4K Board Specification

-------Model: 4K AD board

-------Rev:Version 3.1

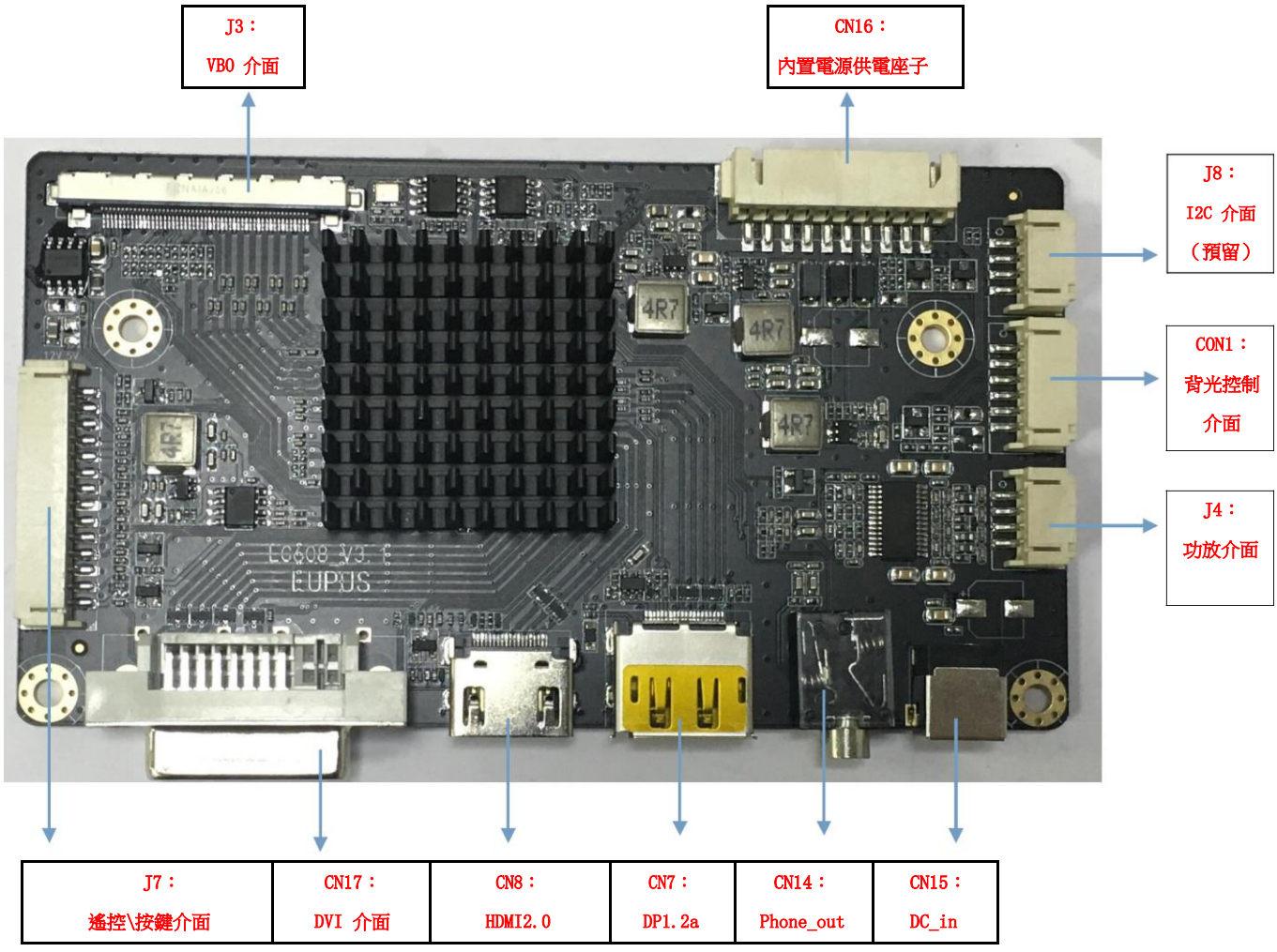
目 錄

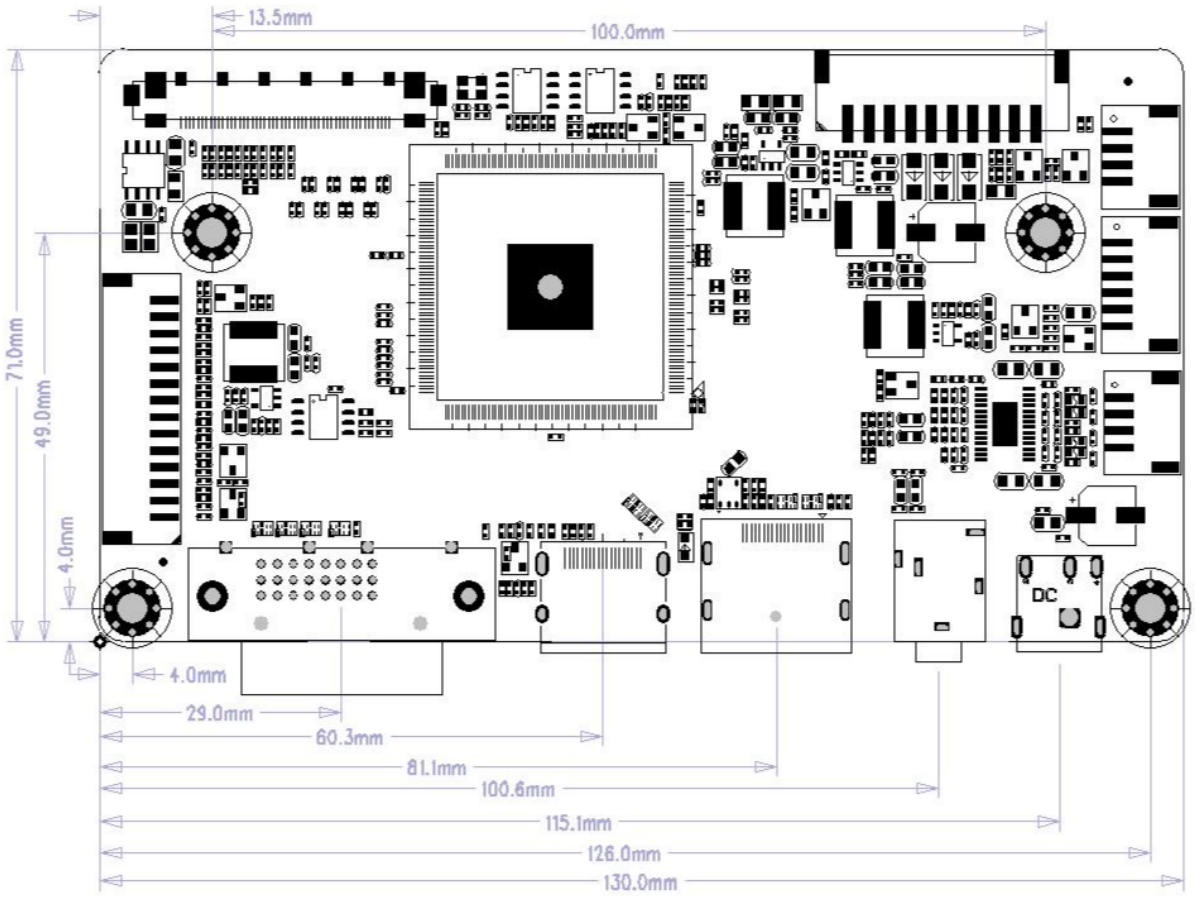
一、功能概述

是一款新型一體化液晶顯示器控制主機板，同時主機板增加防靜電 ESD 器件，可以防止靜電對主機板的損傷。可支援畫中畫功能，採用最實用的 DP+HDMI+DVI 的介面組合，相容老顯卡機型，OSD 及畫面任意方向旋轉，支持六國語言，完美支援 4K 條形屏，4K 顯示器，都可做到點對點顯示；

它內置 4 個多功能數位引擎。並具有 DCR(動態對比度調節),彩色增強，色彩引擎等特殊功能，使色彩再現更逼真、更鮮豔、更生動,同時支援 HDCP 功能。

二、實物圖片





三、功能一覽：

Language	OSD	Chinese，English(can support 6languages)
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（向下相容）
	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 支持 HDCP 2.2
Power	Power management	Standby power < 0.5W
	Power	DC 12V /12V+5V+5VS
Speaker	Speaker	8 Ω 10W 8 歐 10 瓦
	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 可支援通道自動、手動切換
Image overturn	Image overturn	OK
Customization	Customization	OK

4、升級說明

Program update	Program update	HDMI　　軟體更新可以通過 HDMI 介面操作

5、相關測試

Here are some test details for your reference

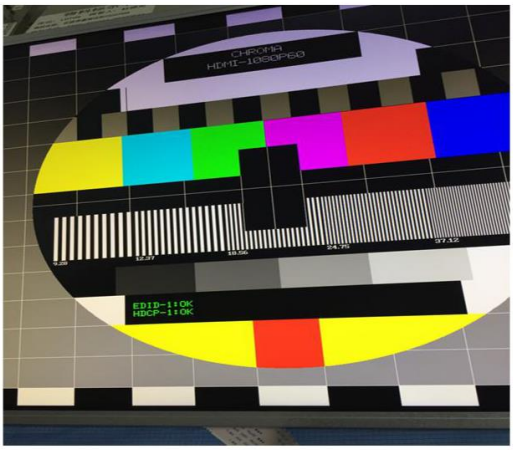
① 、High and low temperature test chamber

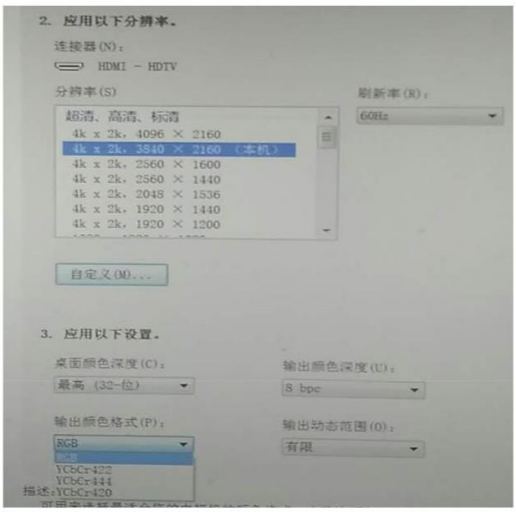
② 、Chroma 2403/7233

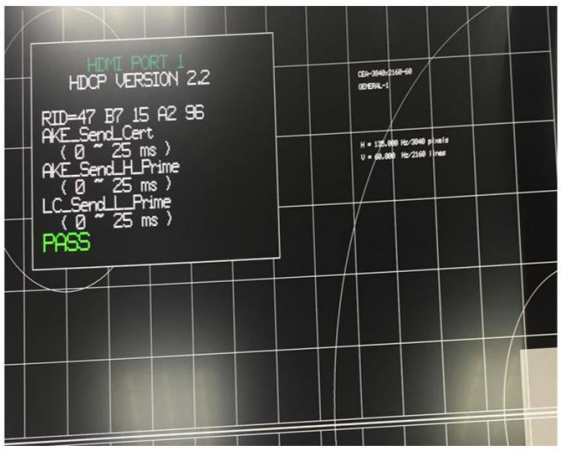
③ 、PC：all kinds of computer graphics

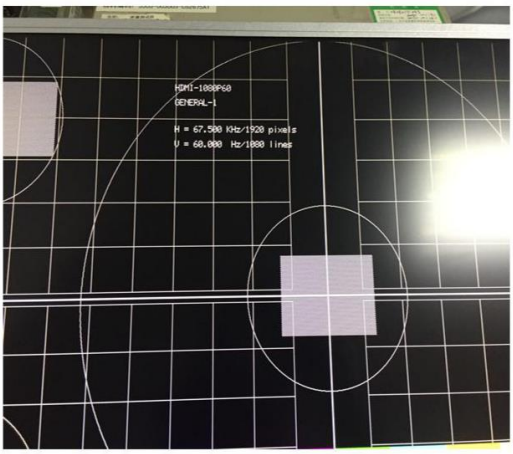
④ 、Android：/RK3288/RK3399

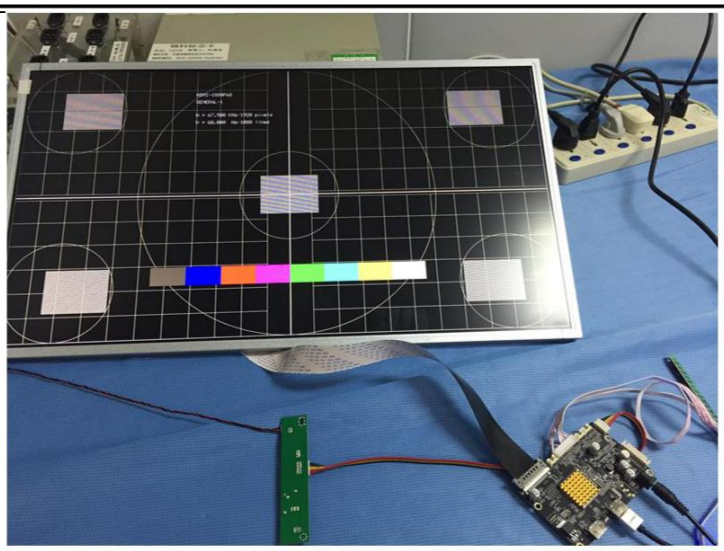
etc.

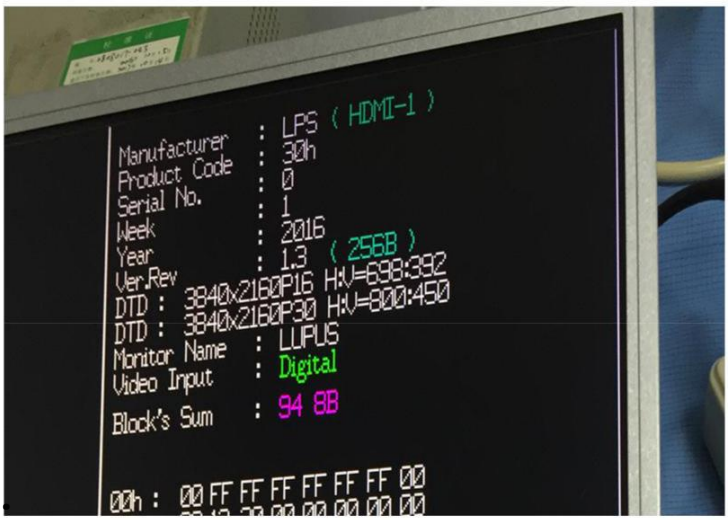


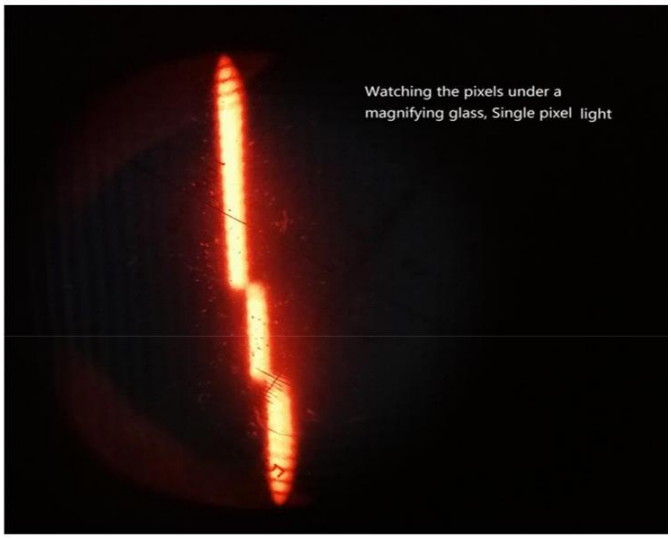












6、介面定義

◆ J7(14PIN/2.0MM):KEY definition （按鍵引腳定義可根據實際情況調整軟體）

item	絲印	Describe
1	5V	+5V 供電
2	IR	遙控信號介面
3	GND	地
4	POWER	按鍵待機 ON\OFF
5	LED-R	指示燈-紅
6	LED-G	指示燈-綠
7	GND	地
8	KEY7	+ /（音量+）
9	Source	-/(亮度-)
10	menu	返回（通道選擇）
11	Auto	菜單
12	VoL+	NC
13	VoL+	NC
14	KEY8	NC

◆ CN16(10PIN/2.54MM):Power definition（為穩定考慮，請接把 5V 一起接上）

item		Describe
1	12V	12V
2	12V	12V
3	GND	GND
4	GND	GND
5	5VN	5V
6	5VN	5V
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	VBY7p	Positive V-by-ONE Differential Data Output
3	VBY7n	Negative V-by-ONE Differential Data Output
4	AGND	GND
5	VBY6p	Positive V-by-ONE Differential Data Output
6	VBY6n	Negative V-by-ONE Differential Data Output
7	AGND	GND
8	VBY5p	Positive V-by-ONE Differential Data Output
9	VBY5n	Negative V-by-ONE Differential Data Output
10	AGND	GND
11	VBY4p	Positive V-by-ONE Differential Data Output
12	VBY4n	Negative V-by-ONE Differential Data Output

13	AGND	GND
14	VBY3p	Positive V-by-ONE Differential Data Output
15	VBY3n	Negative V-by-ONE Differential Data Output
16	AGND	GND
17	VBY2p	Positive V-by-ONE Differential Data Output
18	VBY2n	Negative V-by-ONE Differential Data Output
19	AGND	GND
20	VBY1p	Positive V-by-ONE Differential Data Output
21	VBY1n	Negative V-by-ONE Differential Data Output
22	AGND	GND
23	VBY0p	Positive V-by-ONE Differential Data Output
24	VBY0n	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

49	VCC	PANEL VCC_12V
50	VCC	PANEL VCC_12V
51	VCC	PANEL VCC_12V

七、電器性能

項目		最小	典型	最大
電源電壓	電壓	--	12	--
	紋波	--	--	
電源電流(HDMI 輸出,未接其它外設)	工作電流	--		
	待機電流	--		
	USB 供電電流	--	--	
電源電流(LVDS)	工作電流			
	待機電流			
	液晶屏供電電流	--	TBD	
環境	相對濕度	--	--	80%
	工作溫度	-20℃	--	75℃