

PRODUCT SPECIFICATIONS

CUSTOMER	SEGA SAMMY CREATION INC.
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MODEL NAME	DPD1563-ATS-T11		
PRODUCT DESCRIPTION	15.6" LCD w/Wireless Charger Module		
SIGNATURE	PREPARED BY	REVIEWED BY	APPROVED BY
	Date:	Date:	Date:

SSC USE Only

SSC PARTS No.				
SSC DESCRIPTION				
SSC SUB ASSY No.				
SIGNATURE	PREPARED BY	REVIEWED BY	APPROVED BY	RECEIPT STAMP
DISTRIBUTION	MAKER		SSC	
				AMENDMENT

LITEMAX Electronics Inc.

AUTHORIZED SIGNATURE



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LITEMAX

DPD1563-AST-T11

15.6" LCD w/Wireless Charger Module

15.6",500nits,1920x1080,eDP,T/TC-PCT-USB(T=85%) 617x240.5x4mm,w/AF,
LID on LCM,AD68862P,O/B, Wireless Charger,DC12V,5in1,V1(SSC)

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Record of Revision

Version	Date	Page	Description	Remark
V1	Apr/11/2025	all	Initial release	

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1 General Description

The **DPD1563-ATS-T11** is a 15.6 inch industrial grade LCD with touch and wireless charger function for button deck. The LED backlight technology ensures high reliability and low power consumption, suitable for gaming application.

1.1 Features

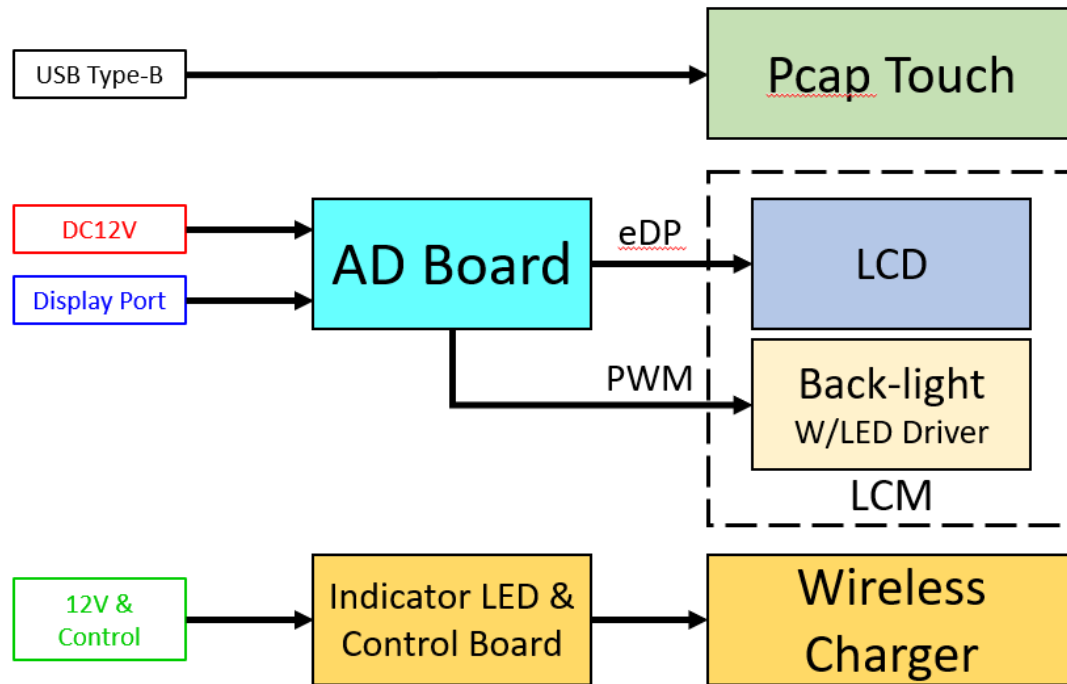
- Resolutions: 1920 x 1080
- High Brightness 500 nits
- Wireless charger function
- Pcap Touch function
- Cover Glass T=4.0mm With AF Coating
- BL MTBF: 50,000 hours

1.2 General Specifications

Model Name	DPD1563-ATS-T11
Description	15.6" TFT LCD, 500 nits LED backlight, 1920x1080
Panel	AUO,15.6",G156HAN05.0
Screen Size	15.6"
Display Area (mm)	344.16(H) x 193.59(V)
Brightness	500 cd/m ²
Resolution	1920x1080
Aspect Ratio	16 : 9
Contrast Ratio	1300 : 1
Pixel Pitch (mm)	0.17925(H) x 0.17925(V)
Pixel Per Inch (PPI)	141
Viewing Angle	178°(H),178°(V)
Color Saturation (NTSC)	85%
Display Colors	16.2M
Response Time (Typical)	25ms
Panel Interface	eDP
Input Interface	DP
Input Power	DC 12V (Input Voltage: Min. 10.8V , Max. 13.2V , Input Current: 2A Max.)
Power Consumption	11.9W
OSD Key	4 Keys (Power Switch, Menu, <, >)
OSD Control	Brightness, Color, Contrast, Auto Turing, H/V Position...etc
Pcap Touch Interface	USB
Number of Touch Point	10 Point
Touch Transparency	Light transmission ≥ 88%
Touch Control IC	EETI 81W46
Touch FW	eGalaxWorks81X46~20241112-LiteMax-A16U-V00 T1
Dimensions (mm)	619 x 244.5 x 45.7
Weight (Net)	4.3kg
Operating Temperature	0 °C ~ 50 °C
Storage Temperature	-20 °C ~ 60 °C
Wireless Charger Input Voltage	DC 12V/2A
Wireless Charger Output Power	10W (Max. load <1. 5A@10mm)

DPD= Panel + LED Driving Board + AD Control Board + TP + Wireless charger + Chassis

1.3 Block Diagram



1. USB: USB B TYPE FEMALE Litemax part no.: 810501602000
2. AD68862 12V: MOLEX 39-01-4043 Litemax part no.: 800402003080
3. AD68862 Display port: Display port Litemax part no.: 747000020123
4. 12V & control: MOLEX 39-01-4063 Litemax part no.: 800402203000

USB B TYPE

Pin No	Function
1	V _{Bus}
2	D-
3	D+
4	GND

AD68862 12V Pin Assignment (MOLEX 39-01-4043)

Pin No	Function
1	DC 12V
2	NC
3	GND
4	NC

AD68862 Display port: Display port

Pin No.	Function	Pin No.	Function
1	RX3-	11	GND
2	GND	12	RX0+
3	RX3+	13	GND
4	RX2-	14	GND
5	GND	15	AUX+
6	RX2+	16	GND
7	RX1-	17	AUX-
8	GND	18	Hot plug detect
9	RX1+	19	GND
10	RX0-	20	DP +3.3V

12V & control: MOLEX 39-01-4063

PIN No	Symbol	Description
1	Vin	DC +12V
2	Vin	DC +12V
3	EN	ON/OFF Control
4	Status	Wireless charger module Status Feedback
5	GND	GND
6	GND	GND

2 Electrical Characteristics

2.1 Absolute Maximum Ratings

Absolute Ratings of TFT LCD Module

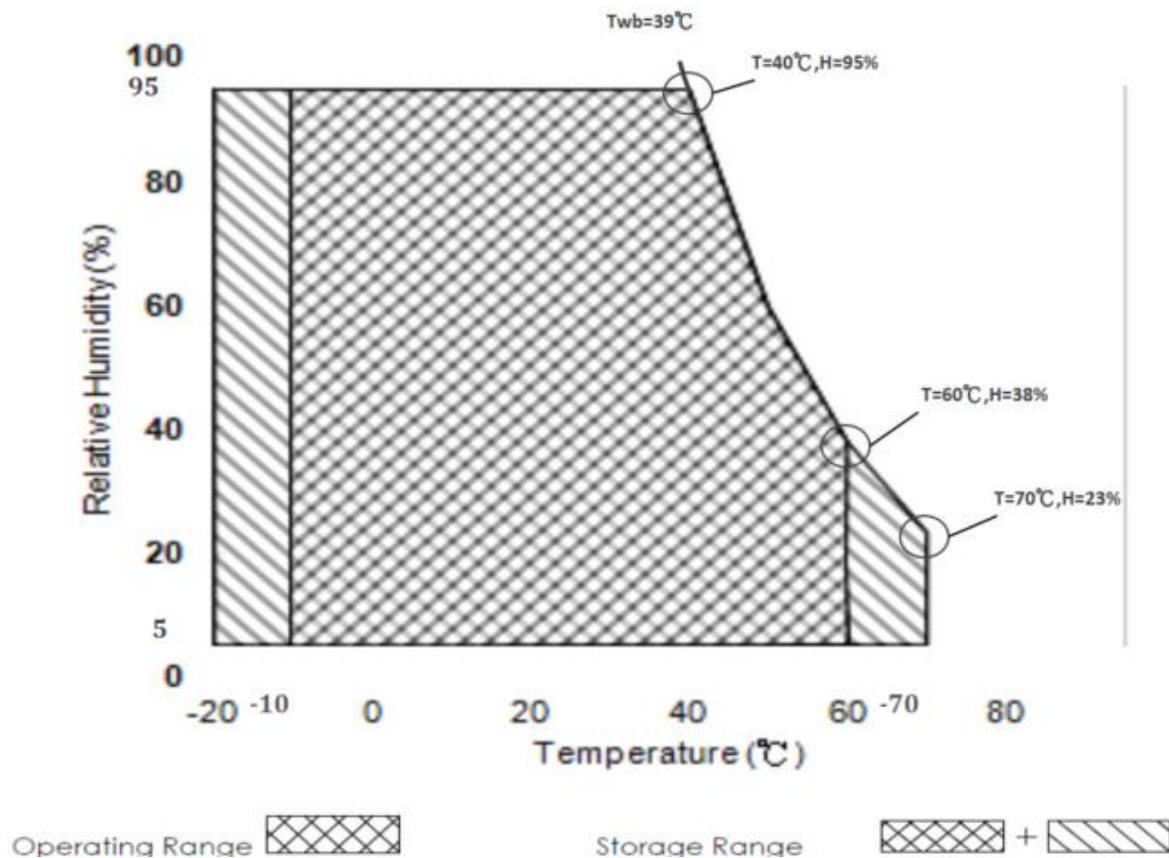
Item	Symbol	Min	Max	Unit	Conditions
Logic/LCD Drive	Vin	-0.3	+4.0	[Volt]	Note 1,2

Absolute Ratings of Environment

Item	Symbol	Min	Max	Unit	Conditions
Operating	TOP	-10	+60	[°C]	
Operation Humidity	HOP	5	95	[%RH]	
Storage Temperature	TST	-20	+70	[°C]	
Storage Humidity	HST	5	95	[%RH]	

Note 1: At Ta (25°C)

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



2.2 TFT-LCD Panel driving

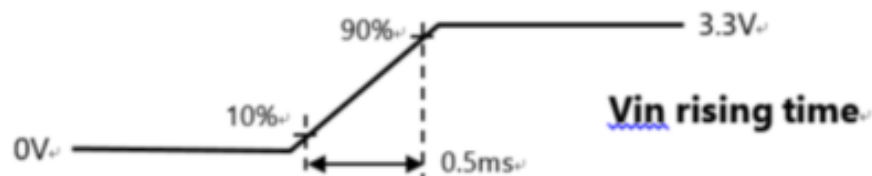
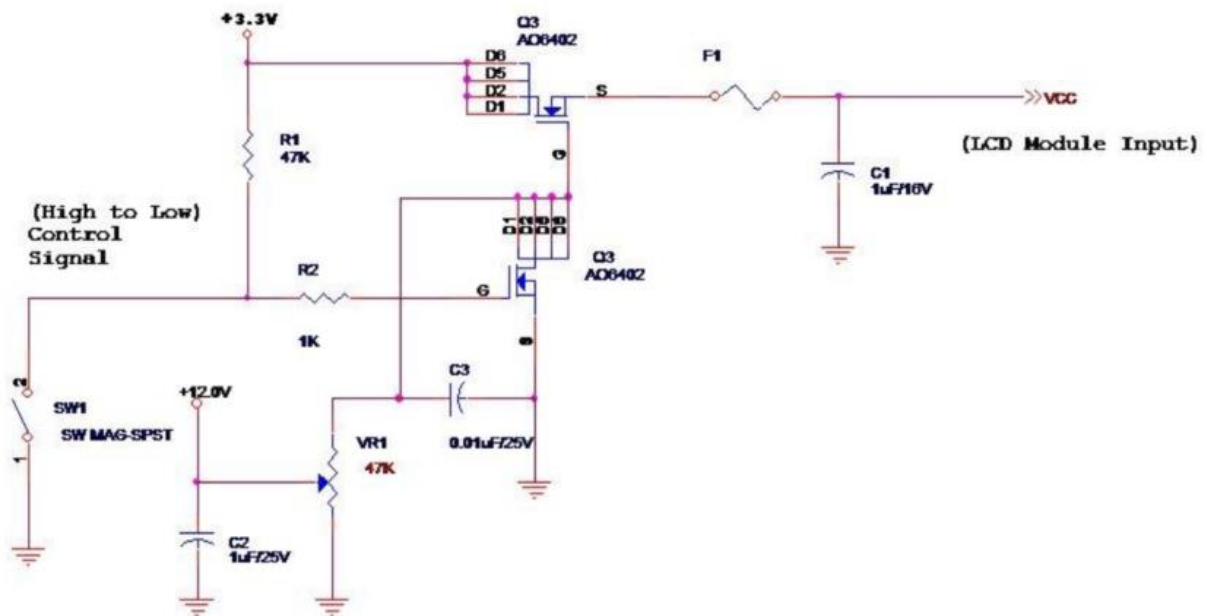
The Power Specification Are Measured Under 25°C And Frame Frequency Under 60Hz.

Symble	Parameter	Min	Typ	Max	Units	Remark
VDD	Logic/LCD Drive Voltage	3.0	3.3	3.6	[Volt]	
PDD	VDD Power	-	-	0.8	[Watt]	All Black Pattern (VDD=3.3V, at 60Hz)
IDD	IDD Current	-	-	0.22	[mA]	All Black Pattern (VDD=3.3V, at 60Hz)
IRush	Inrush Current	-	-	2000	[mA]	Note 1
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	100	[mV] p-p	All Black Pattern (VDD=3.3V, at 60Hz)

Note 1 : Maximum Measurement Condition : White Pattern at 3.3V driving voltage. (Pmax=V3.3 x Iwhite)

Typical Measurement Condition: Mosaic Pattern

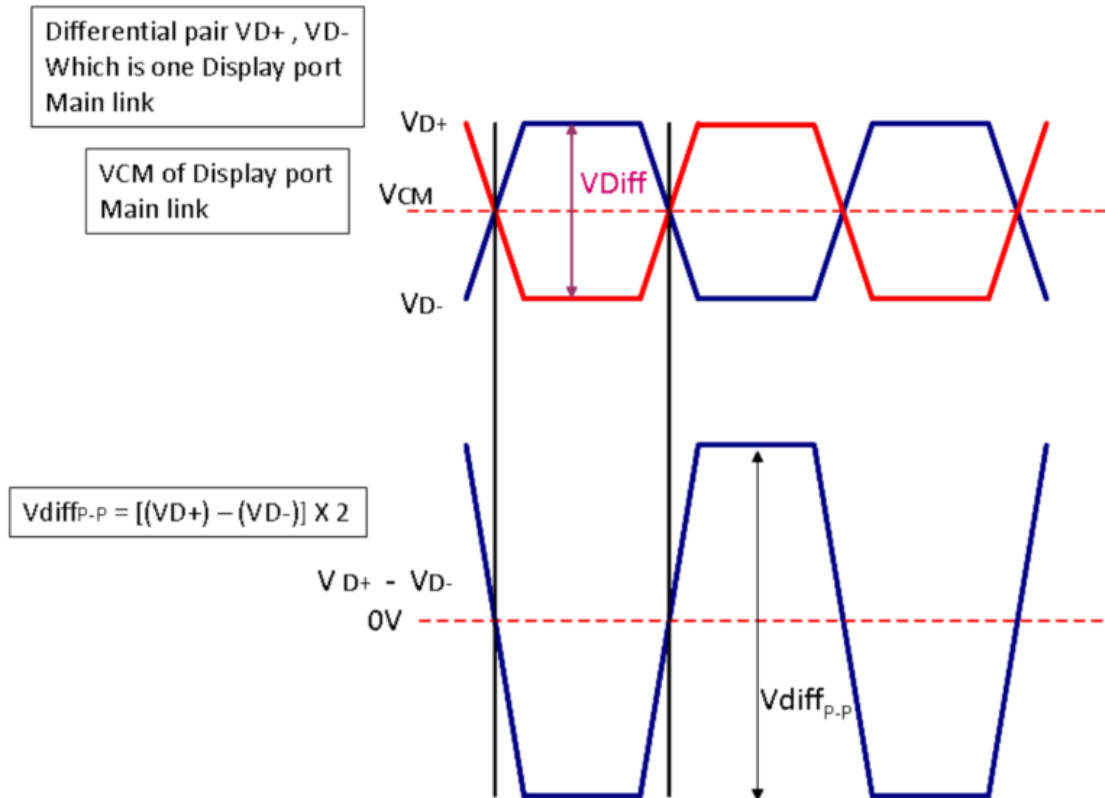
Note 2 : Measure Condition



2.3 Signal Electrical Characteristics

Input Signals Shall be Low or High-Impedance State When VDD is Off. Signal Electrical Characteristics Are as Follows.

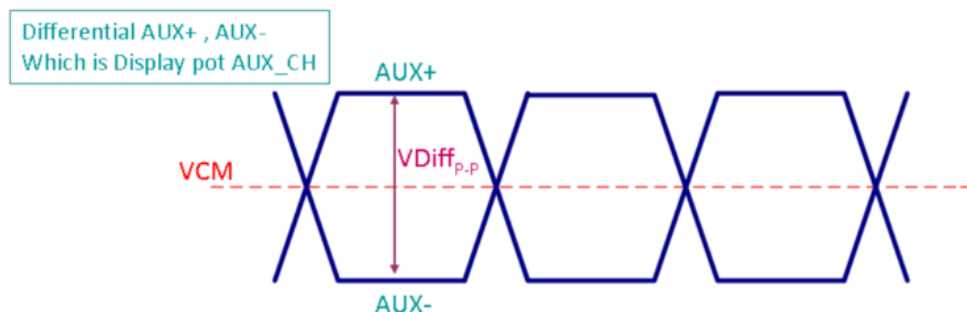
Display Port main link signal:



Display port main link					
		Min	Typ	Max	unit
VCM	RX input DC Common Mode Voltage		0		V
VDiff_{P-P}	Peak-to-peak Voltage at a receiving Device	150		1320	mV

Fallow as VESA display port standard V1.1a

2.4 Display Port AUX_CH Signal:



Display port AUX_CH					
		Min	Typ	Max	unit
VCM	AUX DC Common Mode Voltage		0		V
VDiff_{P-P}	AUX Peak-to-peak Voltage at a receiving Device	0.4	0.6	0.8	V

Fallow as VESA display port standard V1.1a.

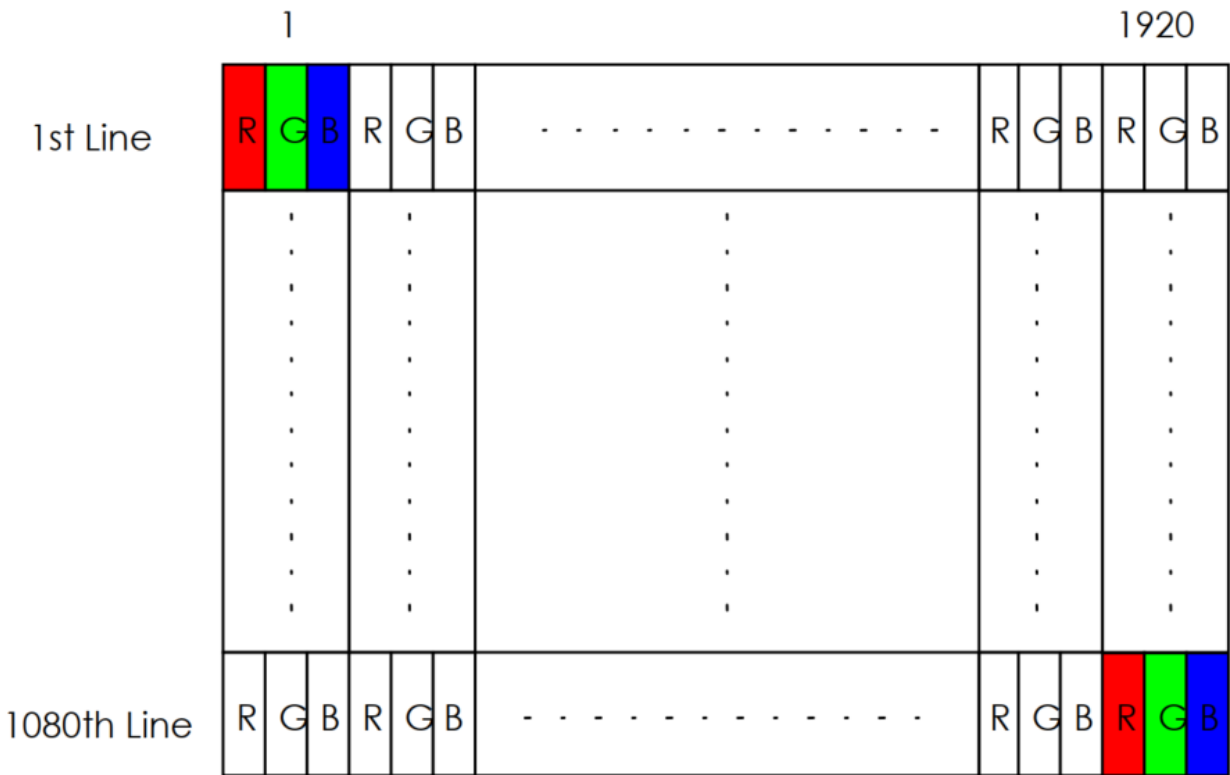
Display Port VHPD signal:

Display port VHPD					
		Min	Typ	Max	unit
VHPD	HPD Voltage	2.25		3.6	V

Fallow as VESA display port standard V1.1a.

2.5 Signal Interface Characteristic

Pixel Format Image
Following Figure Shows The Relationship of The Input Signals And LCD Pixel Format

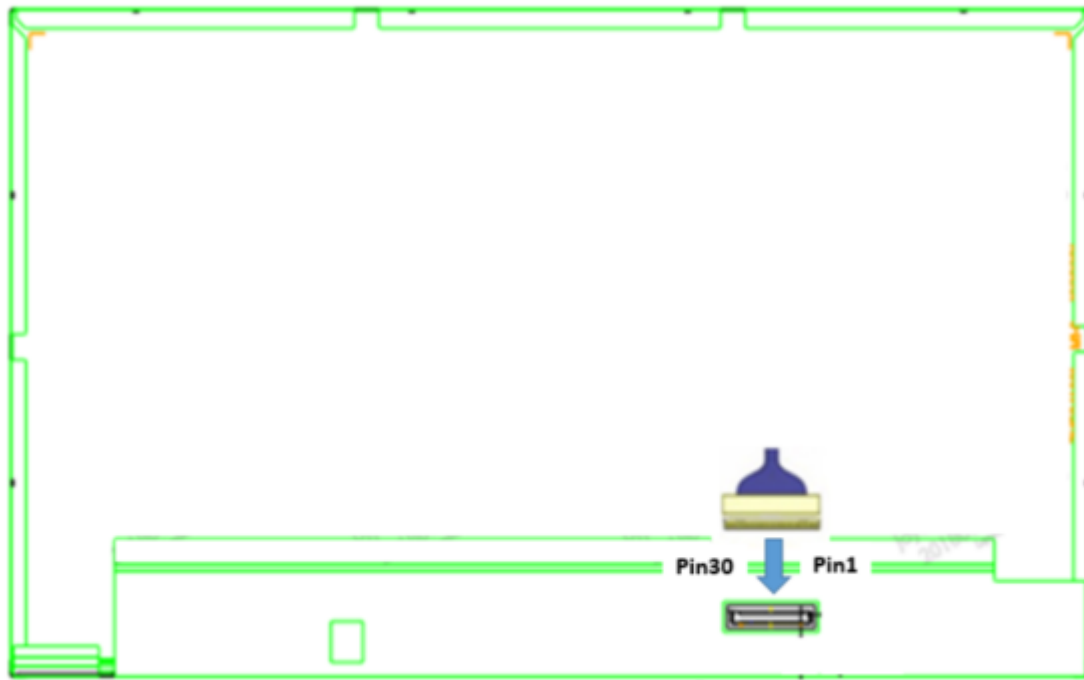


2.6 Pin Assignment

eDP Lane is a Differential Signal Technology for LCD Interface and High Speed Data Transfer Device.

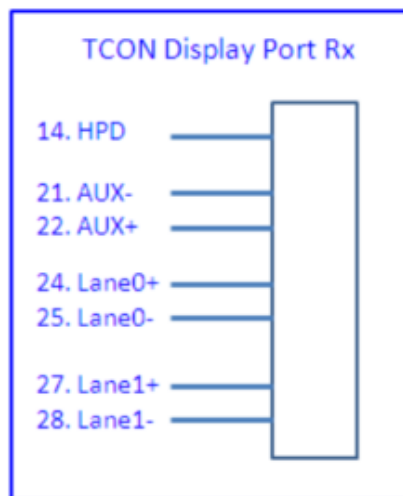
PIN No	Symbol	Function
1	NC	No Connect (Reserved for CM)
2	BL_PWR	Backlight power
3	BL_PWR	Backlight power
4	BL_PWR	Backlight power
5	BL_PWR	Backlight power
6	NC	No connect (Reverse for AUO TEST only)
7	NC	No connect (Reverse for AUO TEST only)
8	BL PWM DIM	System PWM signal Input
9	BL_Enable	Backlight On / Off
10	BL_GND	Backlight_ground
11	BL_GND	Backlight_ground
12	BL_GND	Backlight_ground
13	BL_GND	Backlight_ground
14	HPD	HPD signal pin
15	LCD GND	LCD logic and driver ground
16	LCD GND	LCD logic and driver ground
17	NC	No connect (Reverse for LCD Panel Self Test Enable)
18	LCD_VCC	LCD logic and driver power
19	LCD_VCC	LCD logic and driver power
20	H_GND	High Speed Ground
21	AUX_CH_N	Comp Signal Auxiliary Ch.
22	AUX_CH_P	True Signal Auxiliary Ch.
23	H_GND	High Speed Ground
24	Lane0_P	True Signal Link Lane 0
25	Lane0_N	Comp Signal Link Lane 0
26	H_GND	High Speed Ground
27	Lane1_P	True Signal Link Lane 1
28	Lane1_N	Comp Signal Link Lane 1
29	H_GND	High Speed Ground
30	NC	No Connect

2.7 Connector Illustration



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

Note3 : Connector Illustration



2.8 Interface Timing Characteristics

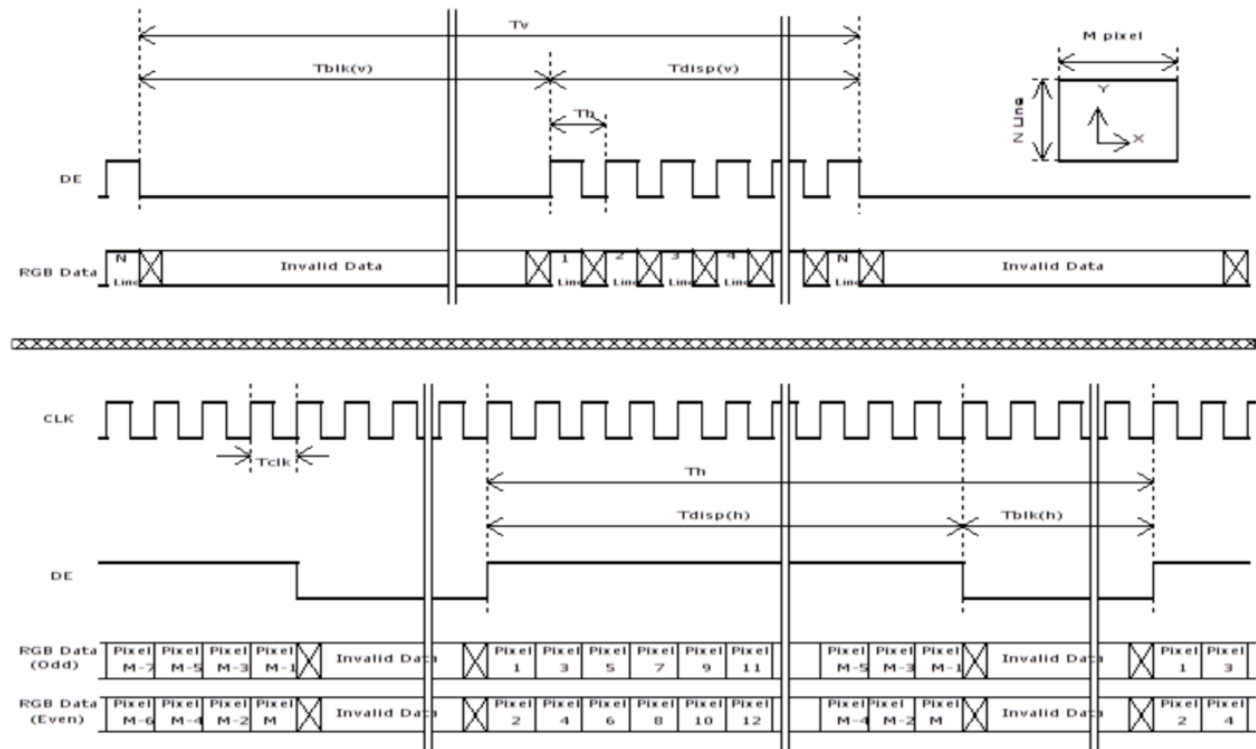
Basically, Interface Timings Should Match The 1920x1080 / 60Hz Manufacturing Guide Line Timing.

Parameter		Symbol	Min.	Typ.	Max.	Unit
Frame Rate		-	-	60	-	Hz
Clock frequency		1/ T _{Clock}	138.9	141	143.2	MHz
Vertical Section	Period	T _V	1112	1116	1122	T _{Line}
	Active	T _{VD}	1080			
	Blanking	T _{VB}	32	36	42	
Horizontal Section	Period	T _H	2080	2104	2126	T _{Clock}
	Active	T _{HD}	1920			
	Blanking	T _{HB}	160	184	206	

Note 1 : DE mode only

Note 2 : Typical value refer to VESA STANDARD

2.9 Input Timing Diagram



2.10 Back-light Unit

LED Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Condition
Backlight Power Consumption	PLED	-	10.8	12.0	[Watt]	(Ta=25°C), Note 1 Vin =12V
LED Life-Time	N/A	50,000		-	Hour	(Ta=25°C), Note 2,3

Note 1: Ta means ambient temperature of TFT-LCD module. Calculator value for reference PLED = VF (Normal Distribution) * IF (Normal Distribution) / Efficiency

Note 2: If DPD1563-ATS-T11 module is driven at high ambient temperature & humidity condition. The operating life will be reduced.

Note 3: Operating life means brightness goes down to 50% initial brightness. Min. operating life time is estimated data.

Backlight Input Signal Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Remark
LED Power Supply	VLED	10.8	12.0	13.2	[Volt]	Define as Connector Interface (Ta=25°C)
LED Enable Input High Level	VLED_EN	2.5	-	-	[Volt]	
LED Enable Input Low Level		-	-	0.8	[Volt]	
PWM Logic Input High Level	VPWM_EN	2.5	-	-	[Volt]	
PWM Logic Input Low Level		-	-	0.8	[Volt]	
PWM Duty Ratio (200Hz~5KHz)	Duty	5	-	100	%	
PWM Duty Ratio (5KHz~10KHz)	Duty	15	-	100	%	

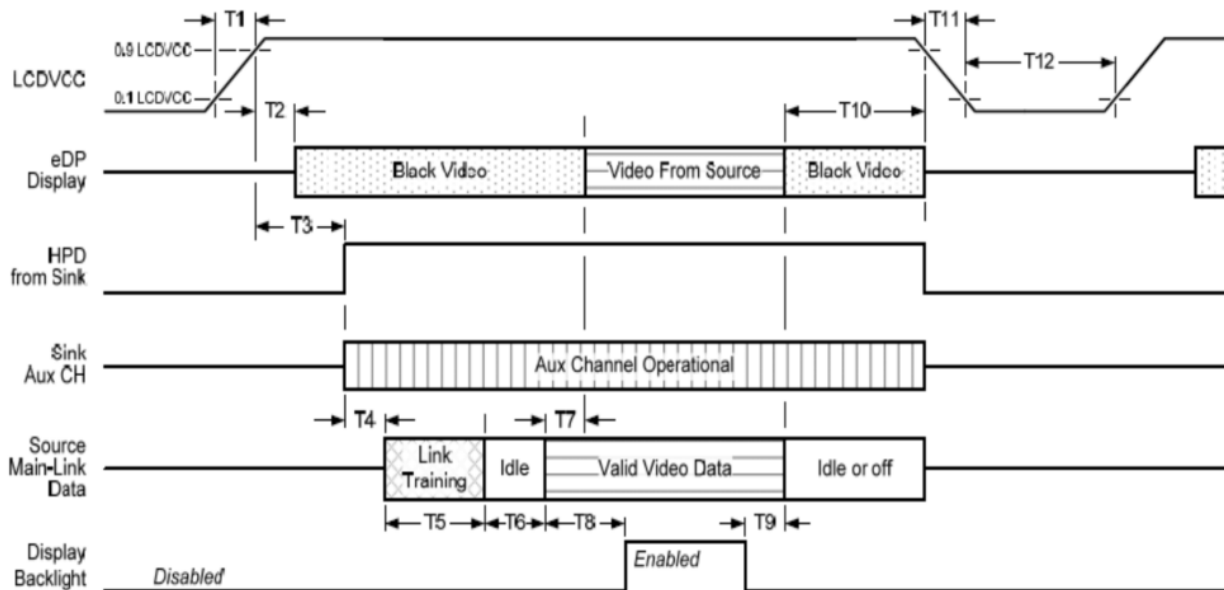
Note 1 : Recommended system pull up/down resistor no bigger than 10kohm.

Note 2 : If the PWM duty ratio(min) is set between 5% to 1% , the PWM input frequency should be set below 1KHz . The brightness-duty characteristic might not be able to keep in it's linearity if the dimming control is operated in 1% to 5% range.

2.11 Power ON/OFF Sequence

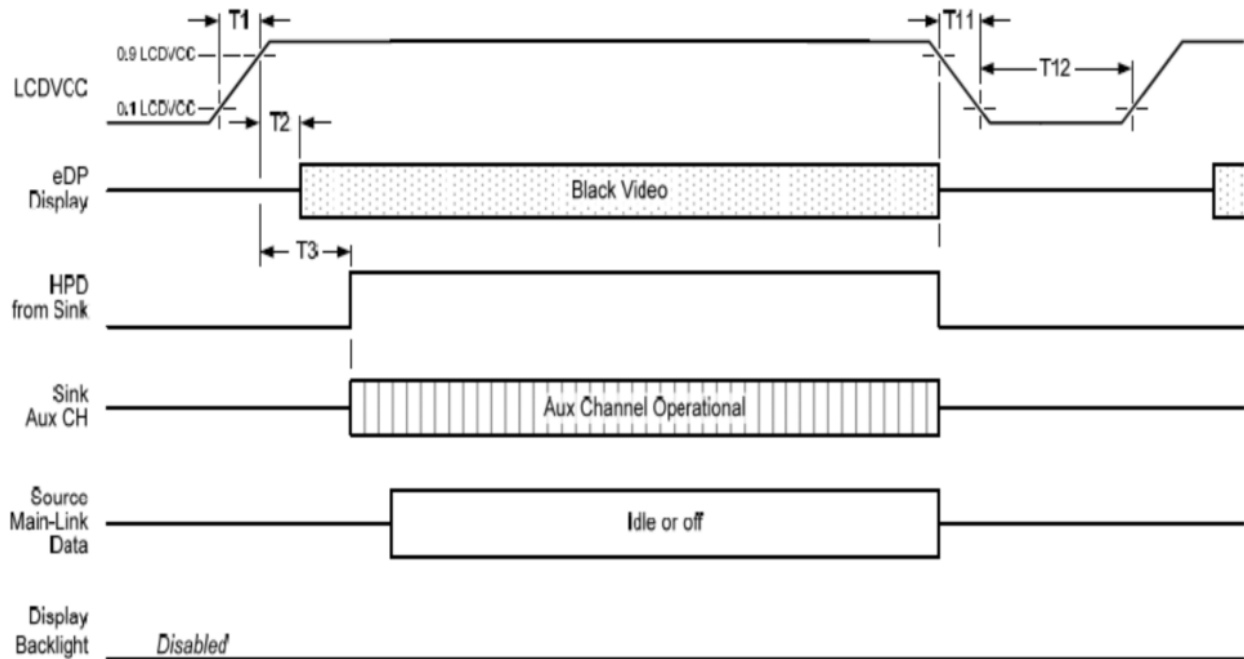
Power ON/OFF Sequence is as Follows. Interface Signals and LED ON/OFF Sequence are also shown in the Chart Signals From Any System Shall be Hi-Z State or Low Level When VDD is OFF.

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, 90% to 10%	source			10ms	
T12	power off time	source	500ms			

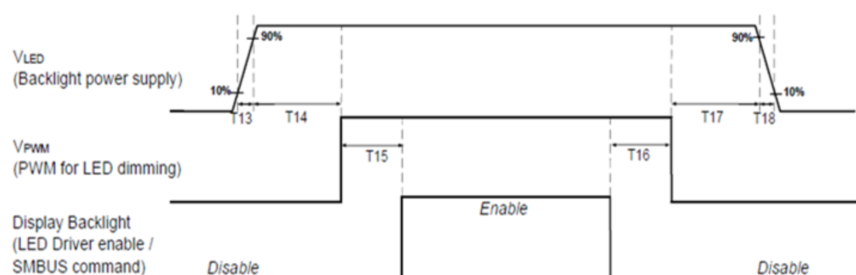
Note 1: The sink must include the ability to generate black video autonomously. The sink must automatically enable black video under the following conditions:

- 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.

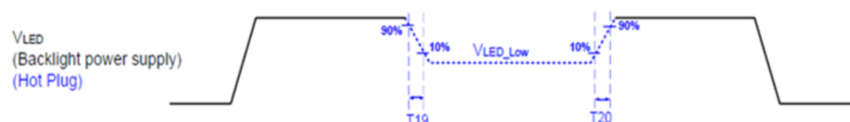
Note 2: The sink may implement the ability to disable the black video function, as described in Note 1, above, for system development and debugging purpose.

Note 3: The sink must support AUX_CH polling by the source immediately following LCD VDD 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



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



	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: $T19/T20 = 5 \times T_{PWM}^*$

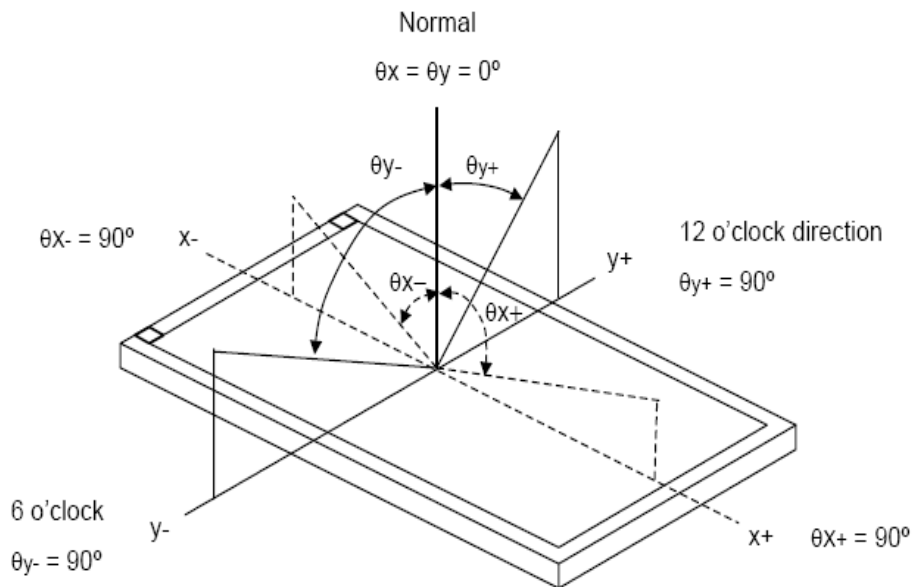
* $T_{PWM} = 1/PWM \text{ Frequency}$

2.12 Optical Specification

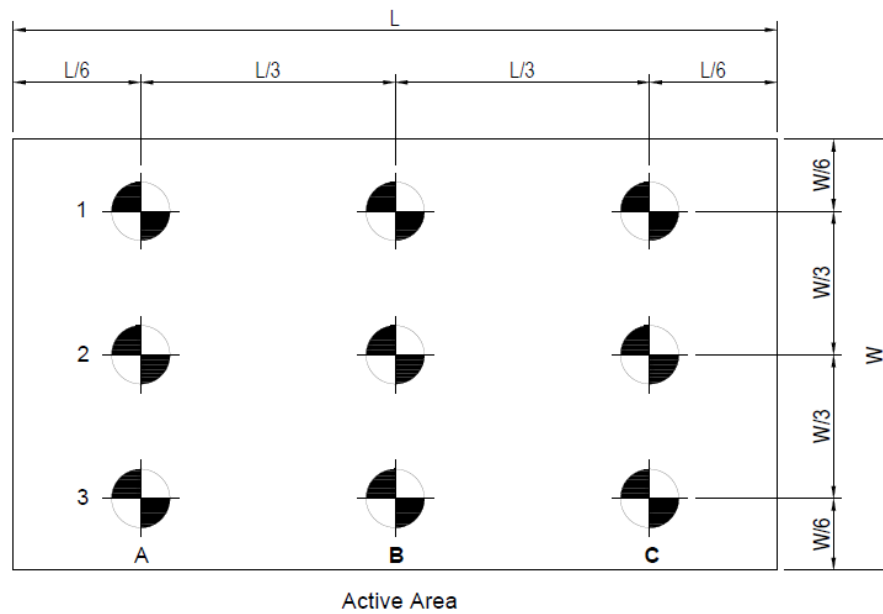
Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Color chromaticity	Red	R _x	$\theta_x=0$ $\theta_y=0$ Klein K-10	0.599	0.649	0.699	-	Test Mode: (2) (3) (4)
		R _y		0.282	0.332	0.382	-	
	Green	G _x		0.247	0.297	0.347	-	
		G _y		0.576	0.626	0.676	-	
	Blue	B _x		0.101	0.151	0.201	-	
		B _y		0.000	0.047	0.097	-	
	White	W _x		0.257	0.307	0.307	-	
		W _y		0.282	0.332	0.382	-	
Center Luminance of White		L _c	$\theta_x=0$	450	500	650	cd/m ²	
Uniform		L _u	$\theta_y=0$ CA-410		80		%	
Contrast Ratio		CR	$\theta_x=0$	1170:1	1300:1		-	Test Mode: (4)
Color Saturation		NTSC	$\theta_y=0$ Klein K-10		85		%	
Viewing Angle	Horizontal	θ_{x+}	$CR \geq 10$		89		Deg	Test Mode: (1)
		θ_{x-}			89			
	Vertical	θ_{y+}			89			
		θ_{y-}			89			

Test Mode :

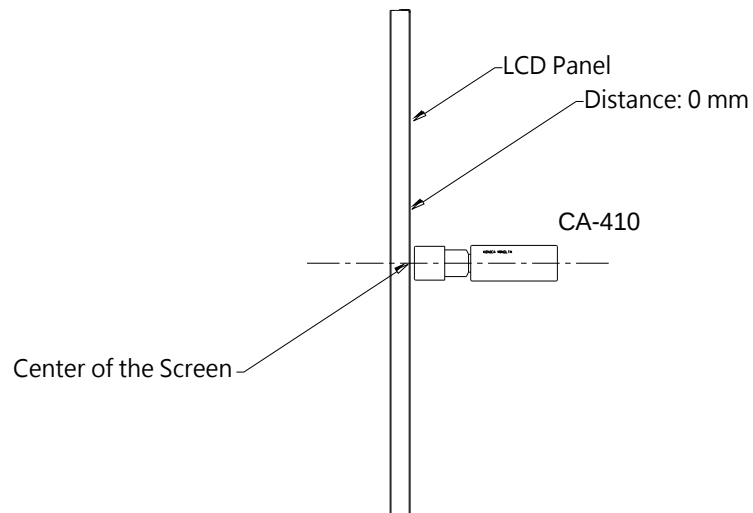
(1) Definition of Viewing Angle (θ_x , θ_y):



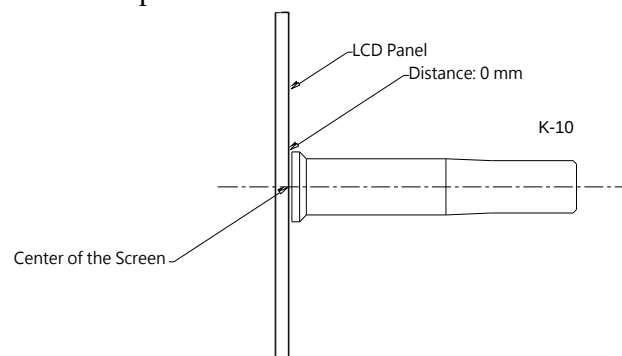
(2) Definition of Test Point:



(3) CA-410 Measurement Setup:



(4) Klein K-10 Measurement Setup:



3 Wireless Charger Module Characteristics

3.1 General Description

Litemax part No.: 909908100010

Model No.: HL-10W-C

This is a charger solution that wirelessly charges mobile phones at a distance of 2 to 12mm. The wireless charger can support Qi standards, and operate with many Qi certificated receiver. Its maximum charger power can be up to 10 watts.

3.2 Electrical Specification

Rated Voltage Range	DC 9-14V
Rated Voltage	DC12V
Charge Distance	2mm-12mm
Standby Power Consumption	<0.3W
Rated Input Current	<1.5Adc@10mm , 10W Load , 12V Input
Efficiency	>50%@10mm , 10W Load , 12V Input
Switch Frequency	112kHz~145kHz
Input Over-Power Limit (Power Transfer Phase)	26.4W
Input Over-Power Protection (Power Transfer Phase)	30W
Over Temperature Protection	85°C

3.3 Input Over-Power Protection

This product has input over power protection function. When input current is bigger than the set value, the transmitter will turn off immediately and try to reconnect receiver again. If over power protection happens twice, system will stop operation and be latched.

3.4 Over-Temperature Protection

This product has over temperature protection function. When transmitter's PCBA temperature is larger than the set value(85°C), the transmitter will turn off immediately. When transmitter's PCBA temperature is smaller than the set value(75°C), the transmitter will restart again.

3.5 Safety Specification

Satisfy following technical specification

Requirements	Item	Region	Standard
	CE,RE	Europe	EN55022
	CE,RE	North America N/A	FCC part15

3.6 Temperature Rise

Under rated input and output situation during 23±2°C environment, regular timely operation, this product can comply with related safety and standard requirements standard requirements.

3.7 Work Environment

Humidity	10%–90%
----------	---------

3.8 Storage Environment

Temperature	–20℃–80℃
Humidity	5%–95%

3.9 Phone compatibility test

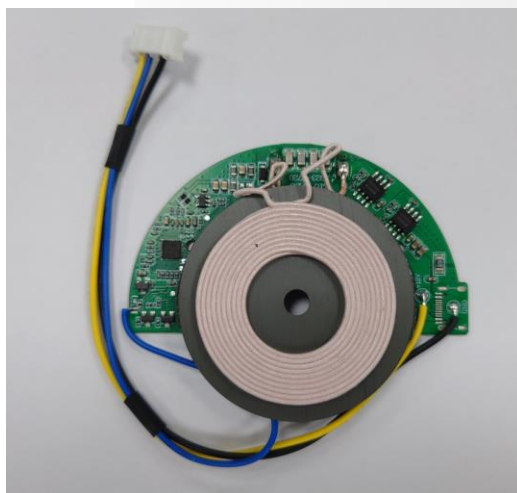
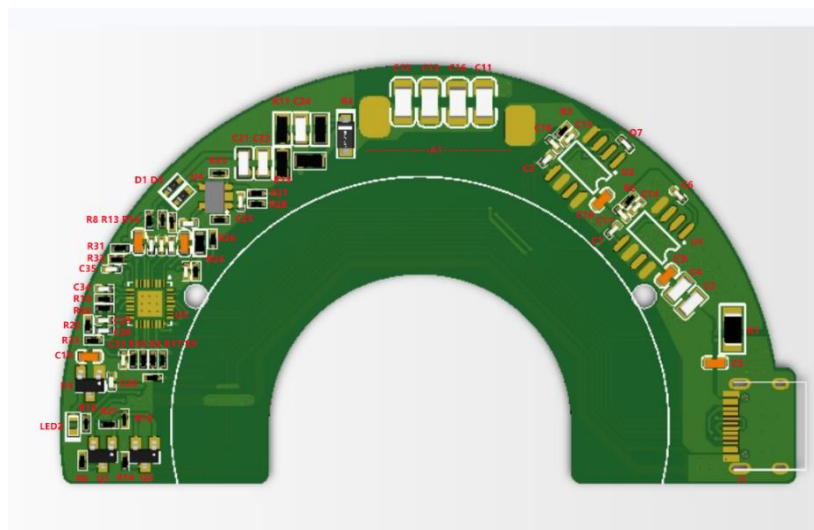
In order to validate the compatibility between this charger and different cell phones cell phones from different brands and different series are put 10 mm above the charger then get the charger parameters just as below list:

	Input Voltage/V	Input Current/A
Samsung S10	11.9	0.92
iPhone 12Mini	11.95	0.98
iPhone XS	11.94	0.89
iPhone X	11.98	0.88
Huawei Mate30	11.97	0.98
Samsung Note8	12	0.78
LG V40	12	0.96
Mi 9	11.94	1.13

At different Heights, 10W receiver test fixture's input power and charge power are given as bellows:

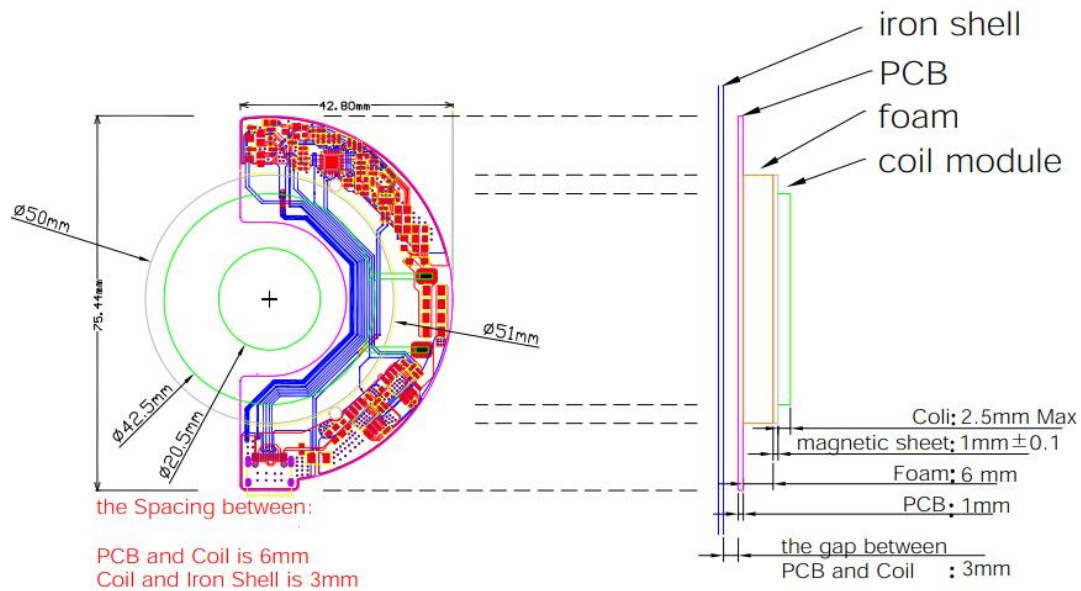
10W test fixture (12Vinput No Misalignment) (12V input , No Misalignment)		
Height (mm)	Input power (W)	Output power (W)
2	13.2	9.1
4	13.5	9.1
6	14.48	9.15
8	15.57	9.14
10	17.12	9.18
12	19.38	9.2

3.10 Mechanical Drawing



UL Certification E330731 94V-0

[Search for E330731 GDM-R1 on Product iQ | UL Solutions \(ulprospector.com\)](https://www.ulprospector.com)



3.11 Wireless Charger Control Board

Charger control board is control ON/OFF & LED status for Wireless charger module using.

3.12 Operating Characteristics

LED		STATUS
RED	BLUE	
X	X	Power Off
○	X	Power On Waiting Device
○	○	Power On Device Charging

3.13 Connector Socket

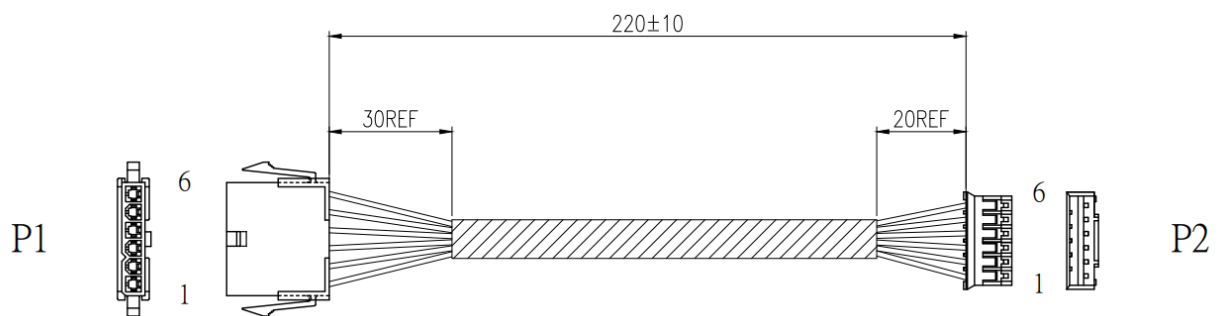
Input Connector: CN1(2.0mm 6 pitch wafer or Compatible)

PIN No	Symbol	Description
1	Vin	DC +12V
2	Vin	DC +12V
3	EN	ON/OFF Control
4	Status	Wireless charger module Status Feedback
5	GND	GND
6	GND	GND

Output Connector :CN2(2.0mm 6 pitch wafer or Compatible)

PIN NO	Symbol	Description
1	Vout	DC +12V
2	Vout	DC +12V
3	LED_B	Blue LED control
4	LED_R	Red LED control
5	GND	GND
6	GND	GND

3.14 Cable Drawing (MOLEX 39-01-4063 TO PHR-06)



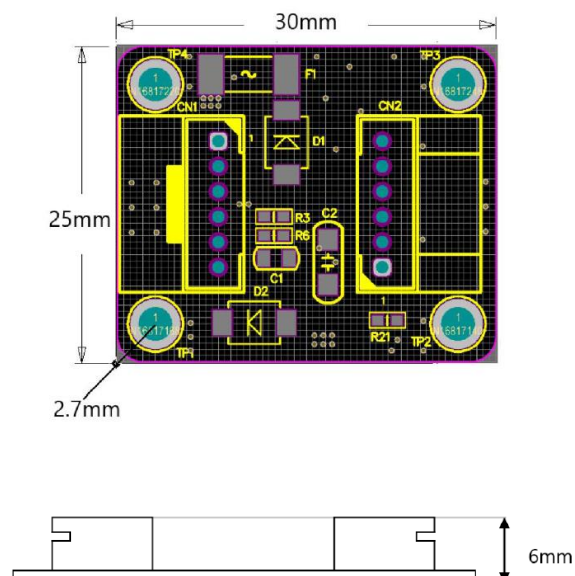
Pin No	Symbol
1	+12V
2	+12V
3	ON/OFF Control
4	Status
5	GND
6	GND

WIRING TABLE

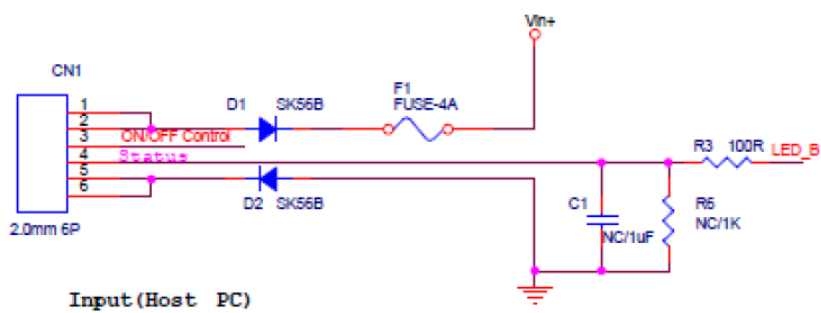
P1	6	5	4	3	2	1
P2	6	5	4	3	2	1
COLOR	Black	Black	Blue	Green	Yellow	Yellow

3.15 Mechanical Characteristics

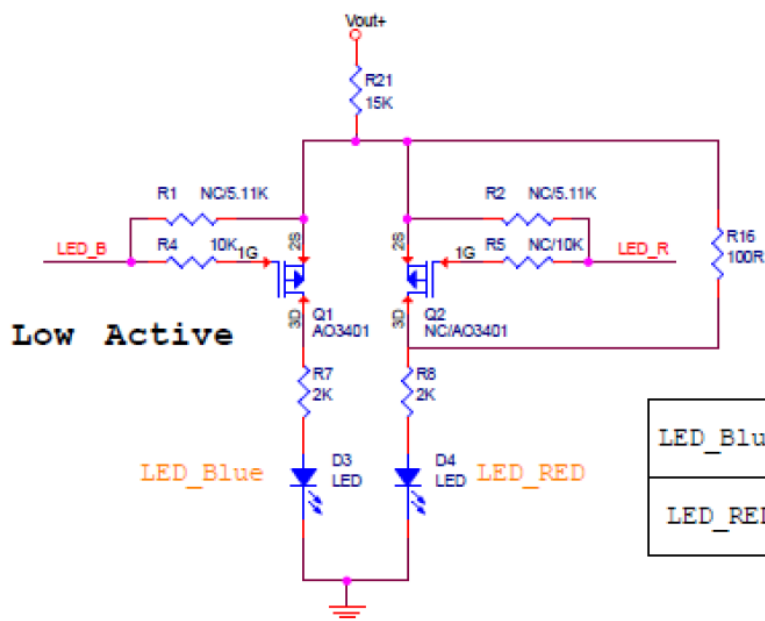
Dimension: 30mm*25mm*6mm



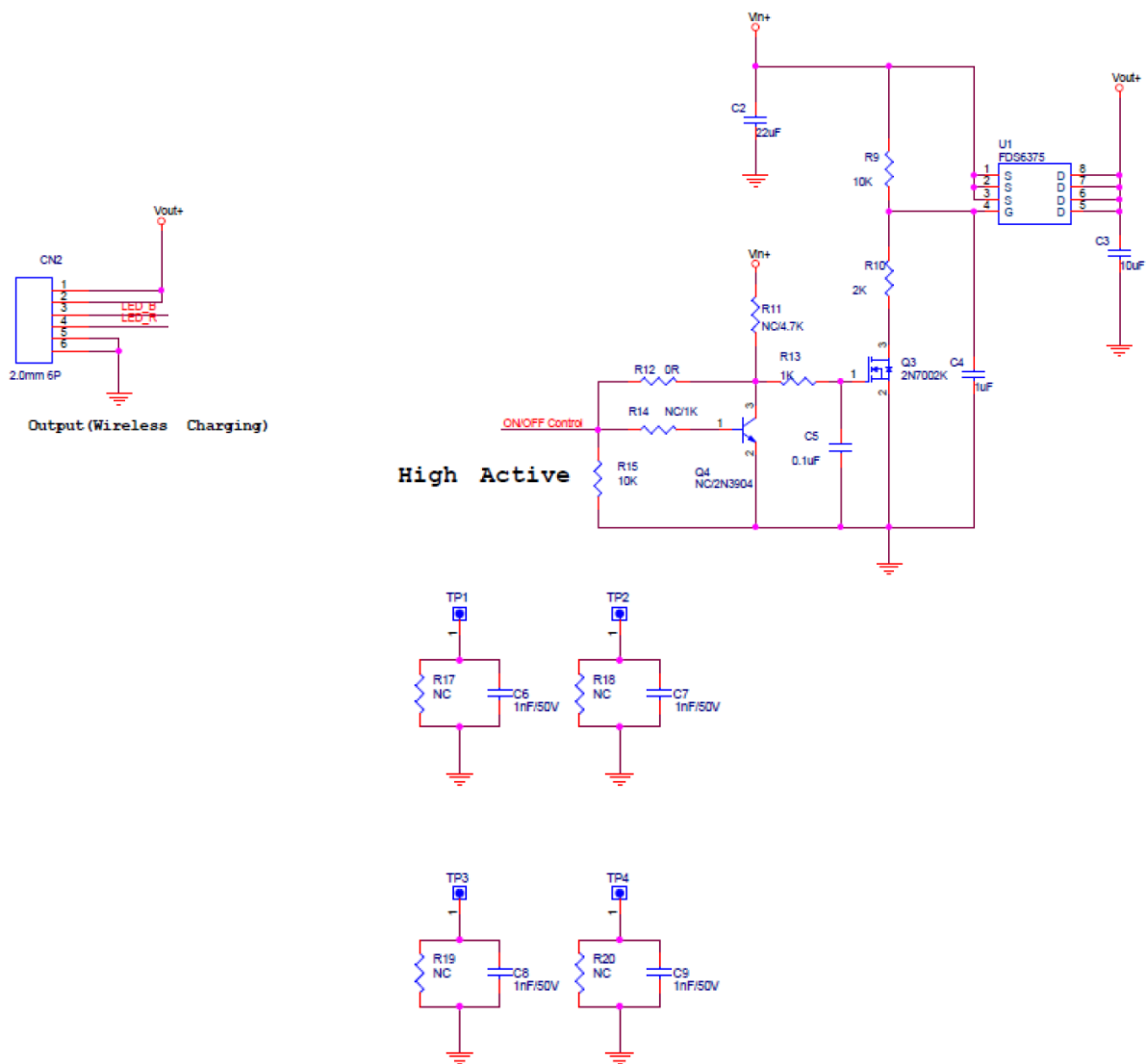
3.16 Design Circuit



	Waiting Device	SW Device Charging	15W Device Charging	Charge Complete
Status	High	Low	PWM output	Low



LED_Blue	wireless charging ON
LED_RED	charger power ON



3.17 Inspection Procedures

DPD1563-ATS-T11 Standards Value Jig[New]	
5W	10W
4.90V/0.95A/4.90W	9.00V/1.00A/10W

New Inspection Procedures
(1) Use Jig. (2) “5W” Charging Set To Normal Charging. (3) Please Confirm Whether The Charging Can Be Started Within 3 Seconds After Placing a Jig. (4) The Blue LED On The Button Deck Should Be Light.(Blinking Is NG) (5) Confirm That The Charging Output Is Standards Value Or More.(Continuous Display Of Measured Values) (6) Do Not Move The Jig After Starting The Measurement. It Must Be Possible to Charge Without Interruption For 10 Seconds Or More. (7) “10W” Charging Set To Normal Charging. Check (3) To (6) In The Same Way As When Setting “5W”.

4 Projected Capacitive Touch

4.1 General specification

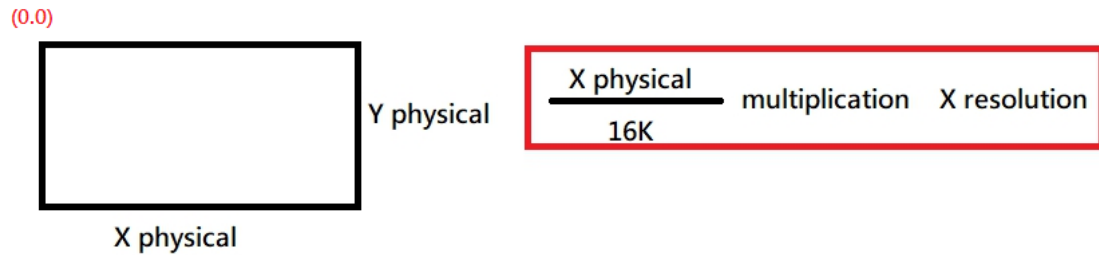
Touch Type: Projected Capacitive Touch

Litemax part No.: 436015624421

Model No.: ZCC-13382

F/W Version: eGalaxWorks81X46~20241112-LiteMax-A16U-V00 T1

X/Y Resolution Start Position:



4.2 Construction

Product structure	Materials used	Material No.	Thickness
1. Cover glass	Chemical Strengthening Glass With AF Coating	/	T=4mm
2. Optical adhesive	SCA	/	T=0.25mm
3. Sensor	ITO Glass	/	T=0.7mm
4. FPC	/	/	T=0.3mm

4.3 Mechanical characteristics

Item	Description	Unit
Touch Module Size	15.6	Inch
Outer Dimension (with Cover glass)	240.5(W)*617(L)	mm
View Area	195.14(W)*345.56(L)	mm
Sensor Area	197.34(W)*347.76(L)	mm
Touch Module trace number(Tx*RX)	25*44	/
Resolution	/	/
Input Type	USB	/
Controller Type	COF	/
Controller Chip	EXC81W46	/
Touch Function (point)	Multitouch (10	/

4.4 Environment Conditions

Items	Condition
Operating temperature & Humidity	-20℃~+70℃ , ≤85%RH
Storage temperature & Humidity	-30℃~+80℃ , ≤85%RH

4.5 Optical characteristics

Items	Condition
Optical characteristics	Light transmission ≥85%±2%

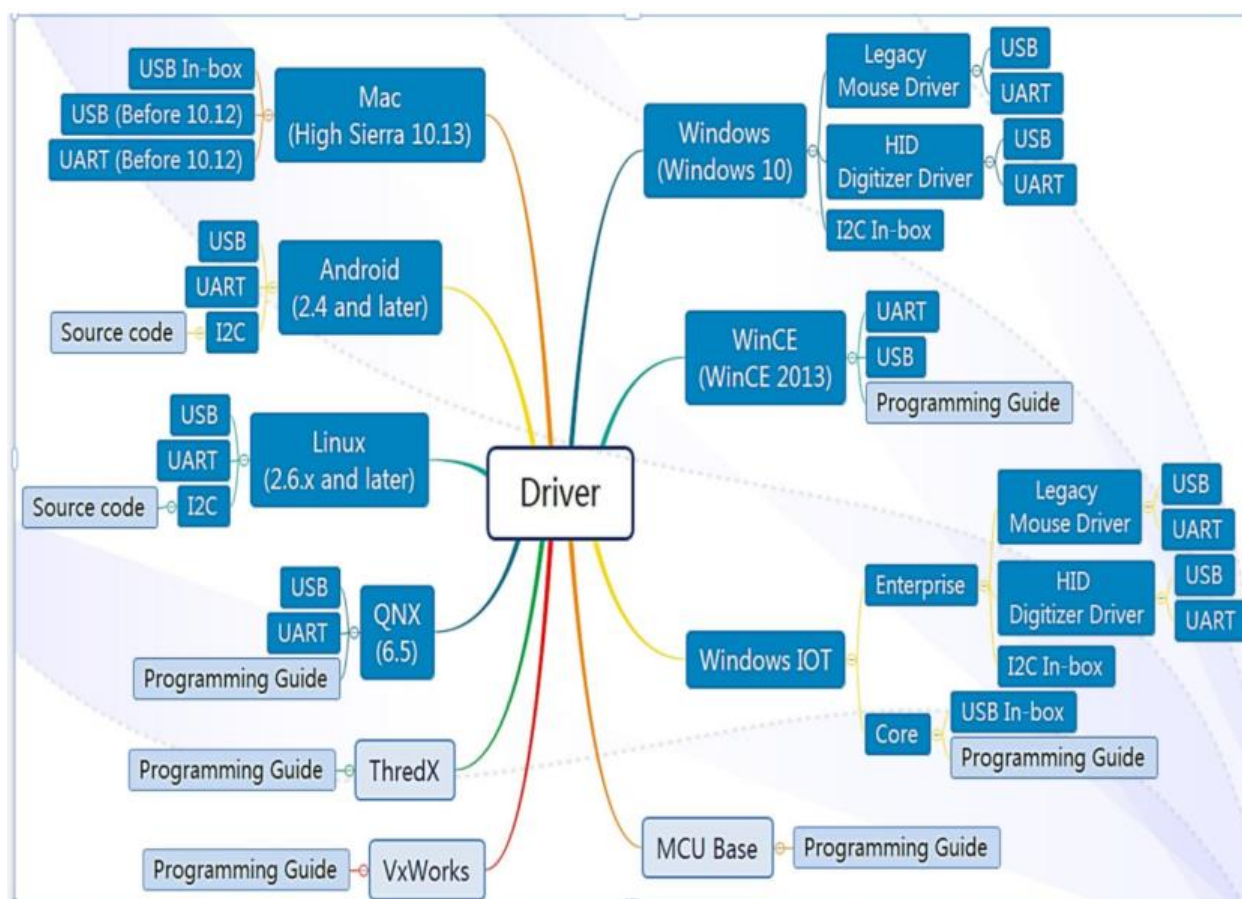
4.6 Touch panel interface pin assignment

PIN	PIN Definition	
	J2	J1
1	EGND	RST
2	VDD(5V)	VDD3.3V
3	GND	GND
4	D+	INT
5	D-	SDA
6	/	SCL

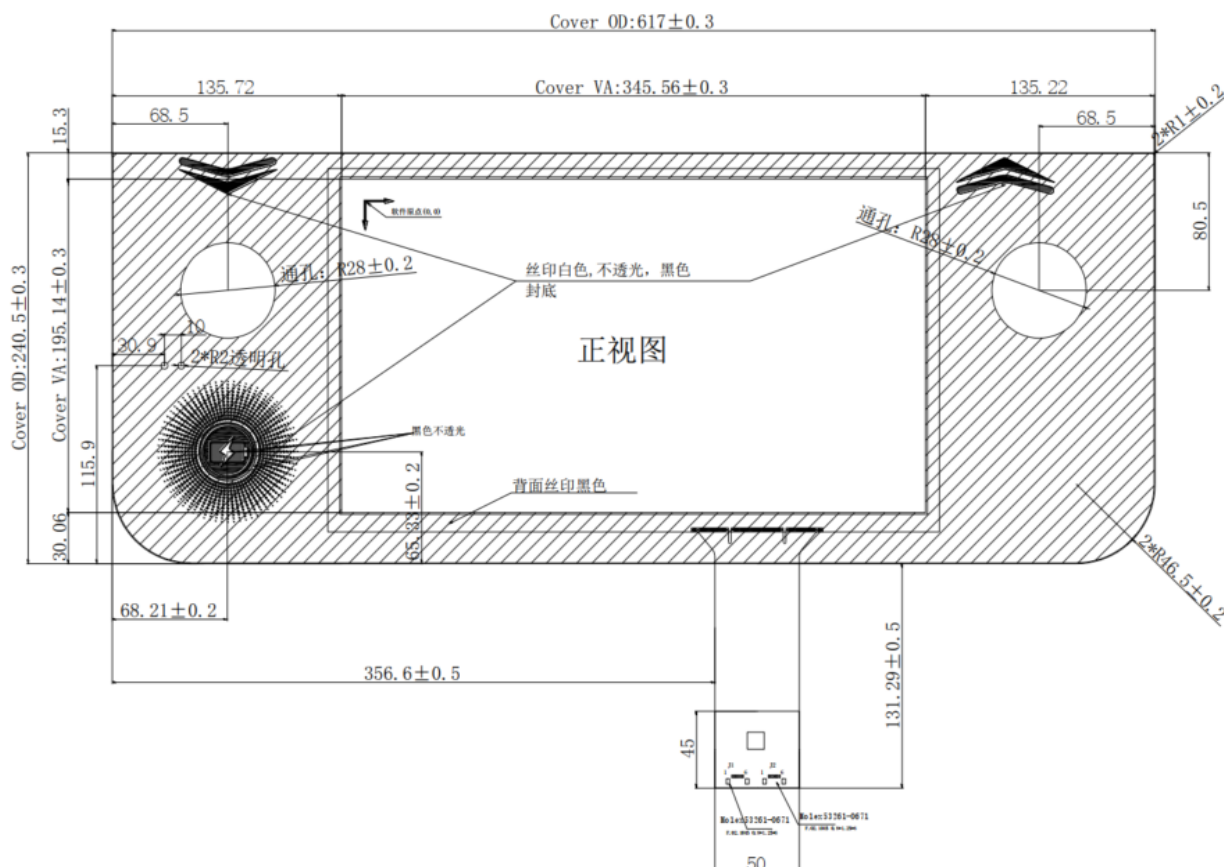
4.7 Electrical characteristics

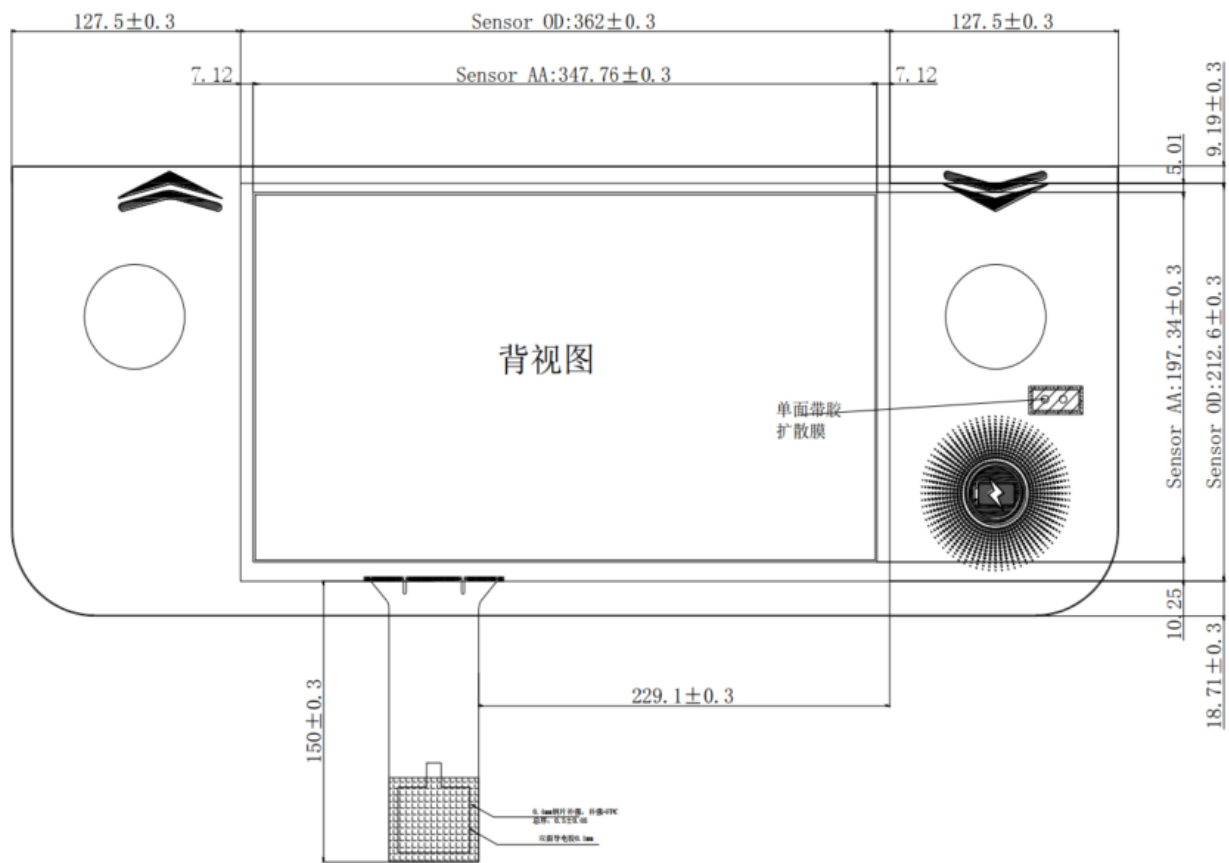
Item	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Power supply	VDD	/	4.5	5	5.5	V
Current consumption for operation	I	VDD=5V	/	50	65	mA

4.8 Supported Operation System and Interfaces

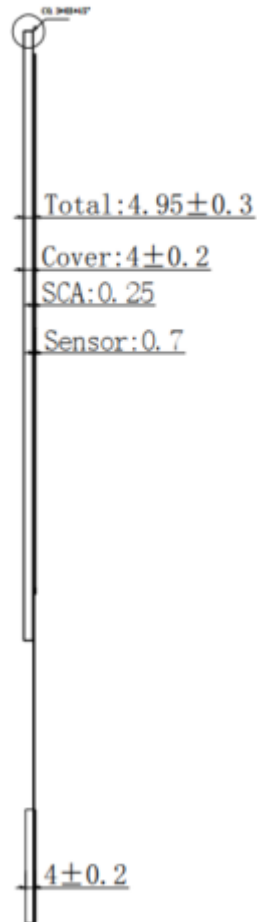


4.9 Drawing





侧视图



For I2C Connector (J1)		For USB Connector (J2)	
1	RST	1	EGND
2	VDD 3.3V	2	VCC (5V)
3	GND	3	GND
4	INT	4	D+
5	SDA	5	D-
6	SCL	6	/

Technical parameters:

1. TP Structure: G+G, 表面喷涂AF;
2. TP Type: COF, IC controller: EXC 81W46 (RX44*TX25; Pitch: 7.8*7.89);
Working voltage: USB (5V);
3. Light transmittance: $\geq 85\%$;
4. Surface hardness: more than 6H;
5. Working environment: $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$, $\leq 85\% \text{RH}$;
6. Storage environment: $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$, $\leq 85\% \text{RH}$;
7. Tolerance of those parts without any notes:
+ / - 0.3 mm;
8. Products comply with RoHS standard.

5 AD68862 Board & OSD Functions

AD68862 is developed to support industrial high brightness and commercial applications. This A/D board has many functions. It has a display port input. Rev.1 is European RoHS compliant.

General Description

- Max Resolution Up To WUXGA
- e-DP Interface
- OSD Control
- Inverter Analog or PWM Dimming Control
- LED Backlight Driver on Board
- Input Power DC 12V
- Display Port Input. (Support Display Port 1.2)

Characteristics

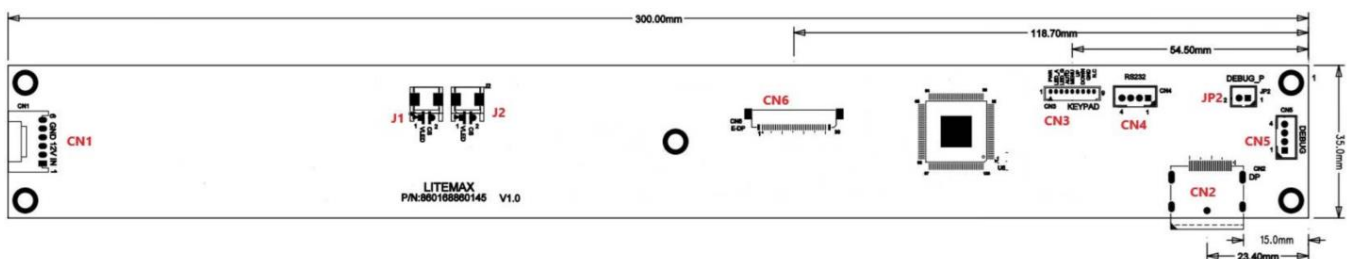
Power Input	12V
Power Consumption	10W Max. (Note1)
Input interface	DP 1.2
Output interface	E-DP 2 Lanes channel
Resolution	1920 x 1080
Support panel voltage	3.3V , 5V , 12V
Backlight control	Embedded backlight driver
Operation Temperature	-10 ~ 70 degree C
Storage Temperature	-20 ~ 85 degree C

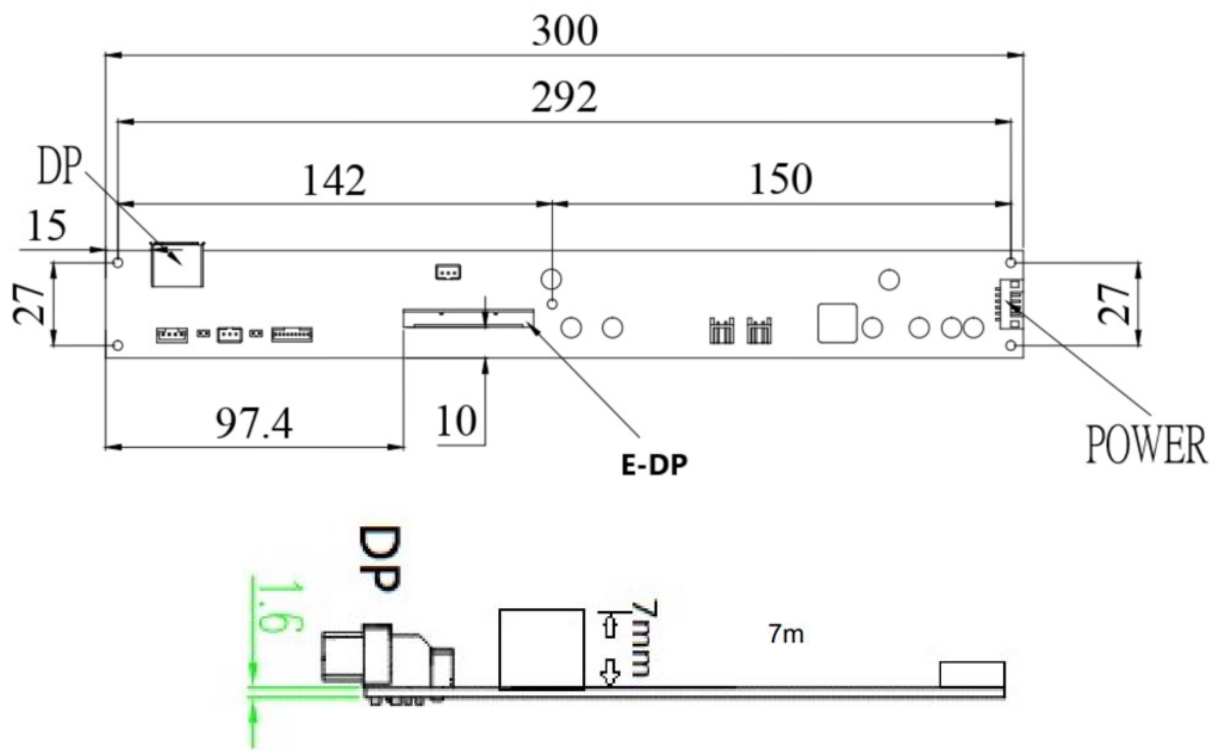
Note1: 10W means AD board own consumption, not include LCD and T-con.



Outline Dimensions

AD68862 300mm X 35mm





Connector Pin Define

➤ CN6: e-DP output

Pin	Function	Pin	Function
1	NC	16	GND
2	12V(BL_PWR)	17	NC
3	12V(BL_PWR)	18	VLCD
4	12V(BL_PWR)	19	VLCD
5	12V(BL_PWR)	20	GND
6	NC	21	EDPAUX-
7	NC	22	EDPAUX+
8	DIMMING	23	GND
9	Backlight EN	24	EDPD0-
10	BL_GND	25	EDPD0+
11	BL_GND	26	GND
12	BL_GND	27	EDPD1-
13	BL_GND	28	EDPD1+
14	E-DP_HPD	29	GND
15	GND	30	NC

➤ CN2: DisplayPort input

Pin	Function	Pin	Function
1	LAN_C_D3N	11	GND
2	GND	12	ML_LANE0_P
3	LAN_C_D3P	13	CONFIG1
4	ML_LANE2_N	14	CONFIG2
5	GND	15	AUX_CH_P
6	ML_LANE2_P	16	GND
7	ML_LANE1_N	17	AUX_CH_N
8	GND	18	Hot plug detect
9	ML_LANE1_P	19	GND
10	ML_LANE0_N	20	DP +3.3V

➤ CN1: Power input

Pin	Function	Pin	Function
1	12V	2	12V
3	12V	4	GND
5	GND	6	GND

➤ JP2: Debug Jump (for Engineering only)

Pin	Function	Pin	Function
1	3.3V	2	GND

➤ CN5: Debug Port (Wafer 2.0mm pitch 4 pin) (for Engineering only)

Pin	Function	Pin	Function
1	3.3V	2	SCL
3	SDA	4	GND

For FW Debug

➤ J1,J2: LED light bar (Wafer 2.5mm pitch 2 pin)

Pin	Function	Pin	Function
1	LED+	2	LED-

➤ CN3: Keypad (Wafer 1.25mm pitch 9 pin)

Pin	Function	Pin	Function
1	POWER KEY	6	MENU KEY
2	GREEN LED	7	AUTO KEY
3	RED LED	8	GND
4	DOWN KEY	9	GND
5	UP KEY		

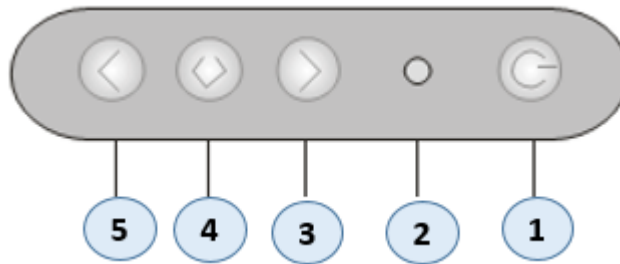
➤ CN4: UART (Wafer 2.0mm pitch 4 pin) (for Engineering only)

Pin	Function	Pin	Function
1	3.3V	2	UR_TX
3	UR_RX	4	GND

For FW Debug

5.1 OSD Function

MEMBRANE CONTROL BUTTON



❶ POWER On/Off SWITCH:

Push this button will turn on monitor, push it again will turn off.

❷ Power LED:

LED green color is power on

LED yellow color is no signal input

LED off is no power input

❸ Right Side Key :

Push this button will increase selected number or move to the right side item.

❹ Menu Key:

Enter to the OSD adjustment menu or return to the previous menu.

❺ Left Side Key :

Push this button will decrease selected number or move to the left side item.

Screen Adjustment Operation Procedure

1. Entering the screen adjustment

The setting switches are normally at stand-by. Push the Menu Key once to display the main menu of the screen adjustment. The adjustable items will be displayed in the main menu.

2. Entering the settings

Use the Down Key < and Up Key > buttons to select the desired setting icon and push the SELECT button to enter sub-menu.

3. Change the settings

After the sub-menu appears, use the Down Key < and Up Key > buttons to change the setting values.

4. Save

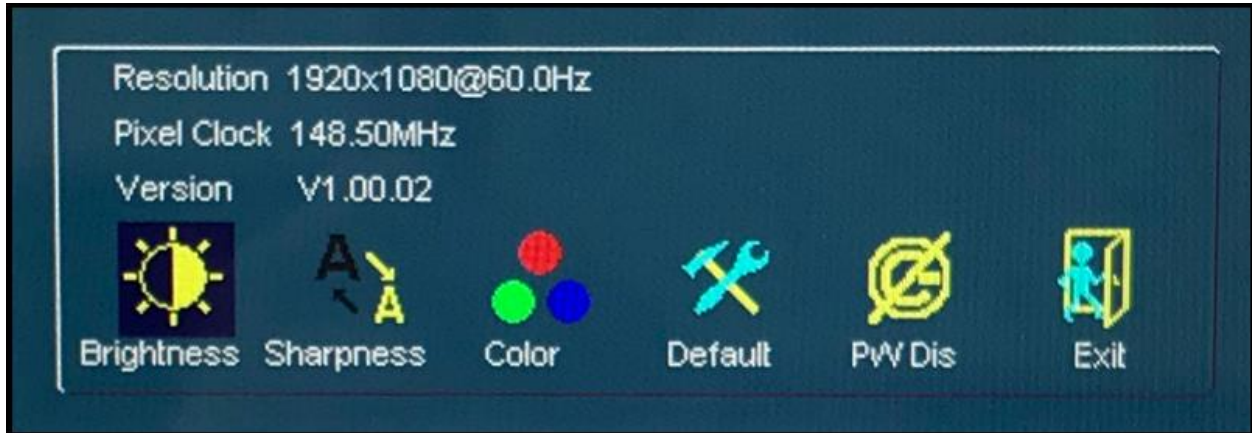
After finishing the adjustment, when user finish value setting or keep stay on chosen icon then exit the OSD screen, the setting result will auto memorize to OSD firmware.

5. Return & Exit the main menu

Exit the screen adjustment; push the "MENU" button. When no operation is done around 30 sec (default OSD timeout), it goes back to the stand-by mode and no more switching is accepted except MENU to restart the setting.

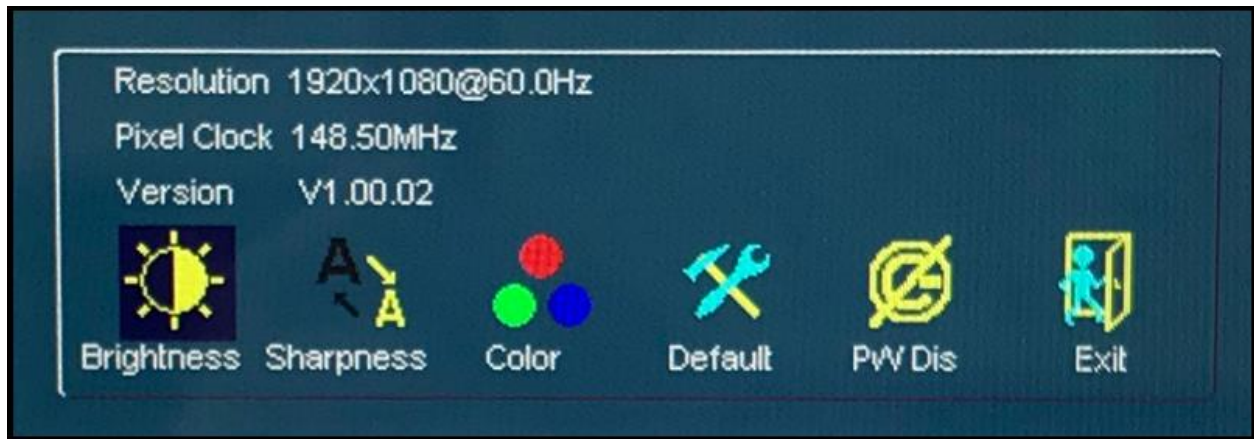
5.2 OSD menu

By pressing the “menu” button, you will see the below picture. Across from timing you will see resolution, frequency, and V-frequency of the panel. Version shows the firmware control version. These cannot be altered by the user.

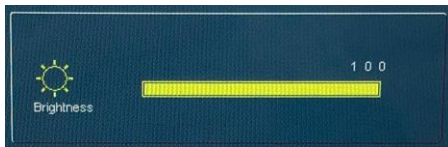


There are 5 sub menus within the OSD user interface:

1.  Brightness: adjust the Brightness.
2.  Sharpness: adjust the Sharpness.
3.  Color: adjust the Color.
4.  Default: load to initial default value.
5.  Power key Enable
6.  Exit: go to exit.



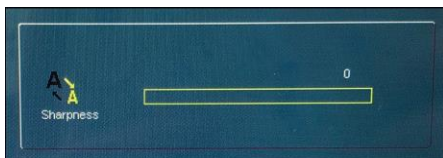
1.  When you press the “menu” button, you enter the “Brightness” setting.



Press “left” to dim down the brightness to “1”,
press “right” to increase the brightness to “100”

- a. Adjustment range: “1” to “100”
- b. The default brightness: “100” (Luminance 500cd/m2)

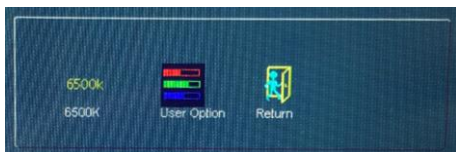
2.  When you press the “menu” button, you enter the “Sharpness” setting.



Press “left” to dim down the sharpness to “0”,
press “right” to increase the sharpness to “8”

- a. Adjustment range: “0” to “8”
- b. The default sharpness: “0”

3.  When you press the “menu” button, you enter the “Color” setting.



Press “menu” button to load default 6500k color temperature.



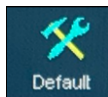
Press “menu” button to Color Temperature **“User Option”**:



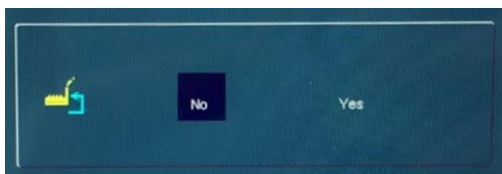
Adjustment color temperature for “R”, “G”, and “B”.



Press “menu” button back to the beginning menu.



4. When you press the “menu” button, you enter the “Default” setting.



Load Factory Default:



Select “No” Press “menu” button back to the beginning menu.



Select “Yes” Press “menu” button load to initial default value.

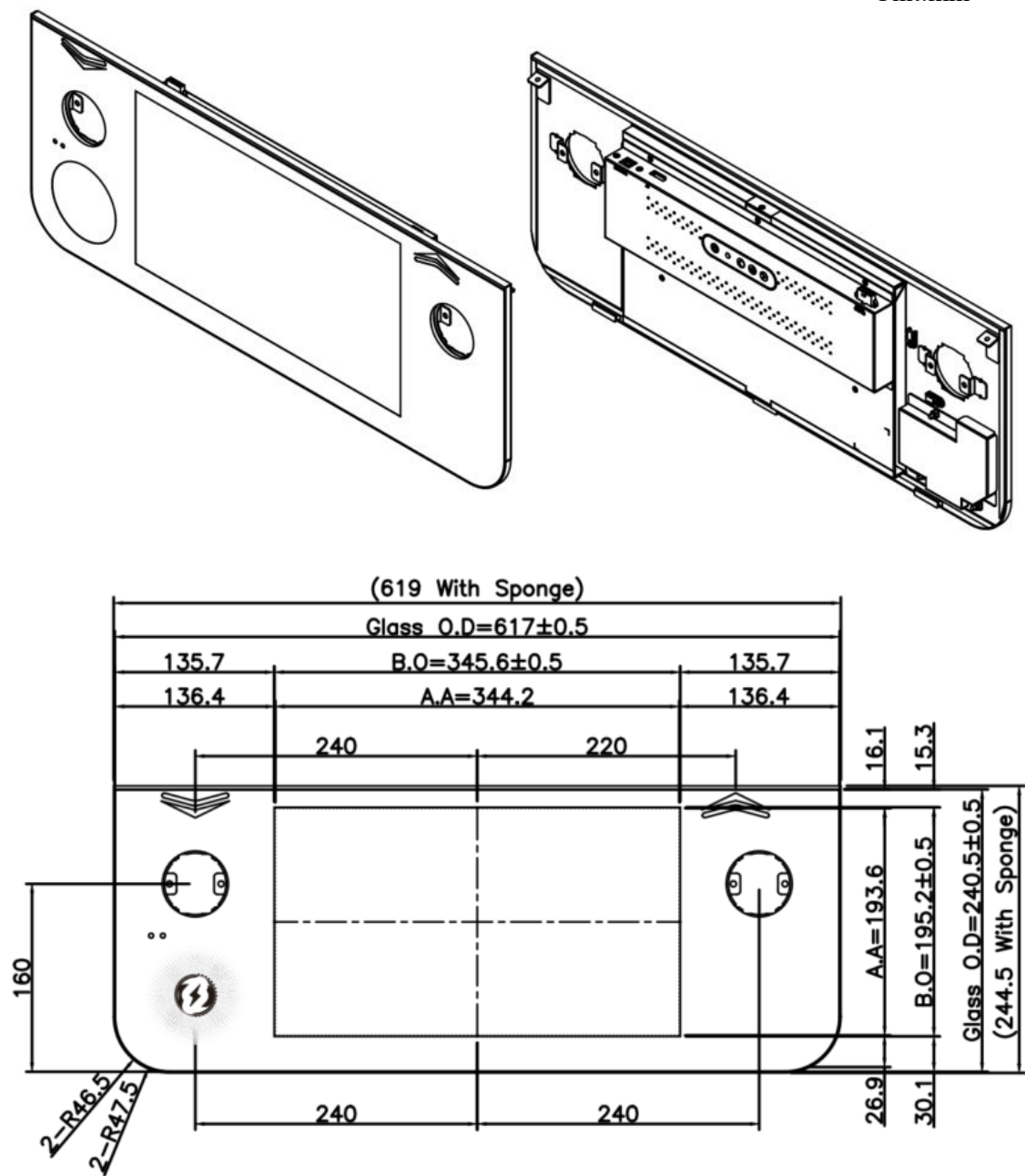


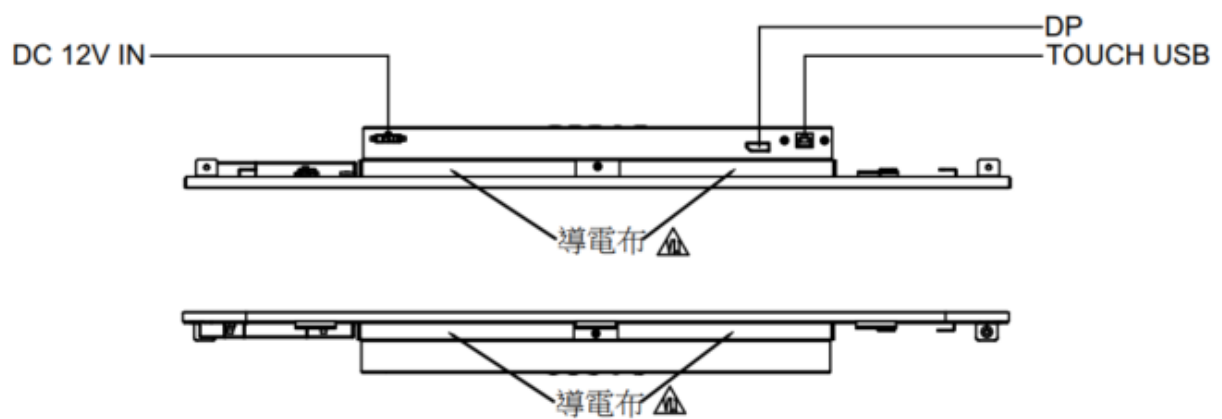
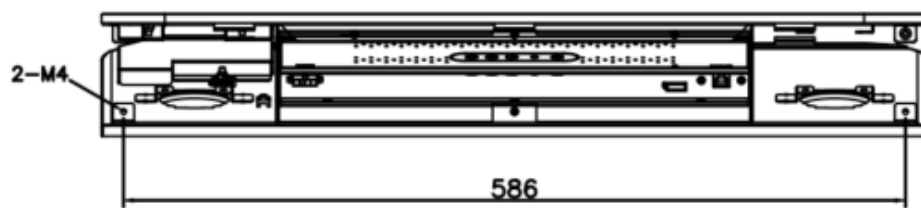
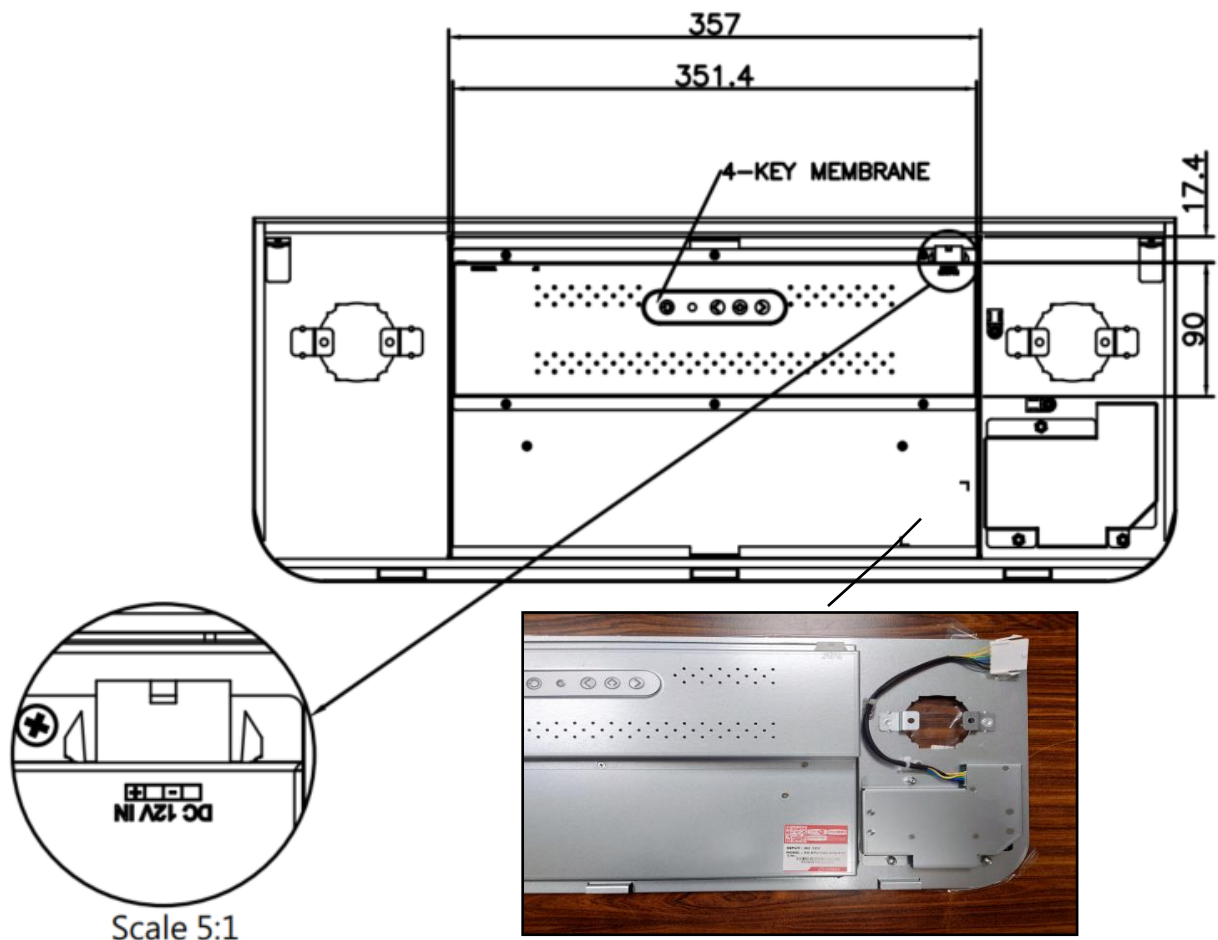
5. Power key Enable , Default: Disable

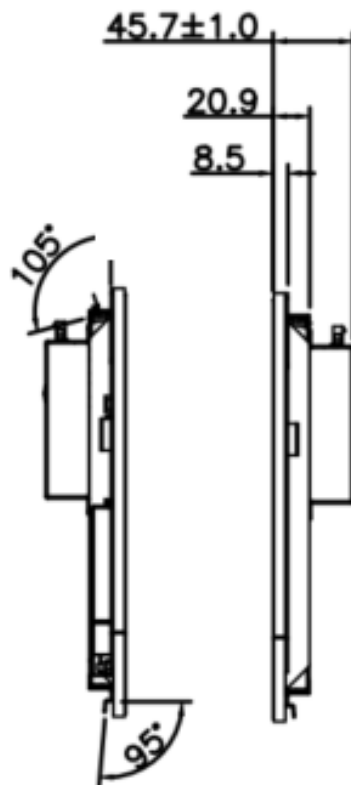


6. When you press the “menu” button, go to exit.

Unit:mm







Note :

O.D. : Outline Dimension

B.O. : Bezel Opening

A.A. : LCD Active Area

7 Packing Exploded Diagram

[illegible]

8 Inspection Specification



LITEMAX ELECTRONICS INC

☐ Initial Publishing ☐ Revision ☐ Abolishment ☐ Management Handbook ☐ Procedure Book ☒ Instruction Book ☐ Form
☐ Extremely Confidential ☐ Confidential ☒ Ordinary ☐ Internal

Approval Form Of Document Making(Revision) Application Date : 2025/04/02

Document Name : DPD1563-ATS-T11 Inspection Requirement			Document NO: QI-7500-2861	
☒ Making ☐ Revision ☐ Abolishment	Cause Of Making/Revision/Abolishment : This document defines the product inspection process and criteria for acceptance or rejection of defect.			
	Revised Items :			
	APPROVAL DEPARTMENT			
	☐ President : ☐ Administration : ☐ US Sales : ☐ Europe Sales : ☐ Asia Sales : ☐ Marketing : ☐ Material : ☐ Purchasing :		☐ System R&D : ☐ Electronic R&D : ☐ Optical R&D : ☐ IPC R&D : ☐ Manufacturing : ☐ Quality Assurance : ☐ Technic Department : ☐ Document Control Center :	
☐ Reissue	Cause Of Reissue:			
	Manager Of Reissue Department.: ☐ Reissue Agreed ☐ Reissue Disagreed Signature : _____			
Document Control Center		Application Department		
Manager	Executor	Approval	Dep. Manager	Executor
Ming Sun	Selene Peng	Hank Wang	<i>a</i>	Ken Liang

FM-5000-020-A2

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Doc. No.	Doc. Name	DPD1563-ATS-T11 Inspection Requirement	Making Date	2025/04/02	Edition	A0
QI-7500-2861			Revision Date		Page	1/4

1. Purpose

This document defines the inspection procedure and criteria for quality control of outsourced manufacturing and LITEMAX manufacturing.

2. Scope

This document is applicable to the products manufactured by LITEMAX or outsourced unless otherwise specified by clients.

3. Definition of Terms

3.1 Critical Defect :

Any defects seriously cause the damage of product, the danger of user safety or violation of related law.

3.2 Major Defect :

Products do not meet the criteria of their specification, or any defects may results in functional failure or reduce the usability of products themselves.

3.3 Minor Defect :

Any defects do not reduce product usability or result in functional failure.

3.4 Inspection 'Lot'

Lot means the products are from the batch of same source, same specification and same condition, and is also the quantity of inspection.

3.5 Standard Item or Approved Sample

3.6 PCBA : Printed Circuit Board Assembly

3.7 LCD : Liquid Crystal Display

3.8 Durapixel : Back light module

4. Inspection criteria/Conditions/Tools

4.1 Follow these criteria for general inspection. Otherwise, refer to SOP or requirements if any items are not included in these criteria.

4.2 Inspection conditions

Environmental temperature : $25 \pm 10^{\circ}\text{C}$

Environmental Luminance : 500~900Lux

Viewing Distance : The distance between object and viewer's eyes should be 35 ± 5 cm.

Viewing Angle : The angle between object and viewer's eyes should be 90 degree.

Viewing Time : Within 12 seconds

Viewing Area : Active Area

DC Power Input : DC12V

Signal Source : PC Source

Software : NOKIA/ISseeMT Calibration

4.3 Inspection Tools : Thickness Gauge 、 Dot-Line Gauge 、 5% ND Filter 、 BM9

4.4 Screen Resolution : 1920*1080

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5. Sampling Criteria

5.1 Follow MIL-STD-105E LEVEL II single sampling inspection.

5.2 Major Defect (MA) 0.65%

Minor Defect (MI) 0.65%

5.3 Refer to client's requirement for specific case.

6. Inspection Items And Criteria

6.1 Appearance Inspection Items and Criteria

Appearance Inspection Items and Criteria				
Item	Item Description	MA	MI	Standard
1	Dot dust	●		$D \leq 0.15\text{mm}$ · Ignored $0.15\text{mm} < D \leq 0.5\text{mm}$ · allow 5 dots $D > 0.5\text{mm}$ reject
2	Bubble/Dent	●		$D \leq 0.15\text{mm}$ · Ignored $0.15\text{mm} < D \leq 0.5\text{mm}$ · allow 5 dots $D > 0.5\text{mm}$ reject
3	Line dust	●		$W \leq 0.05\text{mm}$ · Ignored $0.05\text{mm} < W \leq 0.1\text{mm}$ · $L \leq 15\text{mm}$, allow 5 line, $L > 15\text{mm}$ or $W > 0.1\text{mm}$ reject
4	Panel scratch	●		$W \leq 0.05\text{mm}$ · Ignored $0.05\text{mm} < W \leq 0.1\text{mm}$ · $L \leq 15\text{mm}$, allow 5 line, $L > 15\text{mm}$ or $W > 0.1\text{mm}$ reject
5	Outer carton labeling inconsistent with specification	●		According to BOM
6	Serial No Label missing or broken, or inconsistent with specification	●		According to BOM
7	Warranty sticker missing or broken	●		Not allowed
8	Appearance distortion	●		Not allowed
9	Screws missing		●	Not allowed
10	Packing material broken or dirty		●	Not allowed
11	Bezel		●	Raw material exposed not allowed
12	Accessories missing or wrong	●		According to BOM

Note: 1. Any inspection items not listed above, the judgment (MA/MI) should be classified by examined fact.

2. If any other defective functions or items, please list above.

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 ☐ Internal

Doc. No.	Doc. Name	Making Date	2025/04/02	Edition	A0
QI-7500-2861	DPD1563-ATS-T11 Inspection Requirement	Revision Date		Page	3/4

6.2 Electrical Inspection Items and Criteria

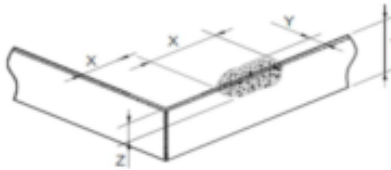
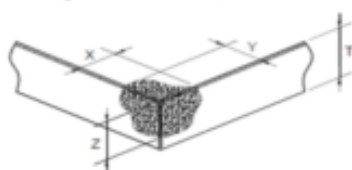
Electrical Inspection Items and Criteria				
Item	Item Description	MA	MI	Standard
1	Bright line	●		Not allowed
2	Input signal without response	●		Not allowed
3	No backlight	●		Not allowed
4	Corona spot	●		View with 5% filter
5	Light leakage	●		View with 5% filter
6	Mura	●		View with 5% filter
7	White dot	●		View with 5% filter
8	Bright dots/Dark dots/Total dots	●		2/4/6
9	Distance between 2 bright dots 、 2 dark dots 、 bright dot and dark dot.	●		$L \geq 5\text{mm}$
10	Two adjacent bright dots/Two adjacent dark dots	●		1 pair/1 pair
11	Three adjacent bright dots/Three adjacent dark dots	●		0 pair/0 pair
12	Brightness	●		According engineering standard Range: +30% ~ -10%
13	OSD function	●		OSD function incorrectly
14	OSD LED light	●		Green for signal, Orange for no signal
15	Brightness no alternation	●		Adjust from 0 to 100 and from 100 to 0, message window no vanishing
16	Contrast no alternation	●		Adjust from 0 to 100 and from 100 to 0
17	Firmware version	●		According to BOM
18	Wireless charger LED light	●		Red light for Power on. Blue light will always be on when charging. Blue light must not flash when charging.
19	Wireless charger Output (5W Tooling)	●		Voltage $\geq 4.9\text{V}$ 、 Current $\geq 0.95\text{A}$ Watts $\geq 4.9\text{W}$ 、 Test time: 10s
20	Wireless charger Output (10W Tooling)	●		Voltage $\geq 9.0\text{V}$ 、 Current $\geq 1.0\text{A}$ Watts $\geq 9.0\text{W}$ 、 Test time: 10s

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Electrical Inspection Items and Criteria				
Item	Item Description	MA	MI	Standard
21	Touch no action	●		Not allowed
22	Touch Glass Cracks	●		Not allowed
23	Touch Corner flaw	●		$X \leq 3.0\text{mm}$ 、 $Y \leq 3.0\text{mm}$ 、 $Z \leq T$
24	Touch Edge flaw	●		$X \leq 4.0\text{mm}$ 、 $Y \leq 2.0\text{mm}$ 、 $Z \leq T$

Note:

1. Dot defect is defined as the defective area of the dot area is larger than 50% of the dot area.
2. The inspection with ND Filter; Holding ND filter in front of panel with 5cm distance and examine the panel from $35 \pm 5\text{cm}$ in the front view within 2~3 seconds.
3. Inspection by human's eyes first. If any defect is found, please use tools to do judgement.
4. D: Diameter、W: Width、L: Length
5. Touch Corner & Edge flaw description、T: Glass thickness



9 Product Warranty Terms and Conditions

1. LITEMAX warrants products free from defects in workmanship and materials under normal use for 1 year which is effective from the date of shipping from LITEMAX.
2. If the products have been proved defective within the applicable warranty period, LITEMAX will provide repair or replacement for equivalent product.
3. The period of repair or replacement is 14 working days from the date of receiving.
4. The repaired products will be given 3 months warranty for repaired defect problem.
5. All the products and parts repaired or replaced shall follow the original and remained period of warranty.
6. As soon as the RMA number is issued, the defective products must be packed securely in the original or other suitable shipping package to ensure not damaged in transit.
7. The RMA number must be prominently marked on the outside carton. Otherwise the item will be rejected and shipped back at sender's expense.
8. If the repair deadline exceeds 6 months of the date of RMA number applying and the case can not be finished, the RMA number will be automatically cancelled. If necessary, apply another new RMA number for new case.
9. If the repair items are pending without response from customer for 6 months since the date of product receiving, LITEMAX is no long responsible for product custody and the case shall be closed.
10. Any of the followings shall be invalid in RMA warranty:
 - The serial number label is unclear, revised or removed.
- The damage is due to misuse, abuse, negligence, the disaster of fire, flood, electroshock or thunder stroke.
- The maintenance or disassembly is implemented without authorization from LITEMAX.
- The damage is occurred in transit.
- The use of accessories or parts does not meet the specification from LITEMAX, such as batteries or adaptors.
- Keep the same image on screen without refreshing by screen saver program so that results in image sticking.
- The warranty sticker is fragmented or broken.
- The mechanism is damaged or LCD is broken by improper handle.
- The temperature of operation environment is too high that results in the color of temperature sticker on product changed.
11. Except the damages caused by natural disaster or misuse, any of the followings occurred within 3 months after delivery from LITEMAX shall meet DOA warranty:
12. No image shows up. •No power on.
- No function at panel control keypad.
13. Any of the followings shall be invalid in DOA warranty:
 - The serial number label is unclear, revised or removed.
- The warranty sticker is fragmented or broken.
- The cables or related accessories are missing.
- Except for LF and LH models, part of the complete unit is sent back.
- The use of accessories or parts does not meet the specification from LITEMAX.
14. Shipping Freight. The freight is defined as the following 3 categories:
 - In Warranty. Customer shall take the freight sending the defective products from customer to LITEMAX, and LITEMAX shall take the freight sending back from LITEMAX to customer. In case the defective products received are examined as no problem found, customer shall take the freight sending back from LITEMAX to customer.
 - Out of Warranty. Customer shall take both back and forth freight for the defective products.
 - DOA (Defect on Arrival). LITEMAX shall take both back and forth freight for the DOA products. In case the DOA products received are examined as no problem found, customer shall take both back and forth freight. Therefore, customer shall contact RMA department before sending back the DOA products.

15. Repair Charge. The repair charge is classified as the following 3 categories: •In Warranty. The warranted products will be repaired with free of charge. However, for products which are invalid in RMA warranty will be charged for repair materials.
- Out of Warranty. Customer shall pay for repair hours and materials.
 - DOA (Defect on Arrival). Swap new products for customer.
16. LITEMAX reserves the right to change, modify, add or remove portions of the provisions at its sole discretion at any time and without prior notice. Please check periodically for any modifications.

10 Precautions

10.1 Handling and Mounting Precautions

- (1) The module should be assembled into the system firmly by using every mounting hole. Do not apply rough force such as bending or twisting to the LCD during assembly.
- (2) You should consider the mounting structure so that uneven force (ex. Twisted stress, Concentrated stress) is not applied to the module. And the case on which a module is mounted should have sufficient strength so that external force is not transmitted directly to the LCD module.
- (3) While assembling or installing LCD modules, it can only be in the clean area. The dust and oil may cause electrical short or damage the polarizer.
- (4) Use fingerstalls or soft gloves in order to keep display clean during the incoming inspection and assembly process.
- (5) Do not press or scratch the surface harder than a HB pencil lead on the panel because the polarizer is very soft and easily be scratched.
- (6) Please attach the surface transparent protection film to the surface in order to protect the polarizer. Transparent protection film should have sufficient strength in order to resist external force.
- (7) When the transparent protection film is peeled off, static electricity is generated between the film and polarizer. This should be peeled off slowly and carefully by people who are electrically grounded and with well ion-blown equipment or in such a condition, etc.
- (8) If the surface of the polarizer is dirty, please clean it by some absorbent cotton or soft cloth. Do not use Ketone type materials (ex. Acetone), Ethyl alcohol, Toluene, Ethyl acid or Methyl chloride. It might permanently damage the polarizer due to chemical reaction.
- (9) Wipe off water droplets or oil immediately. Staining and discoloration may occur if they left on panel for a long time.
- (10) If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contacting with hands, legs or clothes, it must be washed away thoroughly with soap.
- (11) Protect the LCD module from static electricity, it may cause damage to the C-MOS Gate Array IC.
- (12) Do not disassemble the module.
- (13) Do not pull or fold the lamp wire.
- (14) Pins of I/F connector should not be touched directly with bare hands.

10.2 Storage Precautions

- (1) High temperature or humidity may reduce the performance of LCD module. Please store LCD module within the specified storage conditions.
- (2) If possible store them in a dark place. Do not expose the module to sunlight or fluorescent light. Keep the temperature between 5°C and 35°C at normal humidity.
- (3) It is dangerous that moisture come into or contacted the LCD module, because the moisture may damage LCD module when it is operating.
- (4) The polarizer surface should not come in contact with any other object. It is recommended that they be stored in the container in which they were shipped.

10.3 Operation Precautions

- (1) Do not pull the I/F connector in or out while the LCD module is operating.
- (2) Always follow the correct power on/off sequence when LCD module is connecting and operating. This can prevent the CMOS LSI chips from damage during latch-up.
- (3) Response time depends on the temperature. (In lower temperature, it becomes longer.)
- (4) Brightness depends on the temperature. (In lower temperature, it becomes lower.)
- (5) Be careful for condensation at sudden temperature change. Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.
- (6) Module has high frequency circuits. Sufficient suppression to the electromagnetic interference shall be done by system manufacturers. Grounding and shielding methods are very important to minimize the interference.
- (7) Please do not give any mechanical and/or acoustical impact to module. Otherwise, module can't be operated its full characteristics perfectly.
- (8) Since a module is composed of electronic circuits, it is not strong to electrostatic discharge. Make certain that treatment persons are connected to ground through wrist band etc. And don't touch interface pin directly.
- (9) Do not display the fixed pattern for a long time because it may cause image sticking.
- (10) In order to prevent image sticking, periodical power-off or screen save is needed after fixed pattern long time display.
- (11) Black image or moving image is strongly recommended as a screen save.
- (12) Static information display recommended to use with moving image. Cycling display between 10 minutes' information (static) display and 10 seconds' moving image.
- (13) Background and character (image) color change is recommended. Use different colors for background and character, respectively. And change colors themselves periodically.
- (14) LCD system is required to place in well-ventilated environment. Adapting active cooling system is highly recommended.
- (15) Product reliability and functions are only guaranteed when the product is used under right operation usages.
- (16) If product will be used in extreme conditions, such as high temperature/ humidity, shock and vibration it is strongly recommended to contact Litemax for filed application engineering advice. Otherwise, its reliability and function may not be guaranteed. Extreme conditions are commonly found at airports, transit stations, taxi-top, in vehicle and controlling systems.

11 Disclaimer

All information in this document are subject to change, please constant LiteMax for any new design.

12 Warning statement

a. The spatial distance between the product and the consumer should keep more than 20 cm.

b. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this

device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

This device and its antenna must not be colocated
or operating in conjunction with any other antenna or transmitter.

c. Canada

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes:

(1) Cet appareil ne doit pas causer d'interférences

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

13 Appendix

13.1 Declaration Letter of ROHS Compliance



LITEMAX ELECTRONICS INC.

Declaration Letter of ROHS Compliance

We, Litemax Electronics Inc. hereby declare that our product. Concentrations of the 10 substances list in RoHS meet the restriction of RoHS Directive 2011/65/EU、2015/863/EU of the European Parliament and of the Council of 31 March 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Part Number : DPD1563-ATS-T11

The 10 substances listed in ROHS are as below:

Lead (Pb) -----	<1000ppm
Mercury (Hg) -----	<1000ppm
Cadmium (Cd) -----	<100ppm
Hexavalent Chromium (Cr VI) -----	<1000ppm
Polybrominated Biphenyl's (PBBs) -----	<1000ppm
Polybrominated Diphenyl Esthers (PBDEs) -----	<1000ppm
Bis(2-ethylhexyl)phthalate (DEHP) -----	<1000ppm
Benzyl butyl phthalate (BBP) -----	<1000ppm
Dibutyl phthalate (DBP) -----	<1000ppm
Diisobutyl phthalate (DIBP) -----	<1000ppm

Your sincerely,
Litemax Electronics Inc.

Signature:



Date : 2025/04/10

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Tel: +886-2-89191858 Fax: +886-2-89191300
[Http://www.litemax.com.tw](http://www.litemax.com.tw)

13.2 CB Test Certificate

13.3 FCC Test Certificate

13.4 Canada IC Test Certificate