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NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: NT068-C002ML

Version	01
Engineer	
Date	2020.3.23

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Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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1. General Specifications

NT068-C002ML is a TFT-LCD module. It is composed of a TFT-LCD panel, driver IC, FPC, a back light, CTP and HDMI board unit. The 6.86″ display area contains 480 x 1280 pixels and can display up to 16.7M colors. This product accords with RoHS environmental criterion.

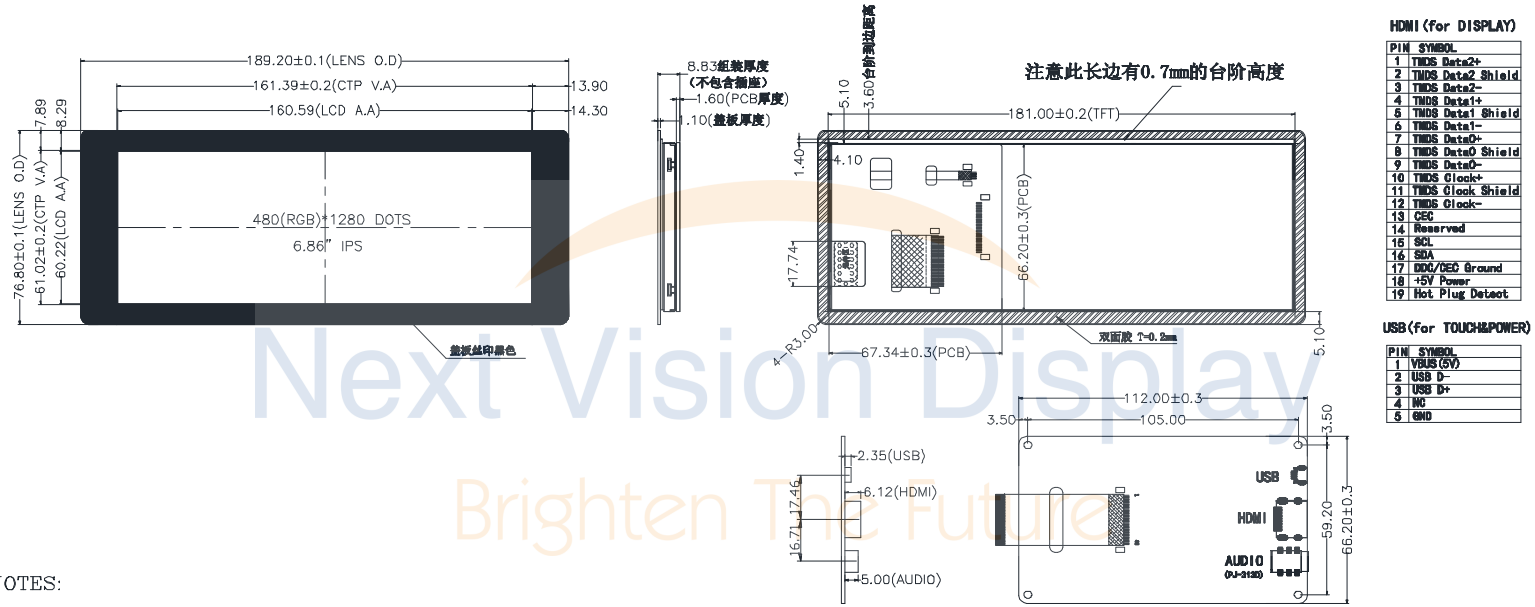
Item	Contents	Unit	Note
LCD Type	TFT	-	
Display color	16.7M		
Viewing Direction	ALL	O'Clock	
Operating temperature	-20~+70	℃	
Storage temperature	-30~+80	℃	
Module size	189.20×76.80×8.83	mm	
Active Area(W×H)	160.59×60.22	mm	
Number of Dots	480×1280	dots	
Power Supply Voltage	5.0V	V	
Module Interface Type	LCD Display: HDMI interface		
	CTP Touch: USB interface	-	
Backlight	White LED	pcs	
Weight	---	g	
Module Power consumption	500(MAX)	mA	

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2. Outline Drawing

ALL PAGES OF THIS VERSION APPROVED			
SIGNATURE:		DATE:	

REV.	Description	Date
01	New released	



HDMI (for DISPLAY)

PIN	SYMBOL
1	TMDS Data2+
2	TMDS Data2 Shield
3	TMDS Data2-
4	TMDS Data1+
5	TMDS Data1 Shield
6	TMDS Data1-
7	TMDS Data0+
8	TMDS Data0 Shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock Shield
12	TMDS Clock-
13	CEC
14	Reserved
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

USB (for TOUCH&POWER)

PIN	SYMBOL
1	VBUS (5V)
2	USB D-
3	USB D+
4	NC
5	GND

NOTES:

1. DISPLAY TYPE: 6.86"TFT_LCD/TRANSMISSIVE
2. OPERATING TEMPERATURE: −20°C~70°C
3. STORAGE TEMPERATURE: −30°C~80°C
4. VIEWING ANGLE: ALL
5. BACKLIGHT BRIGHTNESS: 400CD/M2
6. DRIVER: /
7. RESOLUTION: 480(RGB)X1280
8. INTERFACE: LCD:HDMI/CTP:USB
9. UNMARK TOLERANCES: ±0.2MM

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GENERAL TOL 0.30	ALL UNITS: MM	DATE	MODEL NUMBER		SHEET: 1 OF 1
DWN:			NT068-C002ML		
CHK:					DATE:
APP:			DO NOT SCALE THIS DRAWING.	PROJECTION	

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3. Absolute Maximum Ratings(Ta=25℃)

3.1 Environmental Absolute Maximum Ratings.

Item	Storage		Operating		Note
	MIN.	MAX.	MIN.	MAX.	
Ambient Temperature	-30℃	80℃	-20℃	70℃	1,2
Humidity	-	-	-	-	3

1. The response time will become lower when operated at low temperature.
2. Background color changes slightly depending on ambient temperature.

   The phenomenon is reversible.
3. Ta<=40℃:85%RH MAX.

   Ta>=40℃:Absolute humidity must be lower than the humidity of 85%RH at 40℃.

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4. Electrical Specifications and Instruction Code

4.1 Electrical characteristics(Vss=0V ,Ta=25℃)

Parameter		Symbol	Min	Typ	Max	Unit	Note
PCB operating voltage		VUSB	-	5.0	-	V	
LCD I/O operating voltage		V_{DD}	3.0	3.3	3.6	V	
Input voltage	'H'	V_{IH}	0.7V_{DD}	-	V_{DD}	V	
	'L'	V_{IL}	VSS	-	0.3V_{DD}	V	
Output voltage	'H'	V_{OH}	V_{DD}-0.4	-	V_{DD}	V	
	'L'	V_{OL}	VSS	-	VSS+0.4	V	

Note:

1: When an optimum contrast is obtained in transmissive mode.
2: Tested in 1╳1 chessboard pattern.

4.2 CTP Characteristics

Item	Specification	Unit	Note
Panel Type	Glass Cover + Glass Sensor	V	
Resolution	480 × 1280	pixels	
Surface Hardness	≥6H	-	
Transparency	＞82%	-	
Interface Type	USB	-	
Support Points	5	-	
Sampling Rate	20~100	Hz	
Supply voltage	3.3	V	

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4.3 Interface signals

4.3.1 HDMI Interface Description

Pin No.	Symbol	Function
1	TMDS Data2+	Positive side of channel 2 TMDS low-voltage signal differential input pair
2	TMDS Data2 Shield	Ground
3	TMDS Data2-	Negative side of channel 2 TMDS low-voltage signal differential input pair
4	TMDS Data1+	Positive side of channel 1 TMDS low-voltage signal differential input pair
5	TMDS Data1 Shield	Ground
6	TMDS Data1-	Negative side of channel 1 TMDS low-voltage signal differential input pair
7	TMDS Data0+	Positive side of channel 0 TMDS low-voltage signal differential input pair
8	TMDS Data0 Shield	Ground.
9	TMDS Data0-	Negative side of channel 0 TMDS low-voltage signal differential input pair
10	TMDS Clock+	Positive side of reference clock. TMDS low-voltage signal differential input pair
11	TMDS Clock Shield	Ground.
12	TMDS Clock-	Negative side of reference clock. TMDS low-voltage signal differential input pair
13	CEC	No Connection
14	Reserved(N.C.)	No connection.
15	SCL	DDC SCL
16	SDA	DDC SDA
17	DDC/CEC Ground	Ground
18	+5V Power	+5V Power
19	Hot Plug Detect	Hot Plug Detect

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4.3.2 CTP interface:

Pin No	Symbol	Function
1	VUSB	USB Power
2	D-	USB Data-
3	D+	USB Data+
4	NC	NC
5	GND	Power Ground

5. Optical Characteristics

Item	Symbol		**Condition**	Min.	Typ.	Max.	Unit	Note
Brightness	Bp		θ=0° Φ=0°	-	400	-	Cd/m^2	1
Uniformity	⊿Bp			-	80	-	%	1,2
Viewing Angle	3:00		Cr≥10	-	80	-	Deg	3
	6:00			-	80	-		
	9:00			-	80	-		
	12:00			-	80	-		
Contrast Ratio	Cr		θ=0° Φ=0°	-	800	-		4
Response Time	T_r			-	25	40	ms	5
	T_f			-			ms	
Color of CIE Coordinate	W	x	θ=0° Φ=0°	0.283	0.313	0.343	-	1,6
		y		0.293	0.323	0.353	-	
	R	x		0.588	0.618	0.648	-	
		y		0.276	0.306	0.346	-	
	G	x		0.276	0.306	0.346	-	
		y		0.497	0.527	0.557	-	
	B	x		0.109	0.139	0.179	-	
		y		0.068	0.098	0.128	-	
NTSC Ratio	S			-	60	-	%	

Note：The parameter is slightly changed by temperature, driving voltage and materiel

Note 1: The data are measured after LEDs are turned on for 5 minutes. LCM displays full white.

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