Specification

Model: GLH003HA1

Prepared by:		Revised by:		Approved by:	

Catalogues

Version

Date	Version	Content
2008-3-20	RD001	The First Version
2008-5-28	VER:1.00	The Second Version(10.2”Innolux)
2008-6-3	VER:1.00	The Second Version(8”Innolux)
2008-8-4	VER:1.01	The Third Version
2009-4-28	VER:1.02	The Fourth Version

1.Profile：

GLH003HA1 VER:1.02-AT080TN03 V.1 Color TFT LCD Module is composed by GLH003HA1 Driver Board Ver:1.02 and AT080TN03 V.1 Digital Panel. The Module has VIDEO, Y/C, AUDIO & VGA signal input，it adopts the backlight of LED，Two system formats, PAL and NTSC (auto switch).also has OSD and IR receipt function.

2. Application:

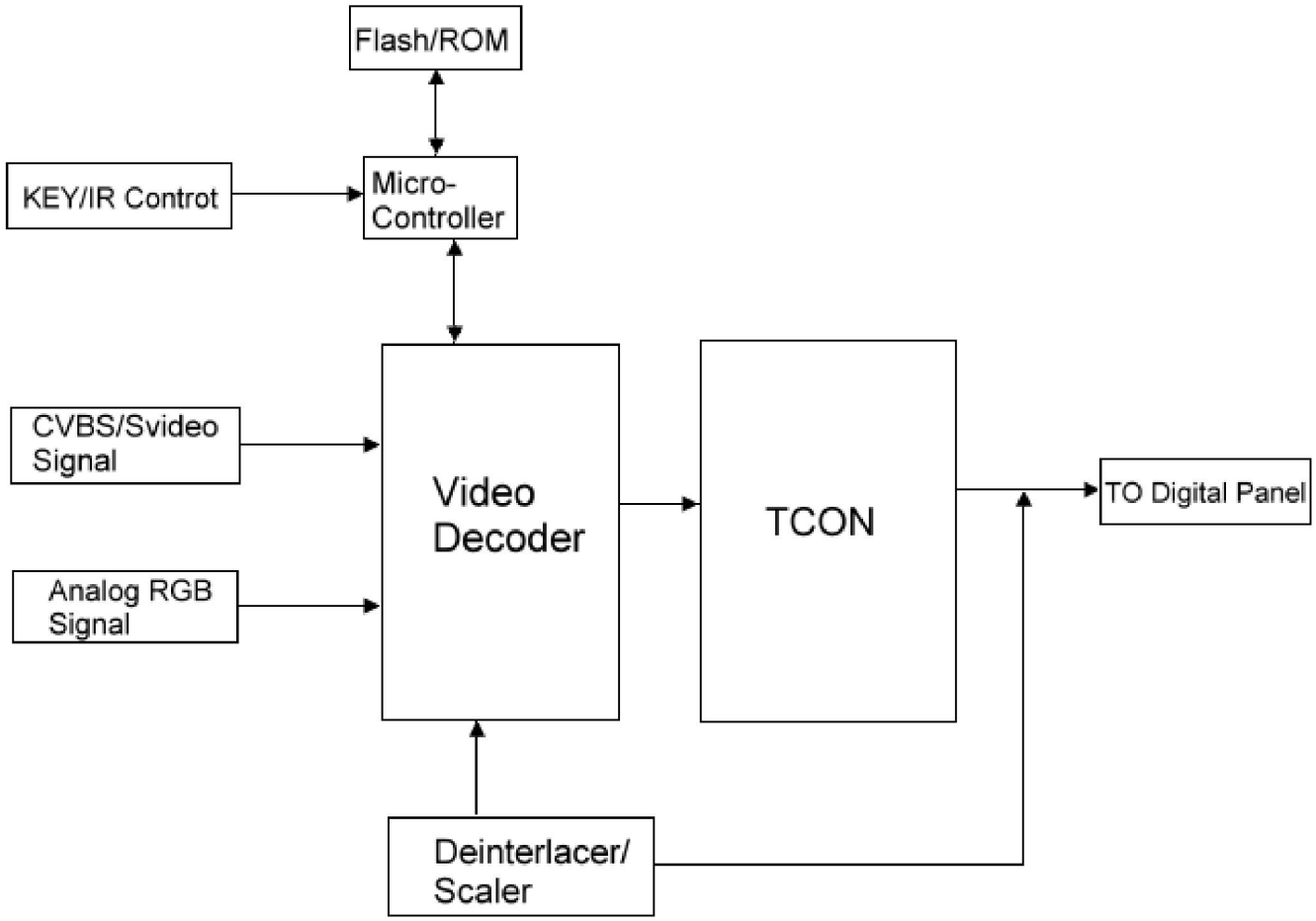
This module applies for as follows：

- Office electronic equipment
- Instrument and Measure appliance
- Machinery and Equipment
- Audiovisual （Car Monitor、Portable DVD player、Long-distance terminal player）
- Household （Video door bell、Video phone）

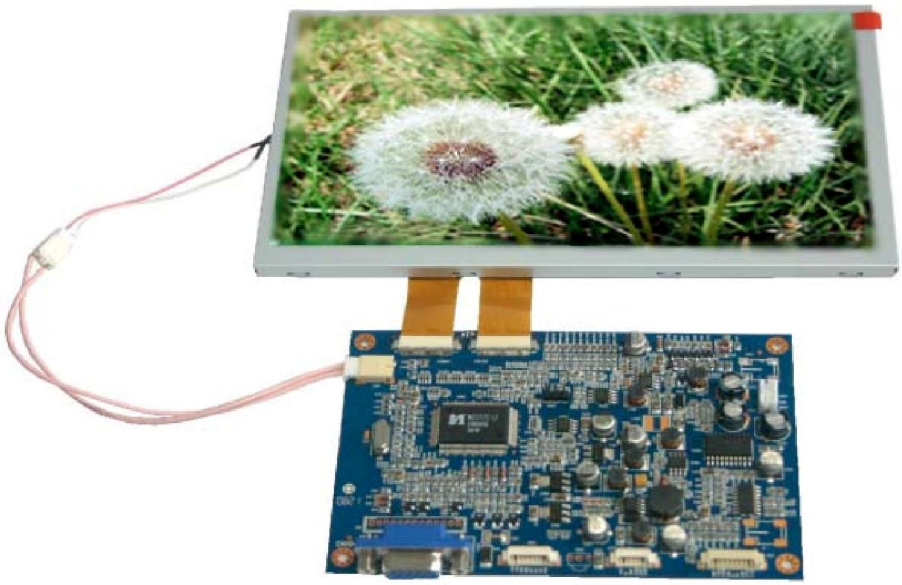
2. Main Parameters：

- Product name：8” TFT-LCD digital module
- Product Model：GLH003HA1 VER:1.02-AT080TN03 V.1
- Display Panel：8” TFT-LCD (LUX Digital Panel 16:9)
- Backlight：LED
- Pixel resolution：800（H）×3RGB×480（V）
- View angle Ø（U/D/L/R）：（50/70/70/70）
- Brightness：250Cd/m2
- System format：PAL/NTSC automatically switch
- Video input：1.0Vp-p 75 ohm
- Power Supply Input：DC 12V ±25%　330mA±30mA
- Panel display dimension(mm)：176.64（H）× 99.36（V）
- Panel Overall dimension(mm)：192.8（W）×116.9（H）×6.4（D）
- Structural dimension of PCB with VGA (mm)：128.9(W)×85.5（H）×15.7（D）
- Structural dimension of PCB without VGA: 128.9(W)×85.5（H）×11.9（D）
- Working temperature：-20~60℃
- Environmental relative humidity：5~95% RH
- Storage temperature：-25℃~+70℃

4. Block Diagram：

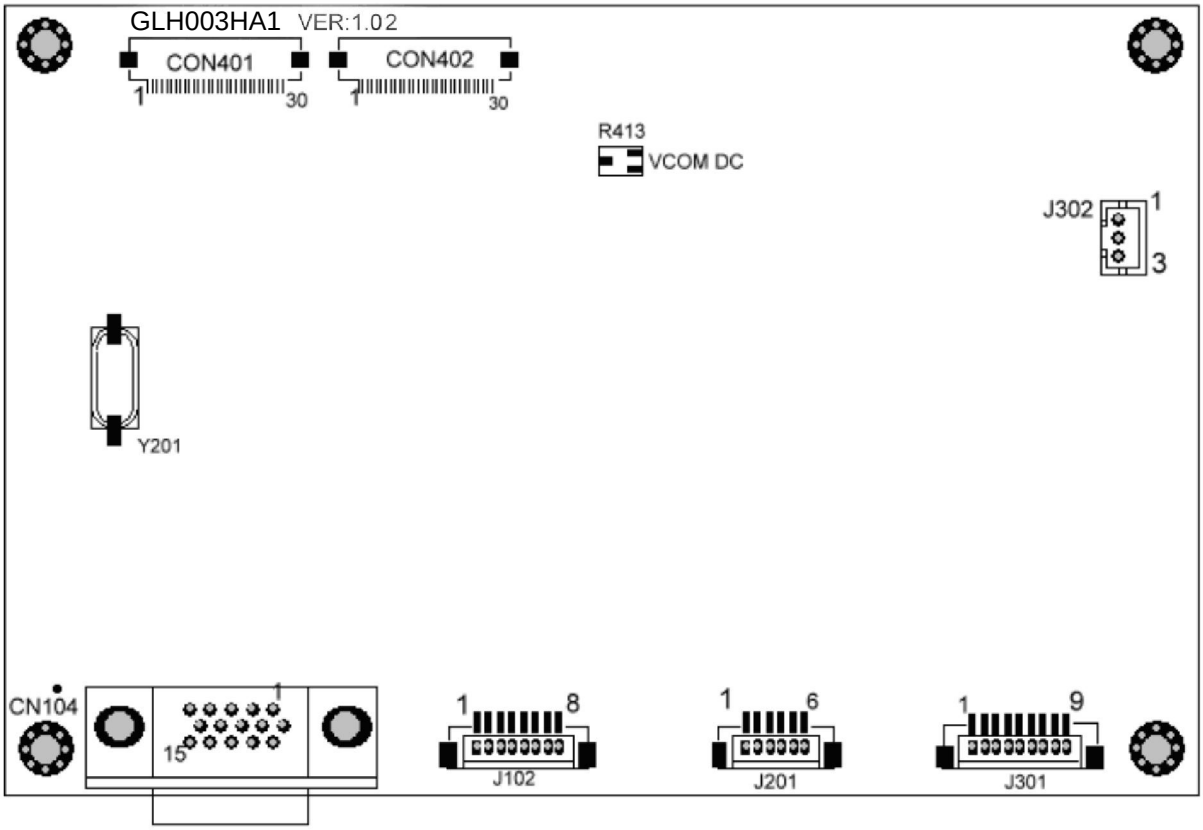


GLH003HA1 TFT LCD Module's Picture:

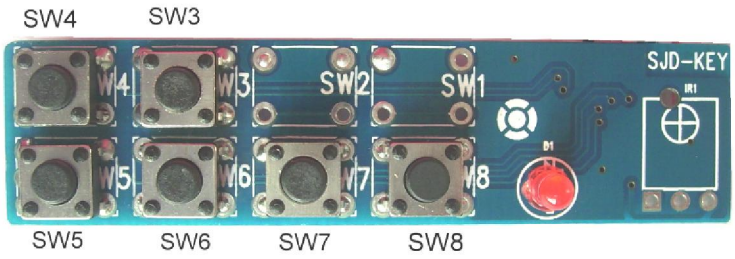


5.Wiring diagram:

5.1 Driver board's wiring diagram:



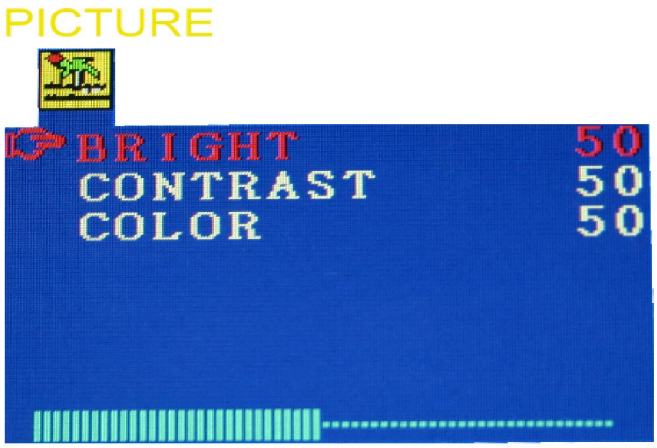
5.2 Key-board:



The definition of key-press:

Pin No.	Symbol	Input/Output	Definition	Remark
SW4	SOURCE	I	AV Switch	
SW5	POWER	I		
SW6	MENU	I		
SW7	+	I	Up	
SW8	-	I	Down	

Menu key(SW6) display:



6. Connector Definition of Driver Board:

6.1 The Connector Definition of J201:

Pin No.	Symbol	Input/Output	J201 Description	Remark
1	+5V	O	+5V Power output	
2	GND	-	Ground	
3	IR	I	Remote control input	
4	SAR0	I	Key-board input 0 group	
5	SAR1	I	Key-board input 1 group	
6	SAR2	I	Key-board input 2 group	

6.2 The Definition of J102(Video, Power Supply input):

Pin No.	Symbol	Input/Output	Description	Remark

1	+12V	I	+12V power input	
2	+12V	I	+12V power input	
3	GND	-	Ground	
4	GND	-	Ground	
5	Video	I	Video Input	
6	C	I	C Signal Input	
7	Y	I	Y Signal Input	
8	GND	-	Ground	

6.3 The Connector Definition of J301(Audio Input):

Pin No.	Symbol	Input/Output	Description	Remark
1	GND	-	Ground	
2	VGA-L	I	VGA Audio Left	
3	VGA-R	I	VGA Audio Right	
4	GND	-	Ground	
5	CVBS-L	I	CVBS Audio Left	
6	CVBS-R	I	CVBS Audio Right	
7	GND	-	Ground	
8	Y/C-L	I	Y/C Audio Left	
9	Y/C-R	I	Y/C Audio Right	

64 VGA Connector Definition of CN104:

Pin No.	Symbol	Input/Output	Description	Remark
1	RED	I		
2	GREEN	I		
3	BLUE	I		
4	NC	-	Empty	
5	GND	-		

6	GND	-		
7	GND	-		
8	GND	-		
9	NC	-		
10	NC	-		
11	NC	-		
12	NC	-		
13	HSYNC	I		
14	VSYNC	I		
15	NC	-		

6.5The connector definition of J302(Left, Right Track Output):

Pin No.	Symbol	Input/Output	Description	Remark
1	LOUT	O	Left Track Output	
2	GND	-	Ground	
3	ROUT	O	Right Track Output	

6.6 The Connector Definition of CON401:

Pin	Symbol	I/O	Description	Remark
1	POL	I	Polarity selection	
2	STVD	I/O	Vertical start pulse input when U/D=H	
3	OEV	I	Output enable	
4	CKV	I	Vertical clock	
5	STVU	I/O	Vertical start pulse input when U/D=L	
6	GND	P	Power ground	
7	EDGSL	I	Select rising edge or falling edge	
8	V_{CC}	P	Power supply for digital circuit	
9	V9	I	Gamma voltage level 9	
10	V_{GL}	P	Gate OFF Voltage	
11	V2	I	Gamma voltage level2	
12	V_{GH}	P	Gate ON voltage	
13	V6	I	Gamma voltage level 6	
14	U/D	I	Up/down selection	
15	V_{COM}	I	Common voltage	
16	GND	P	Power ground	
17	AV_{DD}	P	Power supply for analog circuit	

18	V14	I	Gamma voltage level 14	
19	V11	I	Gamma voltage level 11	
20	V8	I	Gamma voltage level 8	
21	V5	I	Gamma voltage level 5	
22	V3	I	Gamma voltage level 3	
23	GND	P	Power ground	
24	R5	I	Red data(MSB)	
25	R4	I	Red data	
26	R3	I	Red data	
27	R2	I	Red data	
28	R1	I	Red data	
29	R0	I	Red data	
30	GND	P	Power ground	

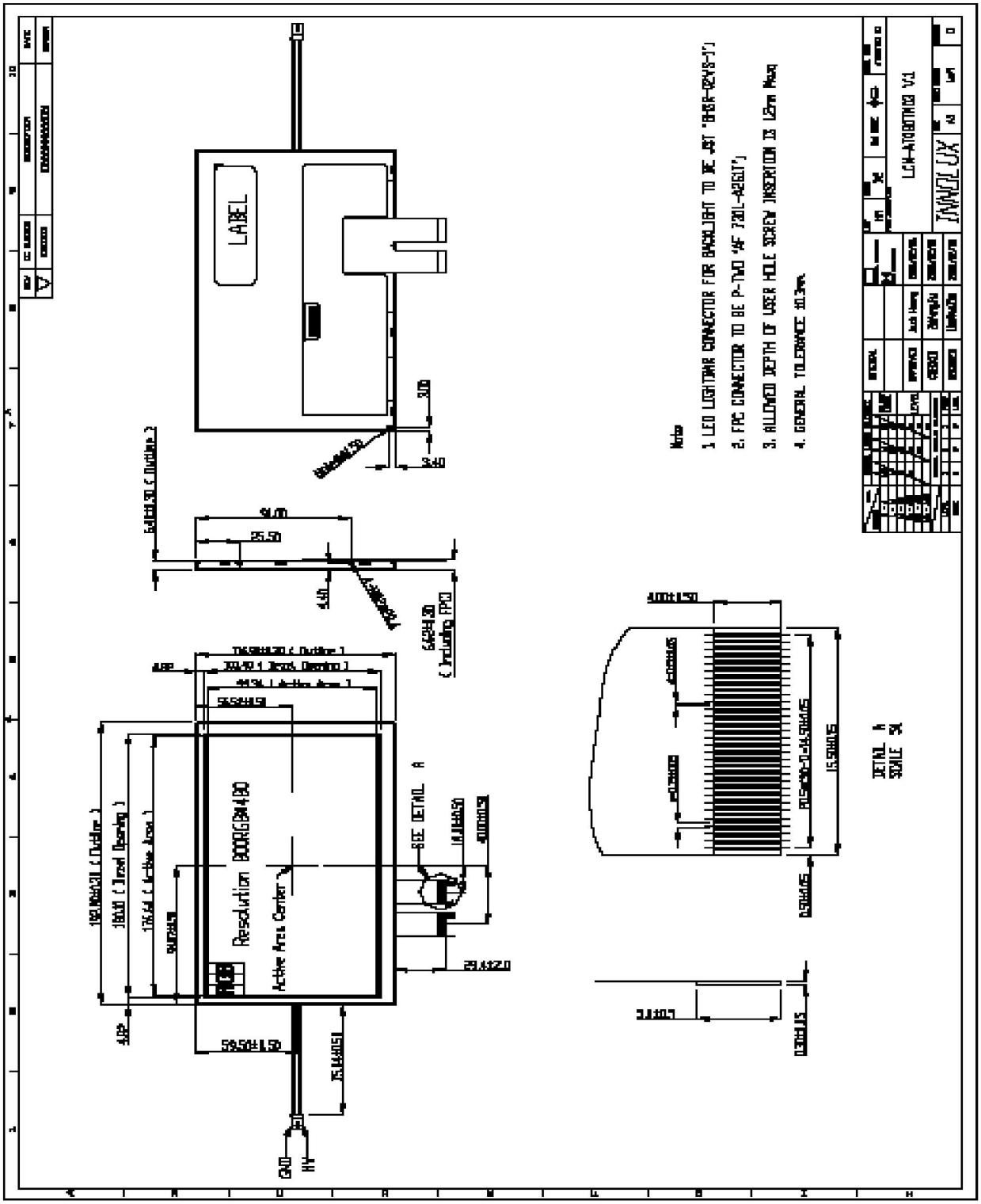
6.8 The Connector Definition of CON402:

Pin	Symbo	I/O	Description	Remark
1	V_{COM}	I	Common voltage	
2	GND	P	Power ground	
3	AV_{DD}	P	Voltage for analog circuit	
4	V13	I	Gamma voltage level 13	
5	V12	I	Gamma voltage level 12	
6	V10	I	Gamma voltage level 10	
7	V7	I	Gamma voltage level 7	
8	V4	I	Gamma voltage level 4	
9	V1	I	Gamma voltage level 1	
10	R/L	I	Right/left selection	
11	B0	I	Blue data(LSB)	
12	B1	I	Blue data	
13	B2	I	Blue data	
14	B3	I	Blue data	
15	B4	I	Blue data	
16	B5	I	Blue data(MSB)	
17	LD	I	Latches the polarity of outputs and switches the new	
18	STHR	I/O	Horizontal start pulse input when R/L=L	
19	V_{CC}	P	Voltage for digital circuit	
20	DCLK	I	Sample clock	
21	GND	I	Power ground	
22	INV	I	Control signal are inverted or not	
23	STHL	I/O	Horizontal start pulse input when R/l=H	
24	G0	I	Green data(LSB)	
25	G1	I	Green data	

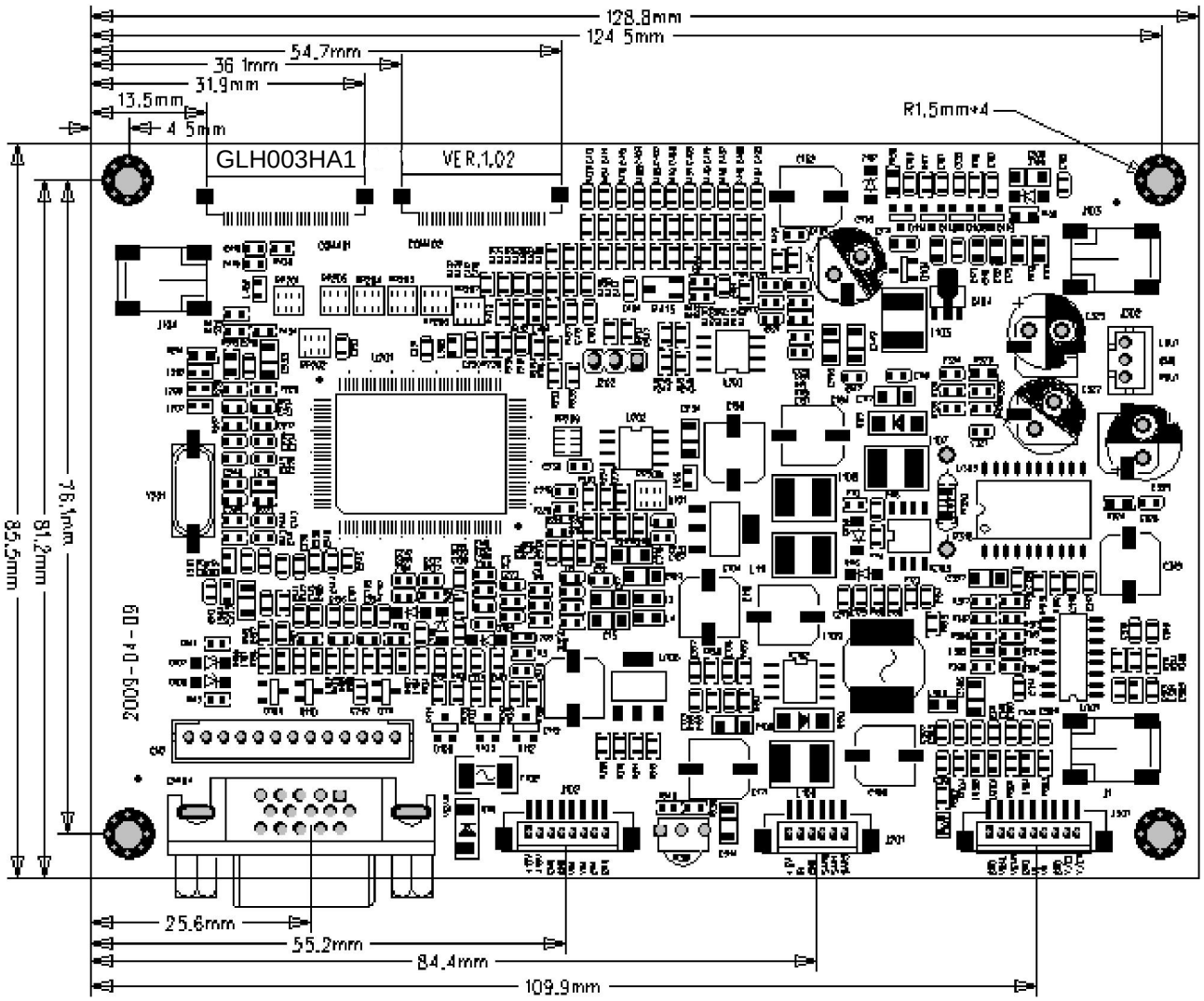
26	G2	I	Green data	
27	G3	I	Green data	
28	G4	I	Green data	
29	G5	I	Green data(MSB)	
30	GND	P	Power ground	

7.Structural Diagram：

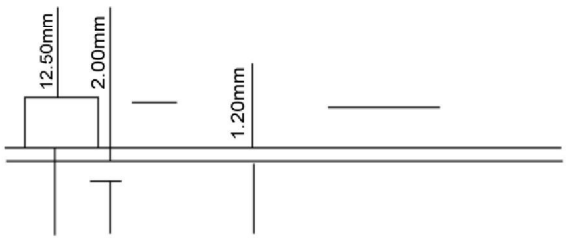
7.1 LCD panel：



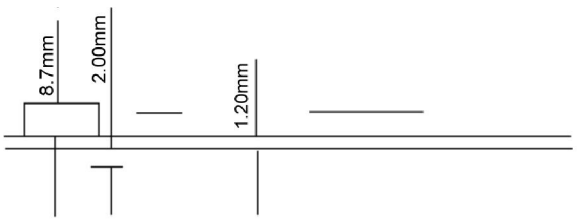
7.2 PCB:



With VGA:



Without VGA:



8. 8" TFT- LCD PANEL determinant standard:

Aim：In order to inspect the law material of entering and productive process .as a inspective gist for customers。

Scope：Applies for 8″ TFT LCD procucts。

Contents：

8.1.The determinant standard and method：

8.1.1. The determinant and inspective method of Panel of LCD：

8.1.1.1.Under the fluorescent lamp with the Power is 20W,inspect vertically (of left or right 45°）to PANEL in 30CM，If there is no nick and scar, then it's OK，Otherwise it's NG。

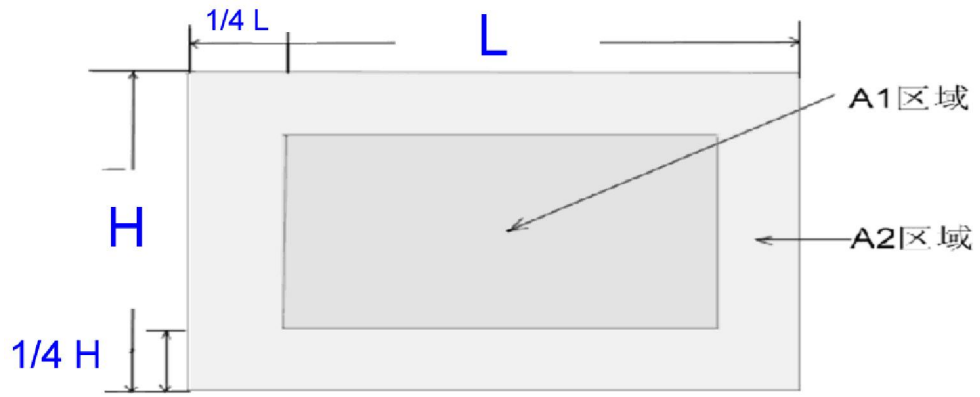
8.1.2. The inspective and determinant method of Black&White&Color spot:

8.1.2.1.Inspective method:

8.1.2.1.1.Black spot：Switch the lamp on，put the MASK(Which is used to inspect the Black spot)nearby the Black spot，then inspect and compare the size of Black spot by eyes.

8.1.2.1.2.White&Color spot：Switch the lamp on，put the MASK(which is used to inspect the Black spot)superpose the White spot(Color spot)，inspect and compare the White spot(Color spot),see whether it can be hided or not.

8.1.2.2.Division of LCD Panel



Remark： A1 :The picture's available center area。

A2：The picture's available edge area.。

8.1.3. The determinant choice:

Spot diameter（mm）		Allowed area	
		A1	A2
Black spot	d≤0.15	Negative	Negative
	0.15<d≤0.3	4	4
	0.3<d≤0.5	2	3
	0.5>d>0.8	0	2
White &Color spot	d≤0.15	Negative	Negative
	0.15<d≤0.3	3	3
	0.3<d≤05	1	2
	0.3>d>0.8	0	1

Remark：1.Size：Average diameter=（Max.diameter + Min.diameter）/2

2.Use the above standard to estimation when the spot is dense.

3.Black&White spot：Use the spot spec.to estimation the evident spots b y comparison through the changes of Voltage.

4.Total quantity of Black&White&Color spot：A1+A2≤4。

9.Packing

TBD

10.Attention:

1. Voltage don’t exceed upper limit.
2. The connector can’t connect board in reverse, or will burn the board and influence the product.
3. Please don’t touch it in order to keep your skin non-burn when you electrify the board (High voltage on the board).
4. 8”TFT LCD Panel, it is a electric product, so you need to take anti-static measure when you operate it.
5. 8"TFT- LCD Panel is a glasswork, place carefully, broken for fear.
6. The connection if “FPC”, which connect 8”TFT LCD Panel to PCB. Please operate it carefully, in order to break off for fear.
7. Don’t touch the Pin of key-press when you press when you press the key-press, it influence the key-press function if you do it.