

## 10.1“ Lcd Panel With Display Kits

### ■ Preliminary Specification

### □ Approval Specification

<b>Module</b>	<b>10.1” LCD Panel with Display Kits</b>
<b>Module Name</b>	<b>K101LWW-V01 Rev.0</b>

Customer

Approved by

Date

Notice: This Specification is subject to change without notice.

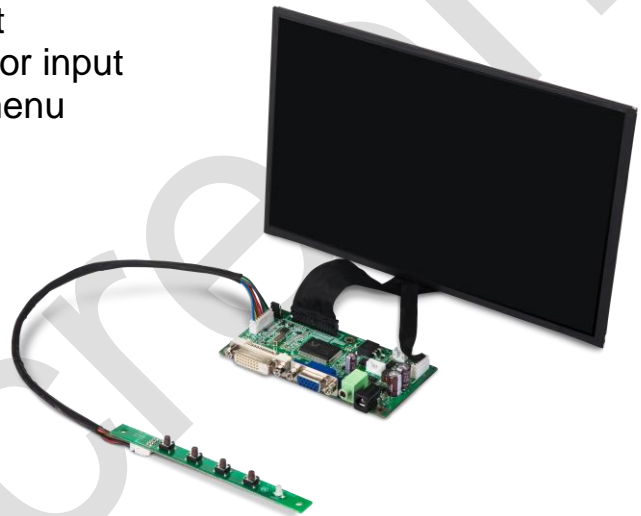
Approved By	Prepared By
Tony Chiu 2017/12/26	Ray Lin 2017/12/5

# 10.1” Lcd Panel With Display Kits

## K101LWW-V01

### Overview

- 10.1“ a-si TFT LCD panel with resolution 1280 x 800
- Suitable for Military, Tablet, Ruggedized PC, Kiosk, Advertising, POS, Marine, Transportation....etc.
- 15 Pin D-SUB VGA connector input
- DVI-D (Digital Video Input) connector input
- OSD(On-Screen-Display) control menu
- Audio input and Audio output
- Include following parts =
  1. 10.1“ Panel
  2. ADBoard
  3. LVDS Cable
  4. OSD 4 key Board
  5. OSD 4 Key Cable



10.1” LCD Panel with Display Kits	
PANEL ITEM	SPECIFICATION
Module	10.1” Color TFT-LCD with LED Backlight (LVDS Interface)
Resolution (Pixels)	1280x800 (WXGA)
White Luminance	350 cd/m2
Display Mode	VA Mode, Normally Black
Contrast Ratio	800:1
Response Time	25ms (Max 50ms)
View Angle	85/85/85/85 deg
Outline Dimension	229.46mm(H) x 149.1mm(V) x 4.56mm(T)
Weight	160g
Power Consumption	Max 2.5 Watt
LED Life Time	25,000 Hrs

## **K101LWW-T01 Panel General Description**

### **General Specifications**

<b>Item</b>	<b>Specification</b>	<b>Unit</b>
<b>Screen Size</b>	10.1" diagonal	-
<b>Driver Element</b>	a-si TFT active matrix	-
<b>Pixel Number</b>	1280 x R.G.B x 800	pixel
<b>Pixel Pitch</b>	0.1695(H) x 0.1695(V)	mm
<b>Pixel Arrangement</b>	RGB vertical stripe	-
<b>Display Colors</b>	16.7m	color

### **Mechanical Specifications**

<b>Item</b>		<b>Type</b>	<b>Unit</b>
<b>Module Size</b>	Horizontal(H)	229.46	mm
	Vertical(V)	149.1	mm
	Thickness(T)	(MAX 4.56)	mm
<b>Bezel Area</b>	Horizontal	219.96	mm
	Vertical	139.6	mm
<b>Active Area</b>	Horizontal	216.96	mm
	Vertical	135.6	mm
<b>Weight</b>		(MAX 160)	g

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### Absolute Rating of Environment

Item	Symbol	Value		Unit
		Min.	Max.	
Storage Temperature	T <sub>ST</sub>	-30	+80	°C
Operating Temperature	T <sub>OP</sub>	-20	+70	°C

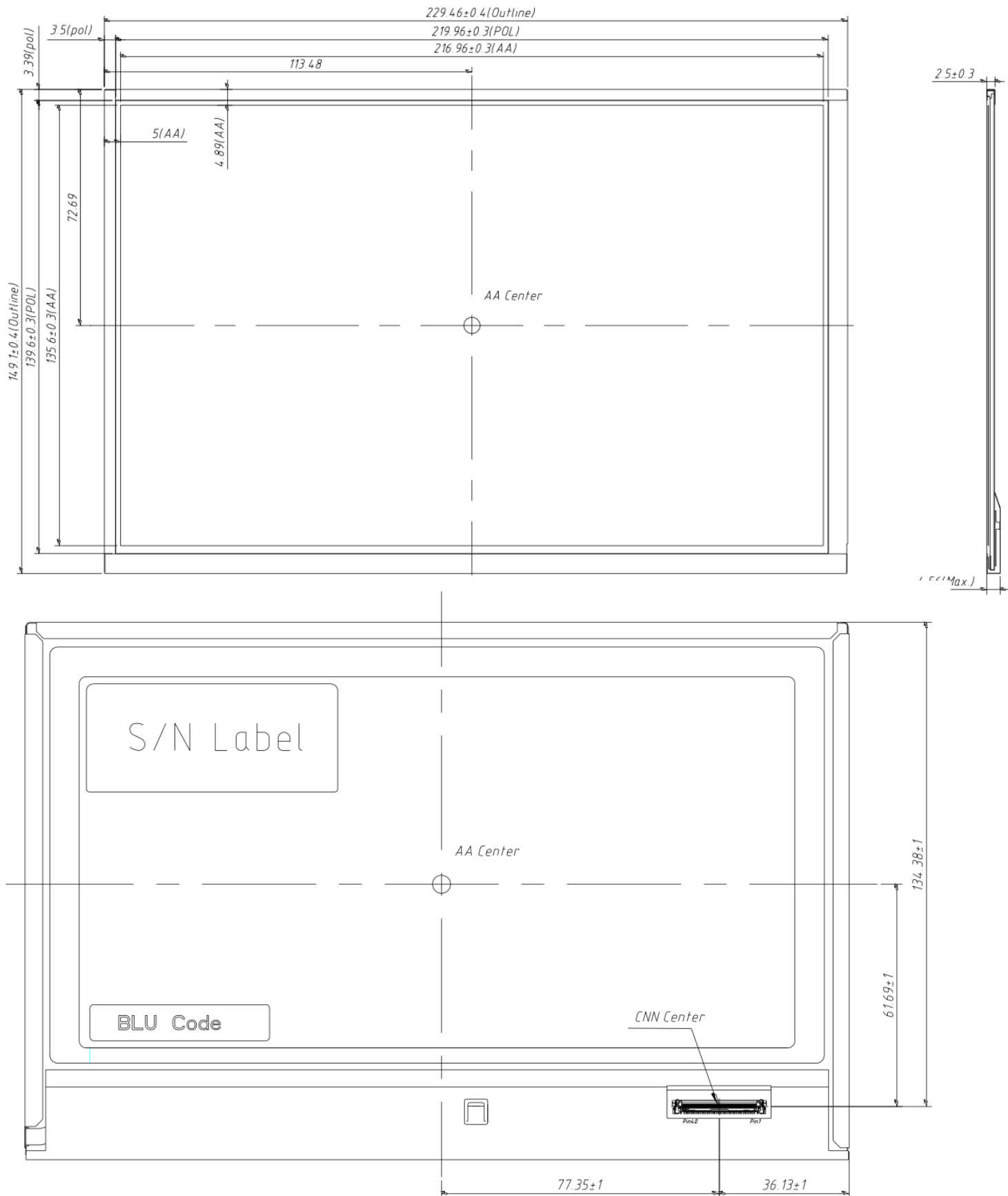
### Optical Specifications

Item		Symbol	Condition	Min.	Type	Max.	Unit
Color Chromaticity	Red	x	$\theta_x=0^\circ, \theta_Y=0^\circ$ Viewing Normal Angle	Typ - 0.03	0.582	Typ + 0.03	-
		y			0.347		-
	Green	x			0.349		-
		y			0.573		-
	Blue	x			0.164		-
		y			0.143		-
	White	x		-0.03	0.313	+0.03	-
		y		-0.03	0.329	+0.03	-
Viewing Angle	Horizontal	$\theta_{x+}$	CR $\geq$ 10	75	85	-	Deg.
		$\theta_{x-}$		75	85	-	
	Vertical	$\theta_{y+}$		75	85	-	
		$\theta_{y-}$		75	85	-	

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### Panel Dimension



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4F., No.97, Lide St., Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C.)

## **ADBoard & OSD Key General Function**

- A. TFT-LCD module drive board.
- B. Resolution up to 1920 X 1080 @ 60 Hz.
- C. 15 PIN D-SUB VGA connector input.
- D. DVI-D (Digital Video Input) connector input
- E. Dual port 8 bit LVDS interface output to panel.
- F. OSD ( On Screen Display ) control menu.
- G. Supporting HDCP protocol(optional)
- H. Supporting DDC/CI protocol.
- I. Supporting DCR function (optional)
- J. Audio input and audio output 1.6w x 2 at 8ohm speaker

### **Specification**

<b>Model</b>	AD-17RP
<b>Panel interface</b>	Single/Dual LVDS (10" to 27" panel)
<b>Maximum Resolution</b>	Up to WUXGA 1920x1080 8 bits per color, total 16.7M Colors
<b>Vertical Refresh Rate</b>	VGA 、 SVGA ,XGA AND UXGA VESA standard up to 75Hz WUXGA up to 60HZ
<b>Input Source</b>	VGA analog (15 pin D-Sub) ,DVI ,Audio in
<b>Dot Clock Maximum (pixel clock)</b>	165 MHz
<b>Key Function</b>	Power Menu Adjust— Adjust+ Auto
<b>Board Dimension</b>	110 mm x 56 mm
<b>Voltage for LCD Panel</b>	5V, 3.3V DC ( Jump Select)
<b>Storage Temperature Limits</b>	Temperature -40C~70C
<b>Operation Temperature Limits</b>	Temperature 0C~40C Humidity : Less than 85%

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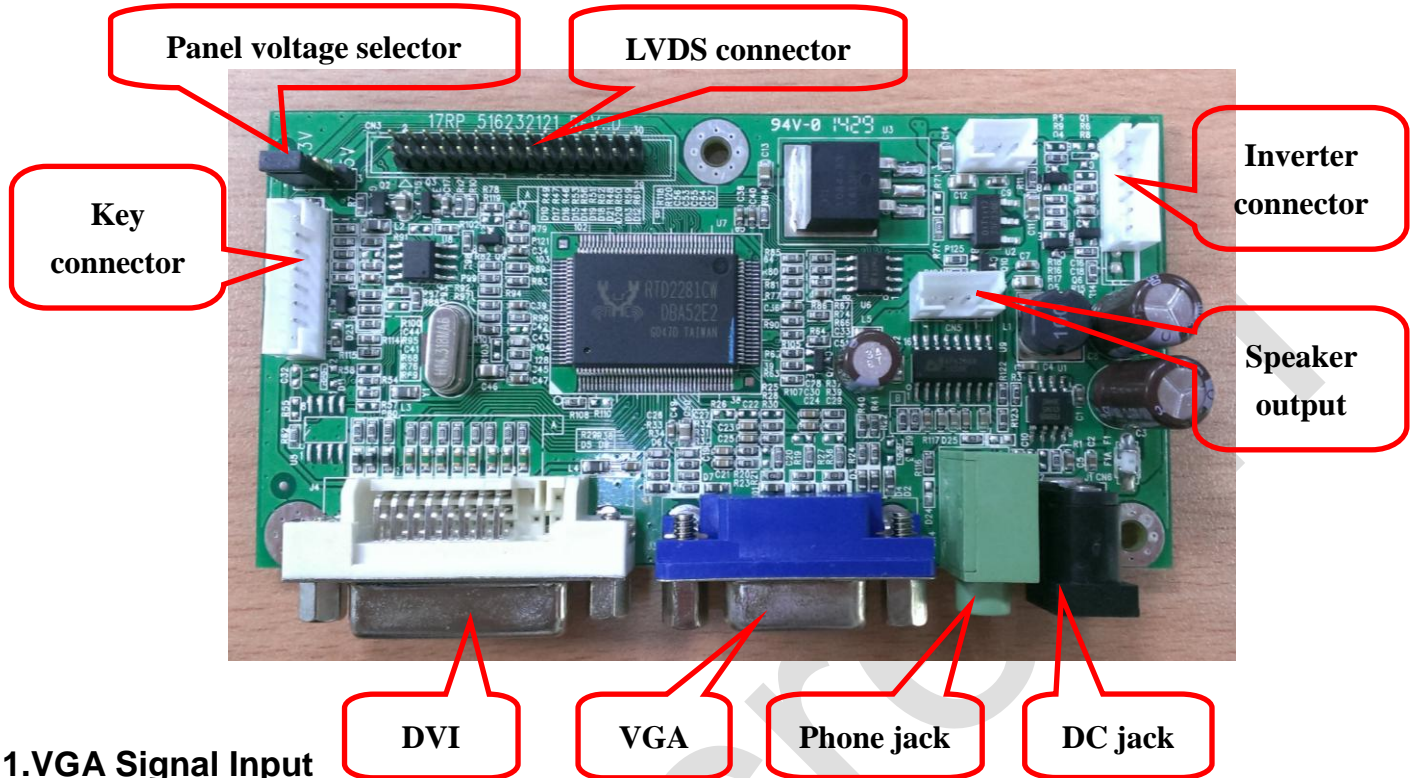
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### Support PC Timing

NO.	Description	H-Freq. (KHz)	V-Freq. (Hz )
1.	VGA640×400	31.480	70
2.	VGA640×480	31.649	60
3.	VGA720×400	37.469	70
4.	VESA 640×480	37.862	72.809
5.	VESA 640×480	37.5	75
6.	VESA 800×600	35.156	56.25
7.	VESA 800×600	37.9	60
8.	VESA 800×600	48.077	72.188
9.	VESA 800×600	46.875	75
10.	VESA 1024×768	48.363	60
11.	VESA 1024×768	56.476	70
12.	VESA 1024×768	60.023	75
13.	VESA 1152×864	67.5	75
14.	VESA 1280 x 768	47.8	60
15.	VESA 1280 x 768	60.3	75
16.	VESA 1280×960	60	60
17.	VESA 1280×1024	63.981	60
18.	VESA 1280×1024	79.977	75
19.	VESA 1440x900	59.9	60
20.	VESA 1440x900	75	75
21.	VESA 1600x1200	75	60
22.	VESA 1600x1200	81.3	65
23.	VESA 1600x1200	87.5	70
24.	VESA 1600x1200	93.8	75
25.	VESA 1680x1050	65.3	60
26.	VESA 1680x1050	74.9	75
27.	VESA 1920x1080	56.25	50
28.	VESA 1920x1080	67.5	60

\*\* Note1 : VGA input only

## Signal Input Connections



### 1.VGA Signal Input

Location J3 - 15 pin Hi-Density Female D-SUB

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	RED IN	6	R-GND	11	GND
2	GREEN IN	7	G-GND	12	SDA DDC
3	BLUE IN	8	B-GND	13	SYNC. H
4	GND	9	PC 5V	14	SYNC. V
5	GND	10	DET	15	SCL DDC

### 2.DVI Input

Location J4 - 30 Pin DVI Connector

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	DATA2-	11	GND	21	NC
2	DATA2+	12	NC	22	GND
3	GND	13	NC	23	CLKa+
4	NC	14	DDC 5V	24	CLKa-
5	NC	15	GND	25	NC
6	DVI_DDC_SCL	16	GND	26	NC



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7	DVI_DDC_SDA	17	DATA0-	27	NC
8	NC	18	DATA0+	28	NC
9	DATA1-	19	GND	29	GND
10	DATA1+	20	NC	30	NC

### 3.Power Input

Location – J1 : DC JACK DC=2.5mm OR DC=2.0mm  
OR

Location - CN6 : 4 Pin wafer pitch 2.0mm 180D

Pin assign and definition

Pin No.	SYMBOL
1	+12V
2	+12V
3	GND
4	GND

### 4.Panel power select (JP1)

Pin1,Pin2 short panel power 3.3V

Pin2,Pin3 short panel power 5V

### 5.LVDS Output

Location – CN3 :2X15 PIN, pitch 2.0mm

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	VLCD for Panel	11	LVDS RXE_2-	21	LVDS RXO_1-
2	VLCD for Panel	12	LVDS RXE_2+	22	LVDS RXO_1+
3	VLCD For Panel	13	GND	23	LVDS RXO_2-
4	NC	14	GND	24	LVDS RXO_2+
5	GND	15	LVDS RXE_CLK-	25	GND
6	GND	16	LVDS RXE_CLK+	26	GND
7	LVDS RXE_0-	17	LVDS RXE_3-	27	LVDS RXO_CLK-
8	LVDS RXE_0+	18	LVDS RXE_3+	28	LVDS RXO_CLK+
9	LVDS RXE_1-	19	LVDS RXO_0-	29	LVDS RXO_3-
10	LVDS RXE_1+	20	LVDS RXO_0+	30	LVDS RXO_3+

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### 6.Key Output Connector

Location – CN2: 8PIN wafer pitch 2.0mm 180D

All Key Active Low Level., All LED Active HI Level , Output Current 10mA MAX

Pin assign and definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	MENU KEY	4	UP KEY	7	LED_O
2	AUTO KEY	5	GND	8	POWER KEY
3	DOWN KEY	6	LED_G	---	-----

### 7.Inverter Connector

Location – CN1: 6 PIN wafer pitch 2.0mm 180D

Pin assign and definition

Pin No.	SYMBOL	Pin No.	SYMBOL
1	GND	4	Back Light Enable
2	GND	5	+12V
3	Dimming control	6	+12V

A. Dimming: IF CCFL panel Range 0 (Inverter Current Max ) to 5V ( Inverter Current Min)

IF LED panel PWM Ratio 100%(LED Current Max) to PWM Ratio 20%(LED Current Min)

B. Back light enable: 5V (ON) or 0V (OFF)

### 8.Audio Input – CN4, SCJ368R0NXS0G04G 3P Green or equiv.

Audio Input 1Vp-p Max.

### 9.Speaker Output – CN5, 4 PIN wafer pitch 2.0mm 180D

Audio Output 1.6W + 1.6W at 8 Ohm

Pin assign and definition

Pin	Signal
1	R+
2	R-
3	L-
4	L+

### 10.Other Connector: CN7, 3 PIN wafer pitch 2.0mm 180D

Pin assign and definition

Pin	Signal
1	GND
2	NC
3	+5V

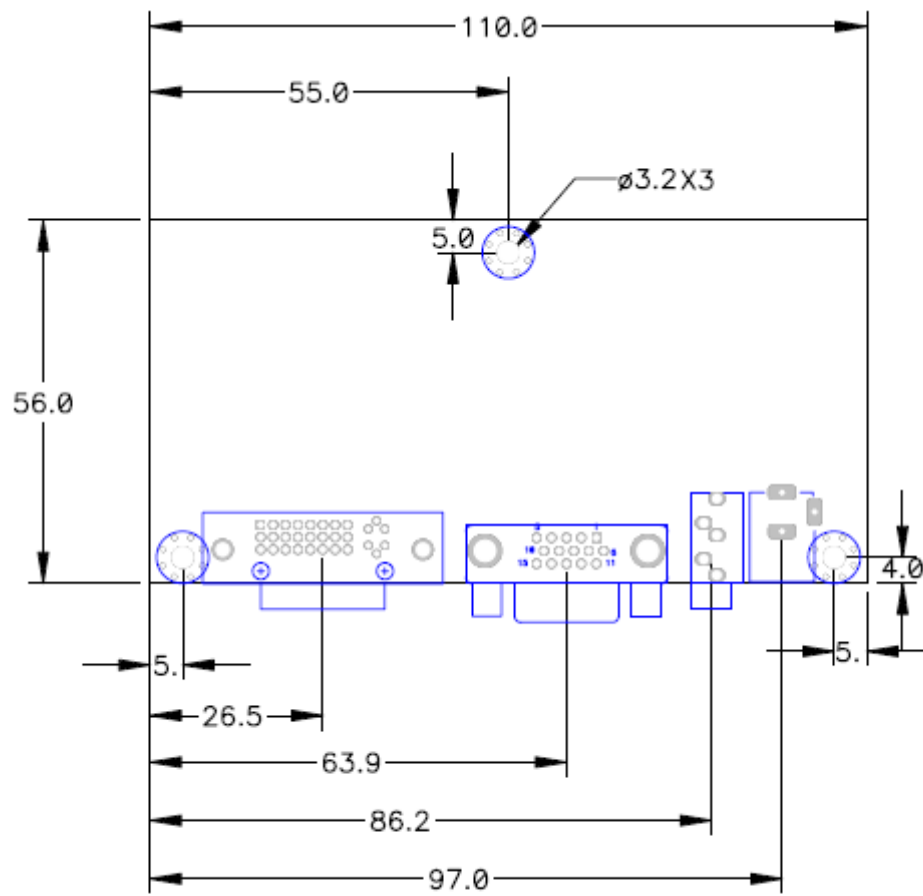
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### PCB Dimension



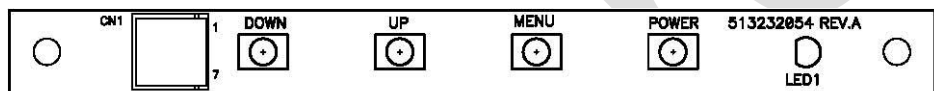
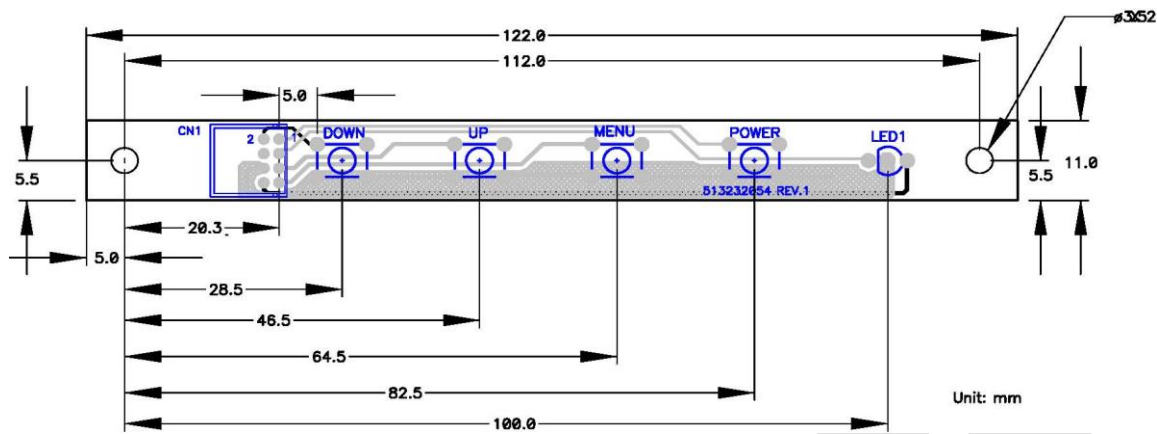
MODEL : 17RP UNIT : mm

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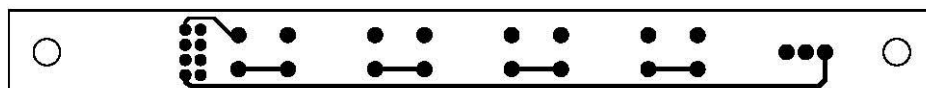
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### OSD Key PCB

#### 1.OSD Key PCB Dimension & Layout Drawings



LAYER : TOPSILK



LAYER : TOP



LAYER : BOTTOM

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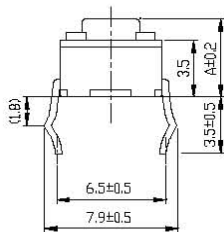
### 2.Output Connector

Location – CN1, Wafer PH 2.0mm 4x2 pin R/A, MD242154R or equiv.

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL
1	POWER	5	UP
2	DOWN	6	GND
3	LED_G	7	MENU
4	NC	8	LED_O

### 3.Tact Switch Spec



A = 7.0 mm