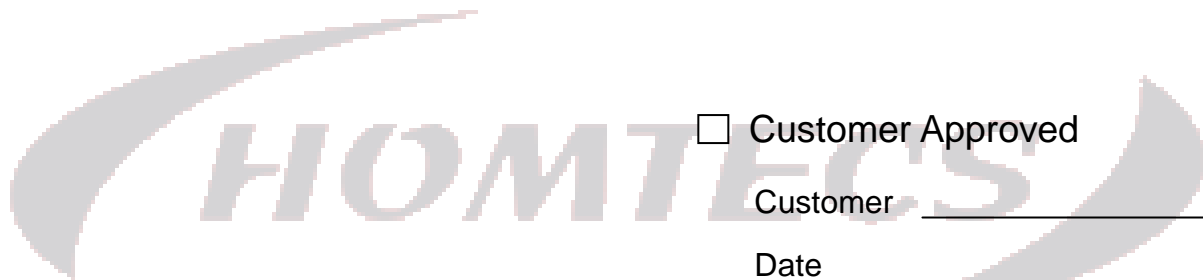


# SPECIFICATION

## HT056-M-L-R Ver 1.04



Customer Approved

Customer \_\_\_\_\_

Date \_\_\_\_\_

By \_\_\_\_\_

**HOMTECS** Confirmation

Approved By Freya

Prepared By Terry

201Rm,2/F,Bwing,HaisongBuilding,Tairan  
9th Road,Futian District,Shenzhen,China  
Tel:+86-755-23903495  
Fax:+86-755-23981923

# Catalogue

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## Version

<b>Date</b>	<b>Version</b>	<b>Content</b>
2007-3-23	VER: 1.00	The First
2009-5-13	VER: 1.01	The Second
2010-6-2	VER: 1.03	The Third
2013-2-1	VER:1.04	The Forth

## 1. Profile:

HT056-M-L-R TFT LCD module is composed by HT56AUL driver board and TianMa TS056KAAAD01 panel. VIDEO signal input, with PAL and NTSC system format(auto switch). It adopt IC to control power supply and backlight(LED backlight).

## 2. Application:

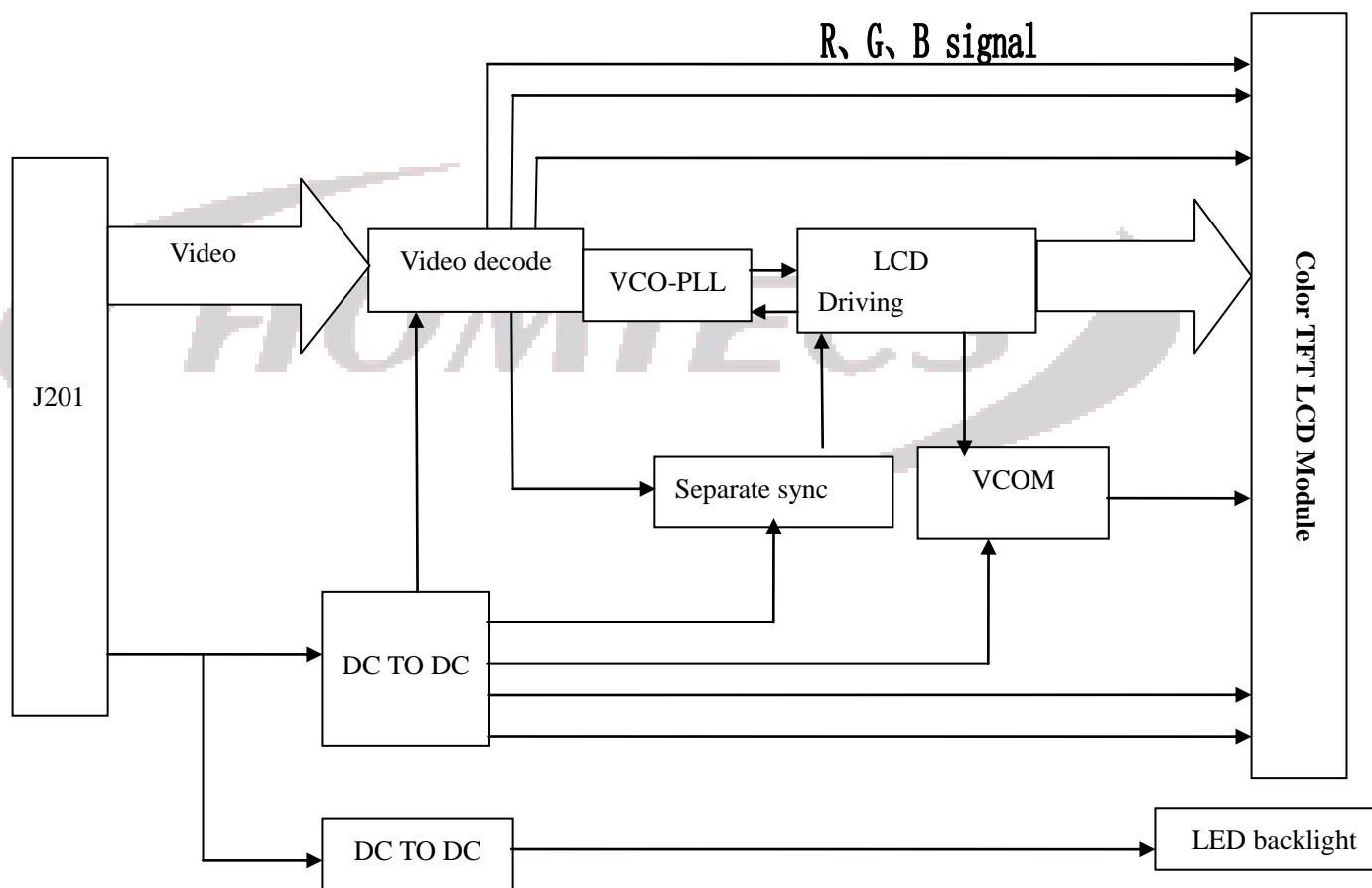
- Office Electric Equipment
- Instrument and Measure Equipment
- Machinery equipment
- Seeing and hearing equipment ( Car display、 Portable DVD Player、 Long-distance terminal)
- Family article for use (Video Doorbell, videophone and security camera)

## 3. Main Parameter:

- Product Name : 5.6"TFT-LCD Module
- Model : HT056-M-L-R V.1.04- TS056KAAAD01
- Display : 5.6"(TianMa)
- Back light : LED
- Pixel : 320x3(RGB)x234
- Vision bound: (U/D/L/R) : ( 45/65/65/65 )
- Brightness : >250 cd/m<sup>2</sup>(put FPC line get off, you just lighten backlight when test it.)
- System format : PAL/NTSC(Auto switch)
- Signal input : 1.0Vp-p 75 ohm
- Voltage input : DC 12V±25% (12V 230mA±20mA)
- Dimension of LCD (mm) : 113.28 ( W ) ×84.708 ( H )

- Overall dimension of display (mm) : 126.5 ( W ) ×100 ( H ) ×5.7 ( D )
- Structural dimension of PCB (mm) : 65(W)×40 ( H ) ×8.2 ( D )
- Work temperature : -10~+60°C
- Relative humidity : 5~95% RH
- Storage humidity : -20°C~+70°C

#### 4. Block Diagram:

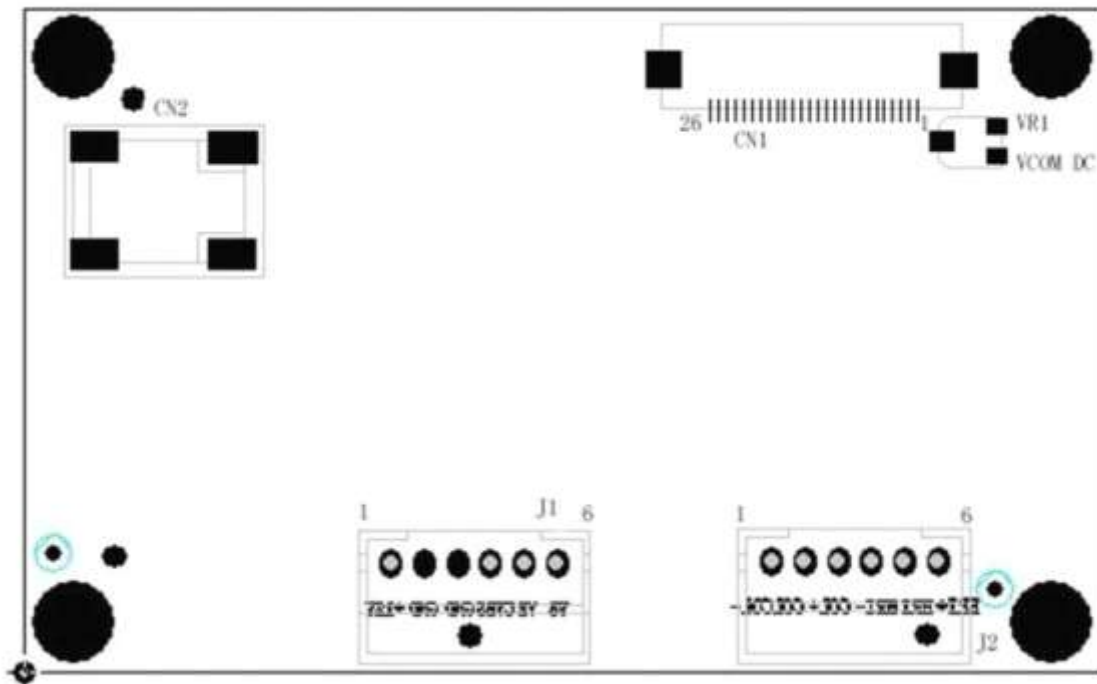


HT056-M-L-R Module's Picture:



### 5. Wiring Diagram:

HT056-M-L-R wiring diagram:



## 6. Connector Definition for Driver Board:

### 6.1 J1Connector Definition:

Pin no.	Symbol	In/Out	Description	Remark
1	12V	I	12V input	
2	GND	I	GND	
3	GND	I	GND	
4	VIDEO	I	Video input	

### 6.1J2 Connector Definition:

Pin no.	Symbol	In/Out	Description	Remark
1	COL-	I	Color reduce	
2	COL	I	Color	R:1
3	COL+	I	Color plus	
4	BRI-	I	Brightness reduce	
5	BRI	I	Brightness	R:2
6	BRI+	I	Brightness plus	

[Note1] It's thick when the voltage is high, and thin when the voltage is low.

[Note2] It's light when the voltage is high, and dark when the voltage is low.

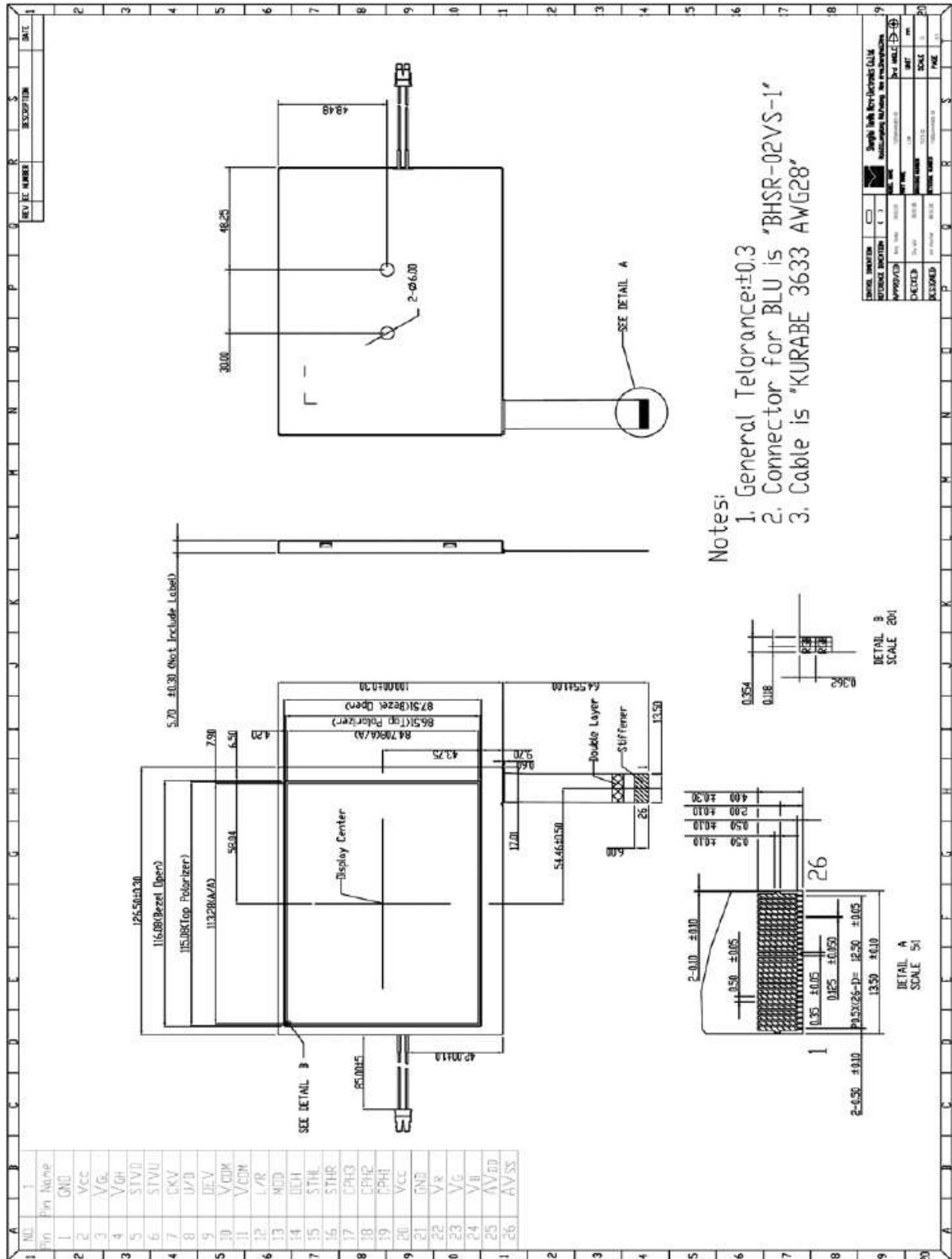
### 6.3 CN1 Connector definition:

Pin No.	Symbol	I/O	Function	Remark
1	GND	P	Ground	
2	VCC	P	Supply voltage for scan driver	
3	VGL	P	Negative power for scan driver	
4	VGH	P	Positive power for scan driver	
5	STVD	I/O	Vertical start pulse down side	
6	STVU	I/O	Vertical start pulse	
7	CKV	I	Shift clock input for scan driver	
8	U/D	I	UP/DOWN scan control input	
9	OEV	I	Output enable control for scan driver	
10	VCOM	I	Common electrode driving signal	
11	VCOM	I	Common electrode driving signal	
12	L/R	I	LEFT/RIGHT scan control input	
13	MOD	I	Sequential sampling and simultaneous sampling	
14	OEH	I	Output enable control for data driver	
15	STHL	I/O	Start pulse for horizontal scan line	
16	STHR	I/O	Start pulse for horizontal scan line	
17	CPH3	I	Sampling and shifting clock pulse for data driver	
18	CPH2	I	Sampling and shifting clock pulse for data driver	
19	CPH1	I	Sampling and shifting clock pulse for data driver	
20	V <sub>CC</sub>	P	Supply voltage for logic control circuit scan driver	
21	GND	P	Ground	
22	VR	I	Alternated video signal(Red)	
23	VG	I	Alternated video signal(Green)	
24	VB	I	Alternated video signal(Blue)	
25	AV <sub>DD</sub>	P	Supply voltage for analog circuit	
26	AV <sub>SS</sub>	P	Ground for analog circuit	

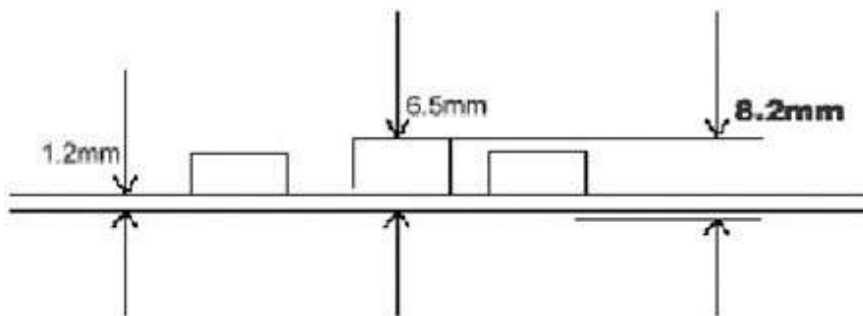
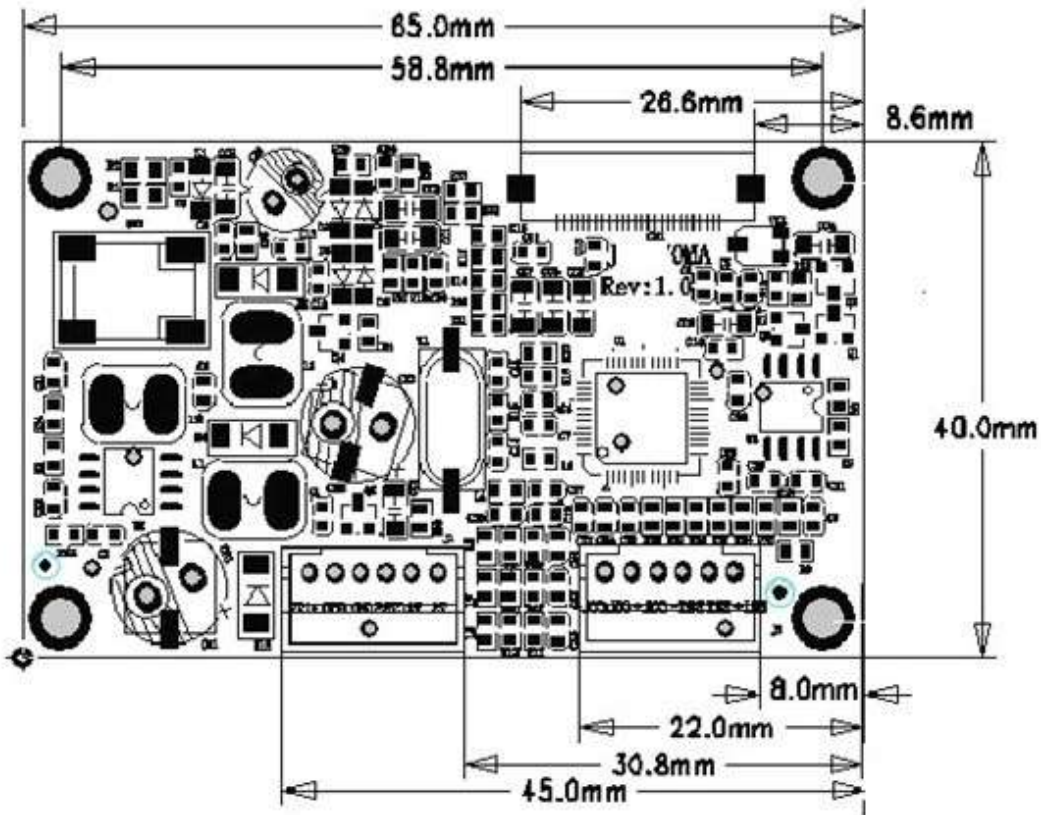


## 7. Structure Drawing:

### 7.1 LCD:



7.2 PCB:



## 8. 5.6" TFT- LCD PANEL Determinant Standard:

Aim: Establishing the standard of PANLE for inspecting material & progress and for clients' inspection.

Scope: Apply to 5.6" TFT LCD

Content:

### 8.1. Inspection standard and method:

8.1.1. The method and determinant of inspecting the nick of panel of LCD:  
 8.1.1.1. Inspect vertically (or at 45° angle from left/right) under the light tube (the power is 20 W) in the distance of 30cm to the panel. If there is no nick, it is "OK". Otherwise "NG".

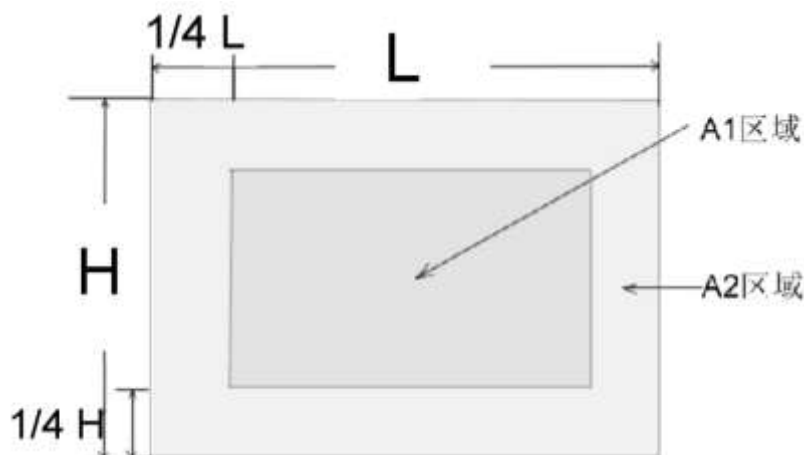
8.1.2. The method and determinative for black & white & color spots for the Panel of LCD:

#### 8.1.2.1. Inspection methods

8.1.2.1.1. Black spots: under status of denote light, set the MASK of black spot inspection near the black spot then compare the big and small by eyes.

8.1.2.1.2. White & Color spots: under status of denote light, set the Mask of black spot inspection on the white spot (or color spot) then inspect them by eyes if it can hide.

#### 8.1.2.2. Division of LCD Panel



Remark: A1: The center of the available area for the picture

A2: The edge of the available area for the picture (around the central area)

### 8.1.3. Determinant Choice

Spot Diameter (mm)		Allowed Area	
		A1	A2
Black Spot	$d \leq 0.15$	Irrespective	Irrespective
	$0.15 < d \leq 0.3$	4	4
	$0.3 < d \leq 0.5$	2	3
	$0.5 < d \leq 0.8$	0	2
White or color spot	$d \leq 0.15$	Irrespective	Irrespective
	$0.15 < d \leq 0.3$	3	3
	$0.3 < d \leq 0.5$	1	2
	$0.5 < d \leq 0.8$	0	1

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

2. Using information above as a standard in order to judge while the spot is are dense.

3. Black & White spot: To judge the obvious spots through the change of voltage by comparison.

4. Total quantity of Black & white & color spot:  $A1 + A2 \leq 4$ .

## 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. It is a electronic product, so you need to take anti-static measure when you operate it.
5. 5.6”TFT-LCD panel is a glasswork, place carefully , broken for fear.
6. The connection is “FPC”, which connect 5.6”TFT-LCD panel with PCB, Please operate it carefully, in order to keep it well.
7. Don't touch the VR's pin when you adjust the VR to keep the VR well.