Gaming Display Specification

27 Inch LCD Monitor w/mini LED Deco.

Model No. : **WTD270F**

Suffix : **CGMAZ0**

Customer Approval
Please return 1 copy for your confirmation with your signature and date.

Approved by	Reviewed by	Prepared by
Sungsoo Ryu	Minsuk Seoung	Min-Suk Seoung
WiTS Co., LTD.		

Revision History

Date	Document Revision	Page	Summary
2024. 10. 23.	Rev 1.0	All	First Draft
2024. 11. 27	Rev 1.1	21 Page	Edit Label

1 General Description

The LCD display can receive standard DVI-D and DP (Display Port) signals from any video controller. An OSD logic is embedded to provide the convenient function to adjust the screen and picture quality. The main features are follows;

- Support 8 Bit LVDS interface
- High quality scaling engine to enlarge or shrink the image
- Plug & Play VESA DDC 2B Ver. 1.3
- Embedded On-screen Display Control
- Support resolution from VGA to FHD
- Support DVI-D and DP input signal.
- Recommended resolution : 1920 x 1080@60Hz (FHD)
- A variety of image adjustment such as brightness, contrast, color temp. and etc.
- Support Image Reverse(180 Degree) and Rotate OSD function
- Narrow Black Bezel Design and Glare Tempered Glass
- Support advanced 1.2mm pitch mini LED for eye catching effect

2 General Specifications

2.1 The detail of suffix on P/N

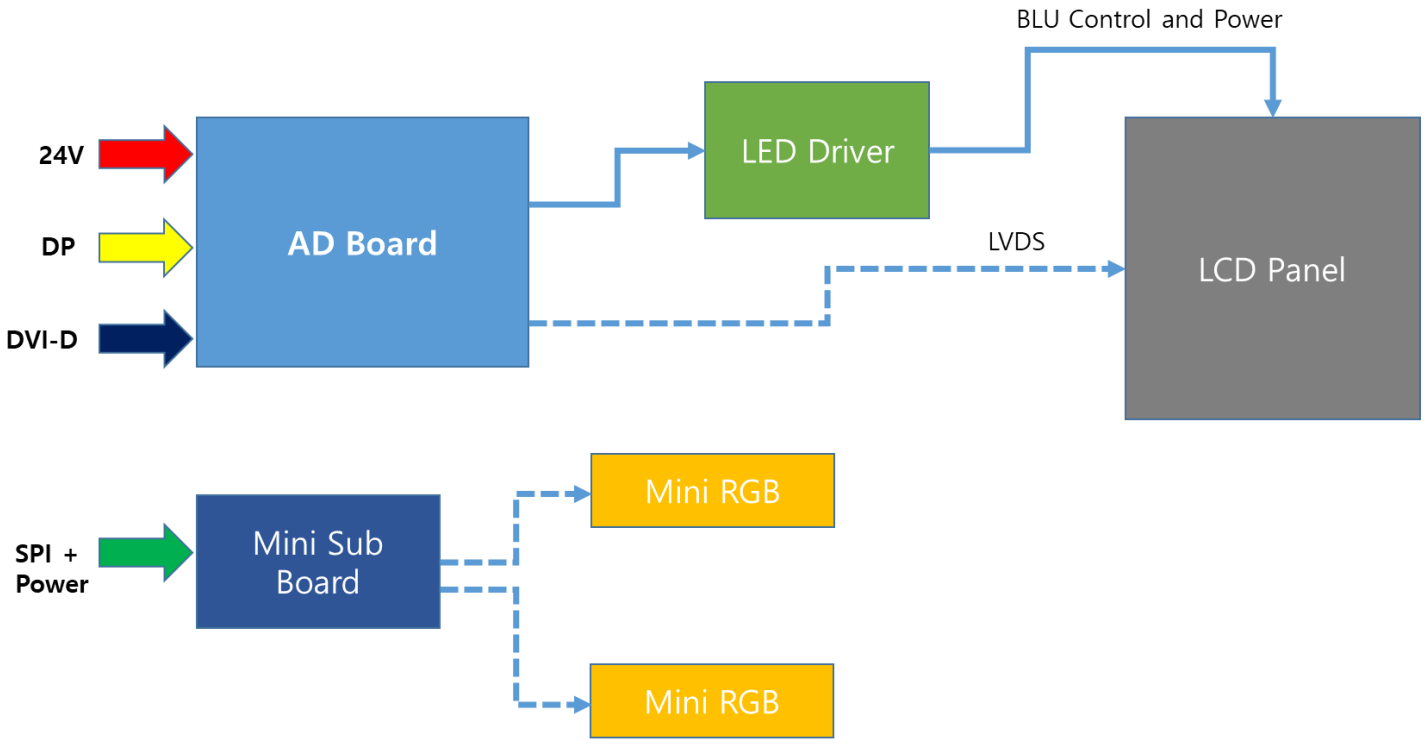
WTD270F- CGMAZ0

Additional specification	Suffix
Enclosed Frame model	C
Tempered Glass	G
mini LED decoration	M
AZ	Customer Code
0	Revision No.

2.2 Summary of specifications

Item		Unit	Value
LCD Module	Screen Size		27 inches Diagonal
	LCD Module		AUO P270HAN01
	Pixel Pitch	[mm]	0.3114 x 0.3114
	Response Time	[ms]	14 typ.(G to G)
	Brightness	[cd/m^2]	Without Glass : 400 min, 500 typ.
			With Glass(88%) : 350 min
	Contrast Ratio		1,000 typ.
	Active Area	[mm]	597.88 (H) x 336.31 (V)
	Max. Colors	[colors]	16.7 millions
	Viewable Angles	[degree]	89/89 (Left/Right) 89/89 (Up/Down)
	Resolution	[pixel]	1920 (H) x 1080(V)
Mini LED	LED Type		Mini RGB 0606
	Pitch	[mm]	1.2
	Resolution	[LEDs]	Type A - 54 X 304
	Brightness	[cd/m^2]	550 min.
	Color Temp.	[K]	6500 +/- 500K
Recommended Resolution		[pixel]	1920 x 1080 (FHD) @ 60Hz
Frequency Range	Horizontal	[KHz]	29~85
	Vertical	[Hz]	55~76
I/O Connector	Signal #1	DVI-D	Single Link **DVI-D** Connector
	Signal #2	DP	20pin DP connector
	Power-in	DC 24V	ELR-06V (JST)
Plug & Play			VESA DDC 2B Ver. 1.3
Power supply		[V]	Display - DC24V ± 10%
Power consumption		[W]	Display - 25 Watt (typ.) Mini LED – 20Watt (typ.)
Power management			No Support
OSD Keys	5 keys		Power, Menu/Select, Up, Down, Select/Exit
Physical Considerations		[mm]	705(H) x 369.5(V)
		[Kg]	16Kg (typ.)
Environmental Conditions	Operation	[°C]	0 ~ +40
	Storage	[°C]	-20 ~ + 60
	Operation	[%RH]	10 ~ 80 (Non-Condensing)
	Storage	[%RH]	10 ~ 90 (Non-Condensing)
Certification			UL, FCC, CSA compliance

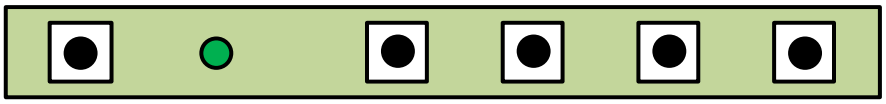
2.3 Block diagram



● **Mini LED Pixel Allocation**



2.4 OSD Keys

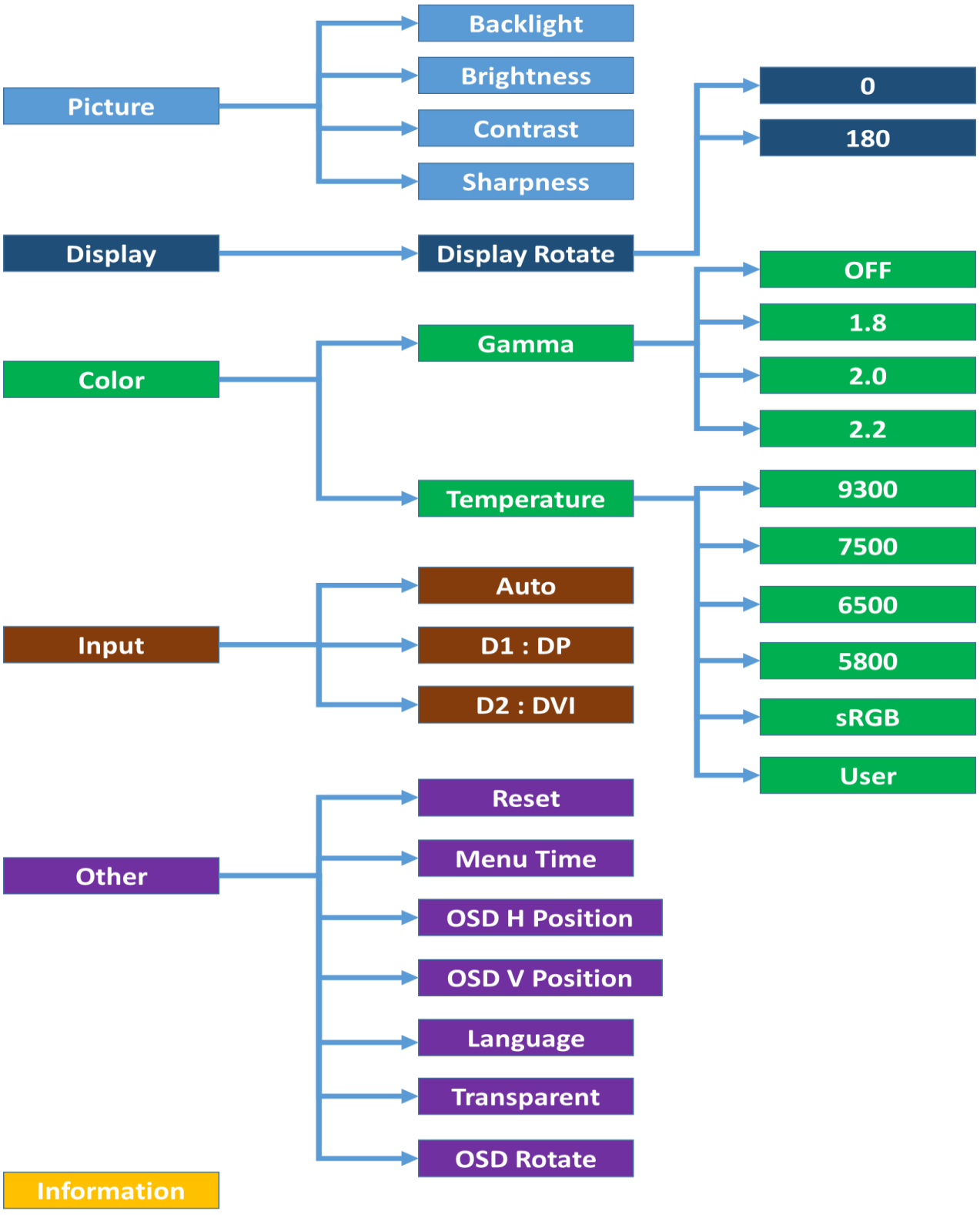


Power LED Menu/Select Up Down Select / Exit

A. Summary of the key functions

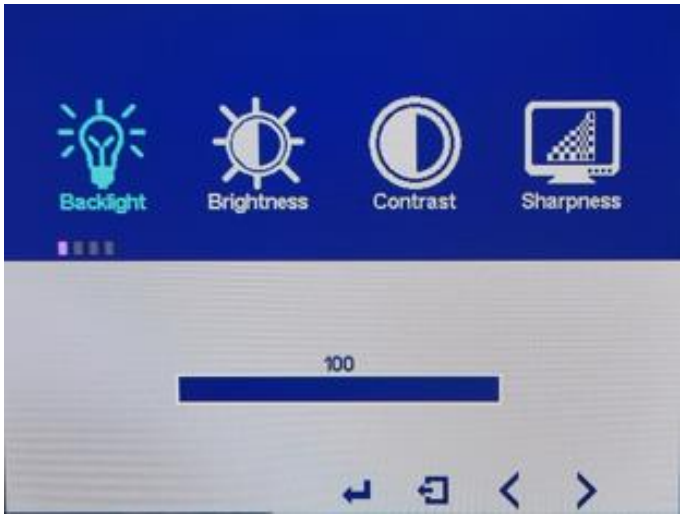
Button	Function	Hot Key
LED	Input signal – GREEN LED No Signal – YELLOW LED Soft Power Off – LED off	
POWER	Power On/Off	
MENU/ SELECT	Access to OSD menu or sub item selection **Save changed value after adjust OSD value.**	
UP	Move cursor to the right, Increase selected value.	Show up Input Source and select input source
DOWN	Move cursor to the left, Decrease selected value	
SOURCE / EXIT	and exit to the previous menu level	

B. OSD Menu Tree



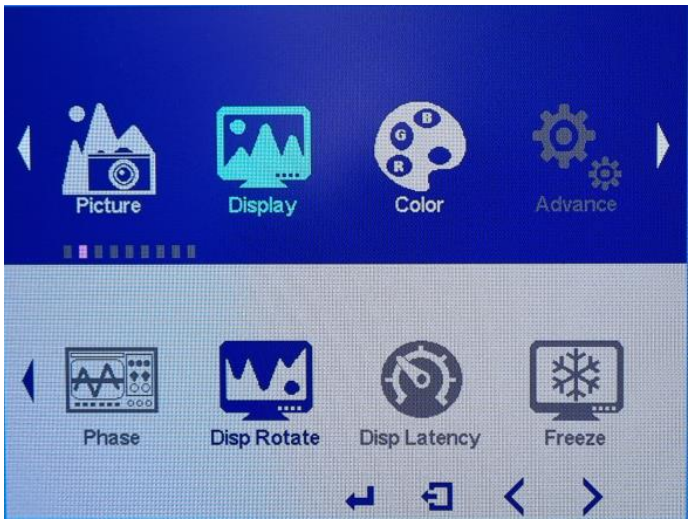
C. Detail of the OSD Menu (Default value)

PICTURE



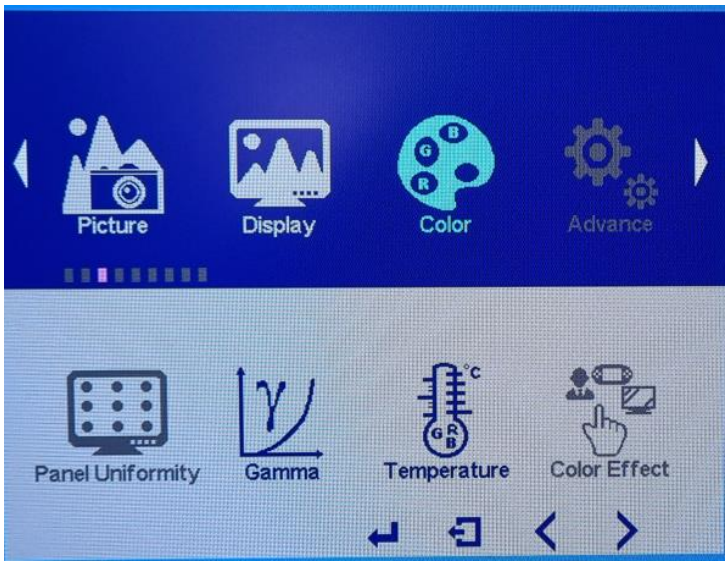
- Backlight : Adjust backlight of LCD (90)
- Brightness : Adjust contrast of the screen (50)
- Contrast: Adjust contrast of the screen (50)
- Sharpness : Adjust sharpness of screen (2)

DISPLAY



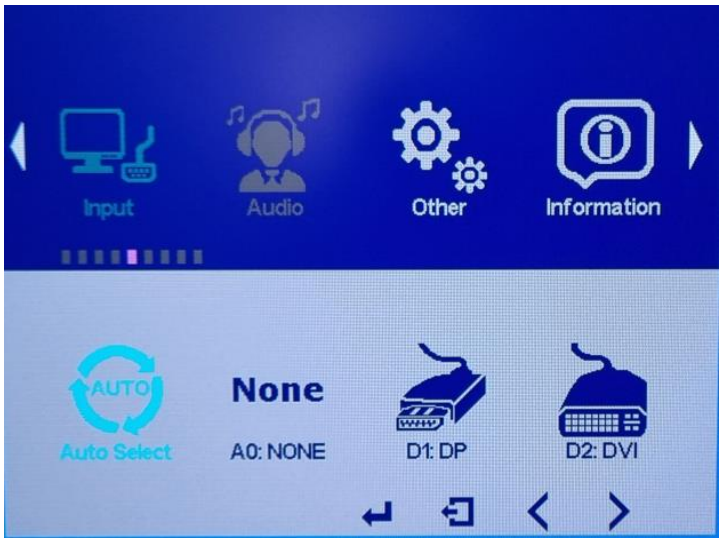
- Display Rotate : Rotate display image between 0 degree and 180 degree (0)

COLOR



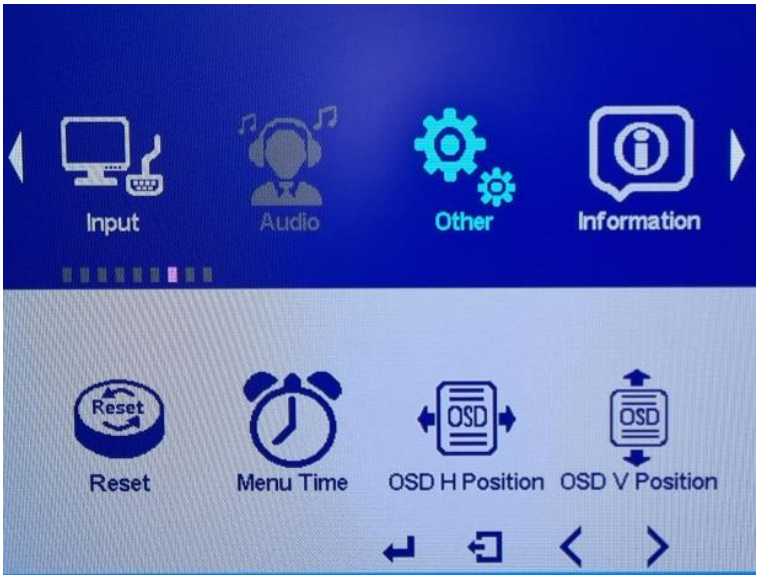
- Gamma : Change Gamma table and apply to the screen.(Off)
- Temperature : Change Color temperature of screen.(User)

INPUT



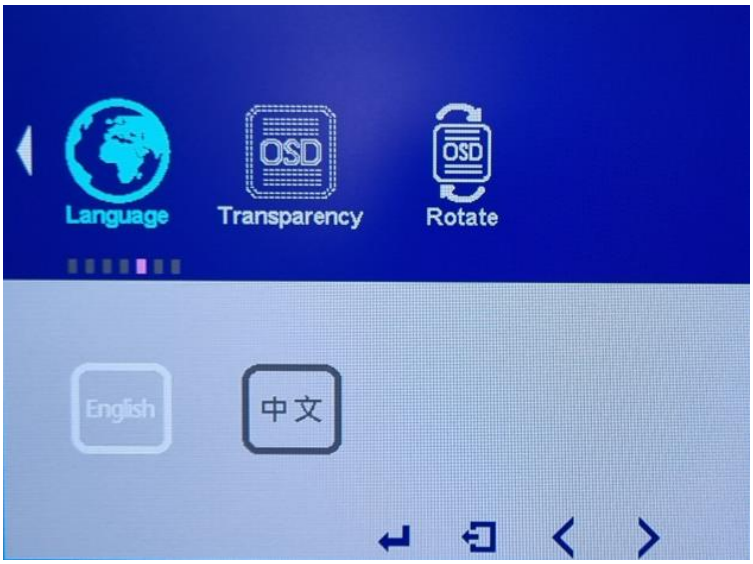
- Auto : Search available input source automatically (Default)
- D1 DP : Select Display Port
- D2 DVI : Select DVI-D Port

OTHER (1)



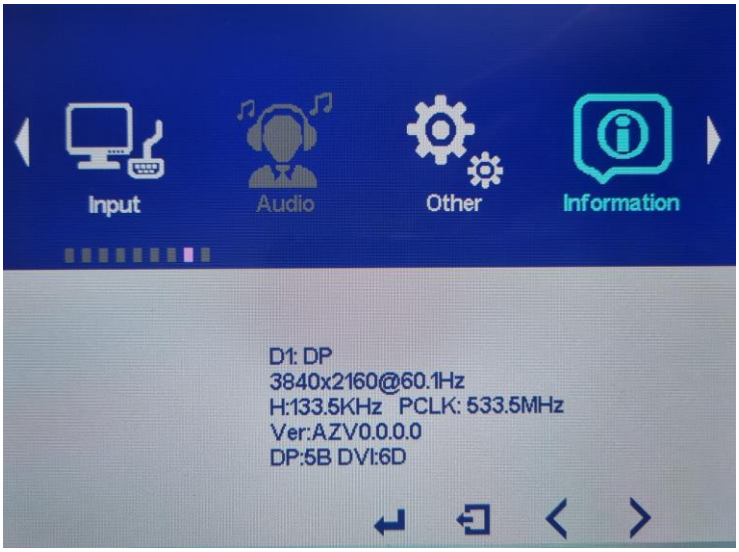
- Reset : Return all value of OSD to Default Setting
- Menu Time : Setting OSD menu display time in second (10)
- OSD H Position : Setting OSD Horizontal Position on the screen (50)
- OSD V Position : Setting OSD Vertical Position on the screen (50)

OTHER (2)



- Language : Support OSD Language, English only
- Transparency : Select transparency of OSD menu (1)
- Rotate : Select rotating OSD menu among 0, 90, 180 and 270 degree (0)

INFORMATION



- Current Input Source information
- Current Input Resolution information
- Current Input Timing information
- Firmware Version information
- EDID Checksum

3 Interface

3.1 Interface Connector

DVI-D Connector

Pin No.	Description
1	TMDS DATA 2-
2	TMDS DATA 2+
3	TMDS GROUND
4	NC
5	NC
6	DDC CLOCK
7	DDC DATA
8	NC
9	TMDS DATA 1-
10	TMDS DATA 1+
11	TMDS GROUND
12	NC
13	NC
14	POWER +5V
15	GROUND
16	HOT PLUG DETECT
17	TMDS DATA 0-
18	TMDS DATA 0+
19	TMDS GROUND
20	NC
21	NC
22	TMDS GROUND
23	TMDS CLOCK+
24	TMDS CLOCK-
25	GND
26	GND
27	GND
28	GND

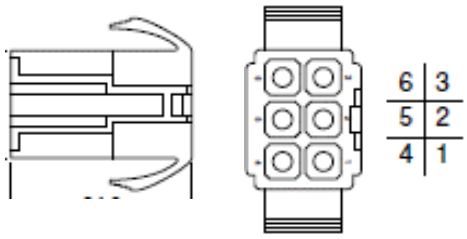
DP Connector 20P

Pin No.	Symbol	Description
1	RX_3N	DP channel 3 negative
2	GND	Digital Ground
3	RX_3P	DP channel 3 positive
4	RX_2N	DP channel 2 negative
5	GND	Digital Ground
6	RX_2P	DP channel 2 positive
7	RX_1N	DP channel 1 negative
8	GND	Digital Ground
9	RX_1P	DP channel 1 positive
10	RX_0N	DP channel 0 negative
11	GND	Digital Ground
12	RX_0P	DP channel 0 positive
13	GND	Digital Ground
14	GND	Digital Ground
15	AUX_P	AUX channel positive
16	GND	Digital Ground
17	AUX_N	AUX channel negative
18	HPD	Hot Plug Detection
19	RETURN	
20	DP_PWR	NC

Power Input (ELR-06V (JST)

Pin No.	Symbol	Description
1	VCC	+24V
2	GND	Ground
3	GND	Ground
4	VCC	+24V
5	NC	
6	EARTH	Ground

Power input pin Configuration



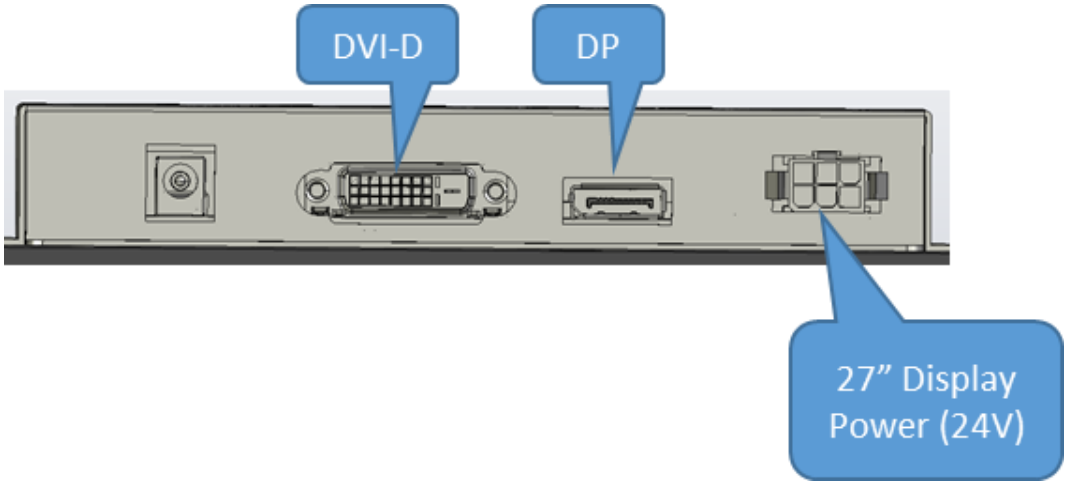
3.2 AD Board Electrical specs

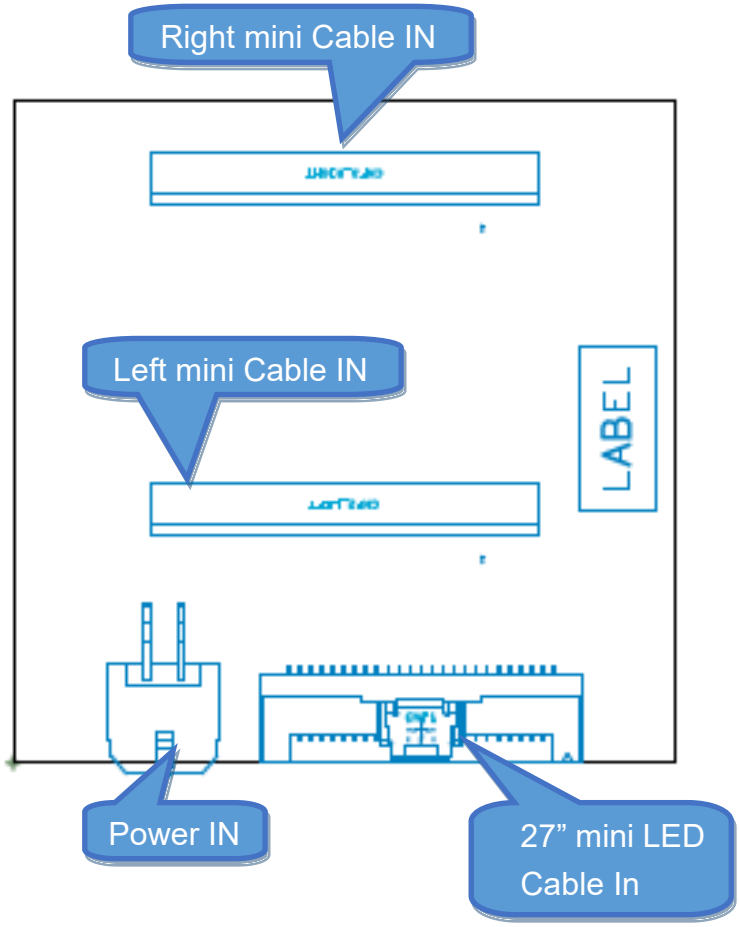
Symbol	Description	Min	Typ	Max	Unit
VDD	+24 V DC Power Supply	21.6	24	26.4	V
VIH	Digital input Voltage, High	2.5			VPP
VIL	Digital input Voltage, Low			0.8	VPP
FHS	Horizontal Sync. Frequency	29		86	KHz
FVS	Vertical Sync Frequency	55		76	Hz
VSIH	Sync Input High Level		5		VDC
VSIL	Sync Input Low Level		GND		VDC

3.3 Signal timing table

Resolution	Refresh Rate (Hz)	Resolution	Refresh Rate (Hz)
720 x 400	70	1280 x 720	60
640 x 480	60	1280 x 768	60
640 x 480	72	1280 x 960	60
640 x 480	75	1280 x 1024	60
800 x 600	56	1280 x 1024	75
800 x 600	60	1360 x 760	60
800 x 600	75	1400x1050	60
1024 x 768	60	1440x900	60
1024 x 768	70	1600x900	60
1024 x 768	75	1920x1080	60

3.4 Input Port





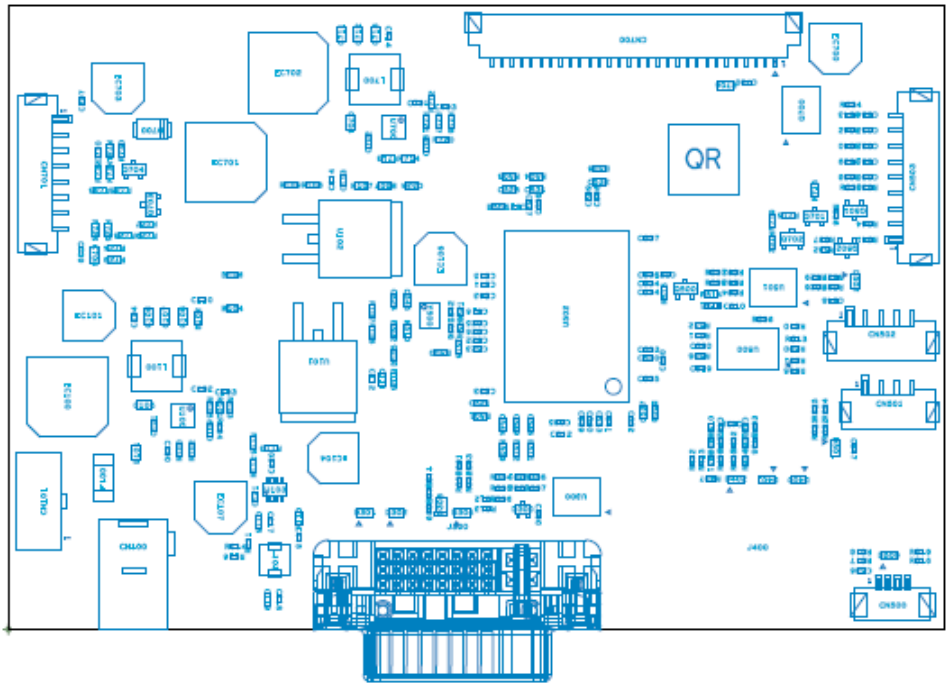
4 Individual specification

4.1 LCD module (P270HAN01)

Item	Specification	Remark
Active Screen Size	597.8mm X 336.3mm	AUO
Pixel Pitch	0.3114mm X 0.3114mm	
Screen Resolution	1920 X 1080	FHD
Color Depth	16.7M Colors	6bit + Hi-FRC
Luminance	500 cd/m2 - Typ.	Without Touch Glass,
Viewing Angle	89/89/89/89	Degree, Wide Viewing Angle
Contrast	1000 : 1	AHVA
Uniformity	75 (min)	%
Pixel Response Time	14msec - Typ.	G to G
Color Coordinate	x = 0.313, y = 0.329	+/- 0.03
BLU Life Time	50K	hours (typ.)

4.2 LCD Controller (CHBFL250)

A. Dimension



Dimension: 120mm (L) x 80mm (W) x 15mm (H)

B. Electrical specs

Symbol	Description	Min	Typ	Max	Unit
VDD	+24V DC Power Supply	21.6	24.0	26.4	V
VI(RGB)	Video Input Signal	0.5		1.0	Vpp
FHS	Horizontal Sync. Frequency	29		81	KHz
FVS	Vertical Sync Frequency	55		76	Hz
VSIH	Sync Input High Level	2.5			V
VSIL	Sync Input Low Level			0.8	V

C. Connectors

Reference	Description	P/N	Manufacturer
CN101	Power Input Connector	SMW250-04	Yeonho
CN701	LED Driver Connector	SMW200-H08G	Yeonho
CN503	OSD Key Connector	SMW200-H09G	Yeonho
J301	DVI-I Connector	DS1090-VN0S	CONNFLY
J201	DP Connector	472720001	Molex
CN700	Vbyone Connector	12507WR-H30G	Yeonho

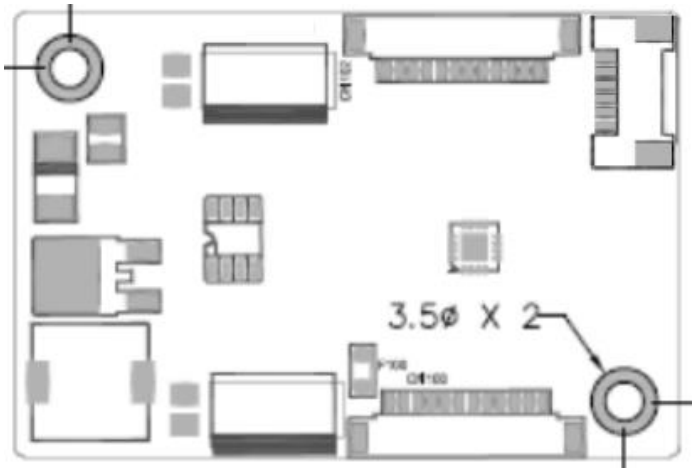
4.3 OSD Board (OSD5S)

A. Connectors

Reference	Description	P/N	Manufacturer
J1	OSD Connector	12505WR-08A00	Yeonho

4.4 LED Driver (GP-0230LD)

A. Dimension



Dimension: 60mm (L) x 40mm (W) x 6.8mm (H)

Electrical specs

Item	Symbol	Condition	Min	Typ	Max	Unit
Input Voltage	Vin		18.0	24.0	28.0	Vdc
Output Current	Iout(max)	Vin=24V, Dim=0V	-	1.0	-	A mean
Backlight ON/OFF	ON		2.5	-	5.25	Vdc
	OFF		-0.3	-	0.8	Vdc
Bright Adjust	DIM-PWM		3	-	100	%

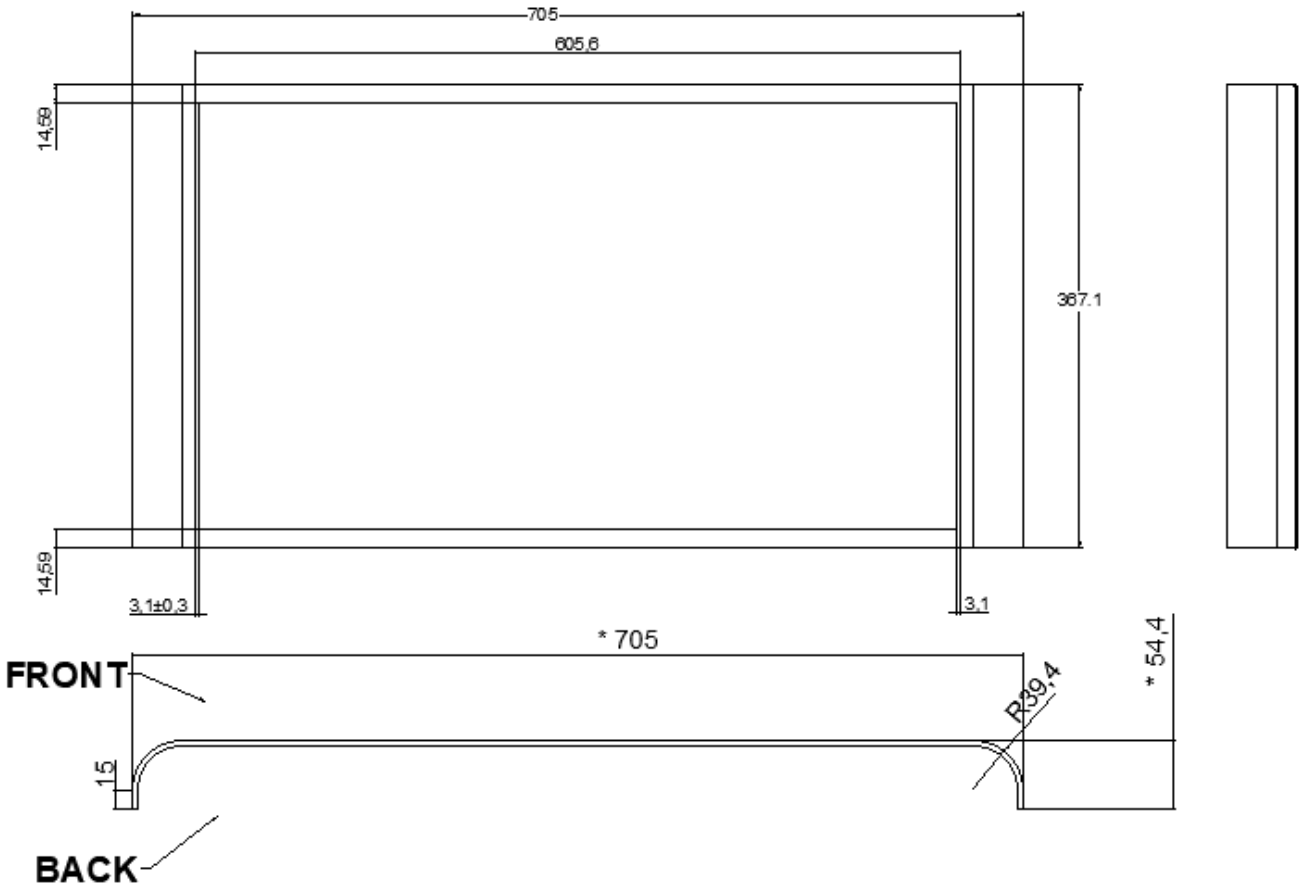
B. Connectors

Reference	Description	P/N	Manufacturer
CN100	Backlight Connector	20022WR-H11	Yeonho

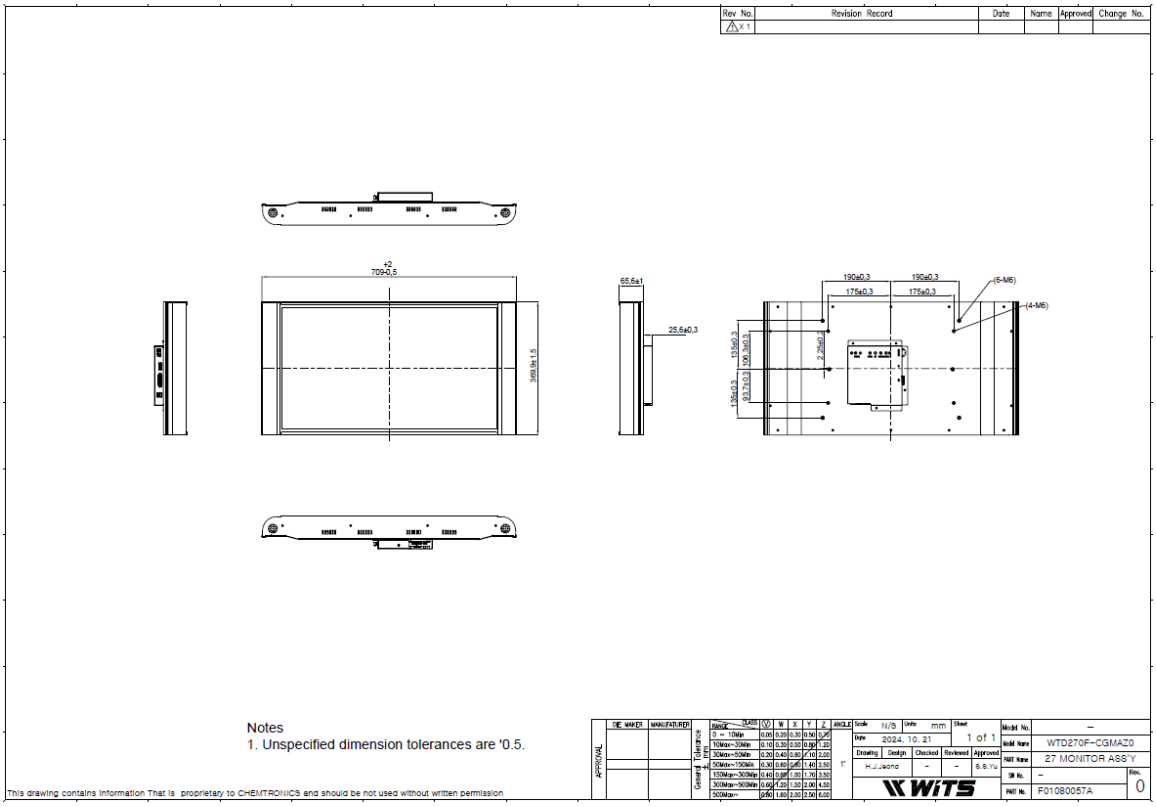
4.5 Glass Specification

Item	Description	Typ
Dimension	705 X 367.1 X 4.0T	mm
Visual Area	599.4 X 337.91	mm
Tempered Glass	Heat Strengthening Treatment	
Transparency	TBD	
Surface Treatment	Clear	

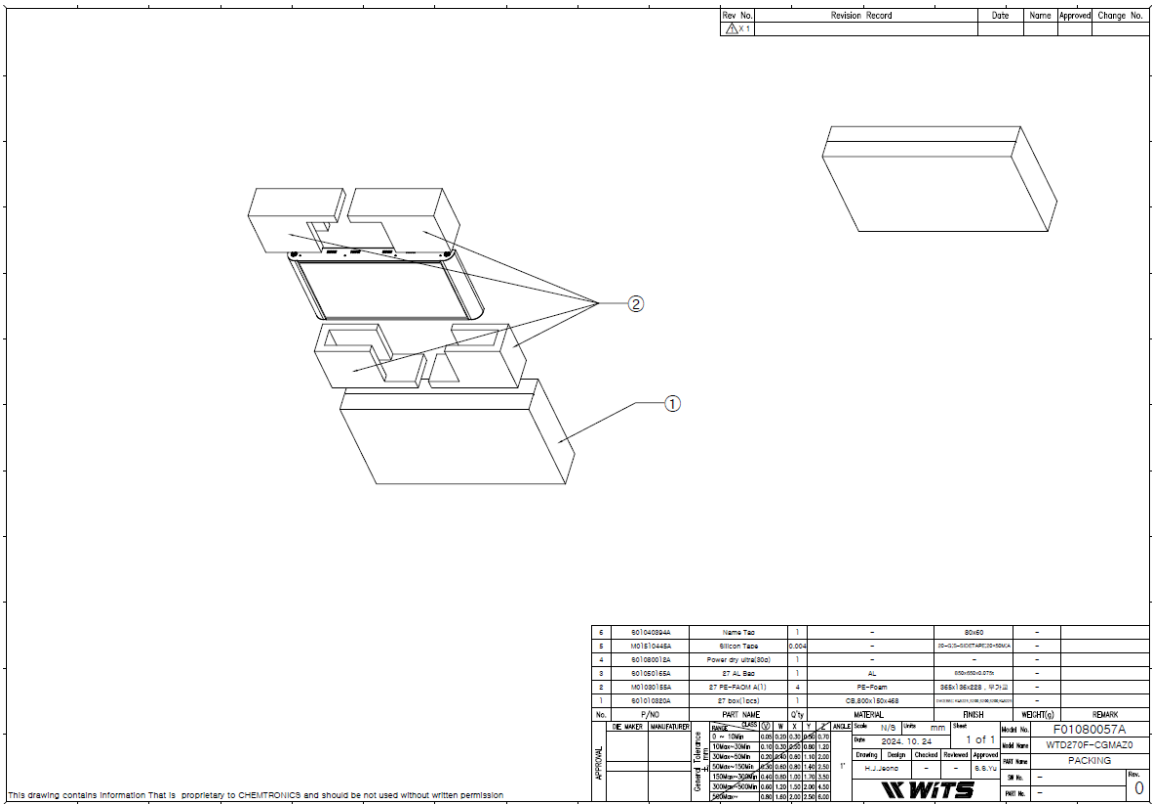
4.6 Touch outline Dimension – Touch model only

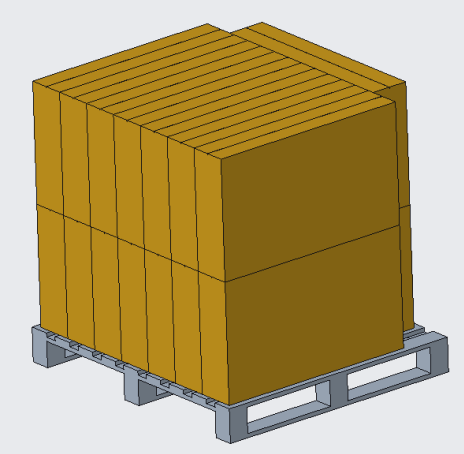


5 Outline Dimension



6 Packing



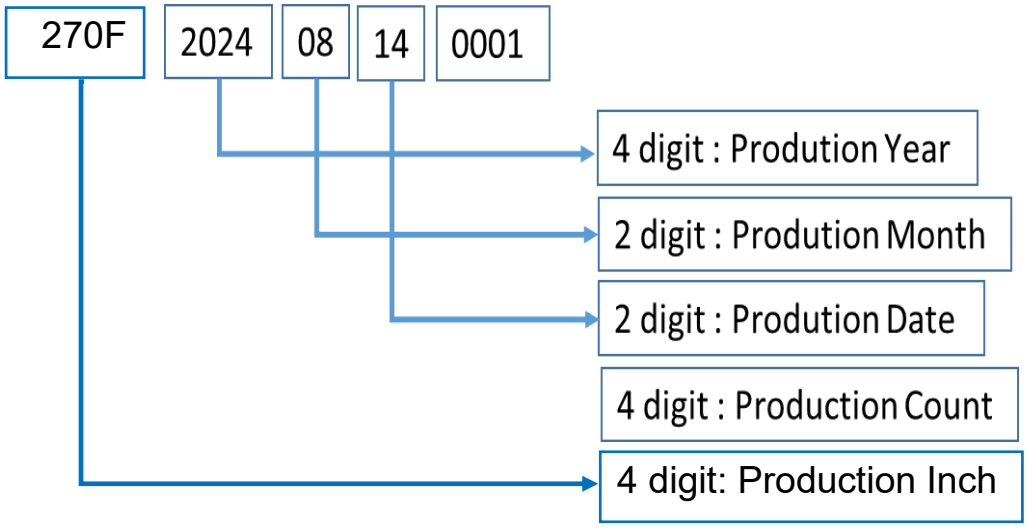


Pallet [1,100 x 1, 000]: 16pcs

7 Product Label



Serial Number



8. Reliability Test

NO.	시험항목	Test Condition	시험 시간
1	High Temperature & High Humidity Storage Test	Power Off, 60℃ / Rh 80% / 36hrs / Packing	36hrs
2	Low Temprature Storage Test	Power Off,-20℃ / Rh 0% / 16hrs / Packing	16hrs
3	Low Temprature Operating	Power On, 0℃ / Rh 0% / 240hrs / Operating	240hrs
4	High Temprature Operating	Power On,40℃ / Rh 0% / 240hrs / Operating	240hrs
5	High Temprature & Humidity Operting Test	Power On,50℃ / Rh 60% / 48hrs / Operating	48hrs
6	Packing Vibration Test	3 axis(x,y,z) Vibration Frequency : 10-300hz Grms : 1.5 grms Time : 30 min* 3 axis = 90 min	외부 진행
7	Packing Drop Test	4능1면(400mm), 전도시험	외부 진행
8	Power On/Off Test	30sec On/30sec Off, 3000times @ Aging room	50hrs
9	Power DIP Test	- 100% Dip (0V) for 16.7ms (20ms : 50Hz 전원) - 60% Dip for 100ms 각 10분동안 테스트를 실시	4hrs
10	Electrostatic Discharge	US 向 : Air ±27kV, ±20kv / Contact ±10kV, ±7.5kv EU 向: Air ±15KV, Contact ±8KV 화면의 전면부와 Metal Frame에 실시한다.	4hrs

Gaming Display Specification

49 Inch LCD Monitor w/mini LED Deco.

Model No. : **WTD490F**

Suffix : **CTMAZ0**

Customer Approval
Please return 1 copy for your confirmation with your signature and date.

Approved by	Reviewed by	Prepared by
Sungsoo Ryu	Minsuk Seoung	Brian Yoo
WiTS Co., LTD.		

Revision History

Date	Document Revision	Page	Summary
2024. 10. 23.	Rev 1.0	All	First Draft
2024. 11. 12	Rev 1.1	2 Page	FW Version Entry
2024. 11. 27	Rev 1.2	21 Page	Edit Label
2025. 02. 12	Rev 1.3	23,25 Page	Edit Label & Add accessory specifications
2025. 07. 20	Rev 1.4	25 Page	Accessory cable specifications changed and EMI Core added

FW Version: ATV0.0.0.3

General Description

The LCD display can receive standard DVI-D and DP (Display Port) signals from any video controller. An OSD logic is embedded to provide the convenient function to adjust the screen and picture quality. The main features are follows;

- Support 10 Bit V-by-1 interface
- High quality scaling engine to enlarge or shrink the image
- Plug & Play VESA DDC 2B Ver. 1.3
- Embedded On-screen Display Control
- Support resolution from VGA to UHD
- Support DVI-D and DP input signal.
- Recommended resolution : 3840 x 2160@60Hz (UHD)
- A variety of image adjustment such as brightness, contrast, color temp. and etc.
- Support Image Reverse(180 Degree) and Rotate OSD function
- Support Projective Capacitance Touch function
- Support 5 points touch function
- Support Palm Rejection function
- Zero Touch Bezel Design
- Support advanced 1.2mm pitch mini LED for eye catching effect

8 General Specifications

8.1 The detail of suffix on P/N

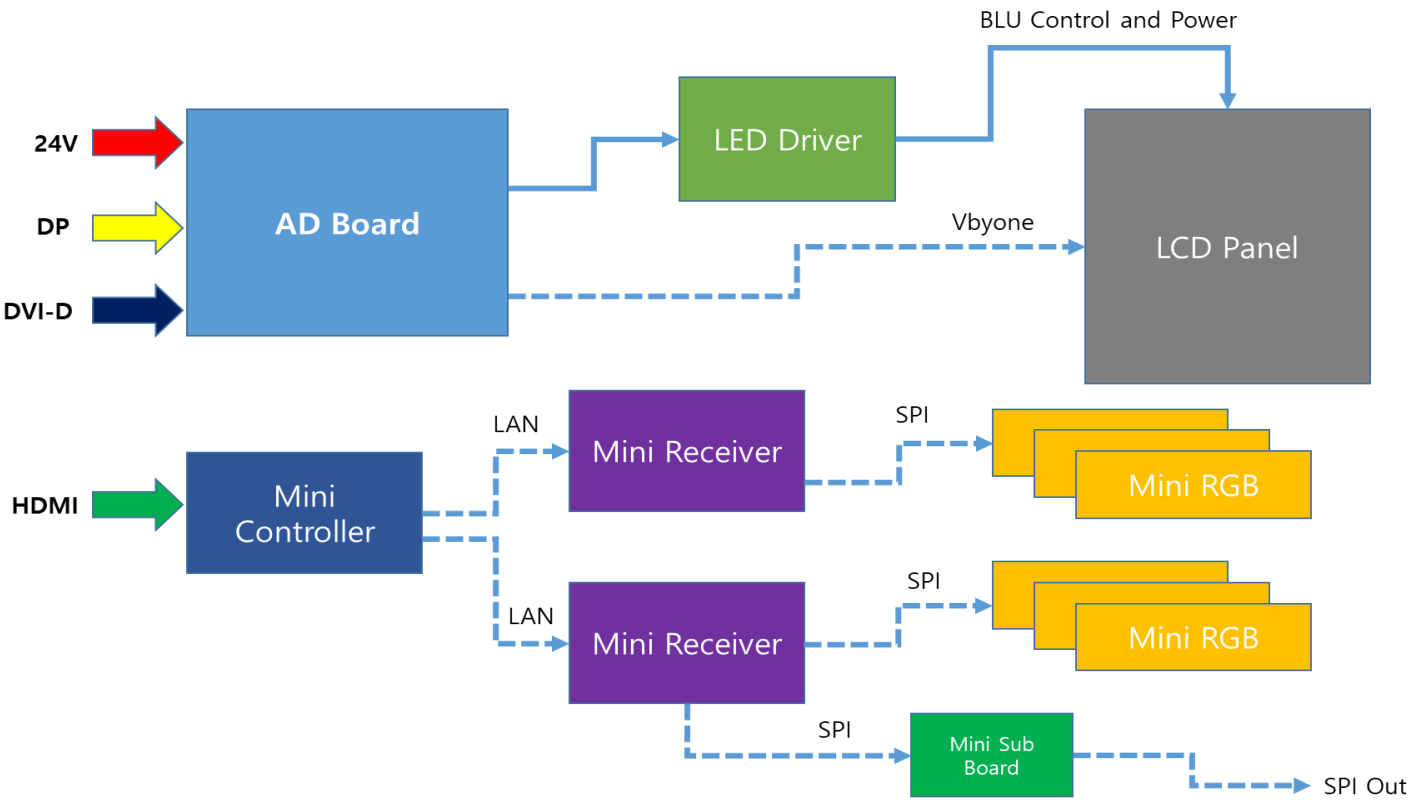
WTD490F-CTMAZ0

Additional specification	Suffix
Enclosed Frame model	C
P-CAP with USB interface	T
mini LED decoration	M
AZ	Customer Code
0	Revision No.

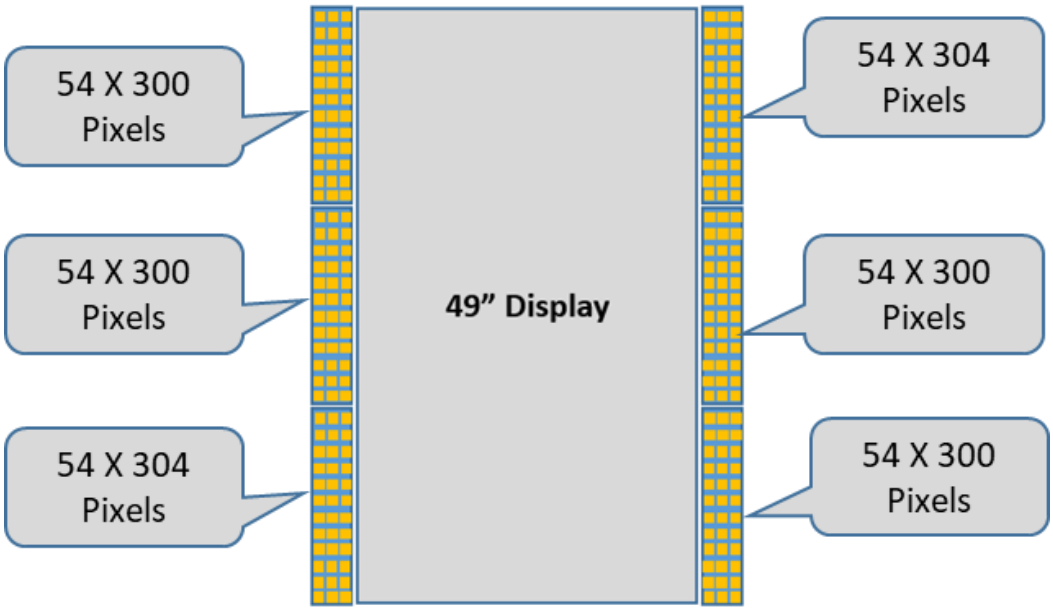
8.2 Summary of specifications

Item		Unit	Value
LCD Module	Screen Size		49 inches Diagonal
	LCD Module		LGD LD490EQE
	Pixel Pitch	[mm]	0.2796 x 0.2796
	Response Time	[ms]	8 typ.(G to G)
	Brightness	[cd/m^2]	Without Glass : 400 min, 500 typ.
			With Glass(80%) : 320 min
	Contrast Ratio		1100 typ.
	Active Area	[mm]	1073.80 (H) x 604.0 (V)
	Max. Colors	[colors]	1.07 billions
	Viewable Angles	[degree]	89/89 (Left/Right) 89/89 (Up/Down)
	Resolution	[pixel]	3840 (H) x 2160(V)
Mini LED	LED Type		Mini RGB 0606
	Pitch	[mm]	1.2
	Resolution	[LEDs]	Type A - 54 X 304 Type B - 54 X 300
	Brightness	[cd/m^2]	550 min.
	Color Temp.	[K]	6500 +/- 500K
Recommended Resolution		[pixel]	3840 x 2160 (UHD) @ 60Hz
Frequency Range	Horizontal	[KHz]	29~135
	Vertical	[Hz]	55~76
I/O Connector	Signal #1	DVI-D	Single Link **DVI-D** Connector
	Signal #2	DP	20pin DP connector
	Power-in	DC 24V	ELR-06V (JST)
	Touch (only Touch Model)	USB	USB-B type
Plug & Play			VESA DDC 2B Ver. 1.3
Power supply		[V]	Display - DC24V ± 10% Mini LED – AC 100V ~ 240V
Power consumption		[W]	Display - 98 Watt (typ.) Mini LED – 120Watt (typ.)
Power management			No Support
OSD Keys	5 keys		Power, Menu/Select, Up, Down, Select/Exit
Physical Considerations		[mm]	1124.1(H) x 705(V) x 32(D)
		[Kg]	45Kg (typ)
Environmental Conditions	Operation	[°C]	0 ~ +40
	Storage	[°C]	-20 ~ + 60
	Operation	[%RH]	10 ~ 80 (Non-Condensing)
	Storage	[%RH]	10 ~ 90 (Non-Condensing)
Certification			UL, FCC, CSA compliance

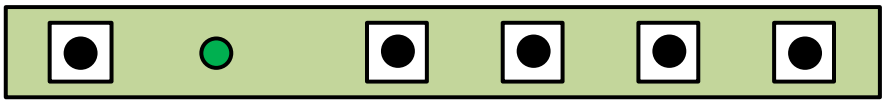
8.3 Block diagram



● **Mini LED Pixel Allocation**



8.4 OSD Keys

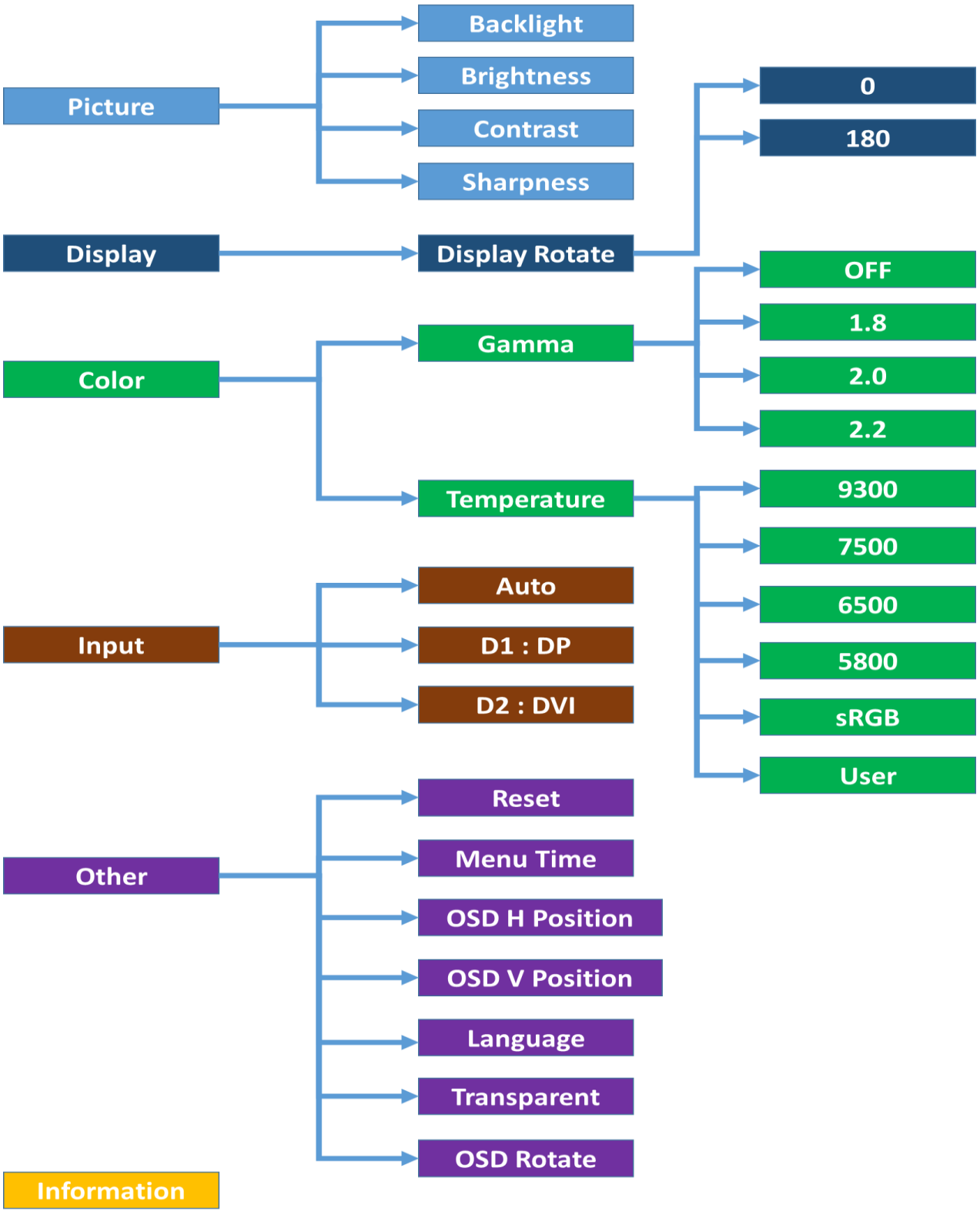


Power LED Menu/Select Up Down Select / Exit

D. Summary of the key functions

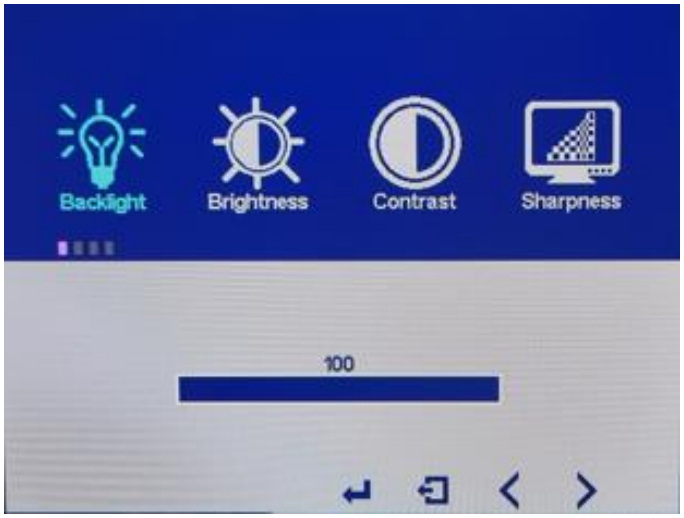
Button	Function	Hot Key
LED	Input signal – GREEN LED No Signal – Yellow LED Soft Power Off – LED off	
POWER	Power On/Off	
MENU/ SELECT	Access to OSD menu or sub item selection **Save changed value after adjust OSD value.**	
UP	Move cursor to the right, Increase selected value.	Show up Input Source and select input source
DOWN	Move cursor to the left, Decrease selected value	
SOURCE / EXIT	and exit to the previous menu level	

E. OSD Menu Tree



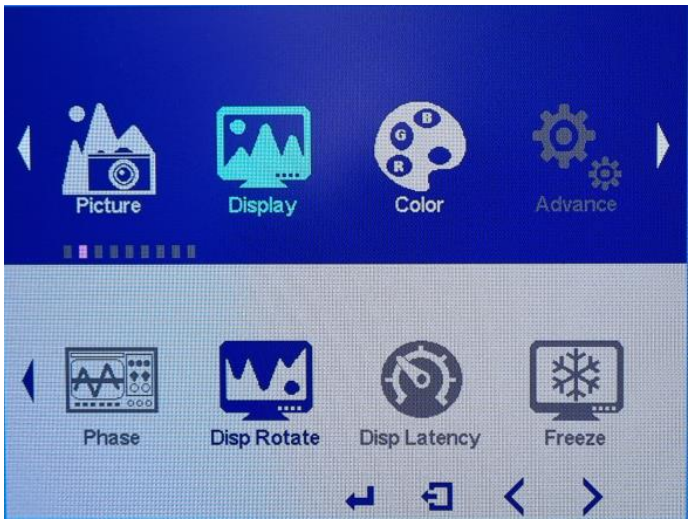
F. Detail of the OSD Menu (Default value)

PICTURE



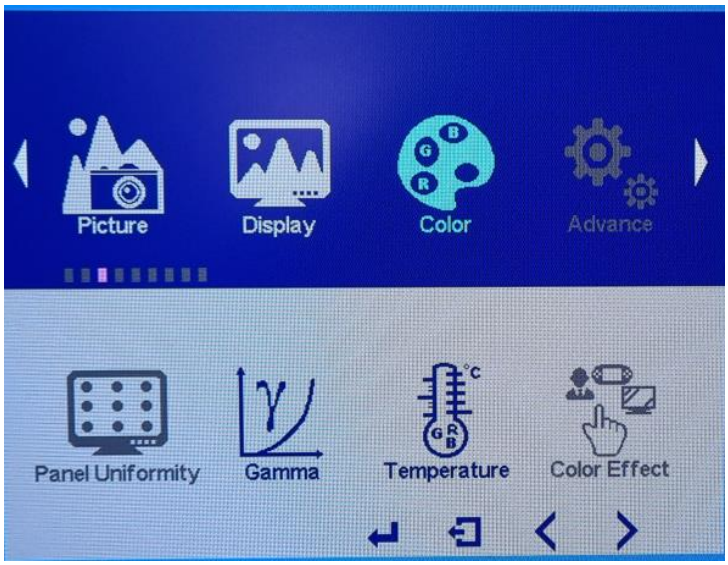
- Backlight : Adjust backlight of LCD (100)
- Brightness : Adjust contrast of the screen (50)
- Contrast: Adjust contrast of the screen (50)
- Sharpness : Adjust sharpness of screen (2)

DISPLAY



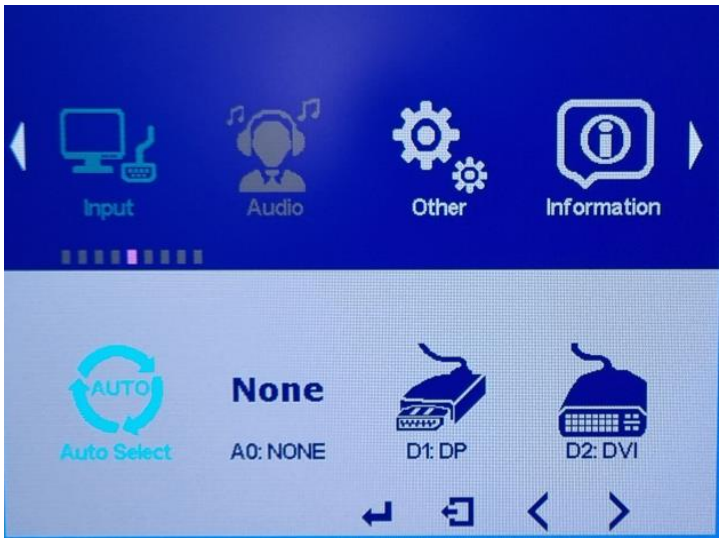
- Display Roate : Rotate display image between 0 degree and 180 degree (180)

COLOR



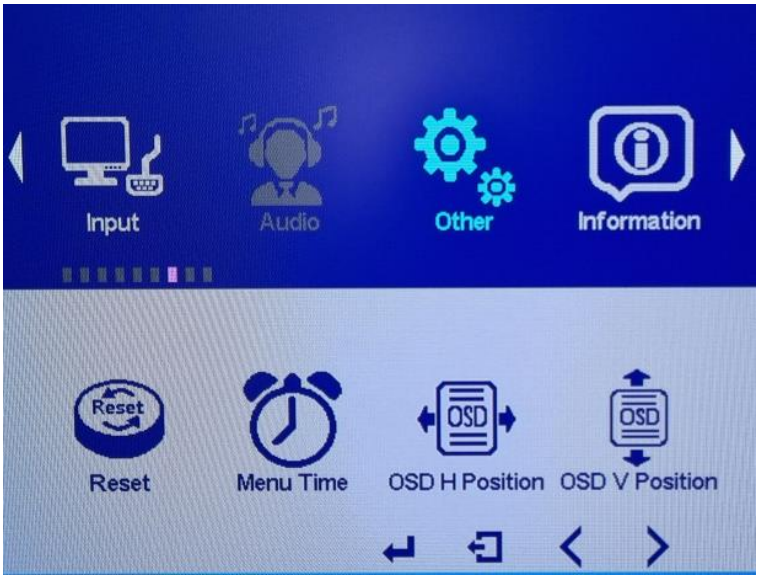
- Gamma : Change Gamma table and apply to the screen.(Off)
- Temperature : Change Color temperature of screen.(User)

INPUT



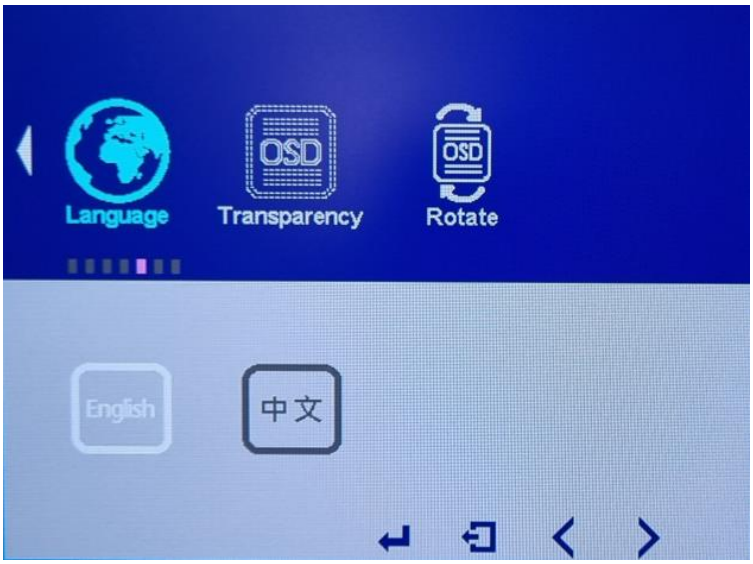
- Auto : Search available input source automatically (Default)
- D1 DP : Select Display Port
- D2 DVI : Select DVI-D Port

OTHER (1)



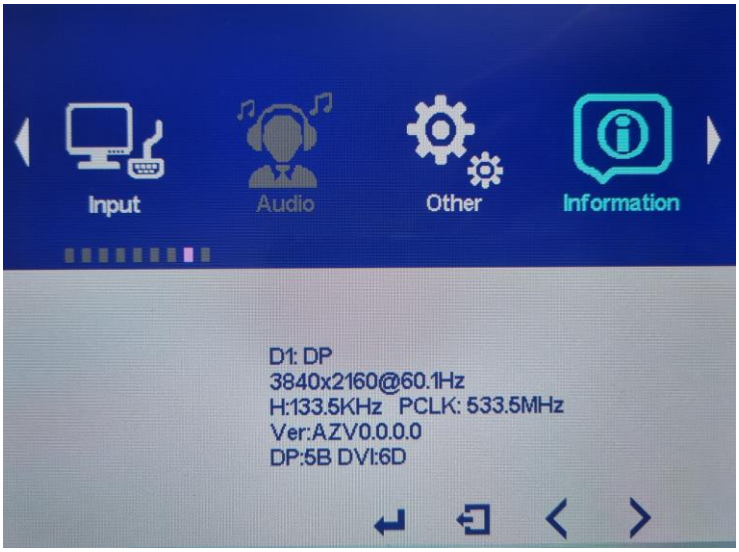
- Reset : Return all value of OSD to Default Setting
- Menu Time : Setting OSD menu display time in second (10)
- OSD H Position : Setting OSD Horizontal Position on the screen (50)
- OSD V Position : Setting OSD Vertical Position on the screen (50)

OTHER (2)



- Language : Support OSD Language, English only
- Transparency : Select transparency of OSD menu (1)
- Rotate : Select rotating OSD menu among 0, 90, 180 and 270 degree (90)

INFORMATION



- Current Input Source information
- Current Input Resolution information
- Current Input Timing information
- Firmware Version information
- EDID Checksum

9 Interface

9.1 Interface Connector

DVI-D Connector

Pin No.	Description
1	TMDS DATA 2-
2	TMDS DATA 2+
3	TMDS GROUND
4	NC
5	NC
6	DDC CLOCK
7	DDC DATA
8	NC
9	TMDS DATA 1-
10	TMDS DATA 1+
11	TMDS GROUND
12	NC
13	NC
14	POWER +5V
15	GROUND
16	HOT PLUG DETECT
17	TMDS DATA 0-
18	TMDS DATA 0+
19	TMDS GROUND
20	NC
21	NC
22	TMDS GROUND
23	TMDS CLOCK+
24	TMDS CLOCK-
25	GND
26	GND
27	GND
28	GND

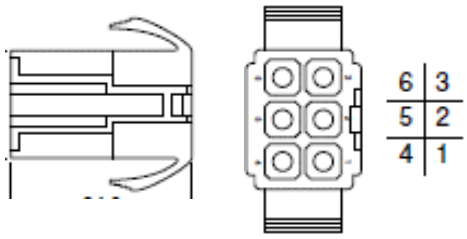
DP Connector 20P

Pin No.	Symbol	Description
1	RX_3N	DP channel 3 negative
2	GND	Digital Ground
3	RX_3P	DP channel 3 positive
4	RX_2N	DP channel 2 negative
5	GND	Digital Ground
6	RX_2P	DP channel 2 positive
7	RX_1N	DP channel 1 negative
8	GND	Digital Ground
9	RX_1P	DP channel 1 positive
10	RX_0N	DP channel 0 negative
11	GND	Digital Ground
12	RX_0P	DP channel 0 positive
13	GND	Digital Ground
14	GND	Digital Ground
15	AUX_P	AUX channel positive
16	GND	Digital Ground
17	AUX_N	AUX channel negative
18	HPD	Hot Plug Detection
19	RETURN	
20	DP_PWR	NC

Power Input (ELR-06V (JST)

Pin No.	Symbol	Description
1	VCC	+24V
2	GND	Ground
3	GND	Ground
4	VCC	+24V
5	NC	
6	EARTH	Ground

Power input pin Configuration



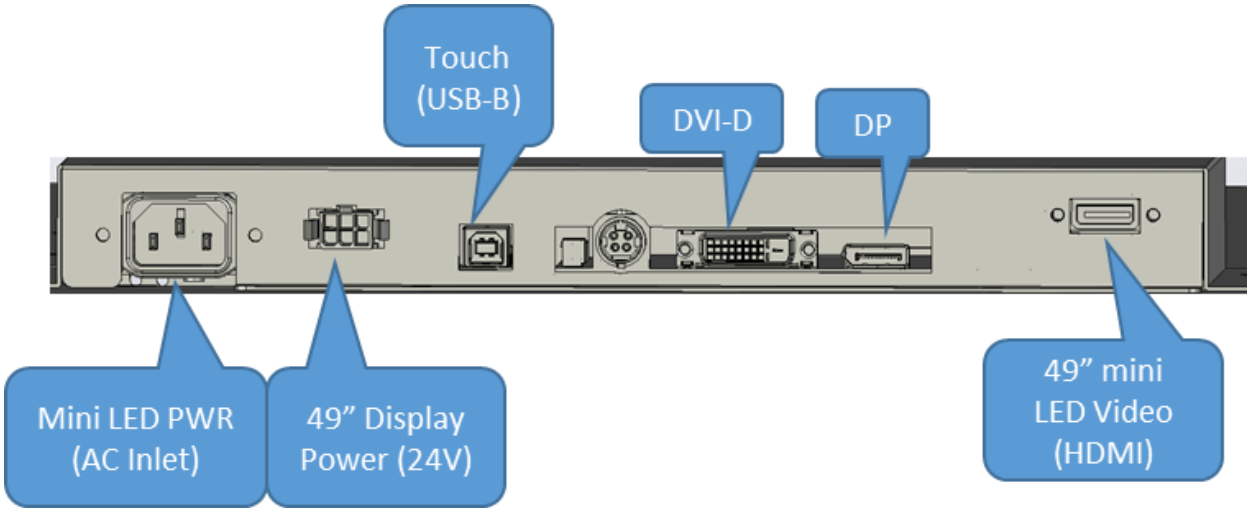
9.2 AD Board Electrical specs

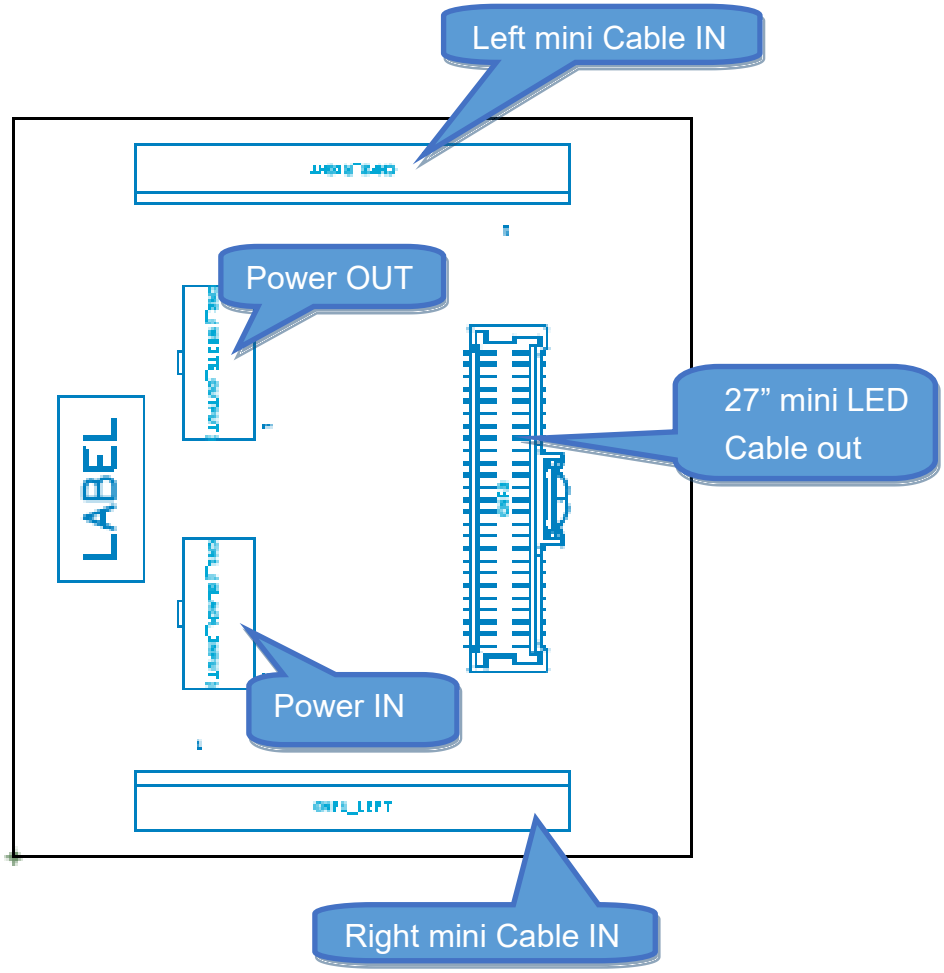
Symbol	Description	Min	Typ	Max	Unit
VDD	+24 V DC Power Supply	21.6	24	26.4	V
VIH	Digital input Voltage, High	2.5			VPP
VIL	Digital input Voltage, Low			0.8	VPP
FHS	Horizontal Sync. Frequency	29		136	KHz
FVS	Vertical Sync Frequency	55		76	Hz
VSIH	Sync Input High Level		5		VDC
VSIL	Sync Input Low Level		GND		VDC

9.3 Signal timing table

Resolution	Refresh Rate (Hz)	Resolution	Refresh Rate (Hz)
720 x 400	70	1280 x 720	60
640 x 480	60	1280 x 768	60
640 x 480	72	1280 x 960	60
640 x 480	75	1280 x 1024	60
800 x 600	56	1280 x 1024	75
800 x 600	60	1360 x 760	60
800 x 600	75	1400x1050	60
1024 x 768	60	1440x900	60
1024 x 768	70	1600x900	60
1024 x 768	75	1920x1080	60
3840 x 2160	60		

9.4 Input Port





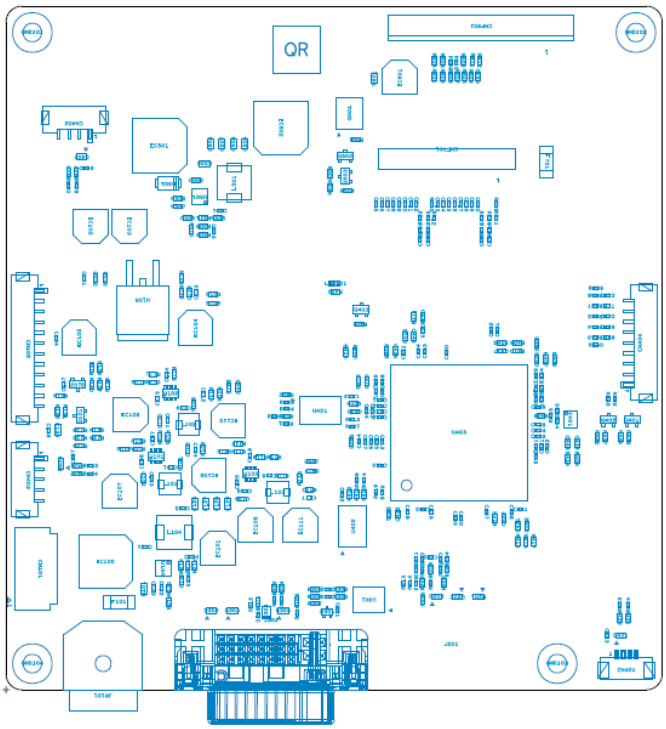
10 Individual specification

10.1 LCD module (LD490EQE)

Item	Specification	Remark
Active Screen Size	1073.8mm X 604.0mm	LGD
Pixel Pitch	0.27963mm X 0.27963mm	
Screen Resolution	3840 X 2160	UHD
Color Depth	10bit Colors	
Luminance	500 cd/m2 - Typ.	Without Touch Glass,
Viewing Angle	89/89/89/89	Degree, Wide Viewing Angle
Contrast	1100 : 1	IPS
Uniformity	68	%
Pixel Response Time	8msec - Typ.	G to G
Color Coordinate	x = 0.279, y = 0.292	+/- 0.03
BLU Life Time	30K	hours (min.)

10.2 LCD Controller (CHBUV250)

D. Dimension



Dimension: 125mm (L) x 130mm (W) x 15mm (H)

E. Electrical specs

Symbol	Description	Min	Typ	Max	Unit
VDD	+24V DC Power Supply	21.6	24.0	26.4	V
VI(RGB)	Video Input Signal	0.5		1.0	Vpp
FHS	Horizontal Sync. Frequency	29		81	KHz
FVS	Vertical Sync Frequency	55		76	Hz
VSIH	Sync Input High Level	2.5			V
VSIL	Sync Input Low Level			0.8	V

F. Connectors

Reference	Description	P/N	Manufacturer
CN101	Power Input Connector	YW396-04V	Yeonho
CN102	LED Driver Connector	SMW200-H12G	Yeonho
CN404	OSD Key Connector	SMW200-H09G	Yeonho
J301	DVI-I Connector	DS1090-VN0S	CONNFLY
J201	DP Connector	472720001	Molex
CNF601	Vbyone Connector	187059-51221	P-Two

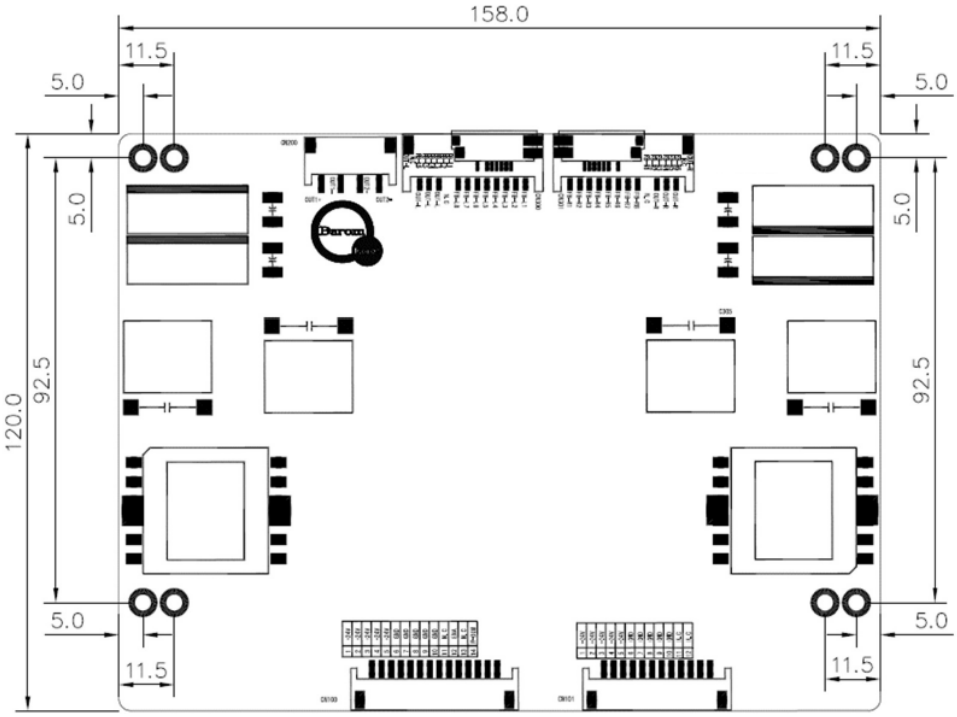
10.3 OSD Board (OSD5S)

B. Connectors

Reference	Description	P/N	Manufacturer
J1	OSD Connector	12505WR-08A00	Yeonho

10.4 LED Driver (GH854A(M1))

C. Dimension



Dimension: 158mm (L) x 120mm (W) x 15mm (H)

Electrical specs

Item	Symbol	Condition	Min	Typ	Max	Unit
Input Voltage	Vin		21.6	24.0	26.4	Vdc
Output Current	Iout(max)	Vin=24V, Dim=0V	-	7.0	-	A mean
Backlight ON/OFF	ON		2.5	-	5.25	Vdc
	OFF		-0.3	-	0.8	Vdc
Bright Adjust	DIM-PWM		10	-	100	%

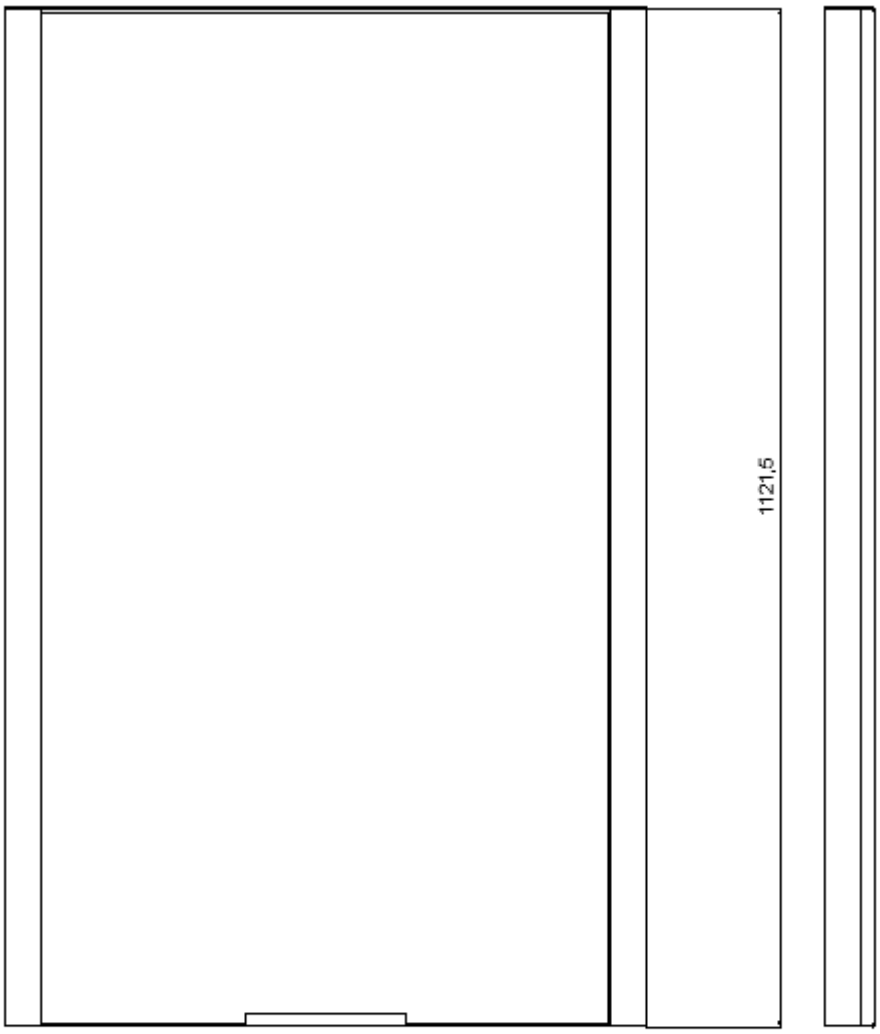
D. Connectors

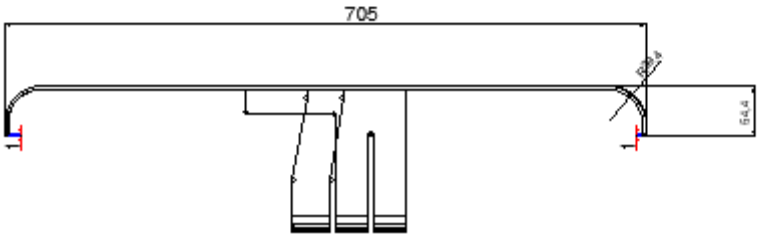
Reference	Description	P/N	Manufacturer
CN100	Backlight Connector	20022WR-H14	Yeonho

10.5 Glass and P-CAP Touch (T09HDHU23852) – Touch model only

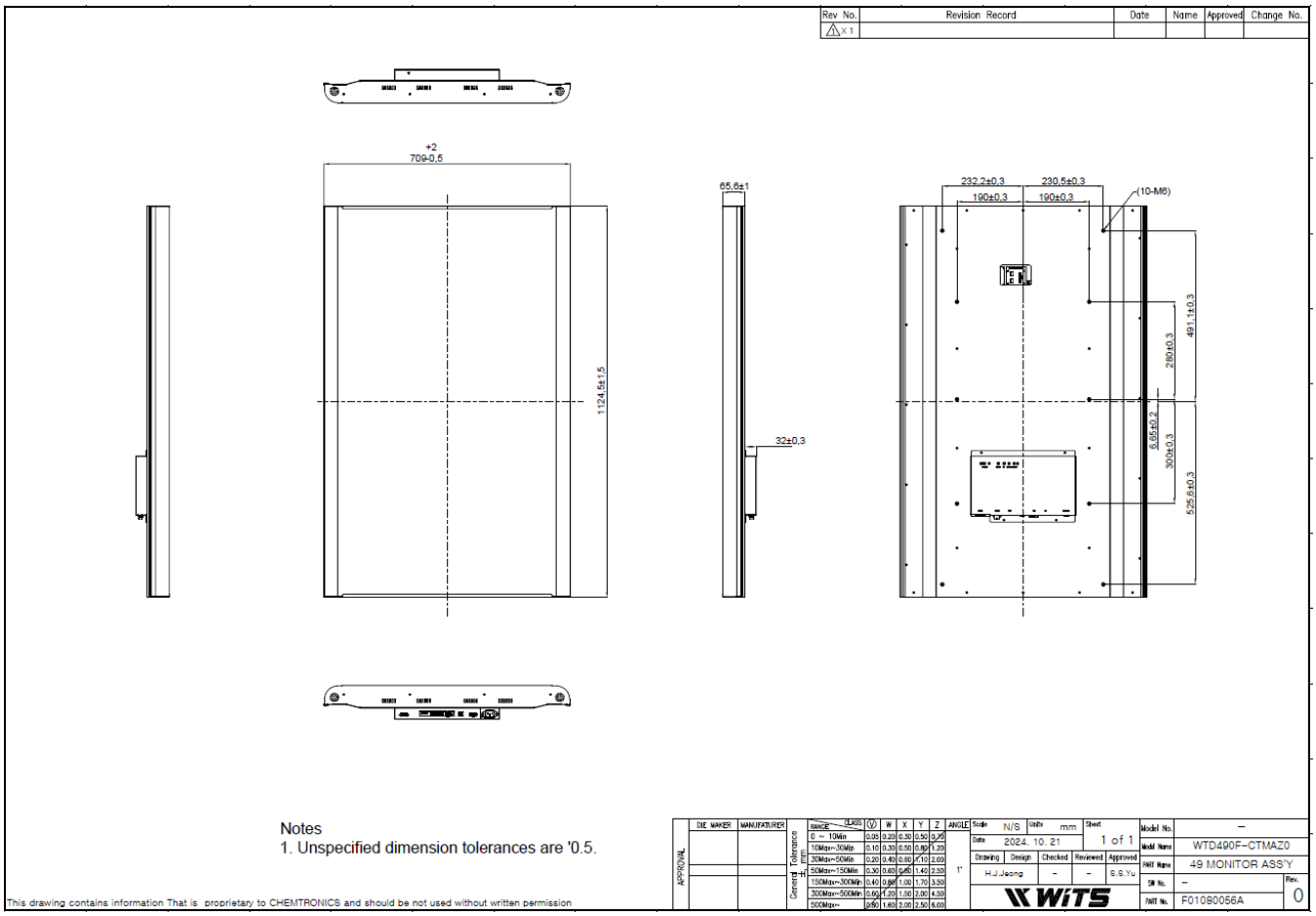
Item	Description	Typ.
Touch Type	Projected Capacitive Touch	Metal Mesh
Touch Layout	GFF	
Dimension	705 X 1121.5 X 4.5T	mm
Glass Thickness	4T	Strengthening Heat Treatment
Visual Area	705 X 1075.4	mm
Touch Point	5 Points	Max
Touch Controller	AX198A	TouchNetix
Touch Interface	USB-B, USB 2.0	
Operating Temp.	0 ~ 40	℃
Linearity Tolerance	± 2	mm
Response Time	25 ~ 30	msec
Transparency	80% min	
Surface Treatment	Clear	

10.6 Touch outline Dimension – Touch model only

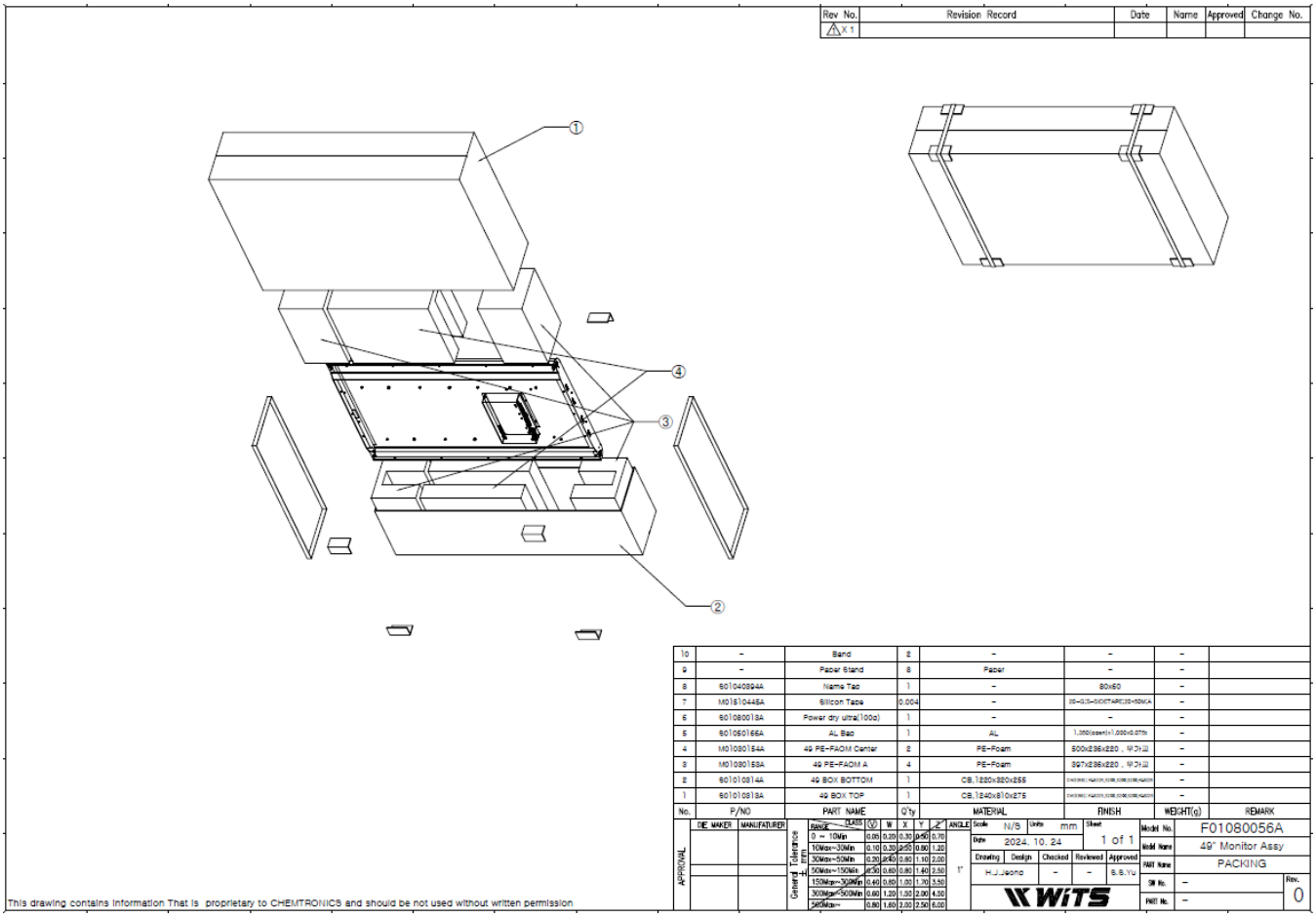


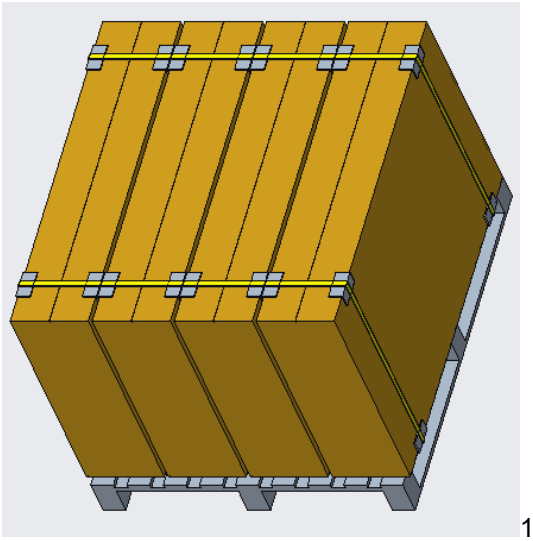


11 Outline Dimension



12 Packing



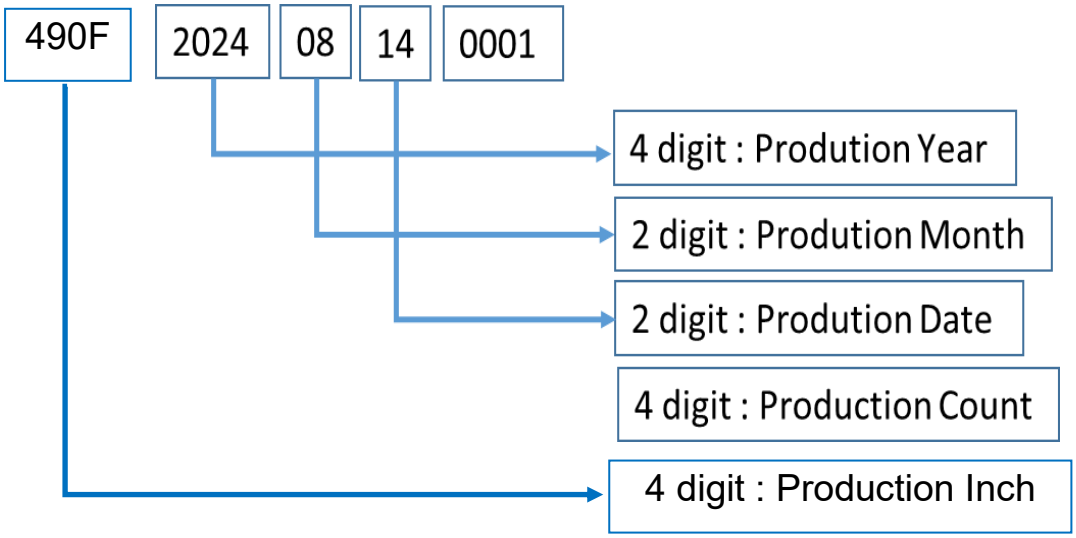


1 Pallet[1,100x1,300]: 4pcs

13 Product Label



Serial Number



- Weight Caution Label

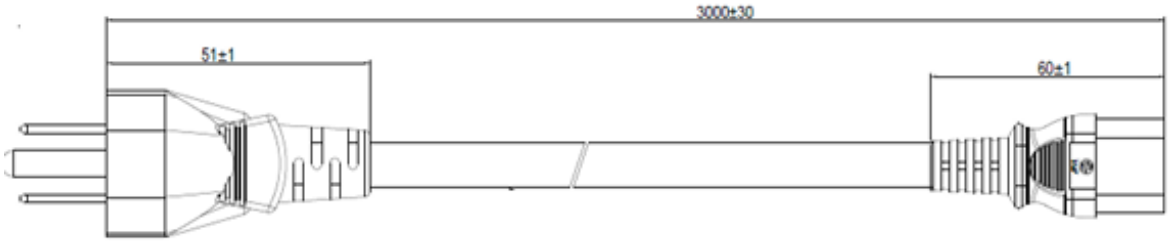


9. Reliability Test

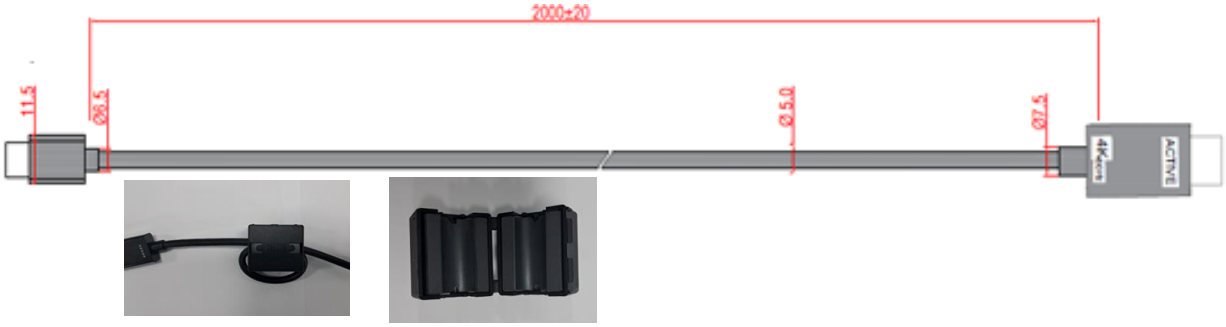
No	Test Item	Test Condition	Duration
1	High Temperature & High Humidity Storage Test	Power Off, 60℃ / Rh 80% / 36hrs / Packing	36hr
2	Low Temperature Storage Test	Power Off,-20℃ / Rh 0% / 16hrs / Packing	16hr
3	Low Temperature Operating	Power On, 0℃ / Rh 0% / 240hrs / Operating	240hr
4	High Temperature Operating	Power On,40℃ / Rh 0% / 240hrs / Operating	240hr
5	High Temperature & Humidity Operating Test	Power On,50℃ / Rh 60% / 48hrs / Operating	48hr
6	Packing Vibration Test	3 axis(x,y,z) Vibration, Frequency : 10-300hz Grms : 1.5 grms Time : 30 min* 3 axis = 90 min	
7	Packing Drop Test	4 corner at 400mm	4 times
8	Power On/Off Test	30sec On/30sec Off, 3000times @ Aging room	50hr
9	Power DIP Test	- 100% Dip (0V) for 16.7ms (20ms : 50Hz Power) - 60% Dip for 100ms, 4minutes for each time	4hr
10	Electrostatic Discharge	US : Air ±27kV, ±20kv / Contact ±10kV, ±7.5kv EU : Air ±15KV, Contact ±8KV	1hr

9. Accessories

1) AC Power Cord Cable for mini LED (3M)



2) Mini DP to HDMI Cable (2M) + EMI Core



3) 49inch & 27inch connecting cable (1000mm)

