front side



## 10-2 Rear side



## 11. System Cover Design Notice

### 11-1. Interference examination (TCON / VR / COF IC vs cable or wire)

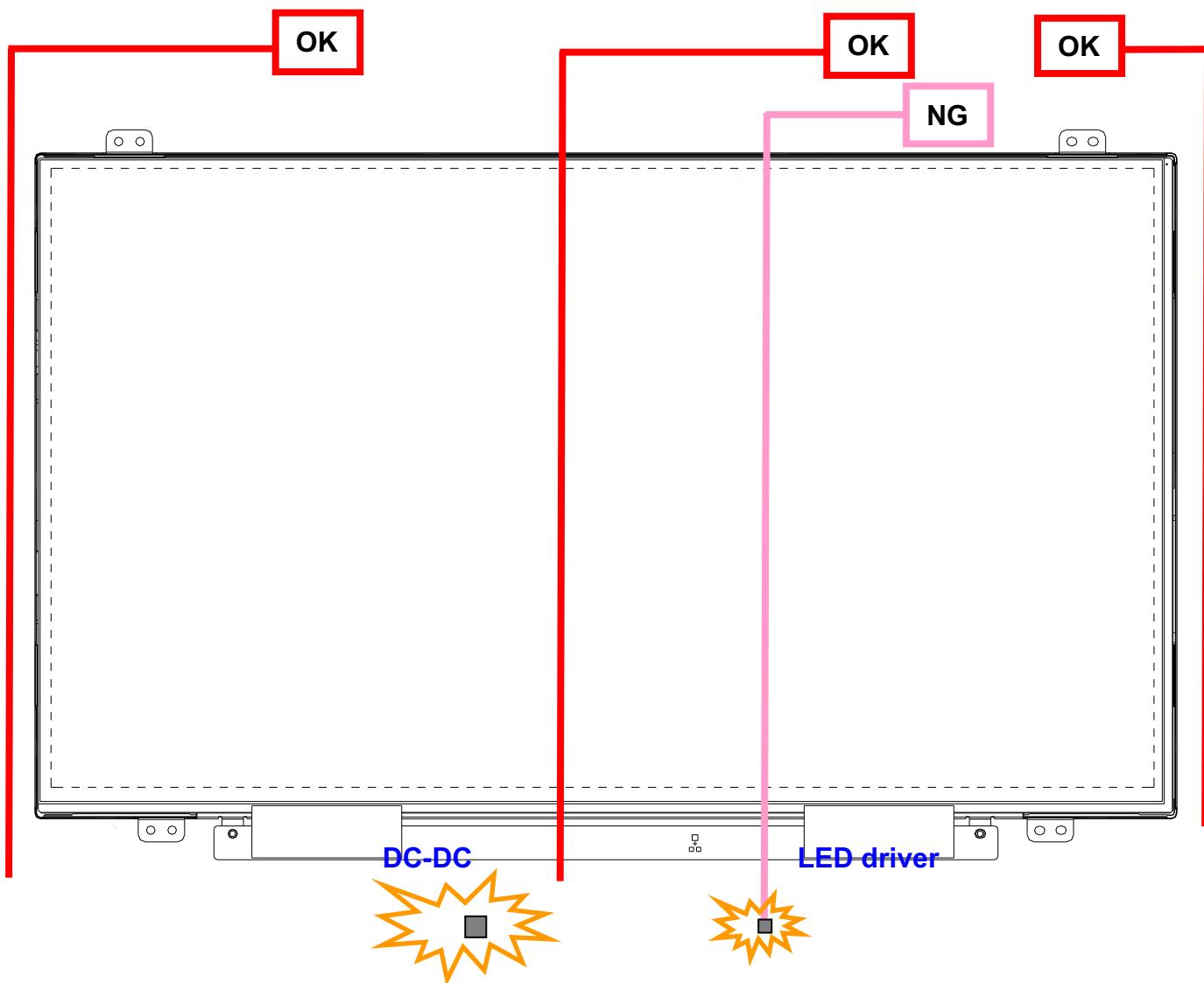
Definition:

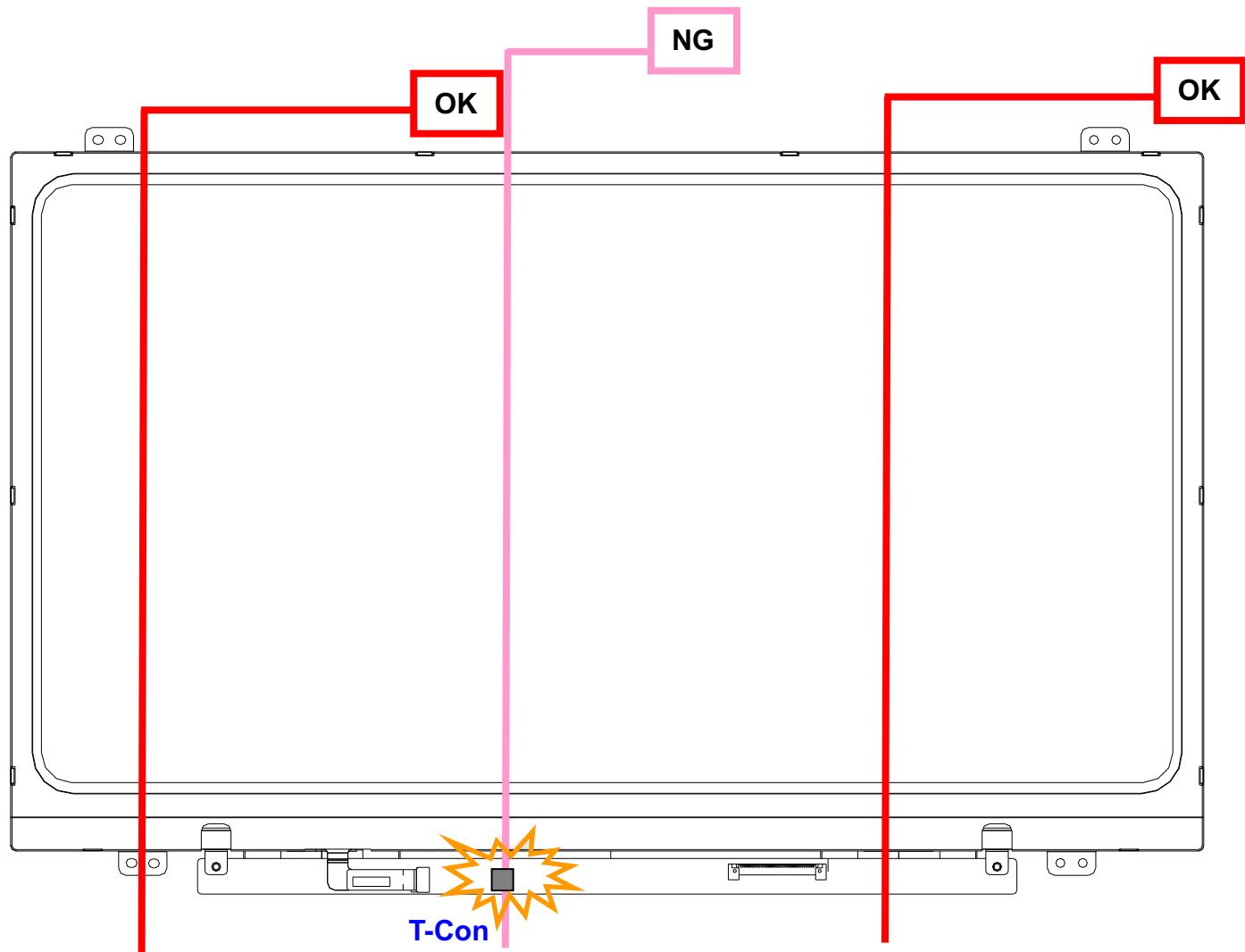
- a) Cable or wire overlap with TCON, VR, COF IC is forbidden for preventing from abnormal display after backpack test, hinge test, twist test or pogo test.
- b) Cable or wire bypass TCON, VR, COF IC is recommended.

### 11-2. System inner surface examination

Definition:

- a) Sponge tape or poron stick on PCBA or frame is forbidden for preventing from abnormal display after backpack test, hinge test, twist test or pogo test.





**Appendix: EDID Code**

	<b>Byte (Hex)</b>	<b>Field Name and Comments</b>	<b>Value (Hex)</b>	<b>Value (Bin)</b>
<i><b>Header</b></i>	<b>00</b>	Header	<b>00</b>	00000000
	<b>01</b>	Header	<b>FF</b>	11111111
	<b>02</b>	Header	<b>FF</b>	11111111
	<b>03</b>	Header	<b>FF</b>	11111111
	<b>04</b>	Header	<b>FF</b>	11111111
	<b>05</b>	Header	<b>FF</b>	11111111
	<b>06</b>	Header	<b>FF</b>	11111111
	<b>07</b>	Header	<b>00</b>	00000000
<i><b>Vendor / Product EDID Version</b></i>	<b>08</b>	EISA manufacture code ( 3 Character ID ) " INL"	<b>25</b>	00100101
	<b>09</b>	EISA manufacture code (Compressed ASC II)	<b>CC</b>	11001100
	<b>0A</b>	Panel Supplier Reserved - Product Code "23"	<b>17</b>	00010111
	<b>0B</b>	( Hex. LSB first )	<b>00</b>	00000000
	<b>0C</b>	LCD Module Serial No - Preferred but Optional ("0" If not used)	<b>00</b>	00000000
	<b>0D</b>	LCD Module Serial No - Preferred but Optional ("0" If not used)	<b>00</b>	00000000
	<b>0E</b>	LCD Module Serial No - Preferred but Optional ("0" If not used)	<b>00</b>	00000000
	<b>0F</b>	LCD Module Serial No - Preferred but Optional ("0" If not used)	<b>00</b>	00000000
	<b>10</b>	Week of Manufacture 00 weeks	<b>00</b>	00000000
	<b>11</b>	Year of Manufacture 2010 years	<b>14</b>	00010100
	<b>12</b>	EDID structure version # = 1	<b>01</b>	00000001
	<b>13</b>	EDID revision # = 3	<b>03</b>	00000011
	<b>14</b>	Video input Definition = Digital signal	<b>80</b>	10000000
<i><b>Display Parameters</b></i>	<b>15</b>	Max H image size (Rounded cm) = 31 cm	<b>1F</b>	00011111
	<b>16</b>	Max V image size (Rounded cm) = 18 cm	<b>12</b>	00010010
	<b>17</b>	Display gamma = (gamma*100)-100 = Example:(2.2*100)-100=120 = 2.2 Gamma	<b>78</b>	01111000
	<b>18</b>	Feature Support (no_DPMS, no_Active Off/Very Low Power, RGB color display, Timing BLK 1,no_GTF)	<b>0A</b>	00001010
	<b>19</b>	Red/Green Low Bits (RxRy/GxGy)	<b>87</b>	10000111
<i><b>Panel Color Coordinates</b></i>	<b>1A</b>	Blue/White Low Bits (BxBy/WxWy)	<b>F5</b>	11110101
	<b>1B</b>	Red X Rx = 0.580	<b>94</b>	10010100
	<b>1C</b>	Red Y Ry = 0.340	<b>57</b>	01010111
	<b>1D</b>	Green X Gx = 0.310	<b>4F</b>	01001111
	<b>1E</b>	Green Y Gy = 0.550	<b>8C</b>	10001100
	<b>1F</b>	Blue X Bx = 0.155	<b>27</b>	00100111
	<b>20</b>	Blue Y By = 0.155	<b>27</b>	00100111
	<b>21</b>	White X Wx = 0.313	<b>50</b>	01010000
	<b>22</b>	White Y Wy = 0.329	<b>54</b>	01010100

<b>Established Timings</b>	<b>23</b>	Established timing 1 (00h if not used)	<b>00</b>	00000000
	<b>24</b>	Established timing 2 (00h if not used)	<b>00</b>	00000000
	<b>25</b>	Manufacturer's timings (00h if not used)	<b>00</b>	00000000
	<b>26</b>	Standard timing ID1 (01h if not used)	<b>01</b>	00000001
	<b>27</b>	Standard timing ID1 (01h if not used)	<b>01</b>	00000001
	<b>28</b>	Standard timing ID2 (01h if not used)	<b>01</b>	00000001
	<b>29</b>	Standard timing ID2 (01h if not used)	<b>01</b>	00000001
	<b>2A</b>	Standard timing ID3 (01h if not used)	<b>01</b>	00000001
	<b>2B</b>	Standard timing ID3 (01h if not used)	<b>01</b>	00000001
	<b>2C</b>	Standard timing ID4 (01h if not used)	<b>01</b>	00000001
	<b>2D</b>	Standard timing ID4 (01h if not used)	<b>01</b>	00000001
	<b>2E</b>	Standard timing ID5 (01h if not used)	<b>01</b>	00000001
	<b>2F</b>	Standard timing ID5 (01h if not used)	<b>01</b>	00000001
	<b>30</b>	Standard timing ID6 (01h if not used)	<b>01</b>	00000001
	<b>31</b>	Standard timing ID6 (01h if not used)	<b>01</b>	00000001
	<b>32</b>	Standard timing ID7 (01h if not used)	<b>01</b>	00000001
	<b>33</b>	Standard timing ID7 (01h if not used)	<b>01</b>	00000001
	<b>34</b>	Standard timing ID8 (01h if not used)	<b>01</b>	00000001
	<b>35</b>	Standard timing ID8 (01h if not used)	<b>01</b>	00000001
<b>Standard Timing ID</b>	<b>36</b>	Pixel Clock/10,000 (LSB) 71 MHz @ 60Hz	<b>BC</b>	10111100
	<b>37</b>	Pixel Clock/10,000 (MSB)	<b>1B</b>	00011011
	<b>38</b>	Horizontal Active (lower 8 bits) 1366 Pixels	<b>56</b>	01010110
	<b>39</b>	Horizontal Blanking(Thp-HA) (lower 8 bits) 132 Pixels	<b>84</b>	10000100
	<b>3A</b>	Horizontal Active / Horizontal Blanking(Thp-HA) (upper 4:4bits)	<b>50</b>	01010000
	<b>3B</b>	Vertical Avtive 768 Lines	<b>00</b>	00000000
	<b>3C</b>	Vertical Blanking (Tvp-HA) (DE Blanking typ.for DE only panels) 22 Lines	<b>16</b>	00010110
	<b>3D</b>	Vertical Active : Vertical Blanking (Tvp-HA) (upper 4:4bits)	<b>30</b>	00110000
	<b>3E</b>	Horizontal Sync. Offset (Thfp) 48 Pixels	<b>30</b>	00110000
	<b>3F</b>	Horizontal Sync Pulse Width (HSPW) 32 Pixels	<b>20</b>	00100000
	<b>40</b>	Vertical Sync Offset(Tvfp) : Sync Width (VSPW) 1 Lines : 4 Lines	<b>14</b>	00010100
	<b>41</b>	Horizontal Vertical Sync Offset/Width (upper 2bits)	<b>00</b>	00000000
	<b>42</b>	Horizontal Image Size (mm) 309 mm	<b>35</b>	00110101
	<b>43</b>	Vertical Image Size (mm) 174 mm	<b>AE</b>	10101110
	<b>44</b>	Horizontal Image Size / Vertical Image Size	<b>10</b>	00010000
	<b>45</b>	Horizontal Border = 0 (Zero for Notebook LCD)	<b>00</b>	00000000
	<b>46</b>	Vertical Border = 0 (Zero for Notebook LCD)	<b>00</b>	00000000
	<b>47</b>	Non-Interlace, Normal display, no stereo, Digital Separate ( Vsync_NEG, Hsync_NEG ), DE only note : LSB is set to '1' if panel is DE-timing only. H/V can be ignored.	<b>18</b>	00011000

<i>Timing Descriptor #2</i>	<b>48</b>	Flag	<b>00</b>	00000000
	<b>49</b>	Flag	<b>00</b>	00000000
	<b>4A</b>	Flag	<b>00</b>	00000000
	<b>4B</b>	Data Type Tag (Descriptor Defined by manufacturer )	<b>00</b>	00000000
	<b>4C</b>	Flag	<b>00</b>	00000000
	<b>4D</b>	Descriptor Defined by manufacturer	<b>00</b>	00100000
	<b>4E</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>4F</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>50</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>51</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>52</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>53</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>54</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>55</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>56</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>57</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>58</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
	<b>59</b>	Descriptor Defined by manufacturer	<b>20</b>	00100000
<i>Timing Descriptor #3</i>	<b>5A</b>	Flag	<b>00</b>	00000000
	<b>5B</b>	Flag	<b>00</b>	00000000
	<b>5C</b>	Flag	<b>00</b>	00000000
	<b>5D</b>	Data Type Tag ( ASCII String )	<b>FE</b>	11111110
	<b>5E</b>	Flag	<b>00</b>	00000000
	<b>5F</b>	ASCII String "I"	<b>49</b>	01001001
	<b>60</b>	ASCII String "N"	<b>4E</b>	01001110
	<b>61</b>	ASCII String "L"	<b>4C</b>	01001100
	<b>62</b>	ASCII String	<b>0A</b>	00001010
	<b>63</b>	ASCII String	<b>20</b>	00100000
	<b>64</b>	ASCII String	<b>20</b>	00100000
	<b>65</b>	ASCII String	<b>20</b>	00100000
	<b>66</b>	ASCII String	<b>20</b>	00100000
	<b>67</b>	ASCII String	<b>20</b>	00100000
	<b>68</b>	ASCII String	<b>20</b>	00100000
	<b>69</b>	Manufacturer P/N(If<13 char--> 0Ah, then terminate with ASC II code 0Ah,set remaining char = 20h)	<b>20</b>	00100000
	<b>6A</b>	Manufacturer P/N(If<13 char--> 0Ah, then terminate with ASC II code 0Ah,set remaining char = 20h)	<b>20</b>	00100000
	<b>6B</b>	Manufacturer P/N(If<13 char--> 0Ah, then terminate with ASC II code 0Ah,set remaining char = 20h)	<b>20</b>	00100000

<i>Timing Descriptor #4</i>	<b>6C</b>	Flag	<b>00</b>	00000000
	<b>6D</b>	Flag	<b>00</b>	00000000
	<b>6E</b>	Flag	<b>00</b>	00000000
	<b>6F</b>	Data Type Tag (ASCII String )	<b>FE</b>	11111100
	<b>70</b>	Flag	<b>00</b>	00000000
	<b>71</b>	Monitor Name, stored as ASCII	<b>"B"</b>	<b>42</b> 01000010
	<b>72</b>	Monitor Name, stored as ASCII	<b>"T"</b>	<b>54</b> 01010100
	<b>73</b>	Monitor Name, stored as ASCII	<b>"1"</b>	<b>31</b> 00110001
	<b>74</b>	Monitor Name, stored as ASCII	<b>"4"</b>	<b>34</b> 00110100
	<b>75</b>	Monitor Name, stored as ASCII	<b>"0"</b>	<b>30</b> 00110000
	<b>76</b>	Monitor Name, stored as ASCII	<b>"G"</b>	<b>47</b> 01000111
	<b>77</b>	Monitor Name, stored as ASCII	<b>"W"</b>	<b>57</b> 01010111
	<b>78</b>	Monitor Name, stored as ASCII	<b>"0"</b>	<b>30</b> 00110000
	<b>79</b>	Monitor Name, stored as ASCII	<b>"3"</b>	<b>33</b> 00110011
	<b>7A</b>	Monitor Name, stored as ASCII	<b>"V"</b>	<b>56</b> 01010110
	<b>7B</b>	Monitor Name, stored as ASCII	<b>"2"</b>	<b>32</b> 00110100
<i>Checksum</i>	<b>7C</b>	Monitor Name, stored as ASCII	<b>0A</b>	00001010
	<b>7D</b>	Monitor Name, stored as ASCII	<b>20</b>	00100000
	<b>7E</b>	Extension flag (# of optional 128 panel ID extension block to follow, Typ = 0)	<b>00</b>	00000000
	<b>7F</b>	Check Sum (The 1-byte sum of all 128 bytes in this panel ID block shall = 0)	<b>32</b>	00110010