Next Vision Display
Brighten The Future

NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: NT101-N001MI

Version	1.0
Engineer	
Date	2022-05-12

Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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■ GENERAL INFORMATION

Item	Specification	Unit
LCD Type	TFT / Transflective / Normally black	/
Size	10.1	Inch
Viewing Direction	Full viewing angle	O'clock
Gray Scale Inversion Direction	-	O'clock
LCM (W × H × D)	235.00 × 143.00 × 4.50	mm^3
Active Area (W × H)	222.72 × 125.28	mm^2
Pixel Pitch	0.2175 × 0.2088	mm^2
Number of Dots	1024 (RGB) × 600	/
Driver IC	-	/
Backlight Type	42-chip white LEDs	/
Interface Type	3- / 4-lane LVDS	/
Color Depth	16.2M	/
Pixel Configuration	R.G.B Vertical Stripe	/
Top Polarizer Surface Treatment	Hard-coating (3H)	/
Input Voltage	3.3	V
With / Without TSP	Without TP	/
TP Surface Treatment	-	/
Weight	265	g

Note 1: ROHS compliant;
Note 2: LCM weight tolerance: ±5%.

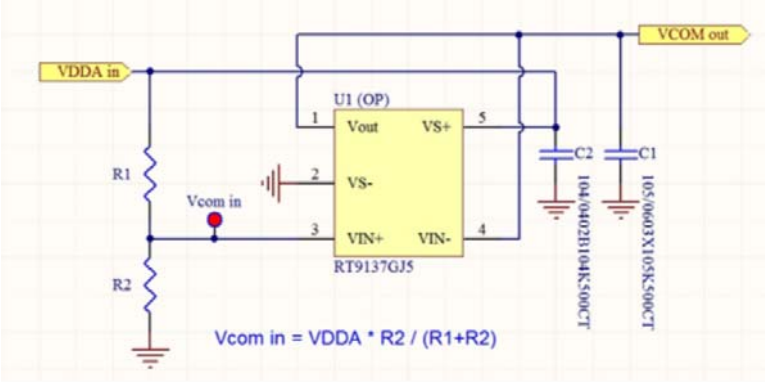
■ ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Unit
Power Supply Voltage	VDD	-0.5	3.96	V
	AVDD	-0.5	14.85	V
	VGH	-0.3	VGL+42	V
	VGL	-25	0.3	V
Operating Temperature	TOP	-30	85	℃
Storage Temperature	TST	-30	85	℃

■ ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	VDD	3.0	3.3	3.6	V	
	AVDD	12.4	12.5	12.6	V	
	VGH	19.4	20	20.6	V	
	VGL	-10.3	-10	-9.7	V	
	VCOMin	-	5.7	-	V	Note 1, 4
Input Signal Voltage	VIH	0.7VDD	-	VDD	V	Note 2
	VIL	0	-	0.3VDD	V	
Current of Power Supply	IDD	-	20.9	-	mA	VDD=3.3V
	IAVDD	-	39	-	mA	AVDD=12.5V
	IGH	-	0.55	-	mA	VGH=20V
	IGL	-	1.9	-	mA	VGL=-10V
	IVCOM	-	0.001	-	mA	VCOM=5.7V

Note 1: Please adjust VCOM to make the flicker level minimum.
Note 2: DITH, SELB, SHLR, UPDN.
Note 3: Gamma internal resistance do not need to Gamma voltage.
Note 4: VCOM reference circuit:



■ BACKLIGHT CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Forward Voltage	Vf	-	19.2	20.4	V	Ta=25±2℃, 60%RH±5%
Forward Current	If	-	161	-	mA	
Power Consumption	W_{BL}	-	-	3.2844	W	
Operating Life Time	-	20000	-	-	Hrs.	

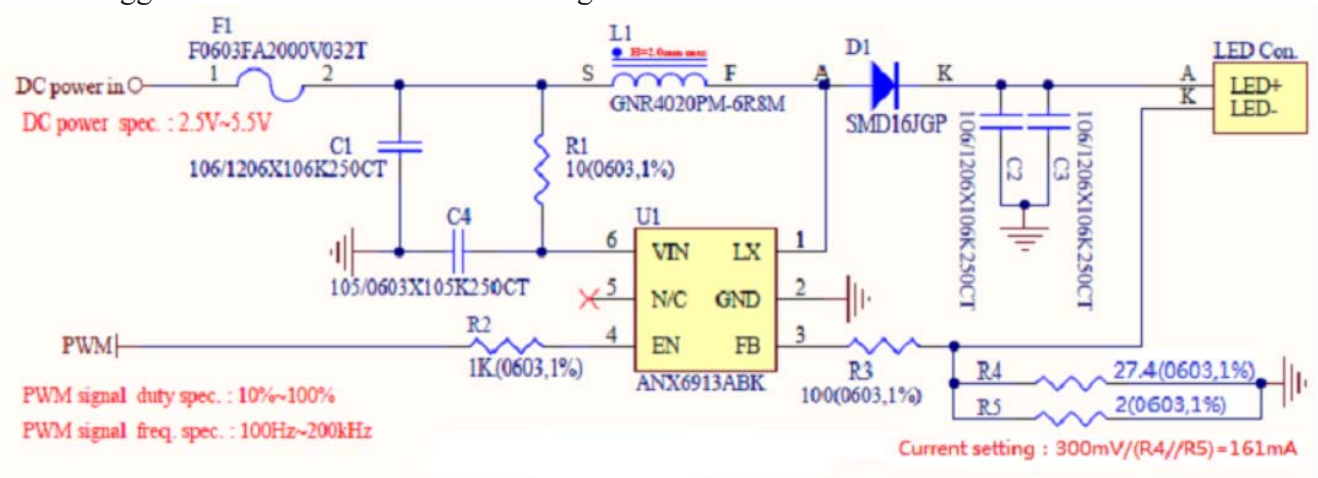
Note 1: LED life time can be defined as the time in which it continues to operate under the condition: Ta=25±3℃, typical IL value indicated in the above table until the brightness becomes less than 50%.

Note 2: The "LED life time" is defined as the module brightness decrease to 50% original brightness at Ta=25℃ and IL=161mA. The LED life time could be decreased if operating IL is larger than 161mA. The constant current driving method is suggested.

Note 3: LED Light Bar Circuit



Note 4: Suggested Schematic of LED Back-Light Driver



■ ELECTRO-OPTICAL CHARACTERISTICS

Ta=25℃±2℃. VDD=3.3V, If=161mA.

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark	Notes
Response Time		Tr + Tf	θ=0°	-	25	30	ms	FIG 1, 2	4
Contrast Ratio		Cr		600	800	-	---	FIG 1, 3	1
Luminance Uniformity		δ White		-	70	-	%	FIG 1, 3	3
Surface Luminance		Lv		400	500	-	cd/m²	FIG 1, 3	2
Viewing Angle Range		θ	Ø = 90°	75	85	-	deg	FIG 1, 4	1, 6
			Ø = 270°	75	85	-	deg		
			Ø = 0°	75	85	-	deg		
			Ø = 180°	75	85	-	deg		
CIE (x,y) Chromaticity	Red	x	θ=0°	0.512	0.562	0.612	---	FIG 1, 3	5
		y		0.291	0.341	0.391			
	Green	x		0.244	0.294	0.344			
		y		0.507	0.557	0.607			
	Blue	x		0.107	0.157	0.207			
		y		0.059	0.109	0.159			
	White	x		0.250	0.300	0.350			
		y		0.270	0.320	0.370			
NTSC		-	-	-	45	-	%	-	-
Reflection		R(%)	-	-	5.0	5.5	%	-	8

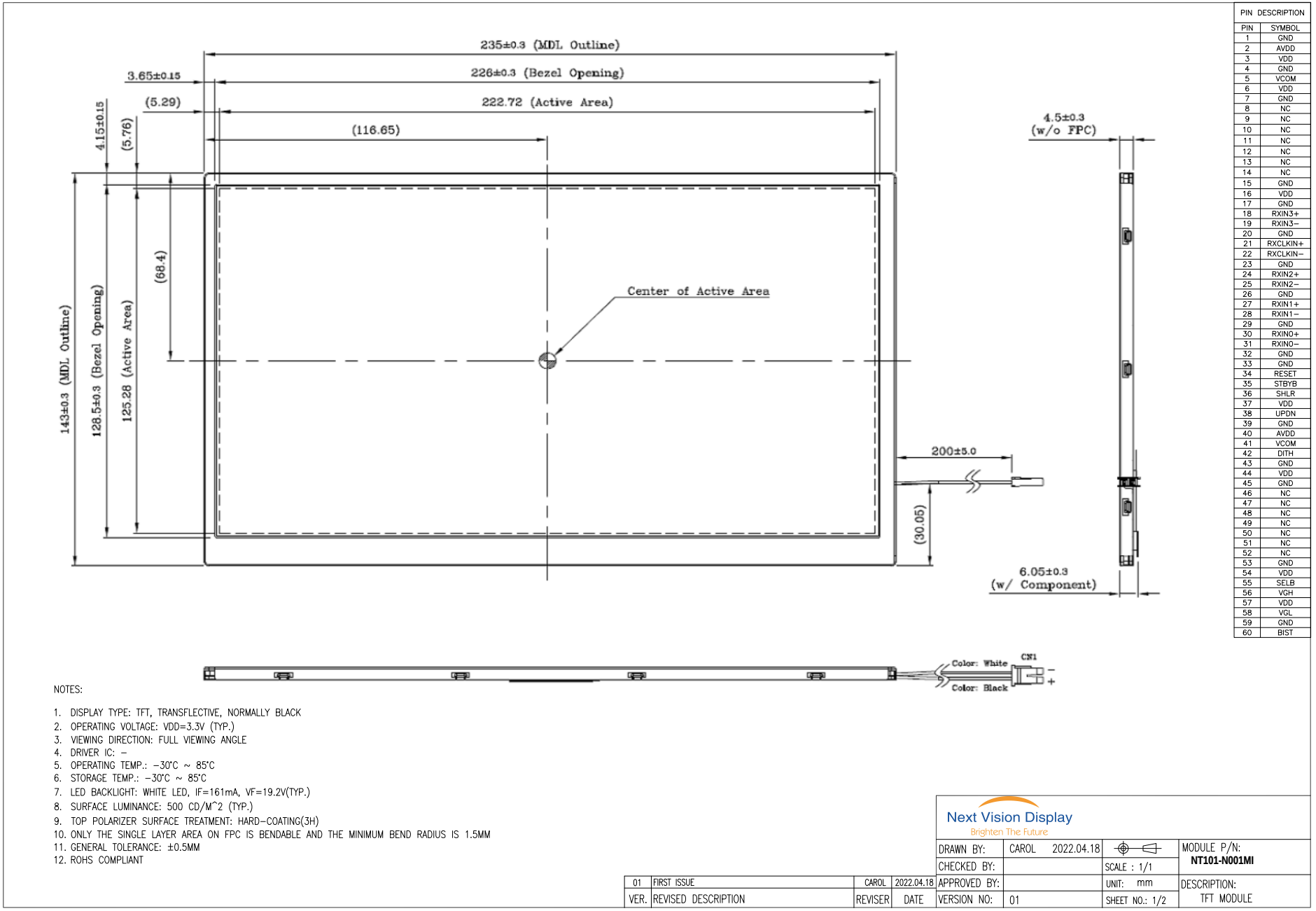
■ INTERFACE DESCRIPTION

FPC connector is used for electronics interface. The recommended model is FH28-60S-0.5SH manufactured by Hirose.

Pin No.	Symbol	I/O/P	Description
1	GND	P	Ground
2	AVDD	P	Power for analog circuit
3	VDD	P	Power voltage for digital circuit
4	GND	P	Ground
5	VCOM	P	Common voltage
6	VDD	P	Power voltage for digital circuit
7	GND	P	Ground
8	NC	-	No connection
9	NC	-	No connection
10	NC	-	No connection
11	NC	-	No connection
12	NC	-	No connection
13	NC	-	No connection
14	NC	-	No connection
15	GND	P	Ground
16	VDD	P	Power voltage for digital circuit
17	GND	P	Ground
18	RXIN3+	I	+LVDS differential data input
19	RXIN3-	I	+LVDS differential data input
20	GND	P	Ground
21	RXCLKIN+	I	+LVDS differential clock input
22	RXCLKIN-	I	-LVDS differential clock input
23	GND	P	Ground
24	RXIN2+	I	+LVDS differential data input
25	RXIN2-	I	+LVDS differential data input
26	GND	P	Ground
27	RXIN1+	I	+LVDS differential data input
28	RXIN1-	I	+LVDS differential data input
29	GND	P	Ground
30	RXIN0+	I	+LVDS differential data input
31	RXIN0-	I	+LVDS differential data input
32	GND	P	Ground
33	GND	P	Ground
34	RESET	I	Global reset pin. Active low to enter reset state. Suggest to connecting with RC reset circuit for stability. Normally pull high. (R=10KΩ, C=0.1uF)

35	STBYB	I	Standby mode, Normally pulled high STBYB=”1”, normal operation STBYB=”0”, timing controller, source driver will turn off, all output are High-Z
36	SHLR	I	Left or right display control
37	VDD	P	Power voltage for digital circuit
38	UPDN	I	Up or down display control
39	GND	P	Ground
40	AVDD	P	Power for analog circuit
41	VCOM	P	Common voltage
42	DITH	I	Dithering function enable control. Normally pull low DITHER=”1”, LVDS input data is 8 bits DITHER=”0”, LVDS input data is 6 bits
43	GND	P	Ground
44	VDD	P	Power voltage for digital circuit
45	GND	P	Ground
46	NC	-	No connection
47	NC	-	No connection
48	NC	-	No connection
49	NC	-	No connection
50	NC	-	No connection
51	NC	-	No connection
52	NC	-	No connection
53	GND	P	Ground
54	VDD	P	Power voltage for digital circuit
55	SELB	I	6bit/8bit mode select SELB=”0”, LVDS input data is 8 bits SELB=”1”, LVDS input data is 6 bits
56	VGH	I	Gate ON voltage
57	VDD	P	Power voltage for digital circuit
58	VGL	I	Gate OFF voltage
59	GND	P	Ground
60	BIST	I	Normal operation / BIST pattern select BIST=”0” (GND): Normal operation BIST=”1” (3.3V): BIST mode

■ EXTERNAL DIMENSIONS



PIN	SYMBOL
1	GND
2	AVDD
3	VDD
4	GND
5	VCOM
6	VDD
7	GND
8	NC
9	NC
10	NC
11	NC
12	NC
13	NC
14	NC
15	GND
16	VDD
17	GND
18	RXIN3+
19	RXIN3−
20	GND
21	RXCLKIN+
22	RXCLKIN−
23	GND
24	RXIN2+
25	RXIN2−
26	GND
27	RXIN1+
28	RXIN1−
29	GND
30	RXIN0+
31	RXIN0−
32	GND
33	GND
34	RESET
35	STBYB
36	SHLR
37	VDD
38	UPDN
39	GND
40	AVDD
41	VCOM
42	DITH
43	GND
44	VDD
45	GND
46	NC
47	NC
48	NC
49	NC
50	NC
51	NC
52	NC
53	GND
54	VDD
55	SELB
56	VGH
57	VDD
58	VGL
59	GND
60	BIST

PIN DESCRIPTION

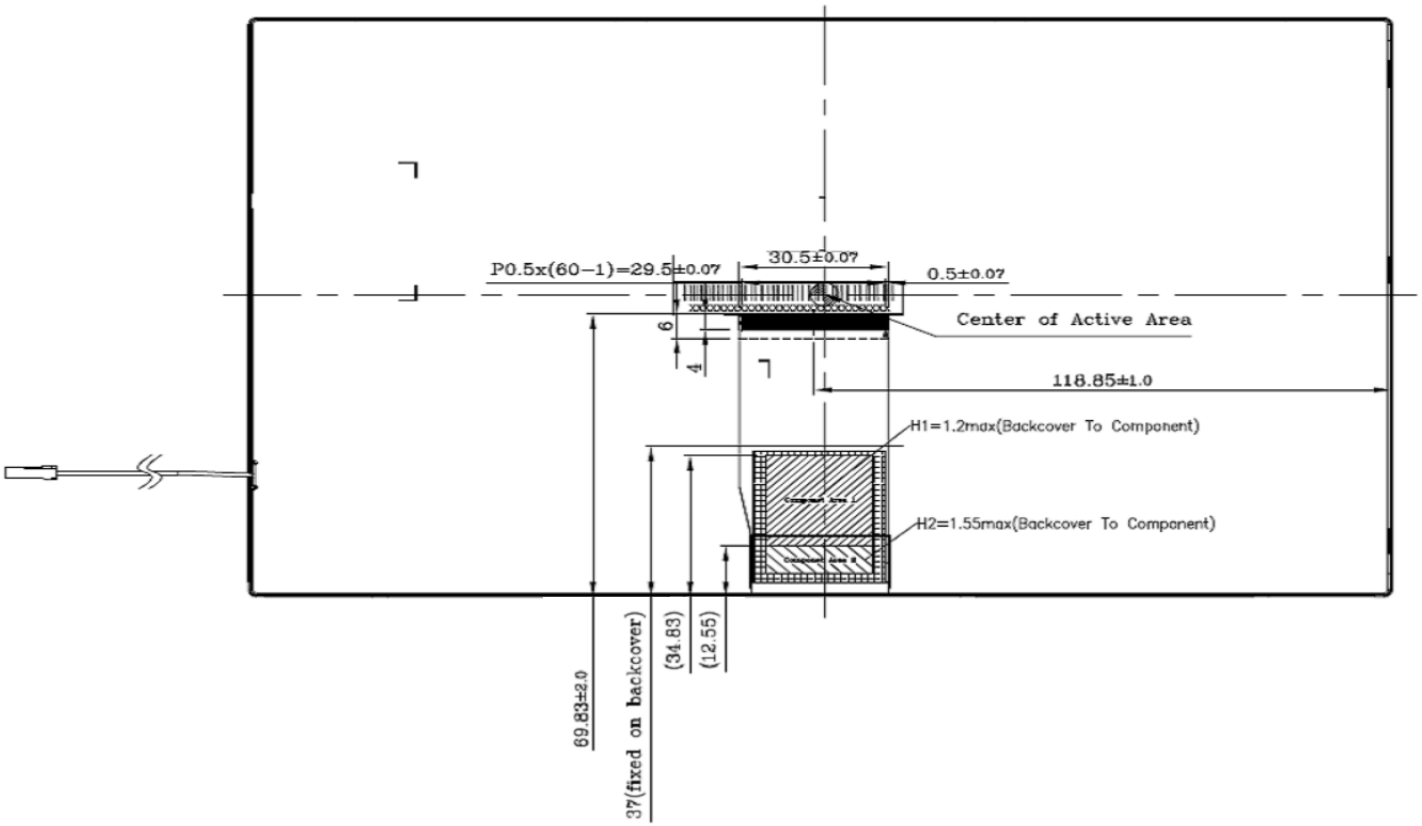
NOTES:

1. DISPLAY TYPE: TFT, TRANSFLECTIVE, NORMALLY BLACK
2. OPERATING VOLTAGE: VDD=3.3V (TYP.)
3. VIEWING DIRECTION: FULL VIEWING ANGLE
4. DRIVER IC: –
5. OPERATING TEMP.: −30°C ~ 85°C
6. STORAGE TEMP.: −30°C ~ 85°C
7. LED BACKLIGHT: WHITE LED, IF=161mA, VF=19.2V(TYP.)
8. SURFACE LUMINANCE: 500 CD/M^2 (TYP.)
9. TOP POLARIZER SURFACE TREATMENT: HARD−COATING(3H)
10. ONLY THE SINGLE LAYER AREA ON FPC IS BENDABLE AND THE MINIMUM BEND RADIUS IS 1.5MM
11. GENERAL TOLERANCE: ±0.5MM
12. ROHS COMPLIANT

VER.	REVISED DESCRIPTION	REVISER	DATE
01	FIRST ISSUE	CAROL	2022.04.18

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DRAWN BY:	CAROL 2022.04.18	SCALE : 1/1	MODULE P/N: NT101-N001MI
CHECKED BY:		UNIT: mm	
APPROVED BY:		SHEET NO.: 1/2	DESCRIPTION: TFT MODULE
VERSION NO:	01		



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DRAWN BY:	CAROL	2022.04.18			MODULE P/N:	
CHECKED BY:				SCALE : 1/1	**NT101-N001MI**	
APPROVED BY:				UNIT: mm	DESCRIPTION:	
VERSION NO:	01			SHEET NO.: 2/2	TFT MODULE	

VER.	REVISED DESCRIPTION	REVISER	DATE
01	FIRST ISSUE	CAROL	2022.04.18