(V) Preliminary Specifications
( ) Final Specifications

Module	**14.0”(13.97”) FHD 16:9 Color TFT-LCD with LED Backlight design**
Model Name	**B140HTB01.0 (H/W:0A)**
Note ( )	***oTP Display***

Customer	**Date**	**Approved by**	**Date**
		Jonken Fan	11/28/2014
Checked & Approved by	**Date**	**Prepared by**	**Date**
		Hung Wei Chen	11/28/2014
Note: This Specification is subject to change without notice.		**NBBU Marketing Division AU Optronics corporation**	

Contents

Record of Revision

Version and Date	Page	Old description	New Description	Remark
0.0 2014/04/14	All	First Edition for Customer		
0.1 2014/07/31	6,7,29 19 22	Old Oultine Dimension & Weight VDD Max=3.6V Pin 34,35 VTSP=3.6V	New Outline Dimension & Weight VDD Min=4.5V Typ=5V Max=5.5V Pin34,35 VTSP=5V	
0.2 2014/10/21	18	PWM Duty Ratio avoid range not defined	Add avoid range	
0.3 2014/11/28	30	No Label & EDID Information	Add Label & EDID Information	

1. Handling Precautions

1) Since front polarizer is easily damaged, pay attention not to scratch it.
2) Be sure to turn off power supply when inserting or disconnecting from input connector.
3) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.
4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
6) Since CMOS LSI is used in this module, take care of static electricity and insure human earth when handling.
7) Do not open nor modify the Module Assembly.
8) Do not press the reflector sheet at the back of the module to any directions.
9) At the insertion or removal of the Signal Interface Connector, be sure not to rotate nor tilt the Interface Connector of the TFT Module.
10) After installation of the TFT Module into an enclosure (Notebook PC Bezel, for example), do not twist nor bend the TFT Module even momentary. At designing the enclosure, it should be taken into consideration that no bending/twisting forces are applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
11) Small amount of materials having no flammability grade is used in the LCD module. The LCD module should be supplied by power complied with requirements of Limited Power Source (IEC60950 or UL1950), or be applied exemption.
12) Disconnecting power supply before handling LCD modules, it can prevent electric shock, DO NOT TOUCH the electrode parts, cables, connectors and LED circuit part of TFT module that a LED light bar build in as a light source of back light unit. It can prevent electrostatic breakdown.

2. General Description

B140HTB01.0 is a Color Active Matrix Liquid Crystal Display composed of a TFT LCD panel, a driver circuit, and LED backlight system. The screen format is intended to support the 16:9 FHD, 1920(H) x1080(V) screen and 262k colors (RGB 6-bits data driver) with LED backlight driving circuit. All input signals are eDP (Embedded DisplayPort) interface compatible.

B140HTB01.0 is designed for a display unit of notebook style personal computer and industrial machine.

2.1 General Specification

The following items are characteristics summary on the table at 25 ℃ condition:

Items	Unit	Specifications			
Screen Diagonal	[mm]	354.95			
Active Area	[mm]	309.14 X 173.89			
Pixels H x V		1920 x 3(RGB) x 1080			
Pixel Pitch	[mm]	0.161 x 0.161			
Pixel Format		R.G.B. Vertical Stripe			
Display Mode		A Normally White			
White Luminance (ILED=23mA) (Note: ILED is LED current)	[cd/m^2]	200 typ. (5 points average) 170 min. (5 points average)			
Luminance Uniformity		1.25 max. (5 points)			
Contrast Ratio		500 typ			
Response Time	[ms]	8 typ / 16 Max			
Nominal Input Voltage VDD	[Volt]	+3.3 typ.			
Power Consumption	[Watt]	4.2 W (include Logic & BLU @ Mosaic Pattern)			
Weight	[Grams]	270 g max (Panel Only) Depends on cover lens (Total Solution)[1]			
Physical Size (without cover lens)	[mm]		Min.	Typ.	Max.
		Length	319.9	320.4	320.9
		Width	204.6	205.1	205.6
		Thickness	-	-	3.0 (Panel Side) 3.4(PCBA Side)[2]

[1] Total solution max weight includes cover lens which is custom-made design.

[2] PCBA Side also include touch FPCa

Total solution [Note: On-Cell Touch module]	[mm]		Min.	Typ.	Max.
		Length	330.2	330.4	330.6
		Width	214.05	214.25	214.45
		Thickness	-	-	4.2
Electrical Interface		1 Lane eDP 1.2			
Glass Thickness	[mm]	0.4			
Surface Treatment		Glare, Hardness 3H			
Support Color		262K colors (RGB 6-bit)			
Temperature Range Operating Storage (Non-Operating)	[°C] [°C]	-20 to +60 -20 to +60			
RoHS Compliance		RoHS Compliance			

2.2 General Touch Specification

Item	Spec	Unit
Type of Touch Sensor	Projective Capacitive (on cell)	
Interface	USB & I2C	
Report Rate	Follow win8 – 100Hz	Hz
Multi-Touch Point	10 points	
Input method	Finger	
Touch panel sensor IC	Raydium (32280)	
Channel	41 x 72	
Distance between 2 point	Follow win8 – 12	mm
TP F/W version	TBD	
BM ink	TBD	
TP Power Consumption	Active Mode: TBD	mW
	Idle Mode: TBD	mW
	Sleep Mode:TBD	mW

2.3 Cover Lens Specification

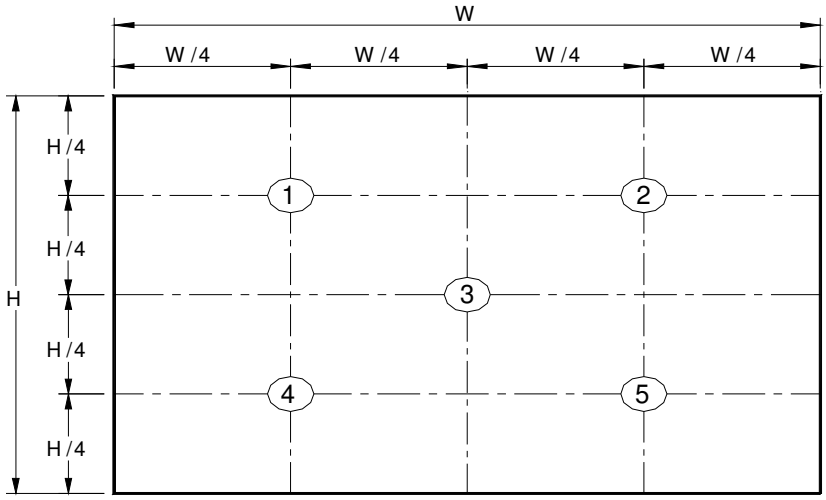
Item	Spec	Unit
Outline Dimension	330.4 X 214.25 typ	mm
Total Thickness	0.7 typ	mm
Total Weight	143 Max.	g
Cover Lens View Area	309.86 X 174.61 typ	mm
Surface hardness	7	H

2.4 Optical Characteristics

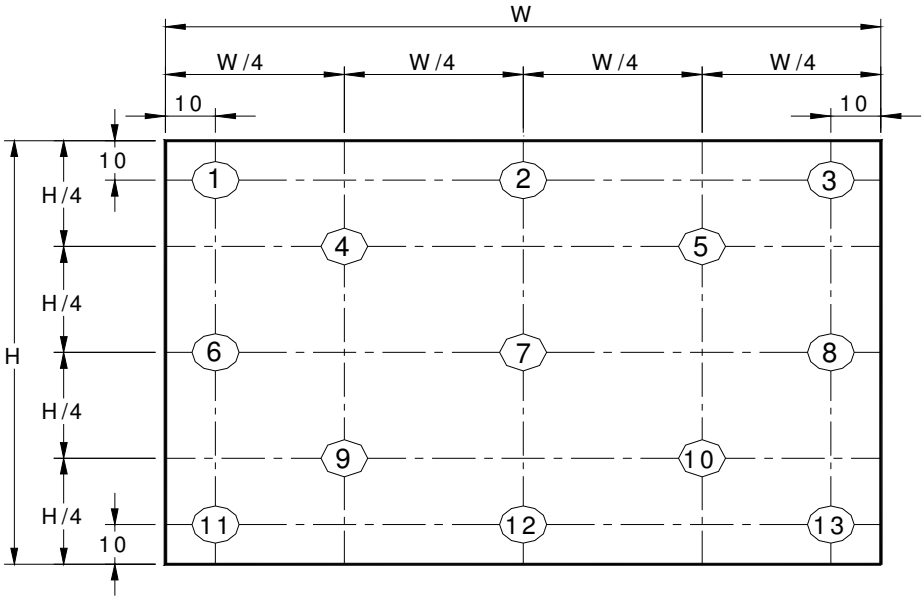
The optical characteristics are measured under stable conditions at 25℃ (Room Temperature) :

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit	Note
White Luminance ILED=23mA (Base Panel Only)			5 points average	170	200	-	cd/m2	1, 4, 5.
Viewing Angle		θR θL	Horizontal (Right) CR = 10 (Left)	40 40	45 45	- -	degree	4, 9
		ψH ψL	Vertical (Upper) CR = 10 (Lower)	10 30	15 35	- -		
Luminance Uniformity		δ5P	5 Points	-	-	1.25		1, 3, 4
Luminance Uniformity		δ13P	13 Points	-	-	1.6		2, 3, 4
Contrast Ratio		CR		400	500	-		4, 6
Cross talk		%				4		4, 7
Response Time		TRT	Rising + Falling	-	8	16		
Color / Chromaticity Coodinates	**Red**	Rx	CIE 1931	TBD	TBD	TBD	-	4
		Ry		TBD	TBD	TBD		
	Green	Gx		TBD	TBD	TBD		
		Gy		TBD	TBD	TBD		
	Blue	Bx		TBD	TBD	TBD		
		By		TBD	TBD	TBD		
	White	Wx		TBD	TBD	TBD		
		Wy		TBD	TBD	TBD		
NTSC		%		-	45	-		

Note 1: 5 points position (Ref: Active area)



Note 2: 13 points position (Ref: Active area)



Note 3: The luminance uniformity of 5 or13 points is defined by dividing the maximum luminance values by the minimum test point luminance

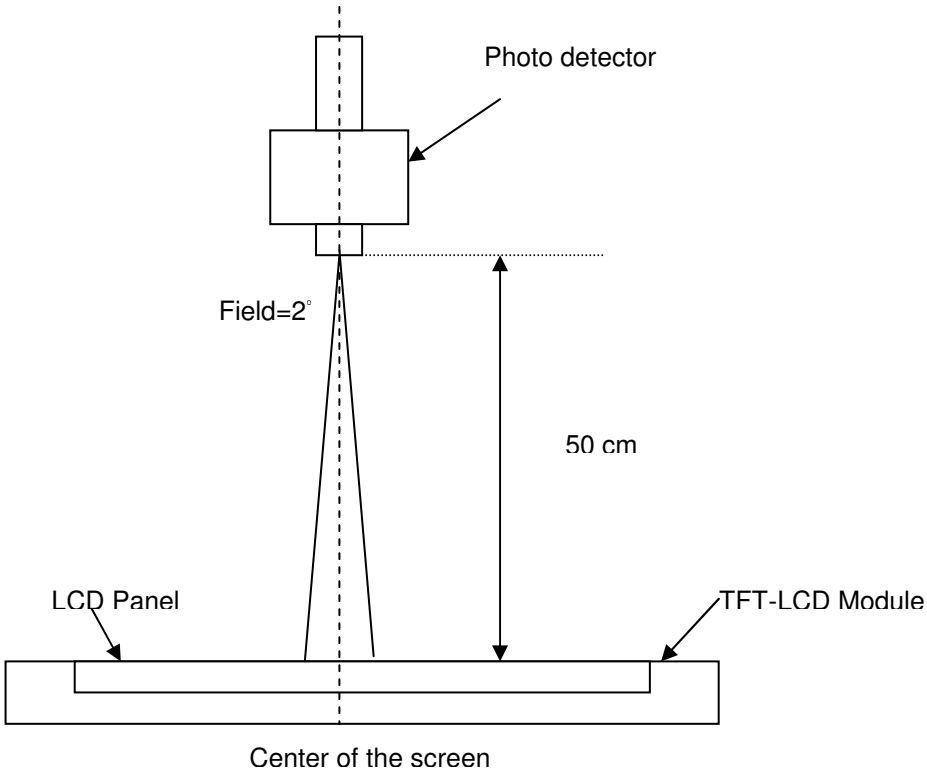
$$\delta_{W5} = \frac{\text{Maximum Brightness of five points}}{\text{Minimum Brightness of five points}}$$

$$\delta_{W13} = \frac{\text{Maximum Brightness of thirteen points}}{\text{Minimum Brightness of thirteen points}}$$

Note 4: Measurement method

The LCD module should be stabilized at given temperature for 30 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting

Backlight for 30 minutes in a stable, windless and dark room, and it should be measured in the center of screen.



Note 5： Definition of Average Luminance of White (Y_L):

Measure the luminance of gray level 63 at 5 points，Y_L = [L (1)+ L (2)+ L (3)+ L (4)+ L (5)] / 5

L (x) is corresponding to the luminance of the point X at Figure in Note (1).

Note 6： Definition of contrast ratio:

Contrast ratio is calculated with the following formula.

$$\text{Contrast ratio (CR)} = \frac{\text{Brightness on the “White” state}}{\text{Brightness on the “Black” state}}$$

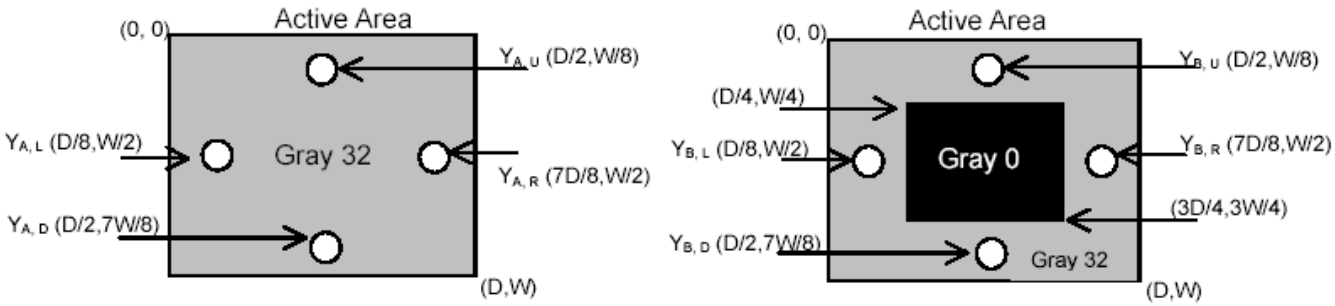
Note 7： Definition of Cross Talk (CT)

$CT = | Y_B - Y_A | / Y_A \times 100$ (%)

Where

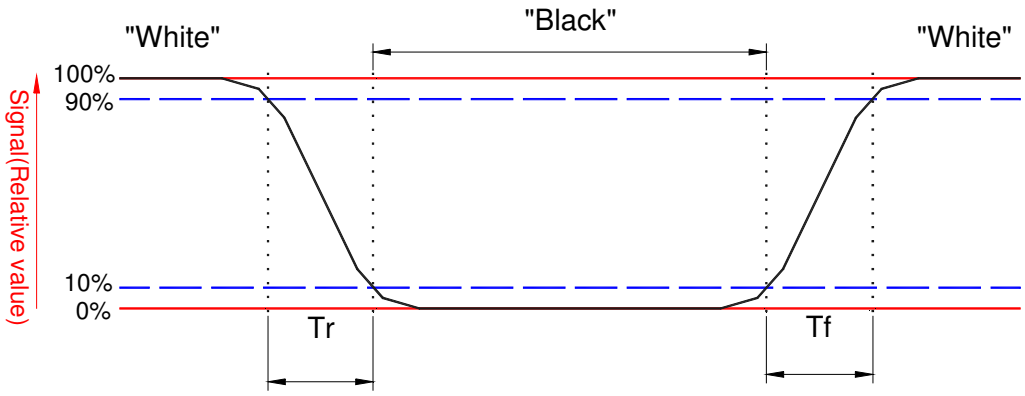
Y_A = Luminance of measured location without gray level 0 pattern (cd/m2)

Y_B = Luminance of measured location with gray level 0 pattern (cd/m2)



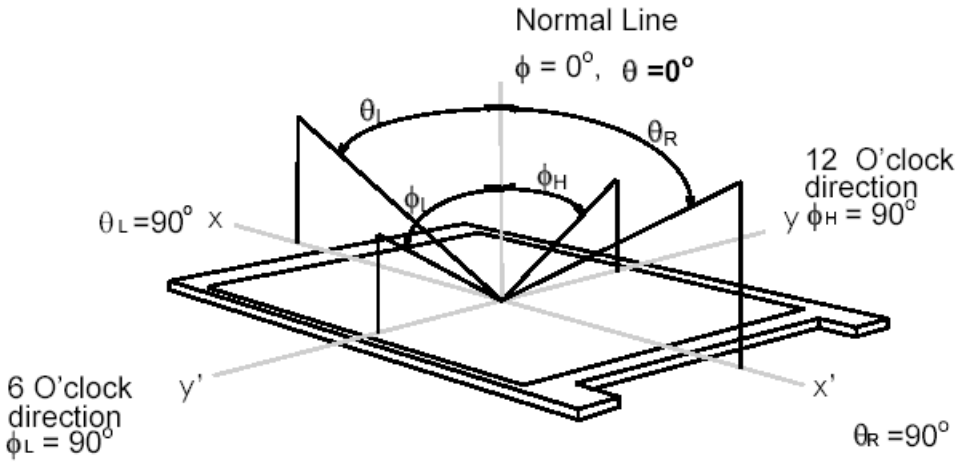
Note 8: Definition of response time:

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

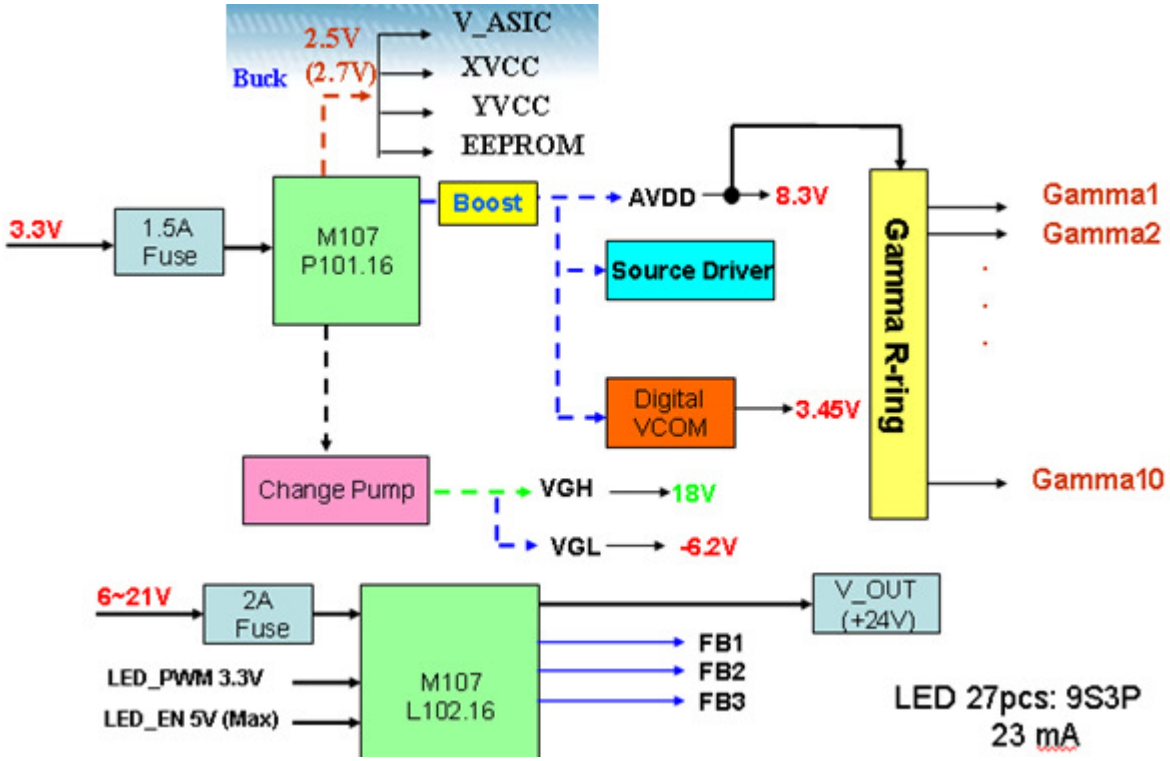


Note 9. Definition of viewing angle

Viewing angle is the measurement of contrast ratio ≧10, at the screen center, over a 180° horizontal and 180° vertical range (off-normal viewing angles). The 180° viewing angle range is broken down as follows; 90° (θ) horizontal left and right and 90° (Φ) vertical, high (up) and low (down). The measurement direction is typically perpendicular to the display surface with the screen rotated about its center to develop the desired measurement viewing angle.



3. Functional Block Diagram



4. Absolute Maximum Ratings

An absolute maximum rating of the module is as following:

4.1 Absolute Ratings of TFT LCD Module

Item	Symbol	Min	Max	Unit	Conditions
Logic/LCD Drive	Vin	-0.3	+4.0	[Volt]	Note 1,2

4.2 Absolute Ratings of Touch Sensor

Item	Symbol	Min	Max	Unit	Conditions
Touch Sensor Power Voltage	Vin	3.15	3.6	[Volt]	

4.3 Absolute Ratings of Environment

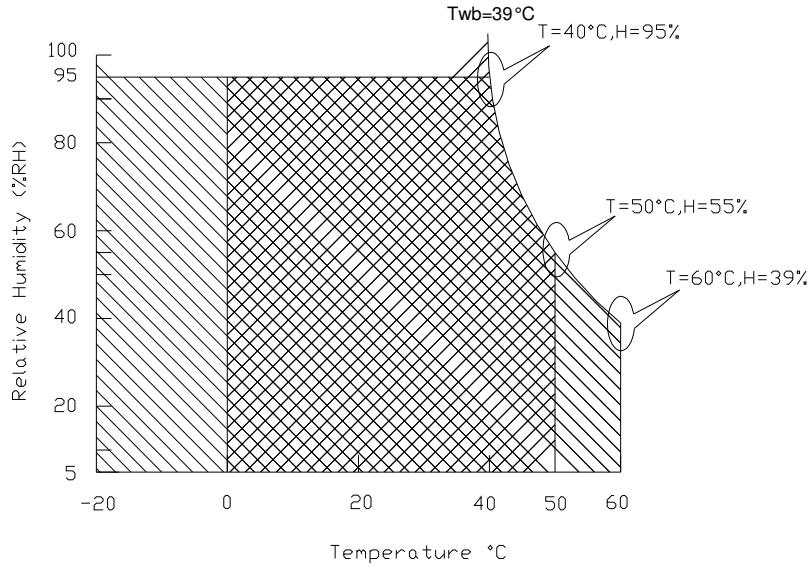
Item	Symbol	Min	Max	Unit	Conditions
Operating	TOP	0	+50	[°C]	Note 4
Operation Humidity	HOP	5	95	[%RH]	Note 4
Storage Temperature	TST	-20	+60	[°C]	Note 4
Storage Humidity	HST	5	95	[%RH]	Note 4

Note 1: At Ta (25℃)

Note 2: Permanent damage to the device may occur if exceed maximum values

Note 3: LED specification refer to section 5.2

Note 4: For quality performance, please refer to AUO IIS (Incoming Inspection Standard).



5. Electrical Characteristics

5.1 TFT LCD Module

5.1.1 Power Specification

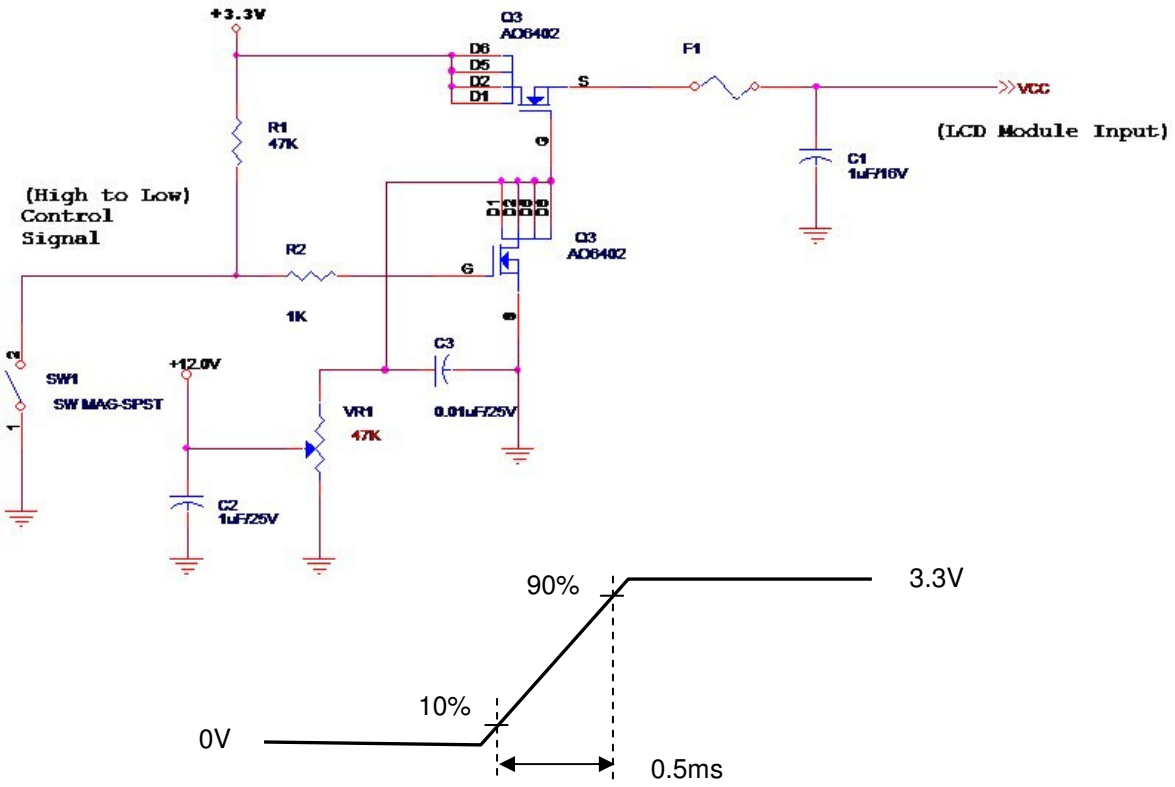
Input power specifications are as follows:

The power specification are measured under 25℃ and frame frenquency under 60Hz

Symble	Parameter	Min	Typ	Max	Units	Note
VDD	Logic/LCD Drive Voltage	3.0	3.3	3.6	[Volt]	
PDD	VDD Power	-	-	1	[Watt]	Note 1
IDD	IDD Current	-	-	TBD	[mA]	Note 1
IRush	Inrush Current	-	-	TBD	[mA]	Note 2
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	100	[mV] p-p	

Note 1 : Maximum Measurement Condition : White Pattern at 3.3V driving voltage. ($P_{max}=V_{3.3} \times I_{white}$)

Note 2 : Measure Condition

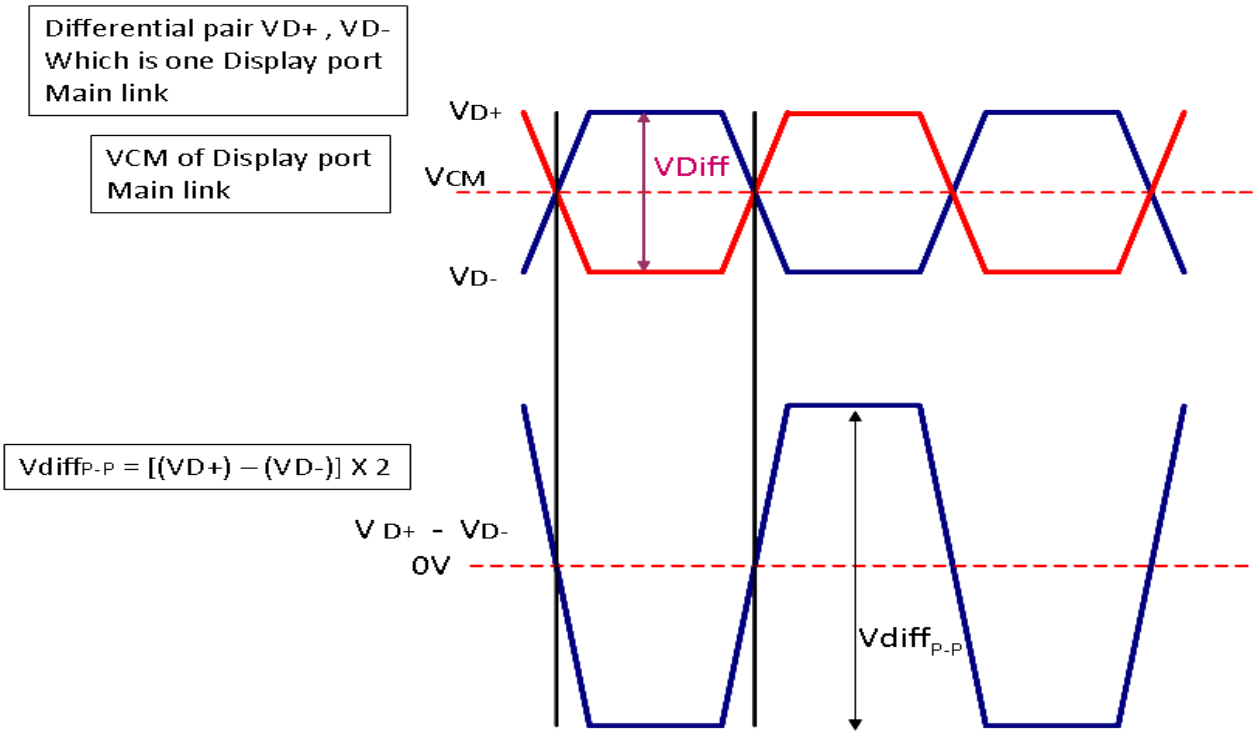


Vin rising time

5.1.2 Signal Electrical Characteristics

Signal electrical characteristics are as follows:

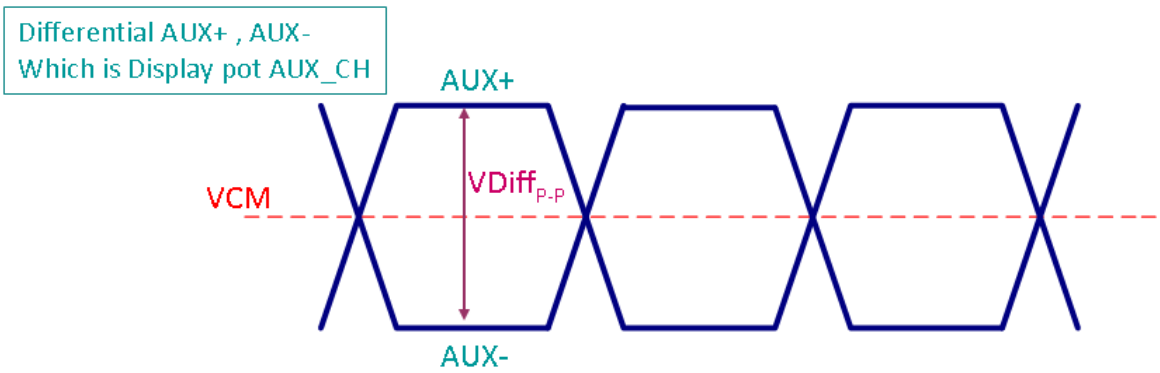
Display Port main link signal:



Display port main link					
		Min	Typ	Max	unit
VCM	RX input DC Common Mode Voltage	0	-	2	V
$VDiff_{P-P}$	Peak-to-peak Voltage at a receiving Device	120	-		mV

Follow as VESA display port standard V1.1a

Display Port AUX_CH signal:



Display port AUX_CH					
		Min	Typ	Max	unit
VCM	AUX DC Common Mode Voltage	0	-	2	V
$VDiff_{P-P}$	AUX Peak-to-peak Voltage at a receiving Device	0.32	-	1.36	V

Follow as VESA display port standard V1.1a.

Display Port VHPD signal:

Display port VHPD					
		Min	Typ	Max	unit
VHPD	HPD Voltage	-	-	3.6	V

Follow as VESA display port standard V1.1a.

5.2 Backlight Unit

5.2.1 LED characteristics

Parameter	Symbol	Min	Typ	Max	Units	Condition
Backlight Power Consumption	PLED	-	-	3	[Watt]	**(Ta=25℃), Note 1**
LED Life-Time	N/A	15,000	-	-	Hour	**(Ta=25℃), Note 2** **I_F=20 mA**

Note 1: Calculator value for reference P_{LED} = V_F (Normal Distribution) * I_F (Normal Distribution) / Efficiency

Note 2: The LED life-time define as the estimated time to 50% degradation of initial luminous.

5.2.2 Backlight input signal characteristics

Parameter	Symbol	Min	Typ	Max	Units	Remark
LED Power Supply	VLED (Note 1)	7.0 (Note 2)	12.0	21.0	[Volt]	Define as Connector Interface (Ta=25℃)
LED Enable Input High Level	VLED_EN	2.5	-	5.5	[Volt]	
LED Enable Input Low Level		-	-	0.5	[Volt]	
PWM Logic Input High Level	VPWM_EN	2.5	-	5.5	[Volt]	
PWM Logic Input Low Level		-	-	0.5	[Volt]	
PWM Input Frequency	FPWM	200	1K	2K	Hz	
PWM Duty Ratio	Duty	5	(Note 3)	100	%	

Note 1 : Recommend system pull up/down resistor no bigger than 10kohm

Note 2 : measured in panel VIN

Note 3 : The LED driver IC is only for TI (L102.16), the PWM duty ratio should be avoid between 24.1%~25.9%

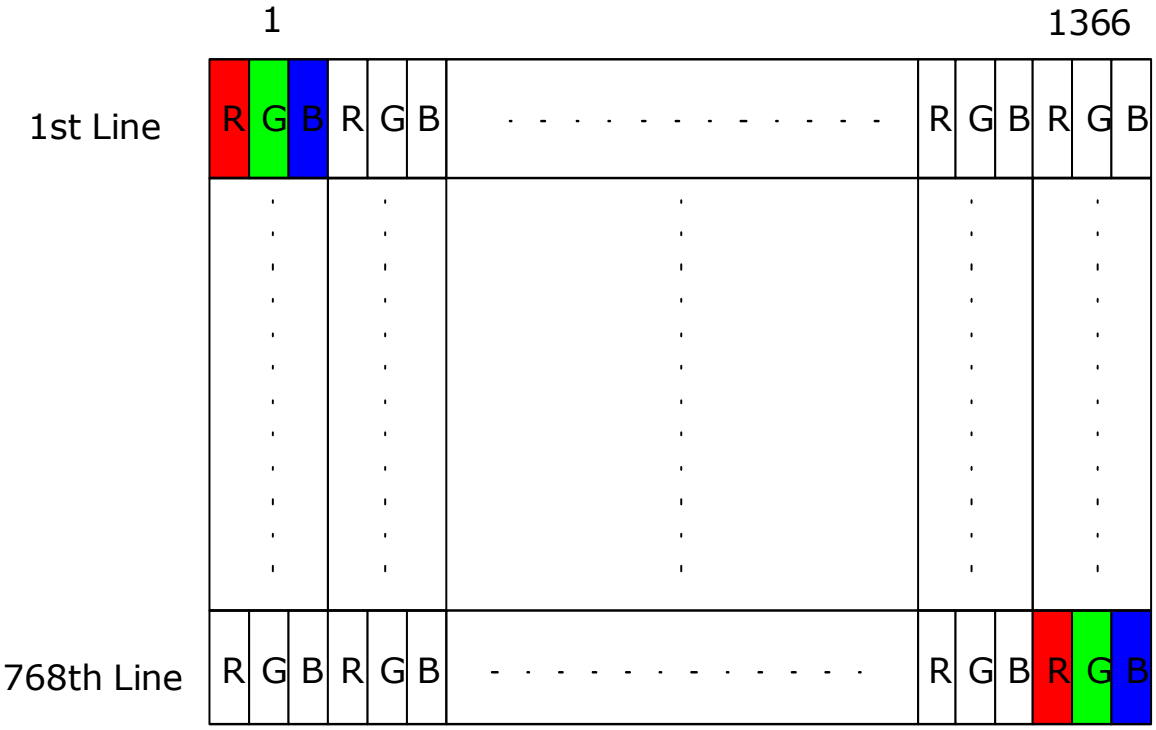
5.3 Touch Sensor Power Consumption

Items	Symbol	Specifications			Unit	Notes
		Min.	Typ.	Max.		
Touch Panel Power Supply	VDD	4.5	5	5.5	V	

6. Signal Interface Characteristic

6.1 Pixel Format Image

Following figure shows the relationship of the input signals and LCD pixel format.



6.3 Integration Interface Requirement

6.3.1 Connector Description

Physical interface is described as for the connector on module.

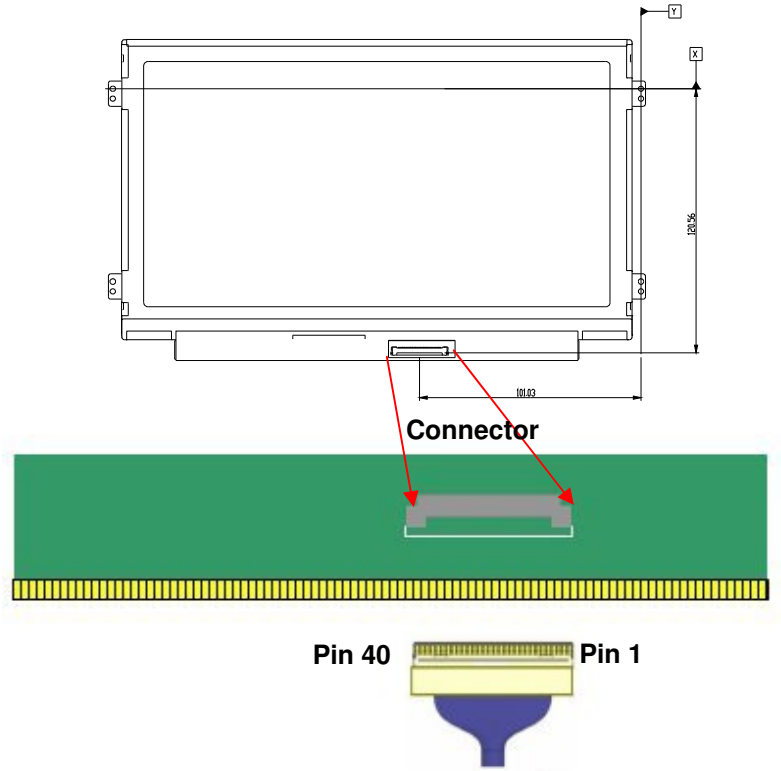
These connectors are capable of accommodating the following signals and will be following components.

Connector Name / Designation	For Signal Connector
Manufacturer	IPEX or Compatible
Type / Part Number	I-PEX JP CO.,LTD;20455-040E-12R or Compatible
Mating Housing/Part Number	IPEX or Compatible

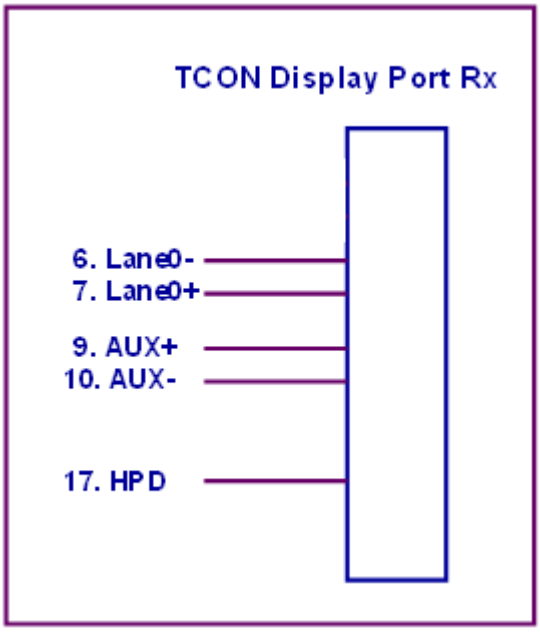
6.3.2 Pin Assignment (with Touch Sensor Pin Assignment)

PIN NO	Symbol	Function
1	NC	No Connect (Reserved for DCR)
2	H_GND	High Speed Ground
3	Lane1_N	Comp Signal Link Lane 1
4	Lane1_P	True Signal Link Lane 1
5	H_GND	High Speed Ground
6	Lane0_N	Comp Signal Link Lane 0
7	Lane0_P	True Signal Link Lane 0
8	H_GND	High Speed Ground
9	AUX_CH_P	True Signal Auxiliary Ch.
10	AUX_CH_N	Comp Signal Auxiliary Ch.
11	H_GND	High Speed Ground
12	LCD_VCC	LCD logic and driver power
13	LCD_VCC	LCD logic and driver power
14	LCD_Self_Test or NC	LCD Panel Self Test Enable (Optional)
15	LCD_GND	LCD logic and driver ground
16	LCD_GND	LCD logic and driver ground
17	HPD	HPD signal pin
18	BL_GND	Backlight ground
19	BL_GND	Backlight ground

20	BL_GND	Backlight ground
21	BL_GND	Backlight ground
22	BL_Enable	Backlight On / Off
23	BL_PWM_DIM	System PWM signal Input
24	NC	No connect (Reverse for AUO TEST only)
25	NC	No connect (Reverse for AUO TEST only)
26	BL_PWR	Backlight power (6V~21V)
27	BL_PWR	Backlight power (6V~21V)
28	BL_PWR	Backlight power (6V~21V)
29	BL_PWR	Backlight power (6V~21V)
30	NC	No Connect (Reserved for CM)
31	TP_D-	USB Data- for Touch
32	TP_D+	USB Data+ for Touch
33	GND	Ground–Shield
34	VTSP	Touch panel power supply (5V)
35	VTSP	Touch panel power supply (5V)
36	NC/TP_EN	Reserve for Touch function enable
37	TP_CLK	I2C Clock for Touch (NC for USB input)
38	TP_Data	I2C Data for Touch (NC for USB input)
39	INT	Interrupt for Touch (NC for USB input)
40	RST	Reset for Touch (NC for USB input)



Note1: Start from right side.
Note2: Input signals shall be low or High-impedance state when VDD is off.
Internal circuit of **eDP inputs** are as following.



6.4 Interface Timing

6.4.1 Timing Characteristics

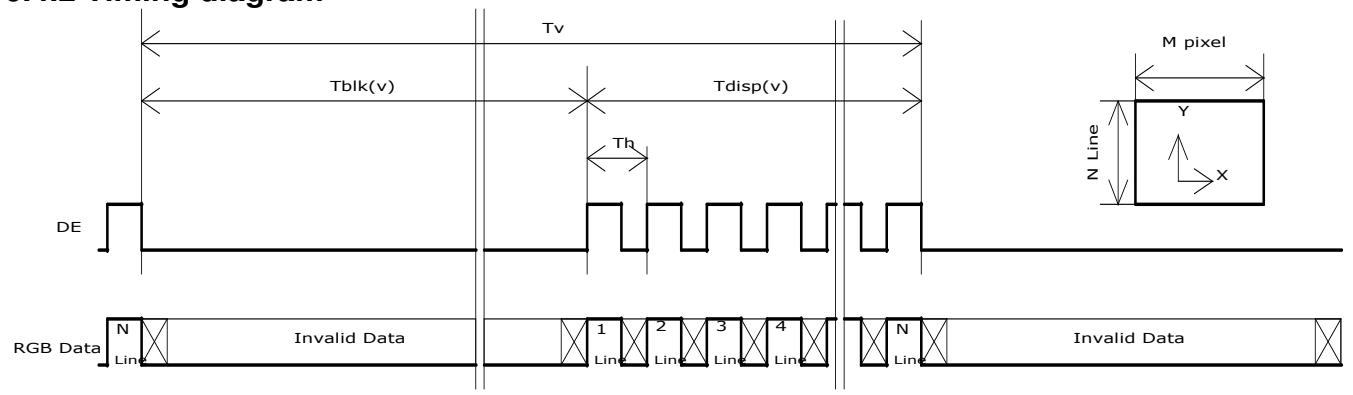
Basically, interface timings should match the 1366x768 /60Hz manufacturing guide line timing.

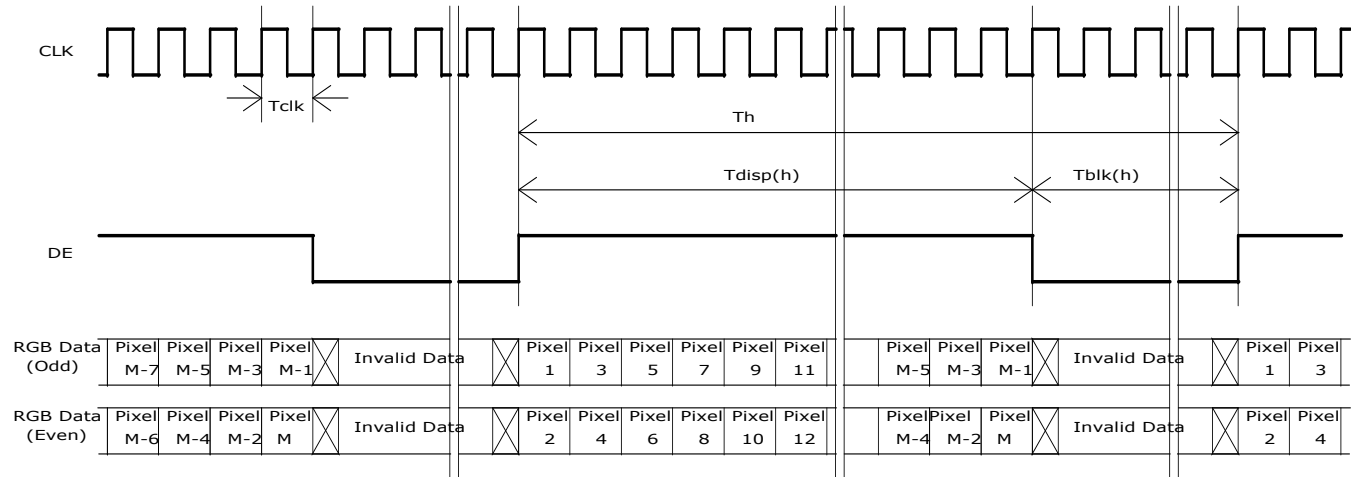
Parameter		Symbol	Min.	Typ.	Max.	Unit
Frame Rate		-	-	60	-	Hz
Clock frequency		1/ T_{Clock}	69.4	70.5	75	MHz
Vertical Section	Period	T_V	1112	1120	1152	T_{Line}
	Active	T_{VD}	1080			
	Blanking	T_{VB}	32	38	72	
Horizontal Section	Period	T_H	1040	1050	1084	T_{Clock}
	Active	T_{HD}	960			
	Blanking	T_{HB}	80	90	124	

Note : 1. DE mode only

2. The maximum clock frequency = (1920+B)*(1080+A)*60 < 80MHz

6.4.2 Timing diagram

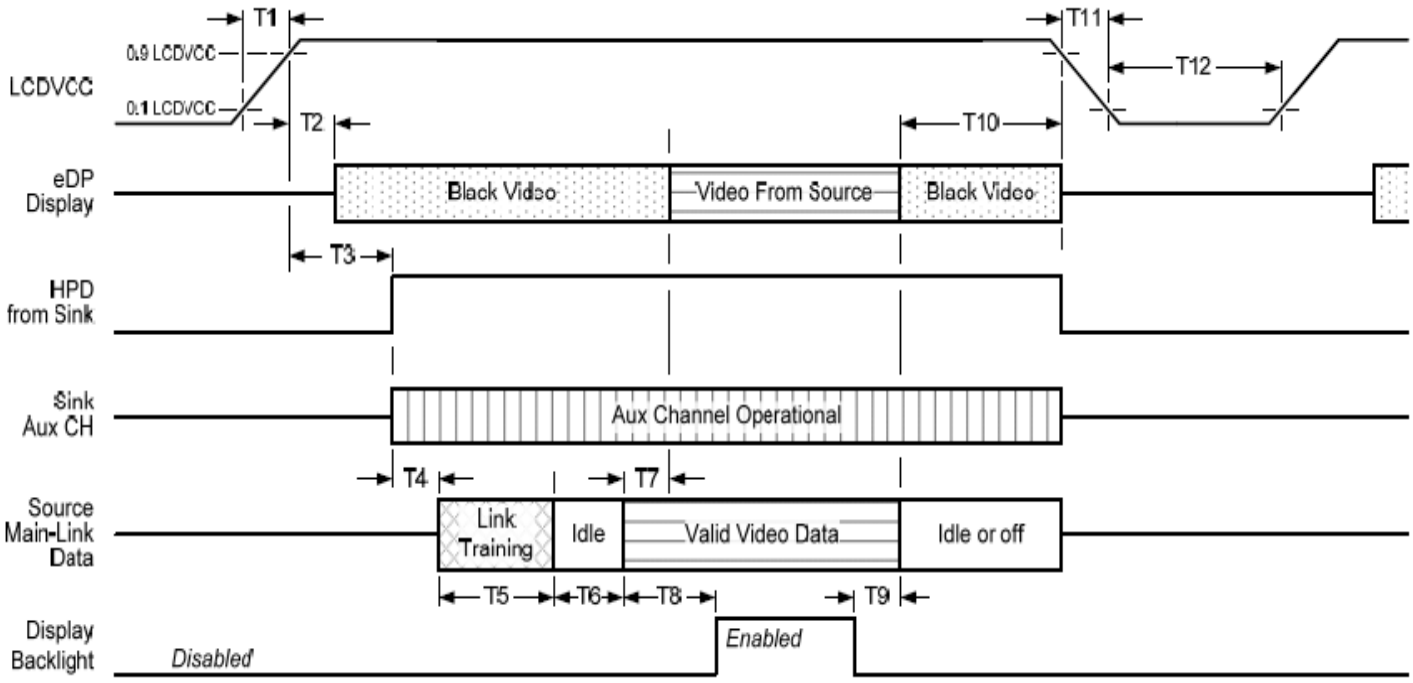




6.4 Power ON/OFF Sequence

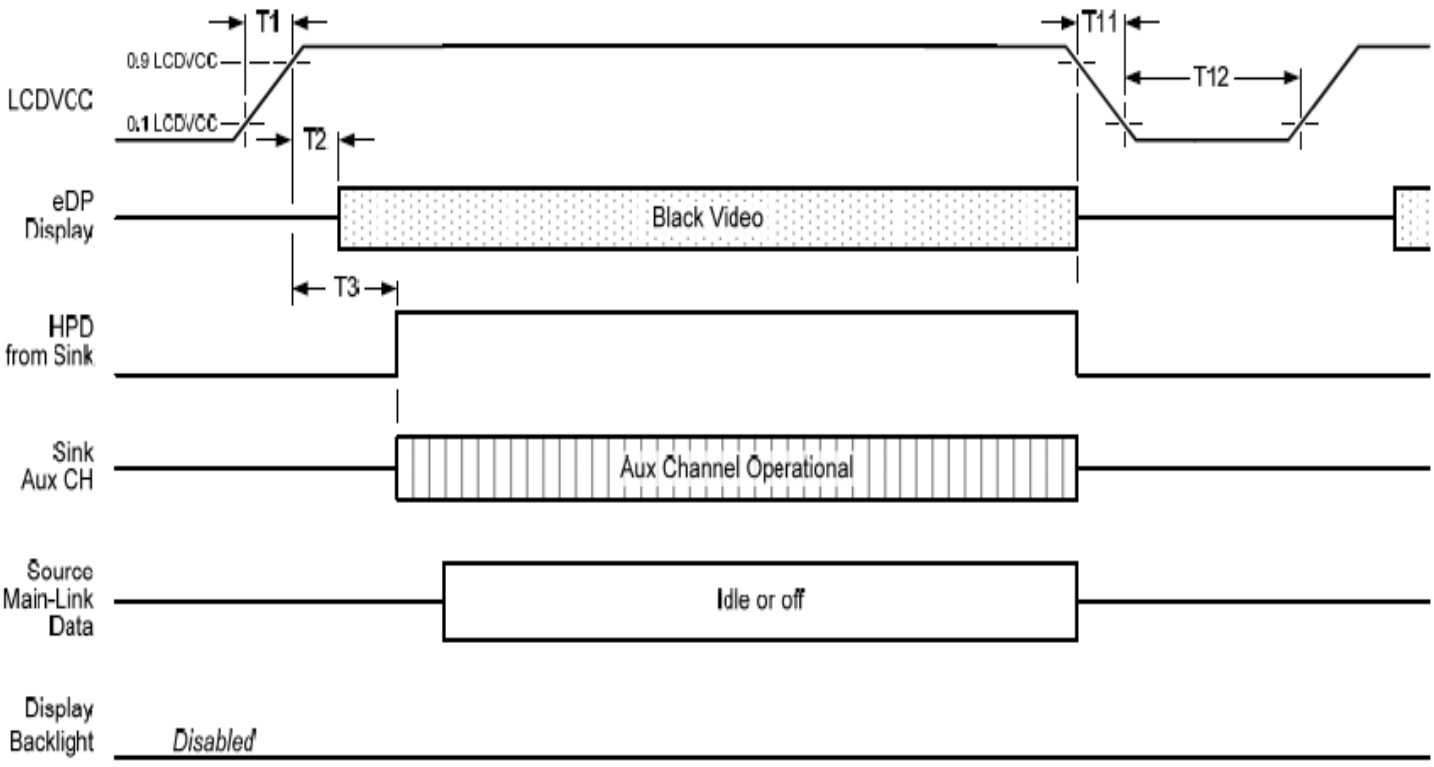
Power on/off sequence is as follows. Interface signals and LED on/off sequence are also shown in the chart. Signals from any system shall be Hi-Z state or low level when VDD is off

Display Port panel power sequence:



Display port interface power up/down sequence, normal system operation

Display Port AUX_CH transaction only:



Display port interface power up/down sequence, AUX_CH transaction only

Display Port panel power sequence timing parameter:

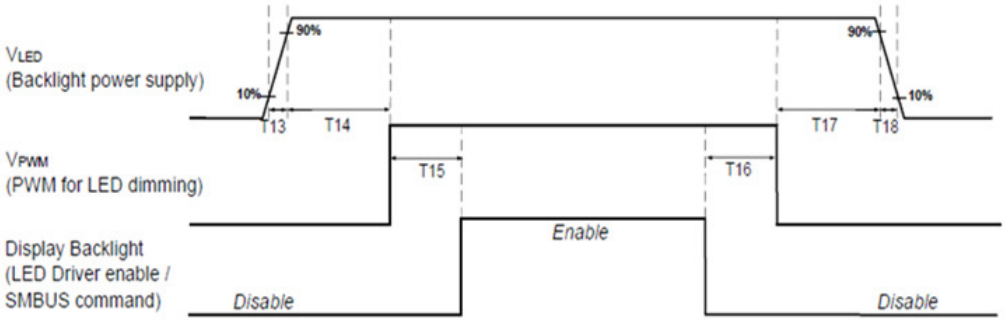
Timing parameter	Description	Reqd. by	Limits			Notes
			Min.	Typ.	Max.	
T1	power rail rise time, 10% to 90%	source	0.5ms		10ms	
T2	delay from LCDVDD to black video generation	sink	0ms		200ms	prevents display noise until valid video data is received from the source
T3	delay from LCDVDD to HPD high	sink	0ms		200ms	sink AUX_CH must be operational upon HPD high.
T4	delay from HPD high to link training initialization	source				allows for source to read link capability and initialize.
T5	link training duration	source				dependant on source link to read training protocol.
T6	link idle	source				Min accounts for required BS-Idle pattern. Max allows for source frame synchronization.
T7	delay from valid video data from source to video on display	sink	0ms		50ms	max allows sink validate video data and timing.
T8	delay from valid video data from source to backlight enable	source				source must assure display video is stable.
T9	delay from backlight disable to end of valid video data	source				source must assure backlight is no longer illuminated.
T10	delay from end of valid video data from source to power off	source	0ms		500ms	
T11	power rail fall time, 905 to 10%	source			10ms	
T12	power off time	source	500ms			

Note1: The sink must include the ability to generate black video autonomously. The sink must automatically enable black video under the following conditions:
-upon LCDVDD power on (with in T2 max)-when the "Novideostream_Flag" (VB-ID Bit 3) is received from the source (at the end of T9).
-when no main link data, or invalid video data, is received from the source. Black video must be displayed within 64ms (typ) from the start of either condition. Video data can be deemed invalid based on MSA and timing information, for example.

Note 2: The sink may implement the ability to disable the black video function, as described in Note 1, above, for system development and debugging purpose.

Note 3: The sink must support AUX_CH polling by the source immediately following LCDVDD power on without causing damage to the sink device (the source can re-try if the sink is not ready). The sink must be able to respond to an AUX_CH transaction with the time specified within T3 max.

Display Port panel B/L power sequence timing parameter:

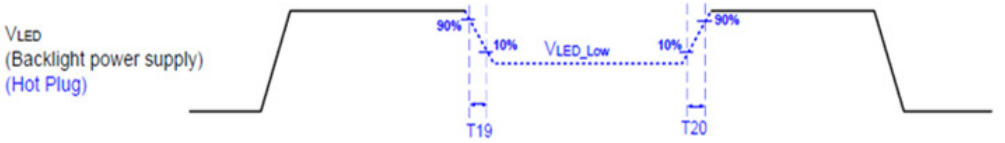


	Min (ms)	Max (ms)
T13	0.5	10
T14	10	-
T15	10	-
T16	10	-
T17	10	-
T18	0.5	10
T19	1*	-
T20	1*	-

Seamless change: T19/T20 = 5xT_{PWM}*

*T_{PWM}= 1/PWM Frequency

Note : When the adapter is hot plugged, the backlight power supply sequence is shown as below.



7. Panel Reliability Test

7.1 Vibration Test

Test Spec:

- Test method: Non-Operation
- Acceleration: 1.5 G
- Frequency: 10 - 500Hz Random
- Sweep: 30 Minutes each Axis (X, Y, Z)

7.2 Shock Test

Test Spec:

- Test method: Non-Operation
- Acceleration: 220 G , Half sine wave
- Active time: 2 ms
- Pulse: X,Y,Z .one time for each side

7.3 Reliability Test

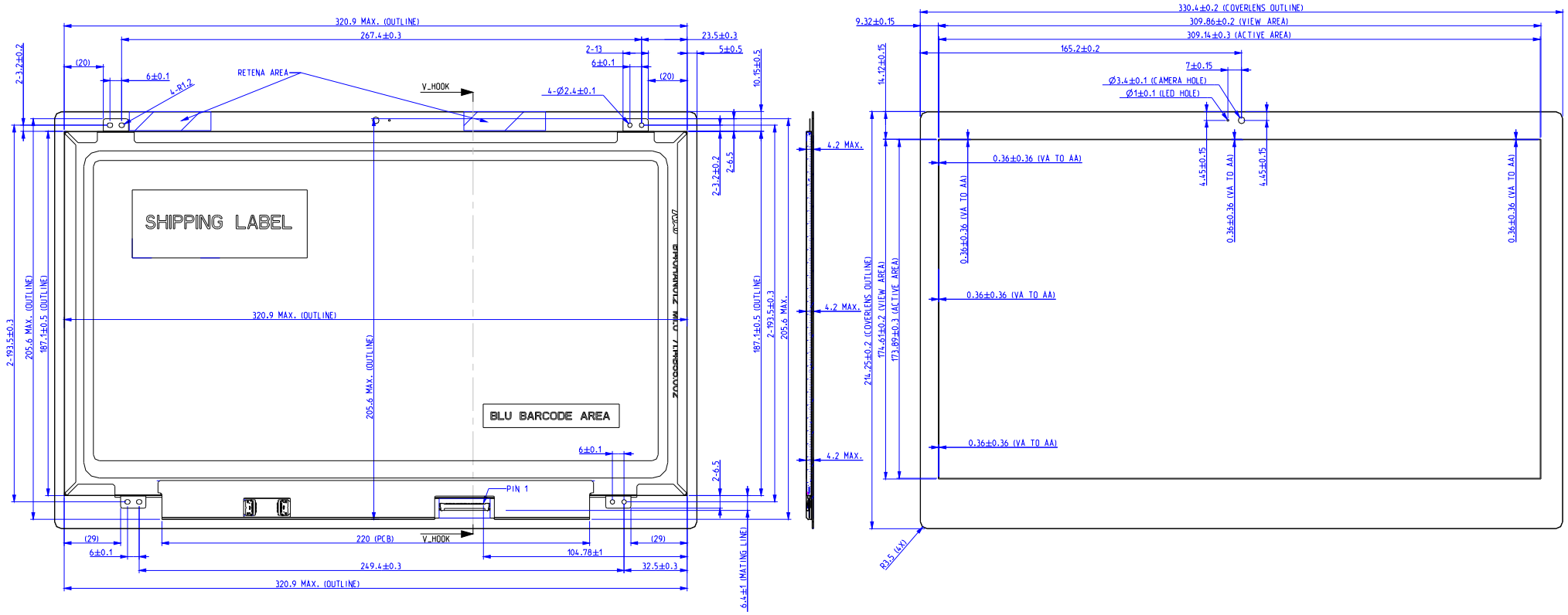
Items	Required Condition	Note
Temperature Humidity Bias	Ta= 40℃, 90%RH, 240h	
High Temperature Operation	Ta= 60℃, Dry, 240h	
Low Temperature Operation	Ta=0℃, 240h	
High Temperature Storage	Ta= 60℃, 240h	
Low Temperature Storage	Ta= -20℃, 240h	
Thermal Shock Test	Ta=-20℃(30min) ~60℃(30min), 20cycles condition.	
ESD	Contact : ±8 KV Air : ±15 KV	Note 1

Note1: According to EN 61000-4-2 , ESD class B: Some performance degradation allowed. No data lost . Self-recoverable. No hardware failures.

Remark: MTBF (Excluding the LED): 30,000 hours with a confidence level 90%

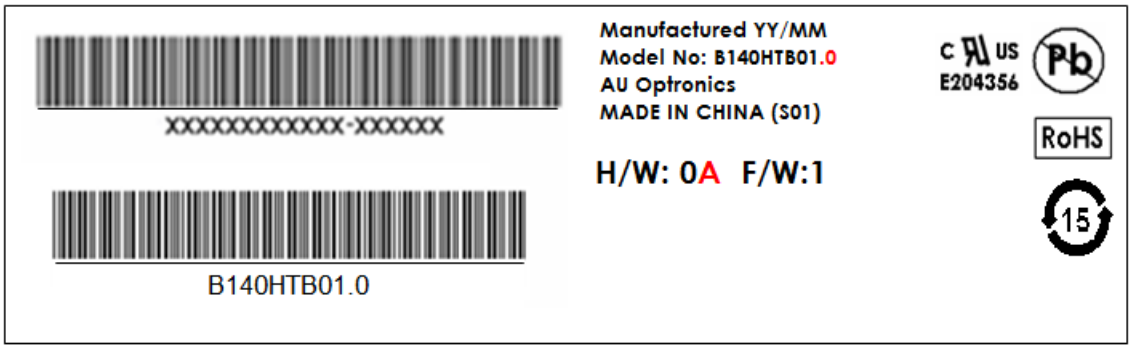
8. Mechanical Characteristics

8.1 Total Solution Outline Dimension

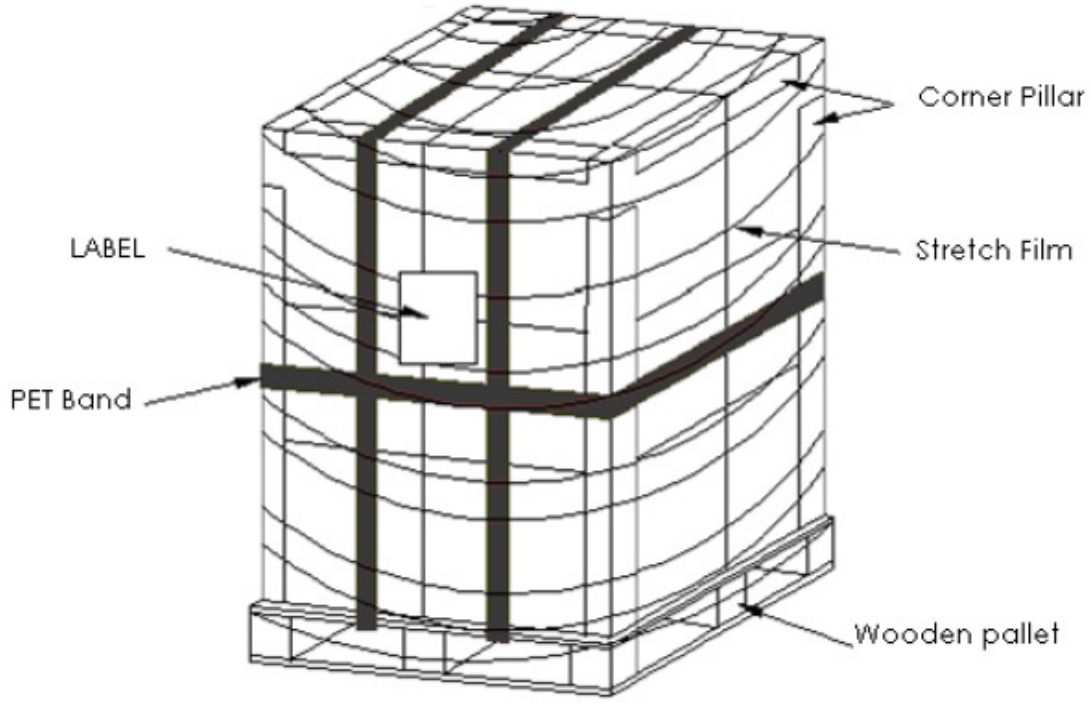


9. Shipping and Package

9.1 Shipping Label Format



9.2 Shipping Package of Palletizing Sequence



10. Appendix: EDID Description

Address	FUNCTION	Value	Value	Value
HEX		HEX	BIN	DEC
00	Header	00	00000000	0
01		FF	11111111	255
02		FF	11111111	255
03		FF	11111111	255
04		FF	11111111	255
05		FF	11111111	255
06		FF	11111111	255
07		00	00000000	0
08	EISA Manuf. Code LSB	06	00000110	6
09	Compressed ASCII	AF	10101111	175

0A	Product Code	3D	00111101	61
0B	hex, LSB first	10	00010000	16
0C	32-bit ser #	00	00000000	0
0D		00	00000000	0
0E		00	00000000	0
0F		00	00000000	0
10	Week of manufacture	00	00000000	0
11	Year of manufacture	18	00011000	24
12	EDID Structure Ver.	01	00000001	1
13	EDID revision #	04	00000100	4
14	**Video input def. (digital I/P, non-TMDS, CRGB)**	95	10010101	149
15	**Max H image size (rounded to cm)**	1F	00011111	31
16	**Max V image size (rounded to cm)**	11	00010001	17
17	**Display Gamma (=(gamma*100)-100)**	78	01111000	120
18	**Feature support (no DPMS, Active OFF, RGB, tmg Blk#1)**	02	00000010	2
19	Red/green low bits (Lower 2:2:2:2 bits)	9F	10011111	159
1A	Blue/white low bits (Lower 2:2:2:2 bits)	E5	11100101	229
1B	Red x (Upper 8 bits)	96	10010110	150
1C	Red y/ highER 8 bits	58	01011000	88
1D	Green x	53	01010011	83
1E	Green y	8A	10001010	138
1F	Blue x	26	00100110	38
20	Blue y	24	00100100	36
21	White x	50	01010000	80
22	White y	54	01010100	84
23	Established timing 1	00	00000000	0
24	Established timing 2	00	00000000	0
25	Established timing 3	00	00000000	0
26	Standard timing #1	01	00000001	1
27		01	00000001	1
28	Standard timing #2	01	00000001	1
29		01	00000001	1
2A	Standard timing #3	01	00000001	1
2B		01	00000001	1
2C	Standard timing #4	01	00000001	1
2D		01	00000001	1
2E	Standard timing #5	01	00000001	1
2F		01	00000001	1
30	Standard timing #6	01	00000001	1
31		01	00000001	1
32	Standard timing #7	01	00000001	1
33		01	00000001	1
34	Standard timing #8	01	00000001	1
35		01	00000001	1
36	Pixel Clock/10000 LSB	B0	10110000	176
37	Pixel Clock/10000 USB	36	00110110	54
38	Horz active Lower 8bits	80	10000000	128
39	Horz blanking Lower 8bits	B4	10110100	180

3A	HorzAct:HorzBlnk Upper 4:4 bits	70	01110000	112
3B	Vertical Active Lower 8bits	38	00111000	56
3C	Vertical Blanking Lower 8bits	1E	00011110	30
3D	Vert Act : Vertical Blanking (upper 4:4 bit)	40	01000000	64
3E	HorzSync. Offset	30	00110000	48
3F	HorzSync.Width	64	01100100	100
40	VertSync.Offset : VertSync.Width	31	00110001	49
41	Horz&Vert Sync Offset/Width Upper 2bits	00	00000000	0
42	Horizontal Image Size Lower 8bits	35	00110101	53
43	Vertical Image Size Lower 8bits	AD	10101101	173
44	Horizontal & Vertical Image Size (upper 4:4 bits)	10	00010000	16
45	Horizontal Border (zero for internal LCD)	00	00000000	0
46	Vertical Border (zero for internal LCD)	00	00000000	0
47	Signal (non-intr, norm, no stero, sep sync, neg pol)	18	00011000	24
48	Detailed timing/monitor	00	00000000	0
49	descriptor #2	00	00000000	0
4A		00	00000000	0
4B		0F	00001111	15
4C		00	00000000	0
4D		00	00000000	0
4E		00	00000000	0
4F		00	00000000	0
50		00	00000000	0
51		00	00000000	0
52		00	00000000	0
53		00	00000000	0
54		00	00000000	0
55		00	00000000	0
56		00	00000000	0
57		00	00000000	0
58		00	00000000	0
59		20	00100000	32
5A	Detailed timing/monitor	00	00000000	0
5B	descriptor #3	00	00000000	0
5C		00	00000000	0
5D		FE	11111110	254
5E		00	00000000	0
5F	Manufacture	41	01000001	65
60	Manufacture	55	01010101	85
61	Manufacture	4F	01001111	79
62		0A	00001010	10
63		20	00100000	32
64		20	00100000	32
65		20	00100000	32
66		20	00100000	32
67		20	00100000	32
68		20	00100000	32
69		20	00100000	32
6A		20	00100000	32

6B		20	00100000	32
6C	Detailed timing/monitor	00	00000000	0
6D	descriptor #4	00	00000000	0
6E		00	00000000	0
6F		FE	11111110	254
70		00	00000000	0
71	Manufacture P/N	42	01000010	66
72	Manufacture P/N	31	00110001	49
73	Manufacture P/N	34	00110100	52
74	Manufacture P/N	30	00110000	48
75	Manufacture P/N	48	01001000	72
76	Manufacture P/N	54	01010100	84
77	Manufacture P/N	42	01000010	66
78	Manufacture P/N	30	00110000	48
79	Manufacture P/N	31	00110001	49
7A	Manufacture P/N	2E	00101110	46
7B	Manufacture P/N	30	00110000	48
7C		20	00100000	32
7D		0A	00001010	10
7E	Extension Flag	00	00000000	0
7F	Checksum	94	10010100	148