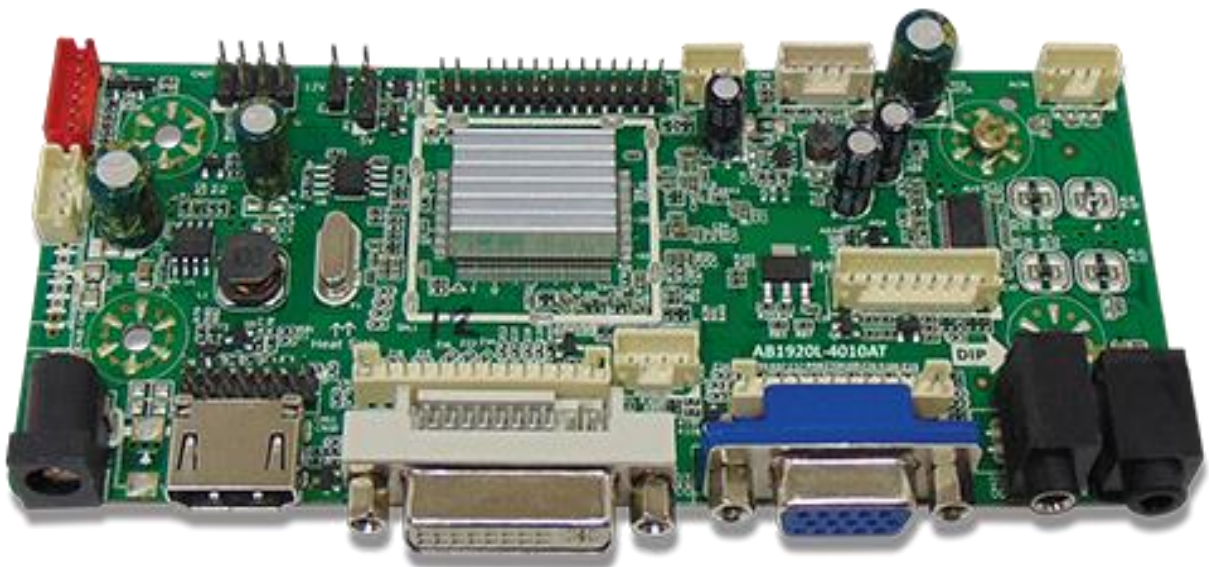




**HIGHNESS**<sup>TM</sup>

**LCD - AD-CONTROLLER BOARD**  
**Model No. AB1920L-4010AT-V1**



**Release Date**  
**1<sup>st</sup> Jul 2021**

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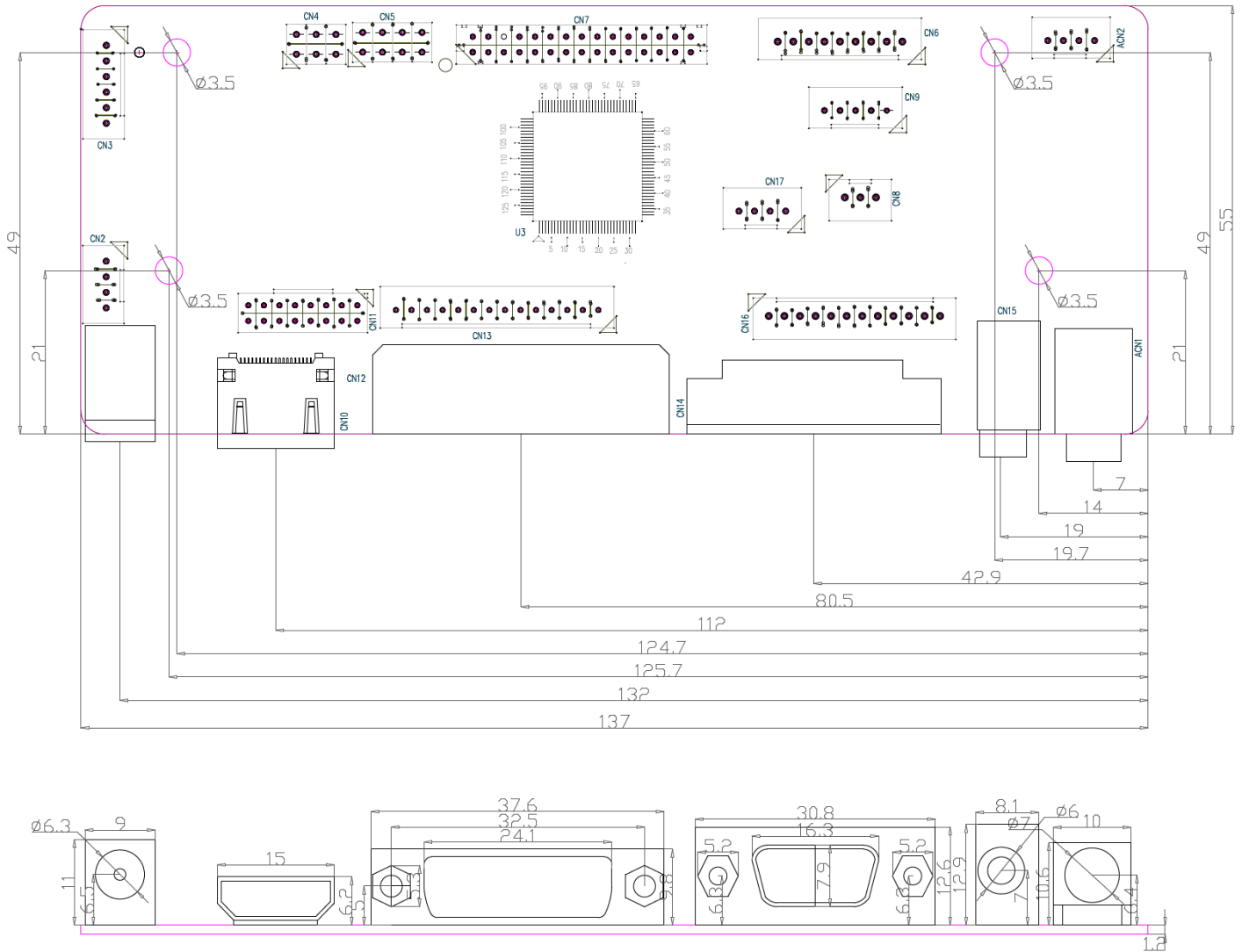
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# 1. Specification:

Model No.	<b>AB1920L-4010AT-V1</b>	
Chipset	TSUMU58	
Supported Resolution	PC-RGB	VGA: 640 X 480 / 720 X 400
		SVGA: 800 X 600
		XGA: 1024 X 768
		SXGA: 1280 X 1024
		HD: 1920 X 1080
Power Supply	Power Requirement	Input Power 12V
	To Supply	3.3V, 5V, 12V
	Manage	Power Consumable mode: Standby<0.5W
Key Functions	Menu, Auto, Left, Right, ON/OFF	
Terminal Input	VGA	1DB-15pin terminal blue color
	DVI	1DVI-29 pin terminal White color
	HDMI	HDMI-19pin signal interface
	AUDIO	PC-Audio Earphone terminal black color
	Light Sensor	Light Sensor 5pin /2.0 terminal
Output	To Panel	1 LVDS 2 x 15 30pin 2.0 Jack 30/24/18-bit
	To Speaker	1 Earphone terminal black color
Output Interface	Dual channels of 30/24/18-bit LVDS	
Operating Temperature	0 ~ 40°C	
Storage Temperature	-10 ~ 60°C	
Humidity	≤90% (non-condensing)	
Size	137 (L) x 55 (W) mm	

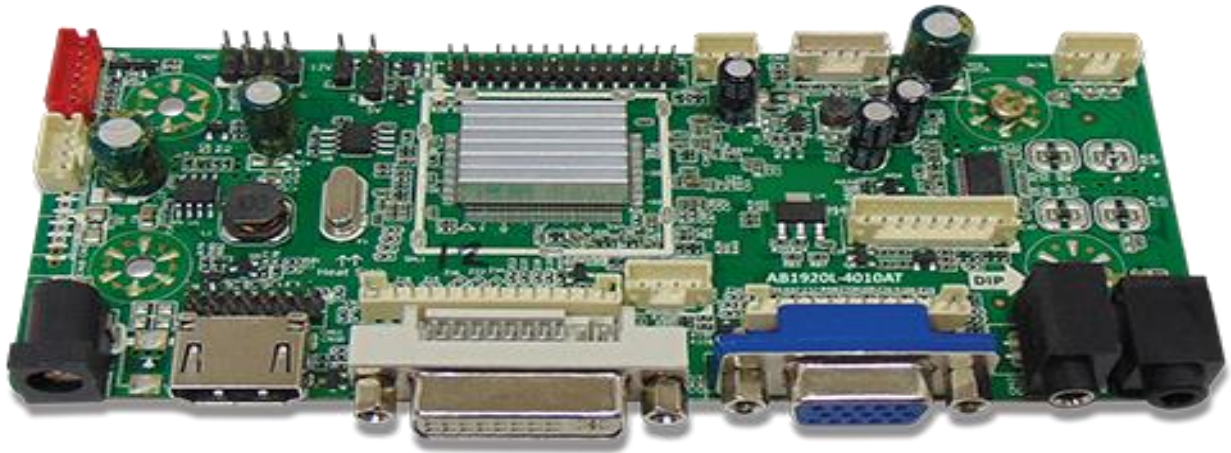
## 2. Dimension:

### (i) Ad-Board:



### 3. Ad-Board Picture:

(i) Top View:



(ii) Port View:



## 4. Connector & Pin assignment:

### 4.1 (I) Output Connection :( LVDS Connector 30Pin): CN7

Pin	Function	Pin	Function	Pin	Function
1	VCC	11	O2-	21	E1-
2	VCC	12	O2+	22	E1+
3	VCC	13	GND	23	E2-
4	GND	14	GND	24	E2+
5	GND	15	OC-	25	GND
6	NC	16	OC+	26	GND
7	O0-	17	O3-	27	EC--
8	O0+	18	O3+	28	EC+
9	O1-	19	E0-	29	E3-
10	O1+	20	E0+	30	E3+

### (II) Speaker Interface: ACN2

Pin	Function	Pin	Function
1	Positive Right audio channel out	3	Negative Left audio channel out
2	Negative Right audio channel out	4	Positive Left audio channel out

### 4.2 Input Interface Details:

#### (I) IR Interface :( Connector 3Pin/2.0): CN8

Pin	Function	Pin	Function
1	VCC	3	IR
2	GND		

#### (II) Light Sensor Interface :( Connector 5Pin/2.0): CN9

Pin	Function	Pin	Function
1	VCC	4	SCL
2	GND	5	SDA
3	ADC		

#### (III) VGA Interface Details (DB-15 pin VGA Connector):

Pin	Function	Pin	Function
1	Red	9	No Connection
2	Green	10	Ground- Sync
3	Blue	11	No Connection
4	No Connection	12	Data (SDA)
5	Ground	13	Horizontal Sync
6	Ground- Red	14	Vertical Sync
7	Ground- Green	15	Clock (SCL)
8	Ground- Blue		

#### (IV) DVI Connection (29 pin DVI Connector):

Pin	Function	Pin	Function	Pin	Function
1	RX 2-	9	RX 1-	17	RX 0-
2	RX 2+	10	RX 1+	18	RX 0+
3	GND	11	GND	19	GND
4	N/C	12	N/C / + 12V	20	N/C
5	N/C	13	N/C / + 12V	21	N/C
6	DDC_ Clock	14	+ 5V / + 12V	22	GND
7	DDC_ Data	15	GND	23	RXC+
8	CRT_Vsync	16	N/C	24	RXC-
	C1_RED		C_5 AGND		C3_BLUE
	C2_GREEN				C4_CRT_Hsync

#### (V) HDMI Connection (19 pin HDMI Connector):

Pin	Function	Pin	Function	Pin	Function
1	TMDS Data2+	8	TMDS Data0 Shield	15	SCL
2	TMDS Data2 Shield	9	TMDS Data0-	16	SDA
3	TMDS Data2-	10	TMDS Clock+	17	DDC/CEC Ground
4	TMDS Data1+	11	TMDS Clock Shield	18	+5V Power
5	TMDS Data1 Shield	12	TMDS Clock-	19	Hot Plug Detect
6	TMDS Data1-	13	CEC		
7	TMDS Data0+	14	Utility		

#### (VI) OSD Interface Details (Connector 9pin):CN6

Pin	Function	Pin	Function	Pin	Function
1	EXIT KEY	4	V-KEY	7	GREEN INDICATOR
2	MENU KEY	5	V+ KEY	8	RED INDICATOR
3	AUTO KEY	6	GND	9	ON/OFF

### 5. Inverter Interface Details (Connector 6pin/2.0): CN3

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

## 6. Supported Resolution:

<b>800×600</b>
<b>1024×600</b>
<b>1024×768</b>
<b>1280×800</b>
<b>1280×1024</b>
<b>1366×768</b>
<b>1440×900</b>
<b>1680×1050</b>
<b>1920×1080</b>
<b>1920×1200</b>

## 7. Power Selection Jumpers:

<b>Pin</b>	<b>Function</b>	<b>Pin</b>	<b>Function</b>
<b>1</b>	<b>3.3V</b>	<b>3</b>	<b>5V</b>
<b>2</b>	<b>GND</b>		