4 K Board Specification

-------Model : BTP-LC608V3.1

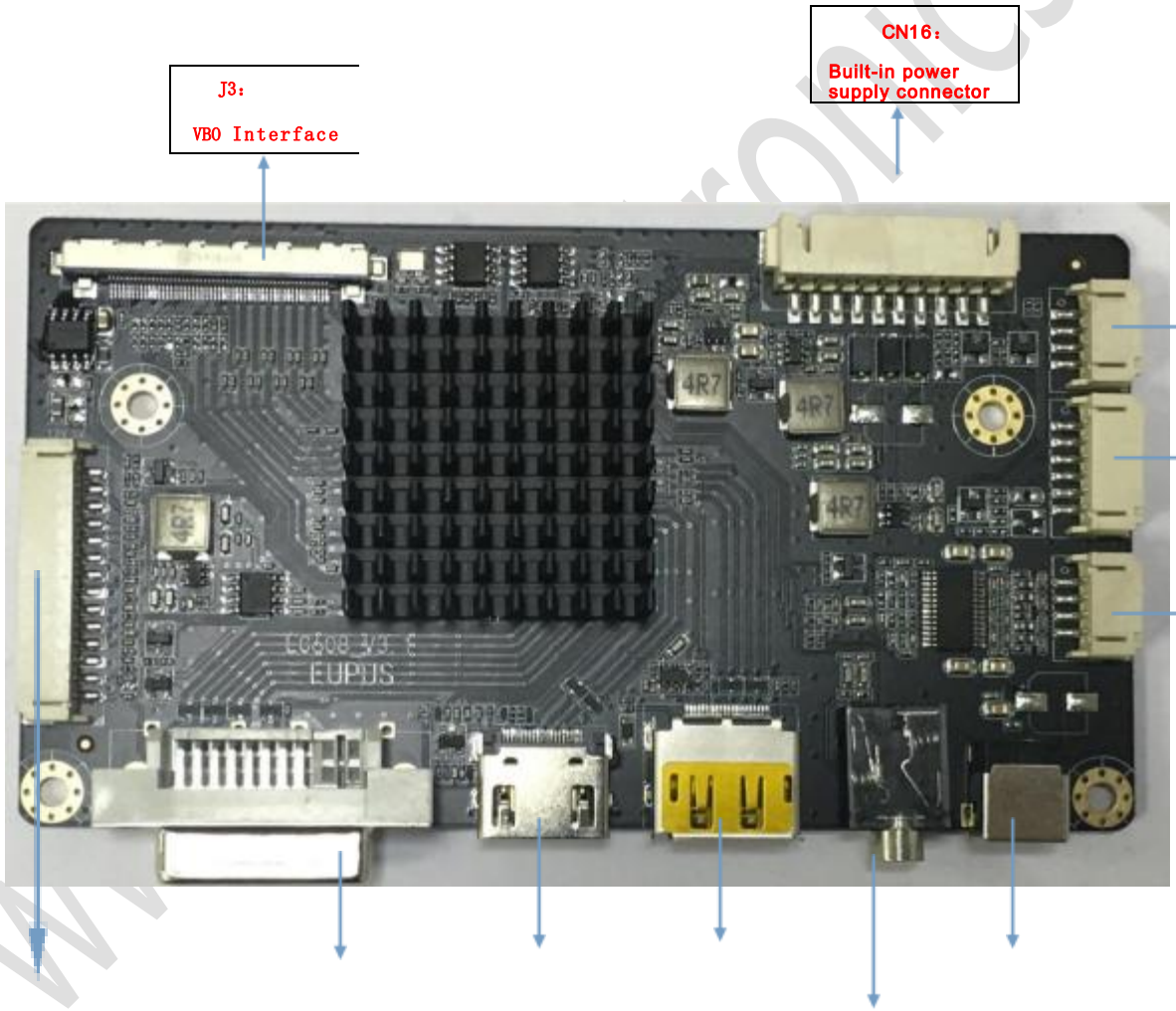
-------Rev :Version 3.1

1. Function Overview

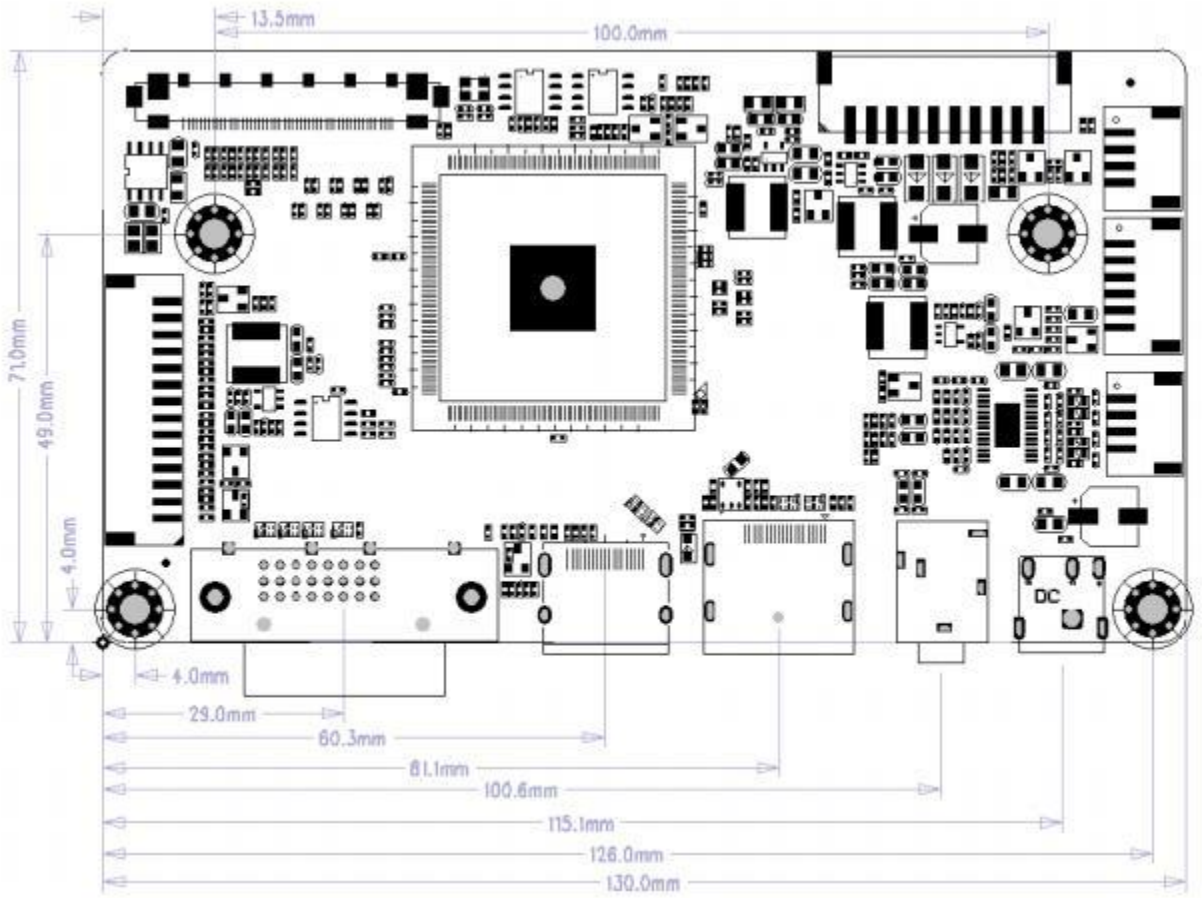
LC608_V3.1 is a new type of integrated LCD converter board. At the same time, the board is equipped with anti-static ESD devices, which can prevent static electricity from damaging the board. It supports picture-in-picture function, adopts the most practical DP+HDMI+DVI interface combination, compatible with old graphics card models, OSD and screen rotation in any direction. It also supports six languages, perfectly support 4K bar touch screen, 4K display, and all can realize point-to-point display;

It has 4 multifunctional digital engines built in. And has DCR (Dynamic Contrast Adjustment), color enhancement, color engine and other special functions, so that the color reproduction is more realistic, more vivid, and supports HDCP function.

2. Picture of Real Product



J7：	CN 17：	CN8：	CN7：	CN14：	CN15：
Remote/Key Interface	DVI Interface	HDMI2.0	DP1.2a	Phone_ out	DC_ in



3. Function

Language	OSD	Chinese，English(can support 6 languages)
Interface	output	8lane V-by-ONE
	input	HDMI 2.0 +DVI+DP 1.2
Size	Size(mm)	130*71
Panel	resolution	3840×2160/60Hz ，Downward compatibility (downward compatibility)
	Panel	LG：32/43/49/55/65/84; CMI:28/32/39.5/46/50/58/65/75/85
		BOE:55/65 CSOT:55/65 can support all panel for 4K VBO interface
Agreement	HDCP	HDCP 2.2 CEC support HDCP 2.2
Power	Power management	Standby power < 0.5W
	Power	DC 12V /12V+5V+5VS
Speaker	Speaker	8 O 10W 8 Ω 10 W
	Head phone	3.5 mm
Display	Ycbcr	4:4:4 / RGB / 4:2:2 / 4:2:0
	Pixel to Pixel	Yes
IR	IR	Supported
Channel	Channel switching	OK Supports automatic or manual channel switching
Image overturn	Image overturn	OK
Customization	Customization	OK

4. Upgrade

Program update	Program update	HDMI	Software updates can be operated through the HDMI interface

5. Related Tests

Here are some test details for your reference

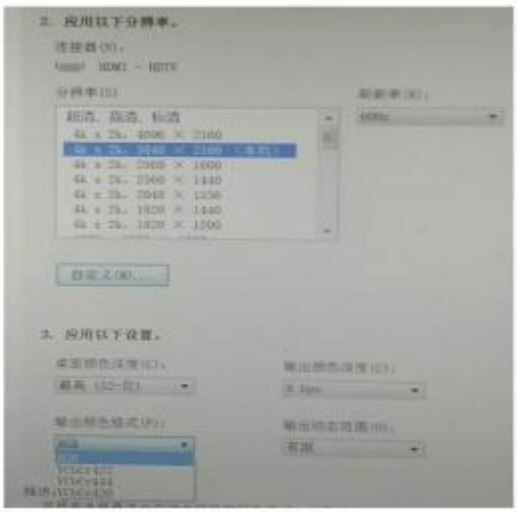
① 、High and low temperature test chamber

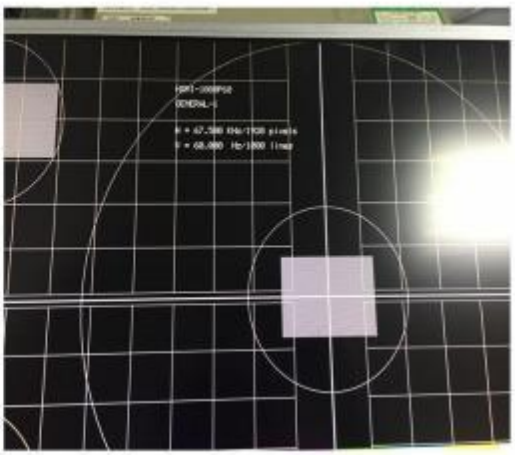
② 、Chroma 2403/7233

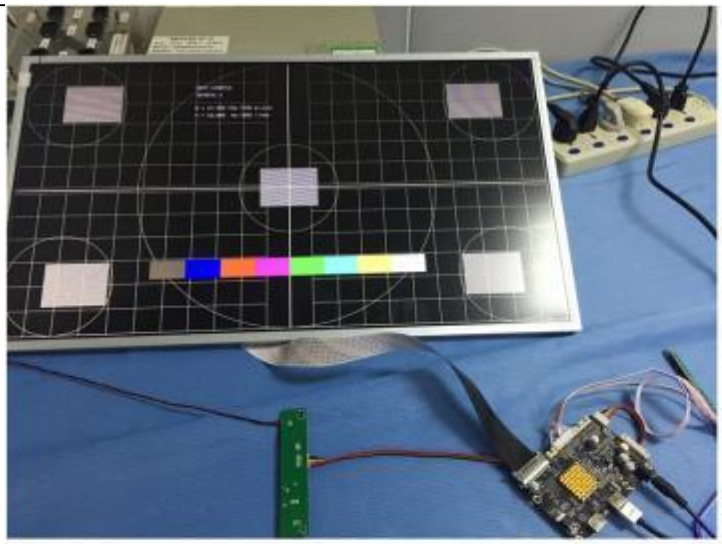
③ 、PC：all kinds of computer graphics

④ 、Android：/RK3288/RK3399

etc.







6. Interface Definition

◆ **J7(14PIN/2.0MM):KEY definition (Key pin definition can be adjusted by software according to the actual situation)**

item	Silk Printing	Describe
1	5V	+5V power supply
2	IR	remote signal interface
3	GND	ground
4	POWER	Standby button ON\OFF
5	LED-R	Indicator light - red
6	LED-G	Indicator light - green
7	GND	ground
8	KEY7	+ / (volume+)
9	Source	-/(brightness-)
10	menu	Return (channel selection)
11	Auto	Menu
12	VoL+	NC
13	VoL+	NC
14	KEY8	NC

◆ CN16(10PIN/2.54MM):Power definition

item		Describe
1	12V	12V
2	12V	12V
3	GND	GND
4	GND	GND
5	5VN	5VN
6	5VN	5VN
7	5VS	5VS
8	GND	GND
9	GND	GND
10	STB	STB

CON1(6PIN/2.0MM):Backlight definition

item		Describe
1	12V	12V
2	12V	12V
3	EN	BK-EN
4	ADJ	BK-ADJ
5	GND	5VN
6	GND	5VN

J4(4PIN/2.0MM):Backlight definition

item		Describe
1	L+	Speaker L+
2	L-	Speaker L-
3	R-	Speaker R-
4	R+	Speaker R+

◆ J3:V_by_one to panel definition：/ FI-RE51HL

Pin	SYMBOL	NOTES
1	AGND	GND
2	VBY7 p	Positive V- by- ONE Differential Data Output
3	VBY7 n	Negative V- by- ONE Differential Data Output
4	AGND	GND
5	VBY6 p	Positive V- by- ONE Differential Data Output
6	VBY6 n	Negative V- by- ONE Differential Data Output
7	AGND	GND
8	VBY5 p	Positive V- by- ONE Differential Data Output
9	VBY5 n	Negative V- by- ONE Differential Data Output
10	AGND	GND
11	VBY4 p	Positive V- by- ONE Differential Data Output
12	VBY4 n	Negative V- by- ONE Differential Data Output

13	AGND	GND
14	VBY3 p	Positive V- by- ONE Differential Data Output
15	VBY3 n	Negative V- by- ONE Differential Data Output
16	AGND	GND
17	VBY2 p	Positive V- by- ONE Differential Data Output
18	VBY2 n	Negative V- by- ONE Differential Data Output
19	AGND	GND
20	VBY1 p	Positive V- by- ONE Differential Data Output
21	VBY1 n	Negative V- by- ONE Differential Data Output
22	AGND	GND
23	VBY0 p	Positive V- by- ONE Differential Data Output
24	VBY0 n	Negative V- by- ONE Differential Data Output
25	AGND	GND
26	LOCKN	LOCKN Output
27	HTPDN	HTPDN Output
28	AGND	GND
29	AGND	GND
30	LD- EN	LD- EN
31	BIT- SET	BIT- SET
32	NC	No define
33	SCL	IIC SCL
34	SDA	IIC SDA
35	3D-EN	3D-EN
36	Fomat1	D_Fomat1
37	Fomat0	D_Fomat0
38	AGND	GND
39	AGND	GND
40	AGND	GND
41	AGND	GND
42	AGND	GND
43	NC	No define
44	VCC	PANEL VCC_12V
45	VCC	PANEL VCC_12V
46	VCC	PANEL VCC_12V
47	VCC	PANEL VCC_12V
48	VCC	PANEL VCC_12V

50	VCC	PANEL VCC_12V
51	VCC	PANEL VCC_12V

7. Electrical performance

Item		Mim.	Typical value	Max.
Power voltage	voltage		12	
	ripple			
Power supply current (HDMI output, no other peripherals connected)	Operating current			
	Standby current			
	USB supply current			
Power current(LVDS)	Operating current			
	Standby current			
	LCD supply current		TBD	
Environment	Relative humidity			80%
	Operating temperature	20℃		50℃