



# Specification for Approval

Customer: \_\_\_\_\_

Model Name: \_\_\_\_\_

Supplier Approval			Customer approval
R&D Designed	R&D Approved	QC Approved	
<i>Peter</i>	<i>Peng Jun</i>		



## Table of Contents

List	Description	Page No.
	COVER	1
	REVISION RECORD	2
	TABLE OF CONTENTS	3
1	GENERAL DESCRIPTION	4
2	MECHANICAL SPECIFICATIONS	5
3	ABSOLUTE MAXIMUM RATINGS	5
4	ELECTRICAL SPECIFICATIONS	7
5	OPTICAL CHARACTERISTICS	18
6	RELIABILITY TEST ITEMS	20
7	APPENDIX. EDID DATA STRUCTURE	21
8	EXTERNAL DIMENSIONS	25

## 1. General Description

### 1.1 Overview

YX-19201080T14N001A is a 14.0” TFT Liquid Crystal Display module with LED Backlight unit and 30 pins eDP interface. This module supports 1920 x 1080FHD mode and can display 16.7M colors.

1	LCD size	14.0	inch	
2	Resolution	1920 x RGB x 1080		
3	Pixel Arrangement	RGB strip		
4	Model Type	FOB		
5	TFT Technology	a-Si		
6	Display mode	HFS, Normally Black		
7	Active Area	309.312 (H) × 173.988(V)	mm	
8	pixel pitch	53.7 (H)× 161.1(V)	um	
9	Display Colors	16.2M(6bit+FRC)		@ 8bit
10	Contrast Ratio	1200:1(Typ)		
11	Color Gamut	sRGB 99.5%	CIE1931	sRGB
12	Surface treatment(UP)	Anti-Glare	--	Pol.
13	Interface	eDP1.2		
14	Method of Inversion	Column Inversion		
15	Power consumption of Panel	0.5 (Typ) 0.65(Max)	W	3.3V@Mosaic 60Hz
16	Weight	140	g	Max (without FPC&PCBA)

Note (1) The specified power consumption (with converter efficiency) is under the conditions at VCCS =3.3 V, LED\_VCCS =12V (Typ), fPWM = 200 Hz, Duty=100% and Ta = 25 ± 2 °C, whereas mosaic pattern is displayed.

## 2. MECHANICAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Unit	Note
Unit outline dimensions	Width	315.57	315.87	316.17	mm	
	Height	185.84	186.14	186.44	mm	Without PCBA
	Depth	/	/	2.6	mm	Without PCBA
Weight		-	-	330	g	With PCBA

### 2.1 Interface Connection

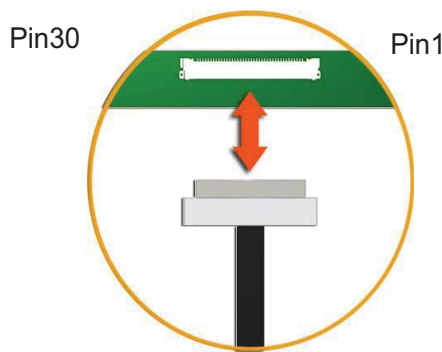


Figure 2.1.1 INPUT CONNECTOR

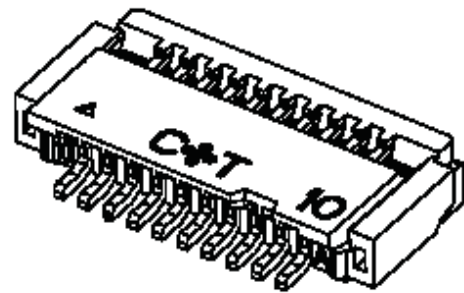


Figure 2.1.2 OUTPUT CONNECTOR

Drawing for detail design.

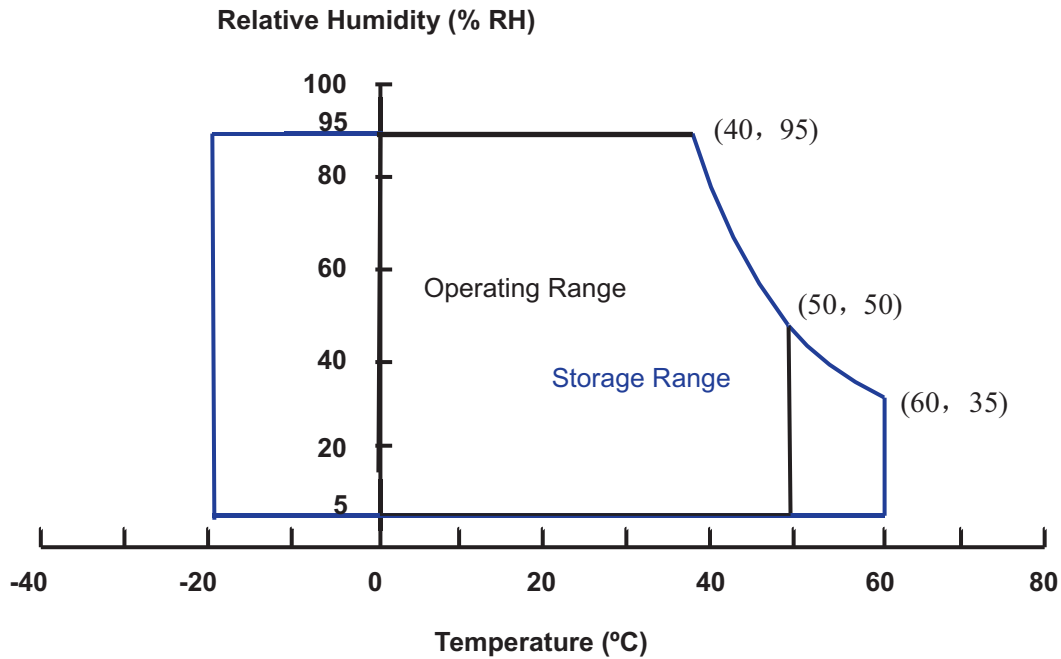
Connector Part No.: **W05025FA030GBBL** (昶通)

Connector Part No.: **F04001-10P-K** (昶通)

## 3.0 Absolute Maximum Ratings

### 3.1 Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T <sub>ST</sub>	-20	+60	°C	(1)
Operating Ambient Temperature	T <sub>OP</sub>	0	+50	°C	(1), (2)



Note (1)

- (a) 95% RH Max. ( $T_a \leq 40\text{ °C}$ ).
- (b) Wet-bulb temperature should be 39 °C Max. ( $T_a > 40\text{ °C}$ ).
- (c) No condensation.

Note (2) The temperature of panel surface should be 0 °C min. and 60 °C max.

## 3.2 Electrical Absolute Ratings

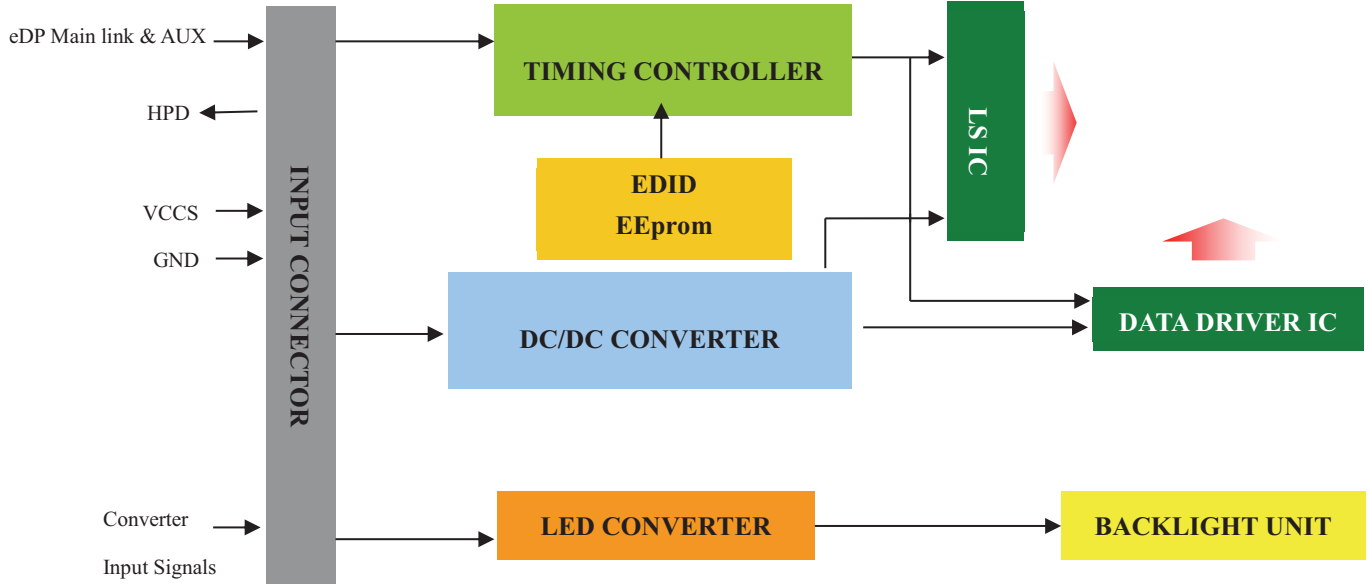
### 3.2.1 TFT LCD Module

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Power Supply Voltage	VCCS	-0.3	+4	V	(1)
Converter Input Voltage	LED_VCCS	-0.3	26	V	(1)
Converter Control Signal Voltage	LED_PWM,	-0.3	26	V	(1)
Converter Control Signal Voltage	LED_EN	-0.3	26	V	(1)

Note (1) Stresses beyond those listed in above “ELECTRICAL ABSOLUTE RATINGS” may cause permanent damage to the device. Normal operation should be restricted to the conditions described in “ELECTRICAL CHARACTERISTICS”.

## 4. Electrical Specifications

### 4.1 Function Block Diagram(示意图更新)



### 4.2 Interface Connections

#### PIN Assignment

Pin No.	I/O	Symbol	Description
1	I	SCL	I2C SCL signal
2	P	H_GND	High Speed Ground
3	I	ML1-	Complement
4	I	ML1+	True Signal-Main Lane
5	P	H_GND	High Speed Ground
6	I	ML0-	Complement
7	I	ML0+	True Signal-Main Lane
8	P	H_GND	High Speed Ground
9	I/O	AUX+	True Signal-Auxiliary
10	I/O	AUX-	Complement
11	P	H_GND	High Speed Ground
12	P	VCCS	Power Supply +3.3 V
13	P	VCCS	Power Supply +3.3 V
14	-	NC	No Connection
15	P	GND	Ground
16	P	GND	Ground

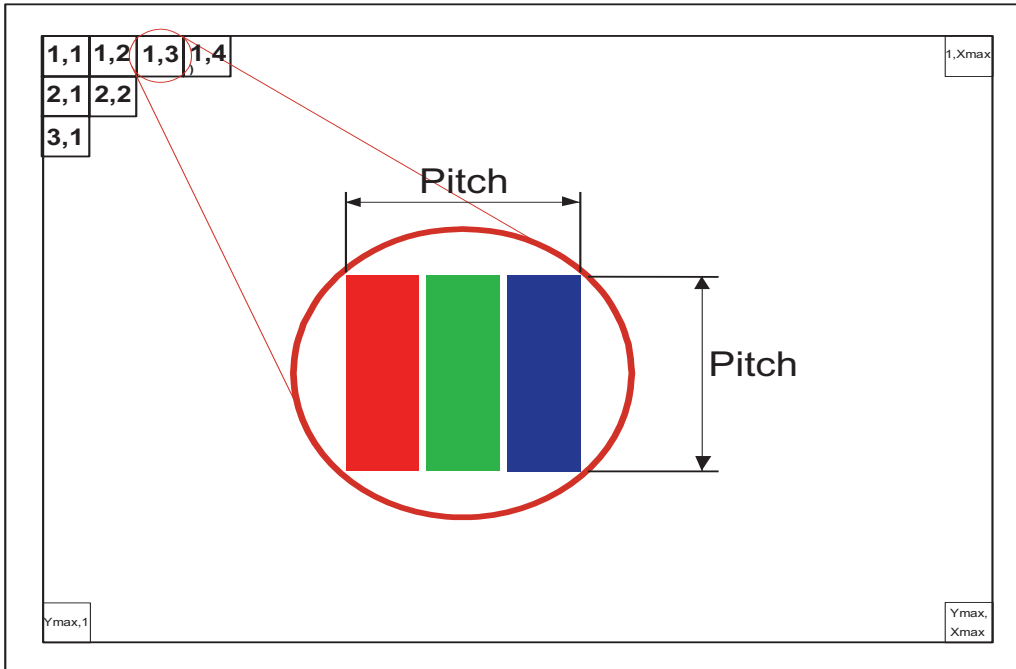
17	I	HPD	Hot Plug Detect
18	P	BL_GND	BL Ground
19	P	BL_GND	BL Ground
20	P	BL_GND	BL Ground
21	P	BL_GND	BL Ground
22	I	LED_EN	BL_Enable Signal of
23	I	LED_PWM	PWM Dimming
24	I	SDA	I2C SDA signal
25	-	NC	No Connection
26	P	LED_VCCS	BL Power
27	P	LED_VCCS	BL Power
28	P	LED_VCCS	BL Power
29	P	LED_VCCS	BL Power
30	-	NC	No Connection

### LED CONNECTION PIN ASSIGNMENT

Pin	Symbol	Description	Note
1	LEDA	LED Anode	
2	LEDA	LED Anode	
3	NC	No Connection	
4	GND	GND	
5	NC	No Connection	
6	LEDK1	LED Cathode1	
7	LEDK2	LED Cathode 2	
8	LEDK3	LED Cathode 3	
9	LEDK4	LED Cathode 4	
10	LEDK5	LED Cathode 5	

Note (1) The pixel is shown in the following figure.





## 4.3 Electrical Characteristics

### 4.3.1 LCD Electronics Specification

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VCCS	3.0	3.3	3.6	V	(1)
BIST Control Level	BIST on	2.2	3.3	3.6	V	(1)
	BIST off	0	-	0.5	V	(1)
Ripple Voltage	V <sub>RP</sub>	-	-	100	mV	(1)
Inrush Current	I <sub>RUSH</sub>	-	-	1.5	A	(1)(2)
Power Supply Current	Mosaic I <sub>LCD</sub>	-	150		mA	(3)
Power consumption	Mosaic P <sub>LCD</sub>	-	0.5		W	(3)

Note (1) The ambient temperature is  $T_a = 25 \pm 2 \text{ }^\circ\text{C}$ .

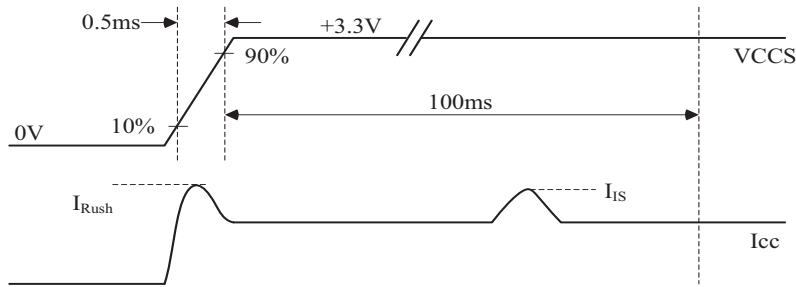
Note (2) I<sub>RUSH</sub>: the maximum current when VCCS is rising

I<sub>IS</sub>: the maximum current of the first 100ms after power-on

Measurement Conditions: Shown as the following figure.

Test pattern: Mosaic

**VCCS rising time is 0.5ms**



Note (3) The specified power supply current is under the conditions at VCCS = 3.3 V, Ta = 25 ± 2 °C, DC Current and f<sub>v</sub> = 60 Hz, whereas a power dissipation check pattern below is displayed.

### LED CONVERTER SPECIFICATION

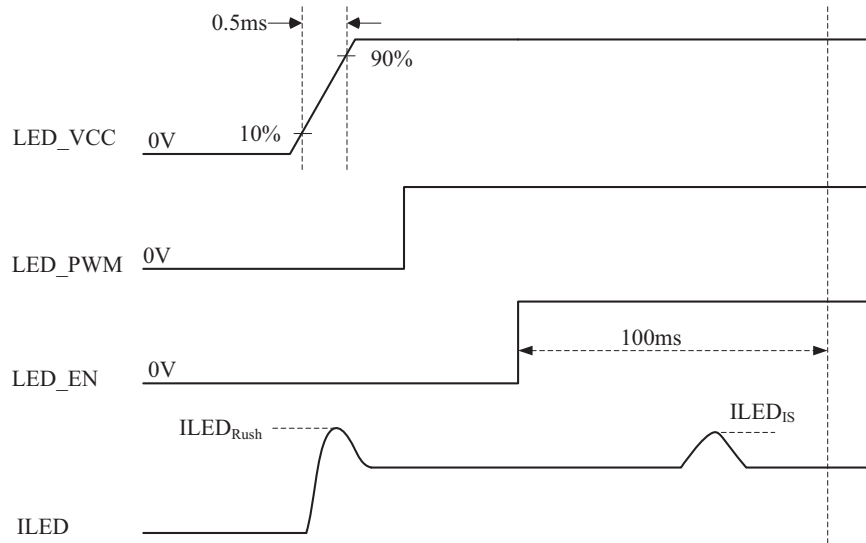
Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Converter Input power supply voltage	LED_Vccs	5.0	12.0	21.0	V	
Converter Inrush Current	I <sub>LED<sub>RUSH</sub></sub>	-	-	1.5	A	(1)
EN Control Level	Backlight On	1.5	-	3.6	V	
	Backlight Off	0	-	0.6	V	
PWM Control Level	PWM High Level	1.5	-	3.6	V	
	PWM Low Level	0	-	0.5	V	
PWM Control Duty Ratio		1	-	100	%	
PWM Control Permissive Ripple Voltage	V <sub>PWM_pp</sub>	-	-	100	mV	
PWM Control Frequency	f <sub>PWM</sub>	200	-	1000	Hz	
LED Power consumption	P <sub>L</sub>	-	-	3.82	W	(2)
LED Power Current	LED_VCCS =Typ.	-	-	100	mA	(3)
LED Light Bar Power Supply Current	I <sub>L</sub>	-	-	100	mA	(4)(5)
LED Light Bar Power Supply Voltage	V <sub>L</sub>	-	-	28.8	V	(Duty100%)

Note (1) I<sub>LED<sub>RUSH</sub></sub>: the maximum current when LED\_VCCS is rising,

I<sub>LED<sub>IS</sub></sub>: the maximum current of the first 100ms after power-on,

Measurement Conditions: Shown as the following figure. LED\_VCCS = Typ, Ta = 25 ± 2 °C, f<sub>PWM</sub> = 200 Hz, Duty=100%.

**VLED rising time is 0.5ms**



Note(2)  $P_L = I_L \times V_L$  (With LED converter transfer efficiency);

Note (3) The specified LED power supply current is under the conditions at “LED\_VCCS = 12V(Typ).”,  $T_a = 25 \pm 2 \text{ }^\circ\text{C}$ , fPWM = 200 Hz, Duty=100%.

Note(4)  $I_L = 21.2\text{mA}$  is defined for one channel LED. There are total 5 LED channels in LED Converter design.

The recommended Backlight circuit design is as follows:

## 4.4 Input Signal Timing Specification

### 4.4.1 eDP AUX Channel Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Unit Interval for AUX channel	$UI_{AUX}$	0.4	-	0.6	$\mu\text{S}$	
Peak-to-peak voltage at TP1	$V_{AUX-DIFF-pp}$	0.39	-	1.38	V	
AUX DC Common mode Voltage	$V_{AUX-DC-CM}$	0	-	2	V	
AUX Short current limit	$I_{AUX\_SHORT}$	-	-	90	mA	
AUX CH termination DC resistor	$R_{AUX\_TERM}$	80	100	120	$\Omega$	Differential input
AUX AC coupling capacitor	$C_{AUX}$	75	-	200	nF	
Number of pre-charge pulses	Pre-charge pulses	10	-	16		

### 4.4.2 eDP Main Link Receiver Characteristics

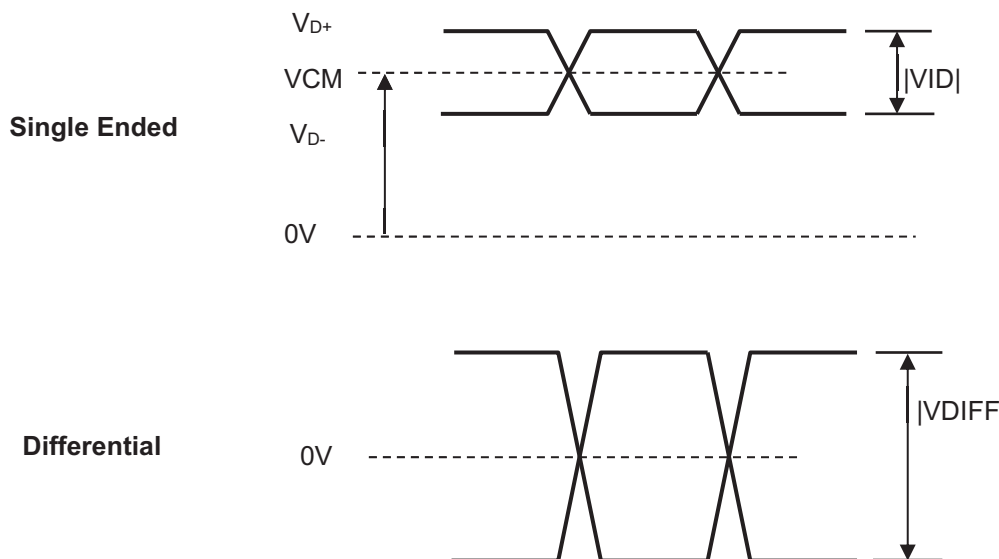
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Link clock down spreading	Down_Spread_Amplitude	0		0.5	%	
Differential Peak-to-peak Input	$V_{RX-DIFFpp}$	120	-	1200	mV	

Voltage at Rx package pins						
Differential termination resistance	$R_{RX-TERM}$	90	100	110	$\Omega$	
RX short circuit Current Limit	$I_{RX-SHORT}$	-	-	50	mA	
Lane Intra-pair Skew at RX package pins	$T_{RX-SKEW-INTRA-PAIR-High-Bit-Rate}$	-	-	50	ps	

### 4.4.3 eDP AUX Channel Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Hot plug Detect	VHPD	2.25	-	3.6	V	

Note (1) Display port interface related AC coupled signals are following VESA Display Port Standard V1.4.



### 4.4.4 Color Data Input Assignment

The brightness of each primary color (red, green and blue) based on the 8-bit gray scale data input for the color. The higher the binary input the brighter the color. The table below provides the assignment of color versus data input.

Color	Data Signal																							
	Red								Green								Blue							
	R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4	G3	G2	G1	G0	B7	B6	B5	B4	B3	B2	B1	B0



# AM-19201080-140A-A

Version: A

2024-09-25

Basic Colors	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	Cyan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Magenta	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Gray	Red(0)/Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red(1)		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red(2)		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scale :		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Of :		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Red Red(253)		1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red(254)		1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red(255)		1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gray		Green(0)/Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green(1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
	Green(2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	Scale :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
	Of :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
	Green Green(253)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	
	Green(254)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	
	Green(255)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	
	Blue	Blue(0)/Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue(1)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Blue(2)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Scale :		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Of :		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Blue Blue(253)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	
Blue(254)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	
Blue(255)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	

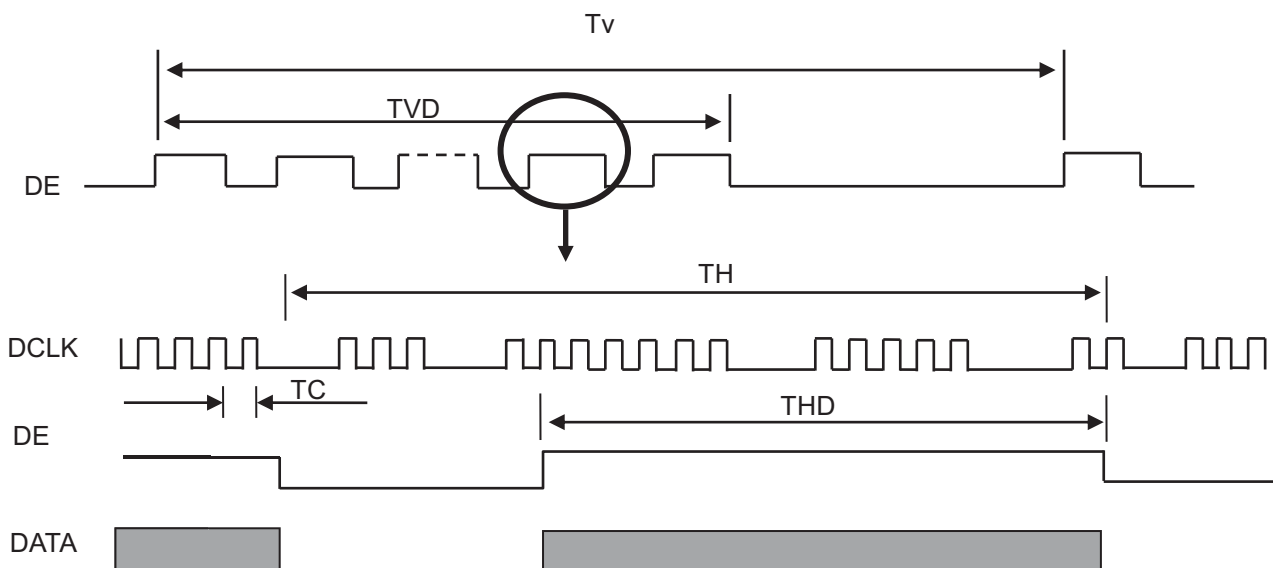
Note (1) 0: Low Level Voltage, 1: High Level Voltage

## 4.5 Display Timing Specifications

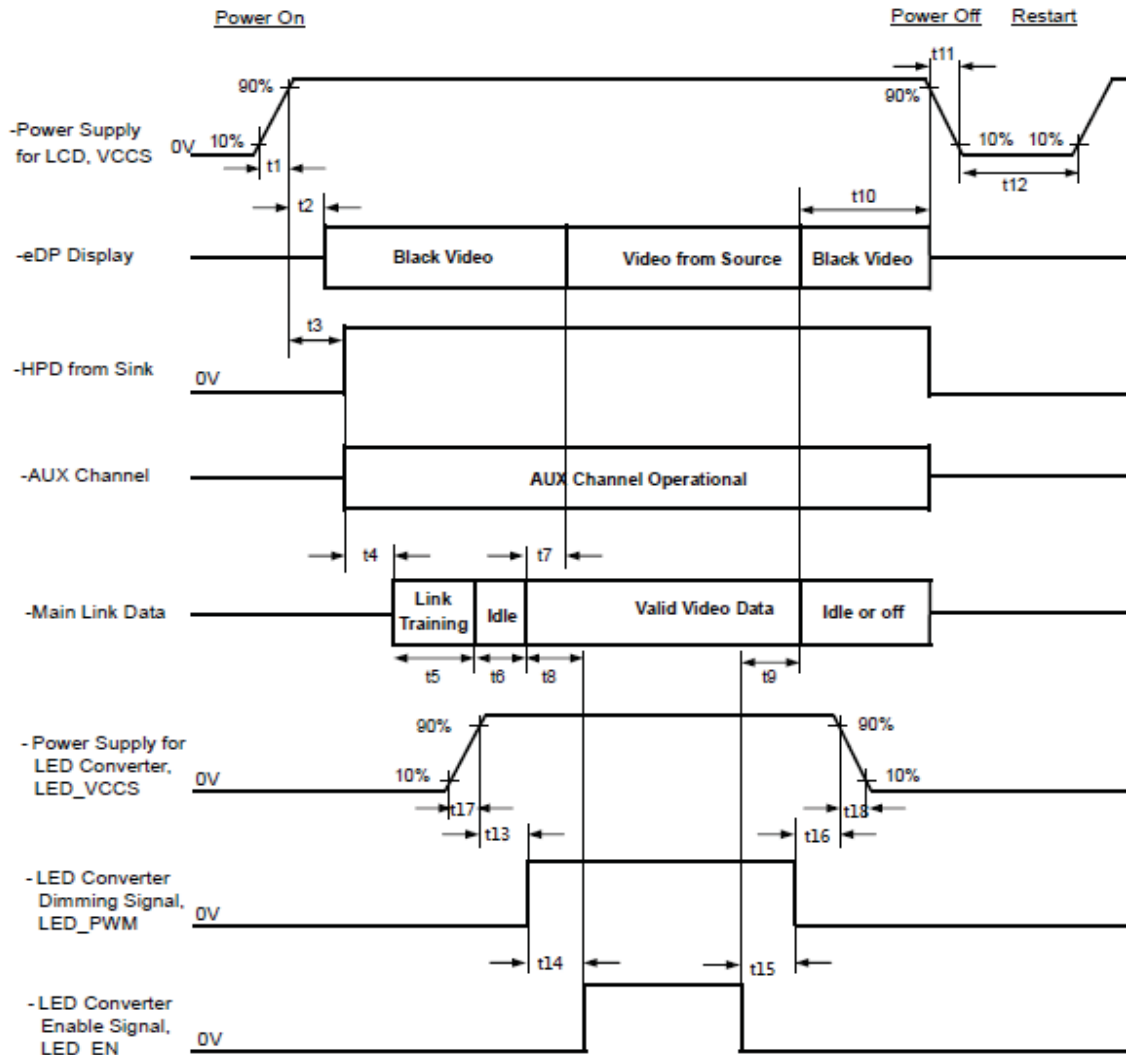
The input signal timing specification is showed as the following table and timing diagram.

Signal	Item	Symbol	Min.	Typ.	Max.	Unit	Note
DCLK	Frequency	1/Tc	146.8	147.8	148.8	MHz	-
DE	Vertical Total Time	TV	-	1120	-	TH	-
	Vertical Active Display Period	TVD	1080	1080	1080	TH	-
	Vertical Active Blanking Period	TVB	-	40	-	TH	-
	Horizontal Total Time	TH	-	2200	-	Tc	-
	Horizontal Active Display Period	THD	1920	1920	1920	Tc	-
	Horizontal Active Blanking Period	THB	-	280	-	Tc	-

Note (1) Display timing signal should be contained and transferred by Display Port Main Link stream data packing described in VESA Display Port Standard V1.4



## 4.6 Power ON/OFF Sequence



Parameter	Description	Reqd. By	Value		Unit	Notes
			Min	Max		
t1	Power rail rise time, 10% to 90%	Source	0.5	10	ms	-

	90%					
t2	Delay from LCD,VCCS to black video generation	Sink	0	200	ms	Automatic Black Video generation prevents display noise until valid video data is received from the Source (see Notes:2 and 3 below)
t3	Delay from LCD,VCCS to HPD high	Sink	0	200	ms	Sink AUX Channel must be operational upon HPD high (see Note:4 below )
t4	Delay from HPD high to link training initialization	Source	0	-	ms	Allows for Source to read Link capability and initialize
t5	Link training duration	Source	0	-	ms	Dependant on Source link training protocol
t6	Link idle	Source	0	-	ms	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	0	50	ms	Max value allows for Sink to validate video data and timing. At the end of T7, Sink will indicate the detection of valid video data by setting the SINK_STATUS bit to logic 1 (DPCD 00205h, bit 0), and Sink will no longer generate automatic Black Video
t8	Delay from valid video data from Source to backlight on	Source	80	-	ms	Source must assure display video is stable



t9	Delay from backlight off to end of valid video data	Source	50	-	ms	Source must assure backlight is no longer illuminated. At the end of T9, Sink will indicate the detection of no valid video data by setting the SINK_STATUS bit to logic 0 (DPCD 00205h, bit 0), and Sink will automatically display Black Video. (See Notes: 2 and 3 below)
t10	Delay from end of valid video data from Source to power off	Source	0	500	ms	Black video will be displayed after receiving idle or off signals from Source
t11	VCCS power rail fall time, 90% to 10%	Source	0.5	10	ms	-
t12	VCCS Power off time	Source	500	-	ms	-
tA	LED power rail rise time, 10% to 90%	Source	0.5	10	ms	-
tB	LED power rail fall time, 90% to 10%	Source	0	10	ms	-
tC	Delay from LED power rising to LED dimming signal	Source	1	-	ms	-
tD	Delay from LED dimming signal to LED power falling	Source	1	-	ms	-

$t_E$	Delay from LED dimming signal to LED enable signal	Source	(0)	-	ms	-
$t_F$	Delay from LED enable signal to LED dimming signal	Source	(0)	-	ms	-

Note (1) Please follow the power on/off sequence described above. Otherwise, the LCD module might abnormal display or be damaged.

Note (2) Please avoid floating state of interface signal at invalid period. When the interface signal is invalid, be sure to pull down the power supply of LCD VCCS to 0 V.

Note (3) The backlight must be turned on after the power supply for the logic and the interface signal is valid. The backlight must be turned off before the power supply for the logic and the interface signal is invalid.

Note (4) Please follow the LED backlight power sequence as above. If the customer could not follow, it might cause backlight flash issue during display ON/OFF or damage the LED backlight controller

## 5. Optical characteristics

Ta=25°C

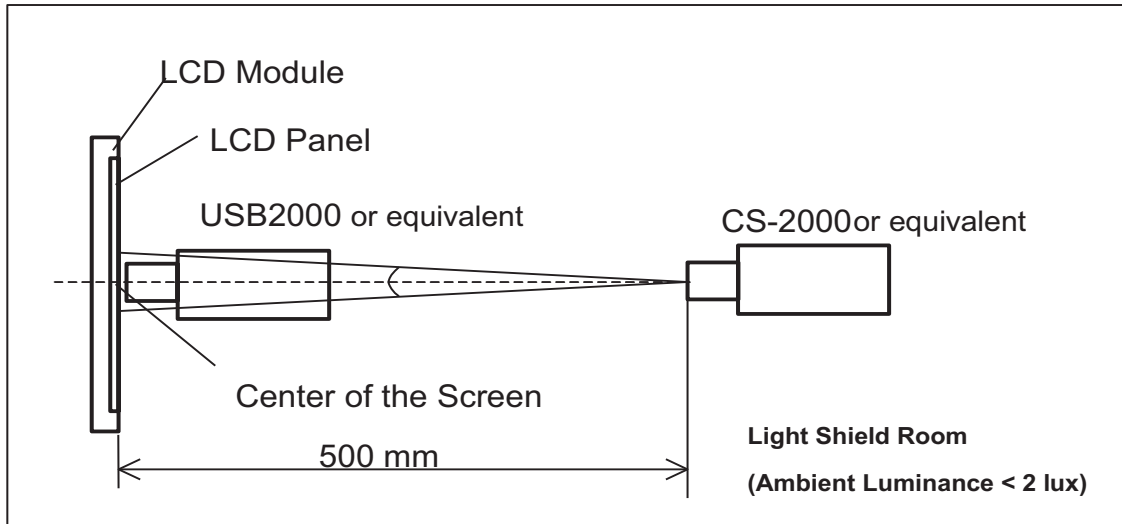
	Symbol	Condition	Min.	Typ.	Max.	Unit	Note			
Viewing angle range	Left/Right	CR>10	85	89	-	Deg	-			
	Upper/Low									
Contrast ratio	CR <sup>er</sup>	$\theta = 0 \text{ deg.}$	1500	2000	-	-	(2), (4), (6)			
Response time	Tr + Tf		-	30	35	ms	(5)			
Chromaticity of red	x		-0.03		0.5823	+0.03	-			
	y				0.3634		-			
Chromaticity of green	x				0.3502		-			
	y				0.5589		-			
Chromaticity of blue	x				0.1509		-			
	y				0.0406		-			
White Chromaticity	x				0.3110					
	y				0.3086					
Color Gamut	%	50			62				%	
Surface hardness	[H]	-			-		3		-	H

※The measurement shall be taken 5 minutes after lighting the LCM at the following rating.

※The optical characteristics shall be measured in a dark room or equivalent.

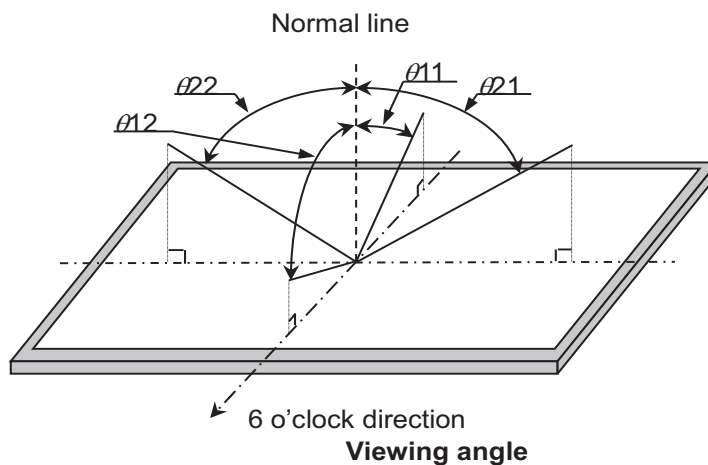
Note (1) Measurement of viewing angle range

Note (2) Measurement of luminance and Chromaticity and Contrast.



Measurement of Contrast, Luminance, Chromaticity, White variation, Crosstalk and Color temperature variation

Note (3) Definitions of viewing angle range:

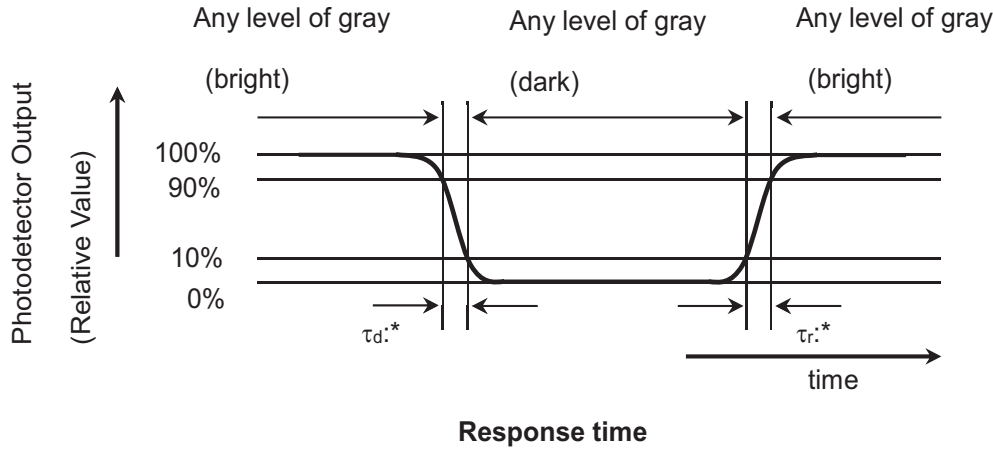


Note (4) Definition of contrast ratio:

The contrast ratio is defined as the following.

$$\text{Contrast Ratio} = \frac{\text{Luminance(Brightness) with all pixels white}}{\text{Luminance(Brightness) with all pixels Black}}$$

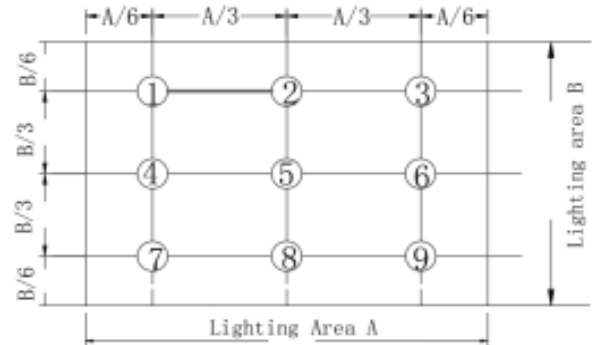
Note (5) Definition of response time:



The response time is defined as the following figure and shall be measured by switching the input signal for "black" and "white".

Note (6) This shall be measured at center of the screen.

Note (7) The Luminance of White is the average of 5 points measurements (4,5,7,9,10) showing in the Fig.9-5.



## 6. Reliability Test Items

No.	Test Item	Conditions
1	Low temperature storage test	-20±2°C, 240±8 hours
2	High temperature storage test	60±2°C, 240±8 hours
3	Low temperature operation test	0±2°C, 240hrs±8hrs
4	High temperature operation test	50±2°C, 240±8 hours
5	High temperature & high humidity operation test	50°C±2°C/80±3%%RH, 240hrs±8hrs
6	Thermal shock test	-20±2°C/30minutes±5%、60±2°C/30minutes±5% 100cycles

## 7. Appendix. EDID Data Structure

EDID Table Format					
Address (DEC)	Address (HEX)	Field Name & Comments	Set Value (HEX)	Set Value (BIN)	Set Value (DEC)
0	00	Header	00	00000000	0
1	01	Header	FF	11111111	255
2	02	Header	FF	11111111	255
3	03	Header	FF	11111111	255
4	04	Header	FF	11111111	255
5	05	Header	FF	11111111	255
6	06	Header	FF	11111111	255
7	07	Header	00	00000000	0
8	08	manufacture code	0E	00001110	14
9	09	manufacture code	6F	01101111	111
10	0A	Product Code	2E	00101110	46
11	0B	Product Code	14	00010100	20
12	0C	LCD module Serial No –("0" if not	00	00000000	0
13	0D	LCD module Serial No –("0" if not	00	00000000	0
14	0E	LCD module Serial No –("0" if not	00	00000000	0
15	0F	LCD module Serial No –("0" if not	00	00000000	0
16	10	Week of manufacture	2F	00101111	47
17	11	Year of manufacture	21	00100001	33
18	12	EDID Structure Ver # = 1	01	00000001	1
19	13	EDID revision # = 4	04	00000100	4
20	14	Video I/P definition = Digital I/P (80h)	A5	10100101	165
21	15	Max H image size = (Rounded to cm)	1F	00011111	31
22	16	Max V image size = (Rounded to cm)	11	00010001	17
23	17	Display Gamma	78	01111000	120
24	18	Feature support ( no DPMS, Active off, no RGB, timing BLK 1)	03	00000011	3
25	19	Red/Green Low bits (RxRy/GxGy)	EE	11101110	238
26	1A	Blue/White Low bits (BxBY/WxWy)	95	10010101	149
27	1B	Red X Rx	A3	10100011	163
28	1C	Red Y Ry	54	01010100	84
29	1D	Green X Gx	4C	01001100	76
30	1E	Green Y Gy	99	10011001	153
31	1F	Blue X Bx	26	00100110	38
32	20	Blue Y By	0F	00001111	15
33	21	White X Wx	50	01010000	80

34	22	White Y Wy	54	01010100	84
35	23	Established timings 1 (00h if not used)	00	00000000	0
36	24	Established timing 2 (00h if not used)	00	00000000	0
37	25	Manufacturer's timings (00h if not	00	00000000	0
38	26	Standard timing ID1 (01h if not used)	01	00000001	1
39	27	Standard timing ID1 (01h if not used)	01	00000001	1
40	28	Standard timing ID2 (01h if not used)	01	00000001	1
41	29	Standard timing ID2 (01h if not used)	01	00000001	1
42	2A	Standard timing ID3 (01h if not used)	01	00000001	1
43	2B	Standard timing ID3 (01h if not used)	01	00000001	1
44	2C	Standard timing ID4 (01h if not used)	01	00000001	1
45	2D	Standard timing ID4 (01h if not used)	01	00000001	1
46	2E	Standard timing ID5 (01h if not used)	01	00000001	1
47	2F	Standard timing ID5 (01h if not used)	01	00000001	1
48	30	Standard timing ID6 (01h if not used)	01	00000001	1
49	31	Standard timing ID6 (01h if not used)	01	00000001	1
50	32	Standard timing ID7 (01h if not used)	01	00000001	1
51	33	Standard timing ID7 (01h if not used)	01	00000001	1
52	34	Standard timing ID8 (01h if not used)	01	00000001	1
53	35	Standard timing ID8 (01h if not used)	01	00000001	1
54	36	Pixel Clock LSB	C0	11000000	192
55	37	Pixel Clock HSB	39	00111001	57
56	38	Horizontal Active (lower 8 bits)	80	10000000	128
57	39	Hor blanking (lower 8 bits)	18	00011000	24
58	3A	Horizontal Active/Horizontal blanking	71	01110001	113
59	3B	Vertical active(lower 8 bits)	38	00111000	56
60	3C	Vertical blanking(lower 8 bits)	28	00101000	40
61	3D	Vertical Active : Vertical Blanking	40	01000000	64
62	3E	Horizontal Sync Offset	30	00110000	48
63	3F	Horizontal Sync Pulse Width	20	00100000	32
64	40	Vertical Sync Offset , Sync Width	36	00110110	54
65	41	Horizontal Vertical Sync Offset/Width	00	00000000	0
66	42	Horizontal Image Size	35	00110101	53
67	43	Vertical image Size	AE	10101110	174
68	44	Horizontal Image Size / Vertical image	10	00010000	16
69	45	Horizontal Border = (0 for Notebook	00	00000000	0
70	46	Vertical Border = (0 for Notebook LCD)	00	00000000	0
71	47	Non-interlaced, Normal, no stereo, Separate sync, H/V pol Negatives,	1A	00011010	26
72	48	Detailed timing descriptor # 2 / Monitor	00	00000000	0
73	49	Flag (byte 2)	00	00000000	0



# AM-19201080-140A-A

Version: A

2024-09-25

74	4A	Reserved	00	00000000	0
75	4B	Descriptor # 2 is a dummy descriptor	10	00010000	16
76	4C	NA	00	00000000	0
77	4D	NA	30	00110000	48
78	4E	NA	3C	00111100	60
79	4F	NA	43	01000011	67
80	50	NA	43	01000011	67
81	51	NA	0F	00001111	15
82	52	NA	00	00000000	0
83	53	NA	0A	00001010	10
84	54	NA	20	00100000	32
85	55	NA	20	00100000	32
86	56	NA	20	00100000	32
87	57	NA	20	00100000	32
88	58	NA	20	00100000	32
89	59	NA	20	00100000	32
90	5A	NA	00	00000000	0
91	5B	Flag (byte 2)	00	00000000	0
92	5C	Reserved	00	00000000	0
93	5D	Monitor Descriptor # 3	FE	11111110	254
94	5E	Reserved	00	00000000	0
95	5F	Manufacture P/N	43	01000011	67
96	60	Manufacture P/N	53	01010011	83
97	61	Manufacture P/N	4F	01001111	79
98	62	Manufacture P/N	54	01010100	84
99	63	Manufacture P/N	20	00100000	32
100	64	Manufacture P/N	54	01010100	84
101	65	Manufacture P/N	39	00111001	57
102	66	New line character indicates	0A	00001010	10
103	67	Space	20	00100000	32
104	68	Space	20	00100000	32
105	69	Space	20	00100000	32
106	6A	Space	20	00100000	32
107	6B	Space	20	00100000	32
108	6C	Detailed timing descriptor # 4 / Monitor	00	00000000	0
109	6D	Flag (byte 2)	00	00000000	0
110	6E	Reserved	00	00000000	0
111	6F	Monitor Descriptor # 4	FE	11111110	254
112	70	Reserved	00	00000000	0
113	71	Manufacture P/N	53	01010011	83



# AM-19201080-140A-A

Version: A

2024-09-25

114	72	Manufacture P/N	4E	01001110	78
115	73	Manufacture P/N	45	01000101	69
116	74	Manufacture P/N	30	00110000	48
117	75	Manufacture P/N	30	00110000	48
118	76	Manufacture P/N	32	00110010	50
119	77	Manufacture P/N	42	01000010	66
120	78	Manufacture P/N	53	01010011	83
121	79	Manufacture P/N	32	00110010	50
122	7A	Manufacture P/N	2D	00101101	45
123	7B	Manufacture P/N	31	00110001	49
124	7C	New line character indicates	0A	00001010	10
125	7D	Space	20	00100000	32
126	7E	Extension Flag = 00	00	00000000	0
127	7F	Checksum	<b>F7</b>	11110111	247



## 8. External Dimensions

