

- Tentative Specification
- Preliminary Specification
- Approval Specification

MODEL NO.: AH5512

<p>Customer:</p> <p>APPROVED BY SIGNATURE</p> <p><u>Name / Title</u></p> <p>Note</p> <p>Please return 1 copy for your confirmation with your signature and comments.</p>
--

Approved By	Checked By	Prepared By
Taylor Juan	Taylor Juan	Celia Hsieh

CONTENTS

CONTENTS	2
1. GENERAL DESCRIPTION	5
1.1 OVERVIEW	5
1.2 FEATURES.....	5
1.2.1 I/O port	5
1.3 MECHANICAL SPECIFICATIONS	5
1.3.1 OUTLINE DIMENSIONS.....	6
1.3.2 WEIGHT	6
1.3.3 CABINET MATERIALS	6
2. ABSOLUTE MAXIMUM RATINGS	7
2.1 ABSOLUTE RATINGS OF ENVIRONMENT	7
3. ELECTRICAL CHARACTERISTICS	8
3.1 ELECTRICAL SPECIFICATIONS.....	8
3.2 AC ON/OFF TIMING.....	8
4. INPUT / OUTPUT TERMINAL PIN ASSIGNMENT	9
4.1 HDMI TYPE A Connector Pin Define.....	9
4.2 USB TYPE A Connector Pin Define (PC UI Brightness adjustment).....	9
4.3 USB TYPE C (Output Voltage 5V/2A DC only)	9
4.3.1 USB TYPE C Pin Define	9
4.4 Micro USB Pin Define (RS485 Signal)	10
4.5 DC POWER PIN ASSIGNMENT	10
5. OPTICAL CHARACTERISTICS	11
5.1 OPTICAL SPECIFICATIONS	11
6. PRECAUTIONS.....	13
6.1 ASSEMBLY AND HANDLING PRECAUTIONS	13
7. DEFINITION OF LABELS.....	14
7.1 MODULE LABEL	14
7.2 RATING LABEL	15

8. PACKAGING..... 16

8.1 PACKAGING QUANTITY 16

8.2 PACKAGING DRAWING 17

9. MECHANICAL CHARACTERISTIC 19

9.1 FRONT VIEW 19

9.2 BACK VIEW..... 20

9.3 DIMENSIONS 21

9.4 CABINET MATERIAL 21

REVISION HISTORY

Version	Date	Page (New)	Section	Description
Ver 2.0	Sep.12,2023	All	All	The Approval Specification was 1st issued.

1. GENERAL DESCRIPTION

1.1 OVERVIEW

AH5512 is an AM mini-LED flexible display. It is a cutting-edge product that offers high-quality image quality, 55" display size, and a portable design.




1.2 FEATURES

CHARACTERISTICS ITEMS	SPECIFICATIONS	Note
Driving Technology	Active Matrix	
Resolution	960 ×540	
Pixel Pitch [mm]	1.27 (H) x 1.27 (V)	
LED Lamp.	0408RGB	
Weight [kg]	5.2±0.5kg (w/o adaptor) 6±0.5kg (w/ adaptor)	
Physical Size [mm]	1221.2(H) x 749.8 (V) x 29.5mm (D)	
Brightness [nits]	600	
Contrast Ratio (Min.)	600,000:1	
Max. Power Consumption [W]	185	
Power Input Voltage [Vdc]	19	
Refresh rate[Hz]	2.04K	(1)
Viewing angle[°]	160°(H), 160°(V) Typ.	
RoHS Compliance		

Note (1) This item is defined as LED refresh rate.

1.2.1 I/O port

CHARACTERISTICS ITEMS	SPECIFICATIONS
Input Connector	HDMI(Type A) X 1 USB TYPE A X 1 DC Jack X 1 Micro USB X 1
Output Connector	HDMI(Type A) X 1 USB TYPE C X 1 Micro USB X 1
User Control	Power Switch, Brightness adjustment + / -.

CONTROL KEY	KEYS FUNCTION
	DC Power on / off
	Brightness adjustment +
	Brightness adjustment -

1.3 MECHANICAL SPECIFICATIONS

Item	Min.	Typ.	Max.	Unit	Note
Weight	4.7	5.2	5.7	kg	w/o adaptor
I/F connector mounting position	The mounting inclination of the connector makes the screen center within ± 0.5mm as the horizontal.				

1.3.1 OUTLINE DIMENSIONS

Dimension	Spec
Width	1221.2±5mm
Height	749.8±5mm
Depth	29.5±3mm
Weight	5.2±0.5kg (w/o adaptor) 6±0.5kg (w/ adaptor)

1.3.2 WEIGHT

Item	Specification	Note
SET	5.2+/-0.5 kg	SET
Screen	1.9+/-0.2 kg	Screen
System bar	2.8+/-0.5 kg	System bar
Support bracket	0.5+/-0.2 kg	Support bracket
Adapter	0.8+/-0.2 kg	Adapter

1.3.3 CABINET MATERIALS

Back Cover : AL6061

Bezel_U : AL6061

Bezel_R : AL6061

Bezel_L : AL6061

Support bracket : SUS430

2. ABSOLUTE MAXIMUM RATINGS**2.1 ABSOLUTE RATINGS OF ENVIRONMENT**

Item	Value		Unit	Note
	Min.	Max.		
Storage Temperature	-20	+60	°C	
Operating Ambient Temperature	0	+40	°C	
Operating Ambient Humidity	10%	80%	RH	w/o condensation
Storage Humidity	10%	85%	RH	w/o condensation

3. ELECTRICAL CHARACTERISTICS

3.1 ELECTRICAL SPECIFICATIONS

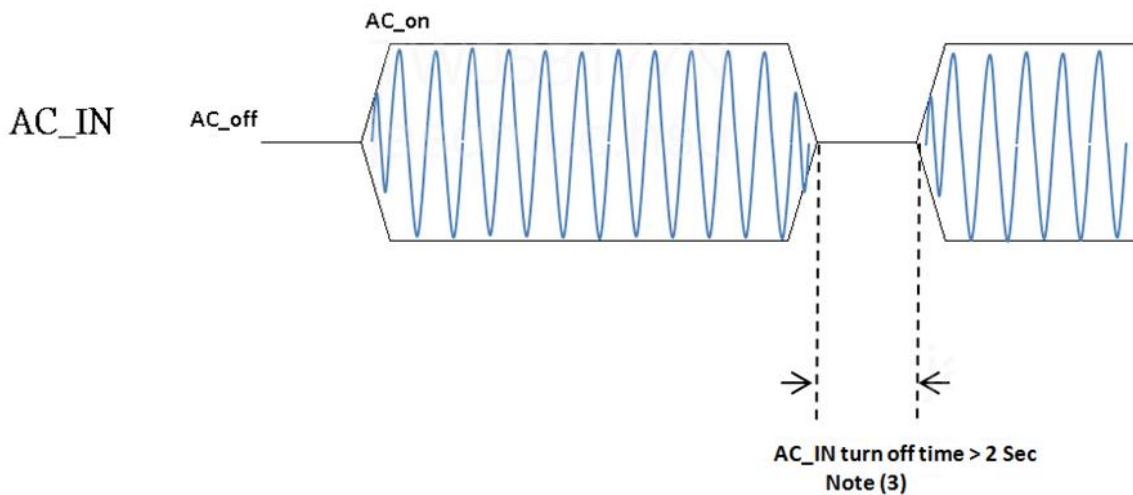
	Items	Unit	Reference Value	Note
Power Characteristics	Power Consumption (max)	Wac	185	
	Rated Input Voltage	Vac	100~240	
	Input Current	Aac	1.85	
Electrical Characteristics	Driving		Active Matrix	
	Frame Rate	Hz	60	(1)
	Gray Level	Bits	8	
	Refresh rate	Hz	2.04K	(2)
	VLED Votage (R,G,B)	V	5~6	

Note (1) This item is defined as display Frame Rate.

Note (2) This item is defined as LED refresh rate.

3.2 AC ON/OFF TIMING

If you need ON/OFF AC power, follow as below fig timing



Note(3) Turn off the AC power for more than 2 seconds and then turn on the power.

4. INPUT / OUTPUT TERMINAL PIN ASSIGNMENT

4.1 HDMI TYPE A Connector Pin Define

HDMI connector, Single TMDS link according to DVI 1.0 specification

Specification 1.10

HDMI input / High Definition Multimedia interface 1.4

Pin No.	Pin Function	Pin No.	Pin Function
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	CEC
4	TMDS Data 1+	14	NC
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1-	16	SDA
7	TMDS Data 0+	17	CEC
8	TMDS Data 0 Shield	18	5V
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

Resolution	Horizontal (Hz)	Vertical (Hz)	Remark
1920X1080	67.5K	60	
1680X1050	65.3K	60	
1600X900	60K	60	
1366X768	47.7K	60	
1280X1024	64.0K	60	
1280X720	45.0K	60	
1024X768	48.4K	60	
960X540	48.6K	60	Best Resolution
800X600	37.9K	60	

4.2 USB TYPE A Connector Pin Define (PC UI Brightness adjustment)

Pin No.	Pin Function
1	USB bus sense
2	D-
3	D+
4	GND

4.3 USB TYPE C (Output Voltage 5V/2A DC only)

Parameter	Min.	Typ.	Max.	Unit
Supply Voltage	+4.76	+5.0	+5.18	V
Output Current			2000	mA

4.3.1 USB TYPE C Pin Define

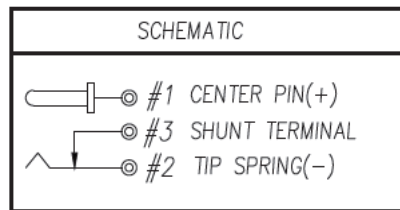
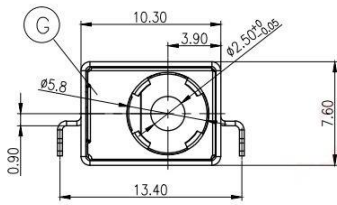
Pin No.	Pin Function	Pin No.	Pin Function
A1,A12	GND	B1,B12	GND
A4,A9	VCC	B4,B9	VCC
A2, A3, A5, A6, A7, A8, A10, A11, A12	NC	B2, B3, B5, B6, B7, B8, B10, B11, B12	NC

4.4 Micro USB Pin Define (RS485 Signal)

Pin No.	Pin Function
1	NC
2	D-
3	D+
4	NC
5	GND

4.5 DC POWER PIN ASSIGNMENT

Pin	Name	Description	Note
1	19V+	DC Voltage 19V	
2	GND	Ground	
3	GND	Ground	



5. OPTICAL CHARACTERISTICS

5.1 OPTICAL SPECIFICATIONS

The relative measurement methods of optical characteristics are shown as below.

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note	
Brightness		L	$\theta_x=0^\circ, \theta_y=0^\circ$ Viewing Angle at Normal Direction		600		nit	(2)	
Brightness Uniformity		U		85%	90%			(3),(6)	
Color Chromaticity	White	Wx		$\theta_x=0^\circ, \theta_y=0^\circ$ Viewing Angle at Normal Direction	Typ. -0.020	0.29	Typ. +0.020		(2),(6)
		Wy				0.31			
	Blue	Bx				0.130			
		By				0.070			
	Green	Gx				0.194			
		Gy				0.748			
	Red	Rx				0.693			
		Ry				0.308			
Contrast Ratio		CR		600,000			-	(5)	
Viewing Angle	Horizontal	θ_{x+}		75	80	-	Deg.	(4)	
		θ_{x-}		75	80	-			
	Vertical	θ_{y+}		75	80	-			
		θ_{y-}		75	80	-			

Note (1) The screen is stitched by 32pcs light boards. The light board is 120x135 pixel of RGB-LED and the light board driving voltage based on suitable gamma voltages.

Note (2) Brightness and Color Chromaticity are measured by CA410 which is calibrated by CS2000/CS1000.

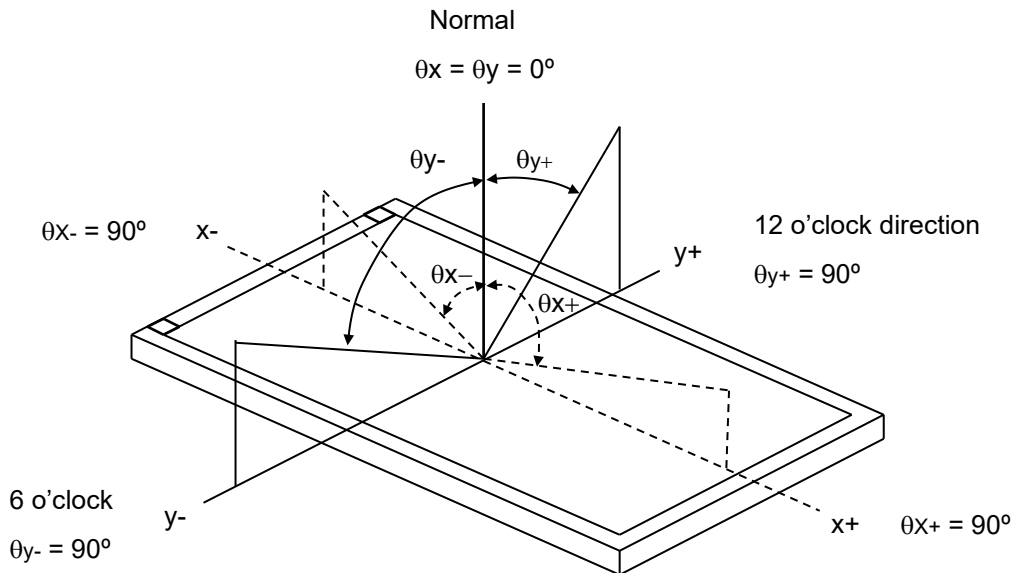
Note (3) Definition of Brightness Uniformity :

$$\text{Brightness Uniformity (U)} = \text{Min. brightness at P1~P9} / \text{Max. brightness at P1~P9}$$

Note (4) Definition of Viewing Angle (θ_x, θ_y) :

Viewing angle is measured by USB2000 which is calibrated by CS2000/CS1000.

Viewing angle is half of max. intensity at $\theta_x = \theta_y = 0^\circ$.



$\theta_x = 90^\circ \sim -90^\circ$ is horizontal direction of screen.

$\theta_y = 90^\circ \sim -90^\circ$ is vertical direction of screen.

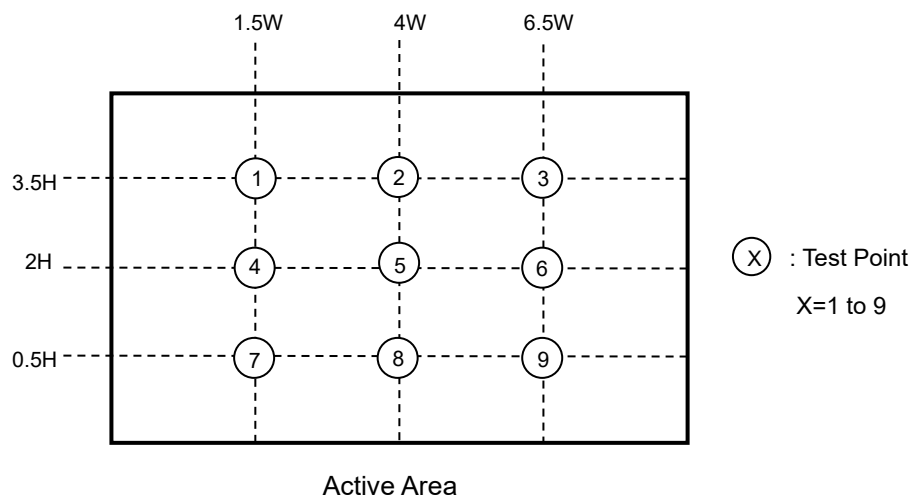
Note (5) Definition of Contrast Ratio (CR):

The contrast ratio can be calculated by the following expression.

Contrast Ratio (CR) = Luminance at 255 gray / Luminance at 0 gray

CR = CR (X), where CR (X) is corresponding to the Contrast Ratio of the point X at the figure in Note (6).

Note (6) Definition of measurement position:



W : Width of light board.

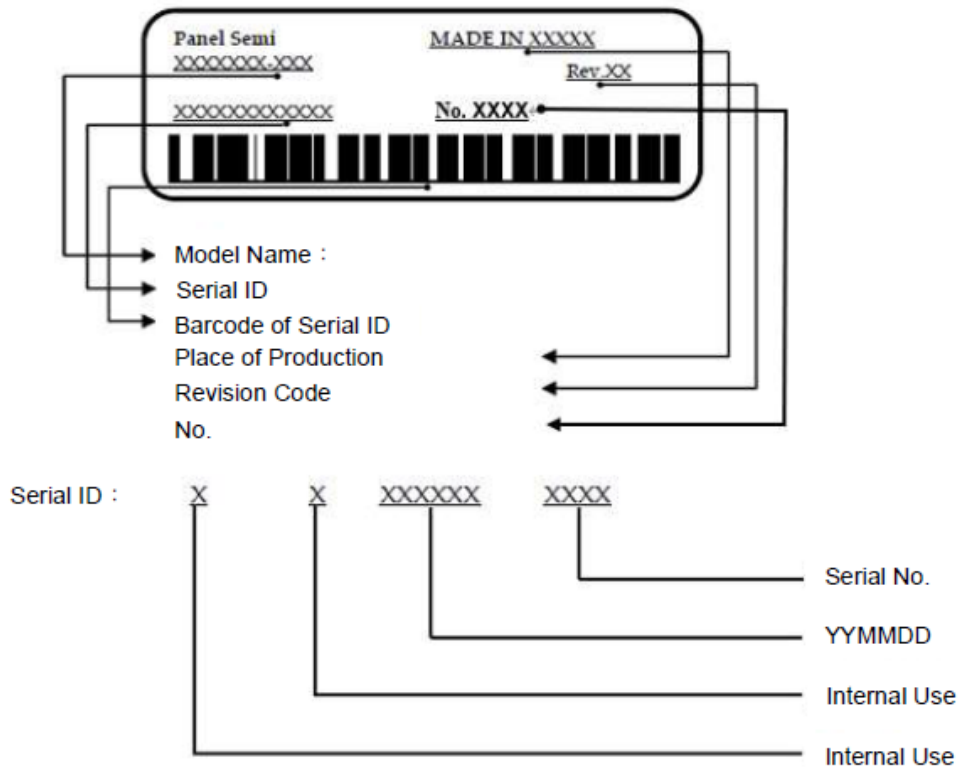
H : Height of light board.

6. PRECAUTIONS**6.1 ASSEMBLY AND HANDLING PRECAUTIONS**

- [1] Do not disassemble or modify this product without authorization.
- [2] Please avoid subjecting the product to shocks such as long-distance vibration or falling from height.
- [3] Do not place the product in a high temperature environment and avoid exposing it to direct sunlight.
- [4] Do not use it near the heating equipment or in areas where hot air, fireworks, dust, mist, oil, or smoke are likely to be generated, such as swimming pool, hot spring, or kitchen.
- [5] The lanyard is only designed to carry the weight of the product. Do not hang other items on the lanyard as it may cause damage to the system and void the warranty.
- [6] Please have the product assembled by professionals.
- [7] Do not hit the product with sharp or metal objects.
- [8] Avoid squeezing or bending the product.
- [9] The package must not be placed upright or upside down.
- [10] The package must not have heavy objects placed on it or be pressed.
- [11] Do not throw or drop the package.
- [12] Do not apply external force to the product, as it may cause the screen to deform, curl, bend or twist.

7. DEFINITION OF LABELS

7.1 MODULE LABEL

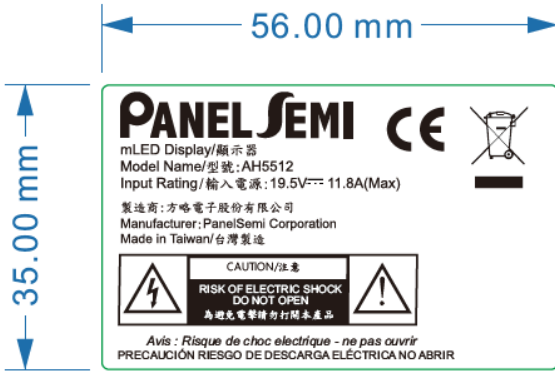


Serial ID includes the information as below :

- (1) Serial No.: Manufacturing sequence of product , from 0001 to 9999
- (2) Manufacture Date :
 - YY=Year → 2020=20,2021=21...
 - MM=Month → 1~12 for Jan.~Dec.
 - DD=Date → 1~31 for 1st to 31st

Revision Code: Cover all the change

7.2 RATING LABEL



8. PACKAGING**8.1 PACKAGING QUANTITY**

[1] Packing method –

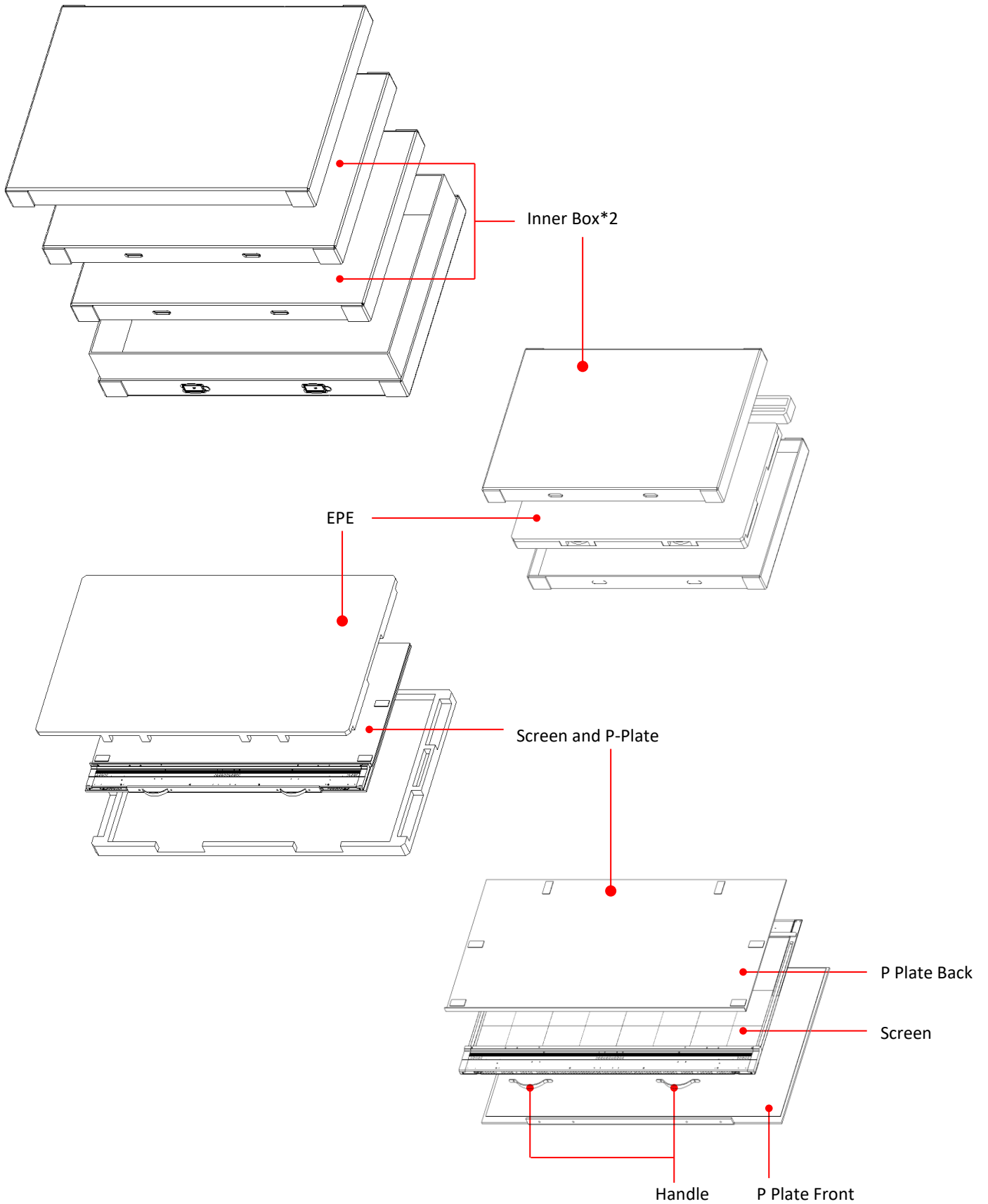
1 carton packing method (including 2 boxes) , size 1464x 1040 x 295 mm.

1 Pallet (including 2 cartons) , size 1480x 1060 x 725 mm.

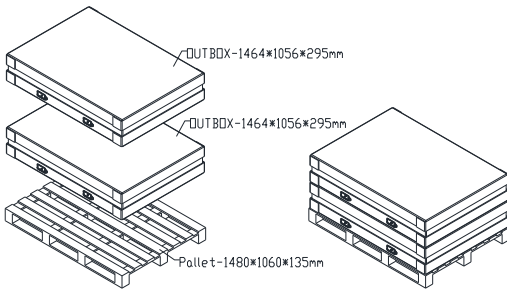
[2] Put 1 piece set into one box.

[3] The packing quantity per carton is 2 pieces

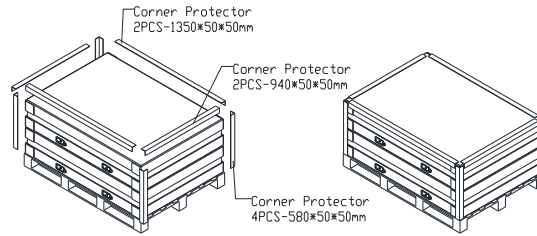
8.2 PACKAGING DRAWING



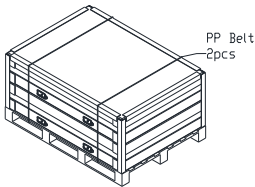
STEP 1



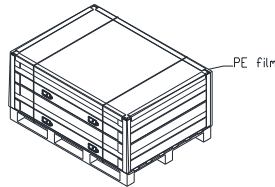
STEP 2



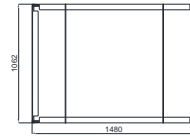
STEP 3



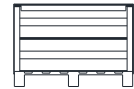
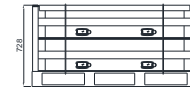
STEP 4



Top View

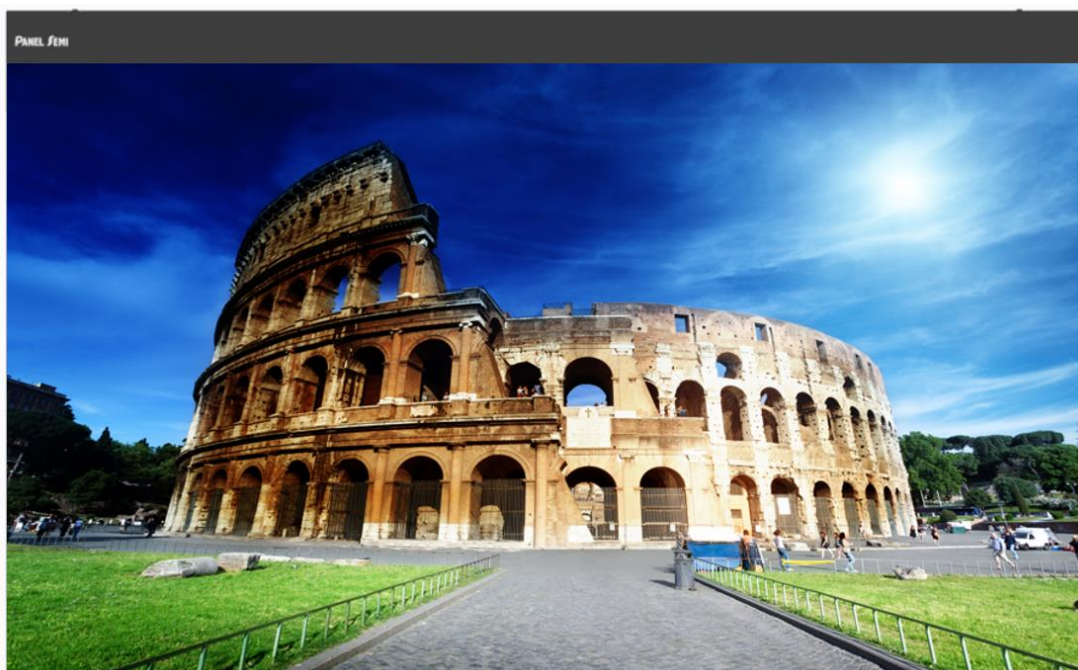


Front View

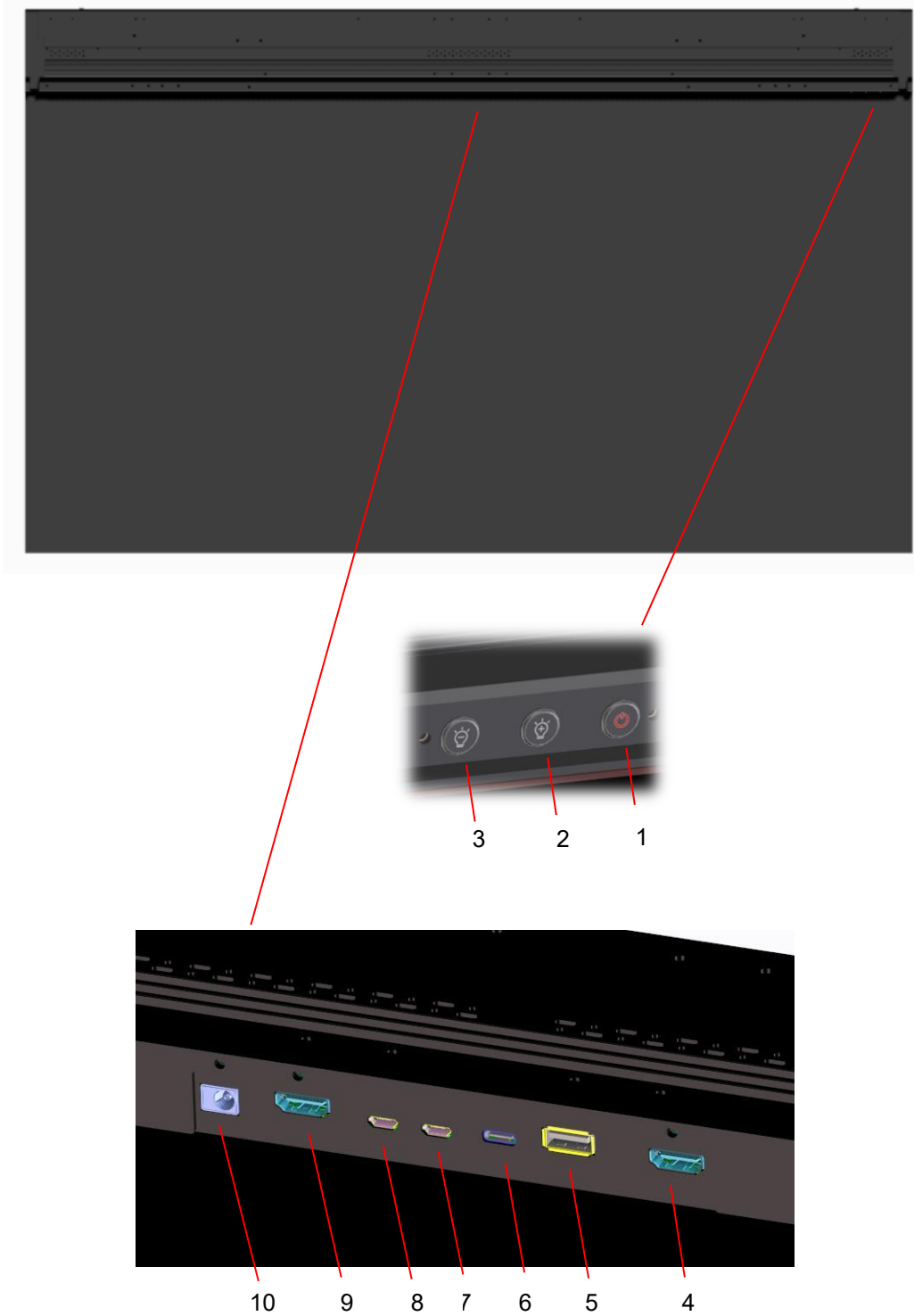


9. MECHANICAL CHARACTERISTIC




9.1 FRONT VIEW



9.2 BACK VIEW

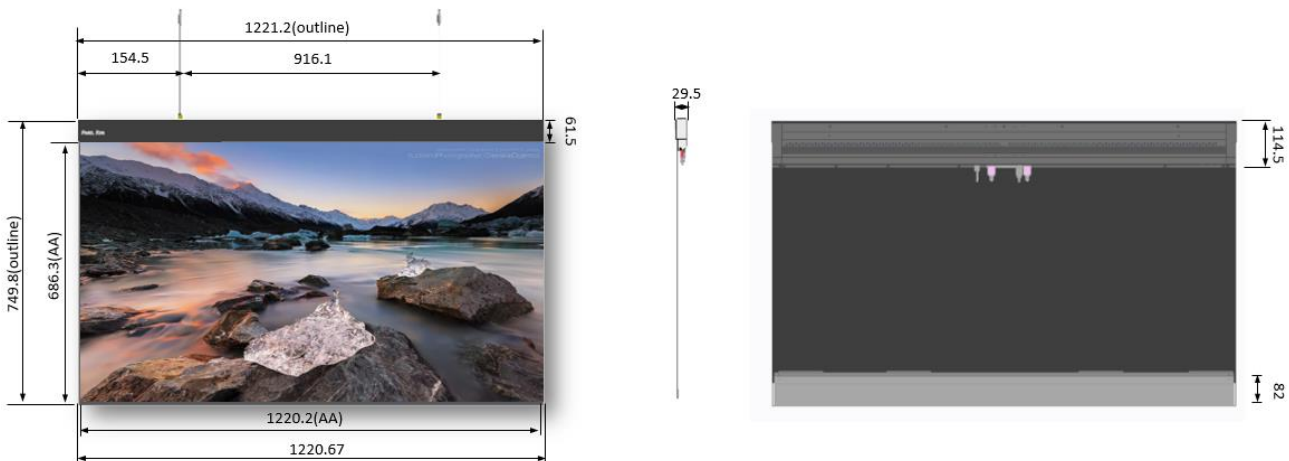


No.	Key		Descriptions
1	LED Indicator	Off	DC Power on
		Red	DC Power off

No.	Key	Descriptions
1		DC Power on / off
2		Brightness adjustment +
3		Brightness adjustment -
4	HDMI	HDMI1.4 Type A Connector (HDMI IN)
5	USB	USB2.0 Type A Connector (PC UI Brightness adjustment)
6	USB	USB2.0 Type C Connector (Output Voltage 5V/2A DC only)
7	USB	Micro USB Connector (RS485 Signal)
8	USB	Micro USB Connector (RS485 Signal)
9	HDMI	HDMI1.4 Type A Connector (HDMI OUT)
10	DC Jack	DC input 19V

9.3 DIMENSIONS

Dimension	Spec
Width	1221.2±5mm
Height	749.8±5mm
Depth	29.5±3mm
Weight	5.2±0.5kg (w/o adaptor) 6±0.5kg (w/ adaptor)



9.4 CABINET MATERIAL

Back Cover : AL6061

Bezel_U : AL6061

Bezel_R : AL6061

Bezel_L : AL6061

Support bracket : SUS430