

深圳市博合数码科技有限公司

Shenzhen Bohoo Digi-Tech Co.,Ltd

SPECIFICATION

MODEL: BH-6M30-C

Rev: 1.2

Part Number:

Published Date:

| Approved by    |               |                |
|----------------|---------------|----------------|
| Prepared by 编写 | Checked by 审核 | Approved by 批准 |
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## REVISION HISTORY

| Rev | DATE     | PAGE | DESCRIPTION                             | AUTHOR |
|-----|----------|------|-----------------------------------------|--------|
| 1.0 | 17.12.05 | All  | First issued For HHT                    | Danny  |
| 1.1 | 17.12.14 | 3    | Modify Input LVDS Definition,修改输入LVDS定义 | Danny  |
| 1.2 | 18.04.27 | 3    | Update Board Picture                    | Danny  |
|     |          |      |                                         |        |
|     |          |      |                                         |        |

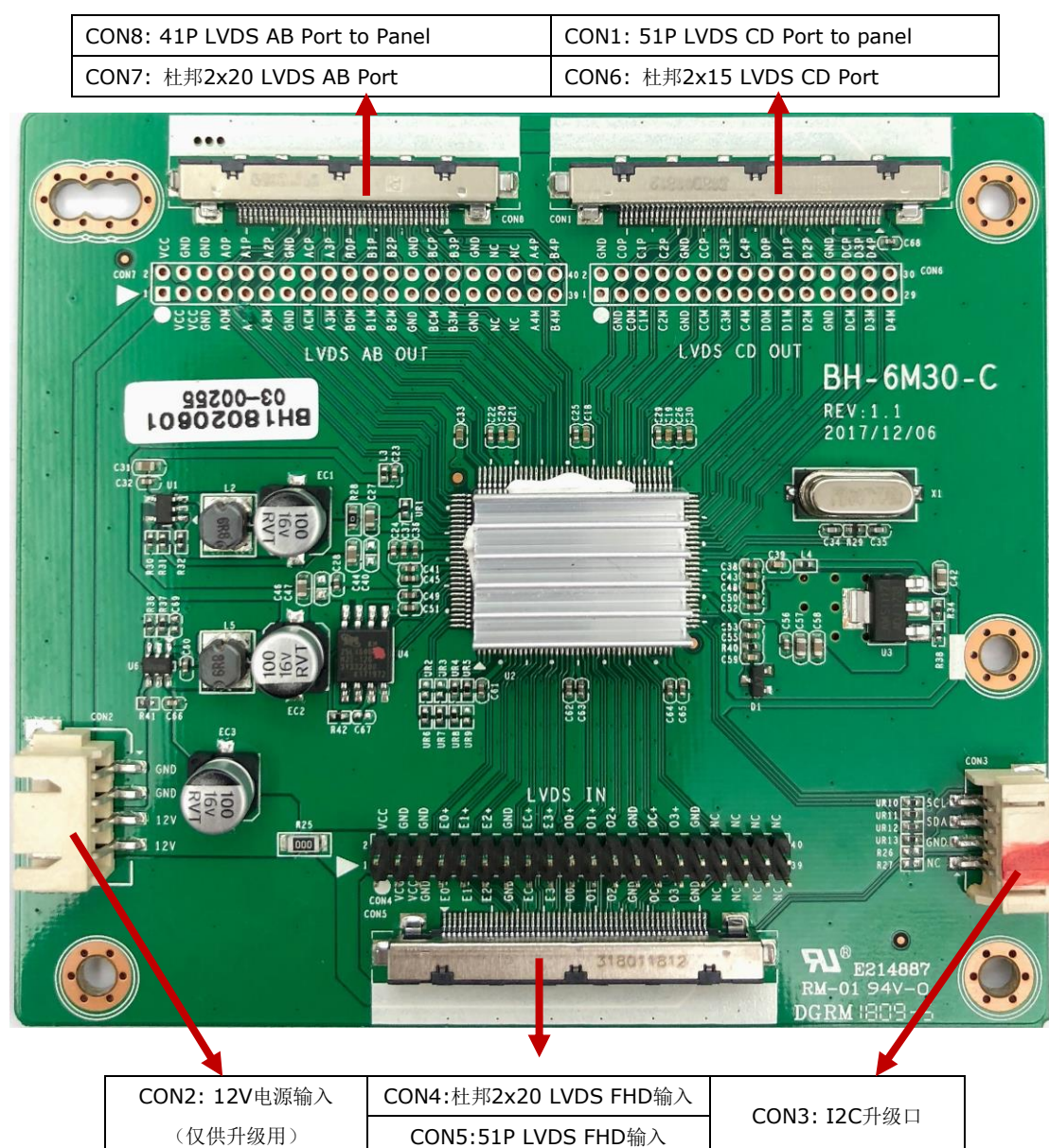
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## 1. GENERAL DESCRIPTION （概述）

**BH-6M30-C** doubles the frames (50Hz → 100Hz conversion, 60Hz → 120Hz conversion, frame interpolation) of the video signal output (Full-HD signal by LVDS interface) from a TV control board and then supplies the frame-doubled video signal to a panel provided with LVDS input.

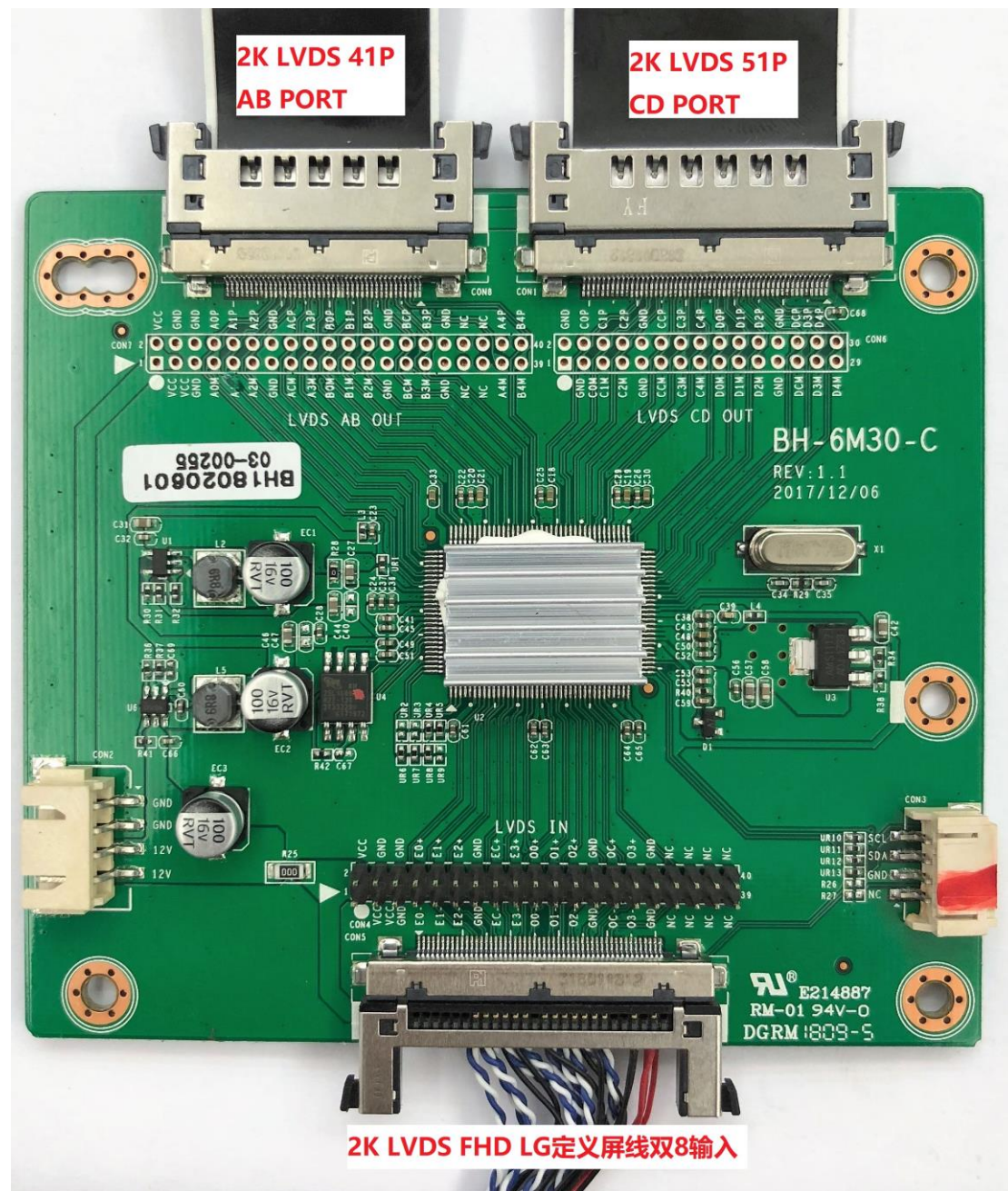
**BH-6M30-C** 是一款LVDS信号倍频转接板（1920\*1080@50/60Hz→ 1920\*1080@100/120Hz 转换），提供Full-HD LVDS输入接口，经过帧速率转换等图像处理，生成FHD 120Hz 四通道LVDS信号，并直接驱动2K@120Hz面板。

## 2. FUNCTION LAYOUT （产品外观）



（注意实物和规格书图片可能会有出入，实物以送样为准）

接线说明图:



### 3. FEATURES

|                   |                        |
|-------------------|------------------------|
| CHIPSET           | MST6M30KUB /MST6M40KUC |
| COLOR DEPTH       | 8bit/10bit             |
| LVDS FORMAT       | JEIDA/VESA             |
| POWER REQUIREMENT | 12V                    |
| POWER CONSUMPTION | ≤3W                    |

## 4. INTERFACE DEFINITION (接口定义)

### ◆ CON5 (51PIN/0.5): LVDS INPUT FROM MAIN BOARD CONNECTOR

- FI-RE51S-HF (manufactured by JAE)
- Mating Connector: FI-R51HL (JAE) or compatible

| NO. | SYMBOL  | DESCRIPTION                | NO. | SYMBOL | DESCRIPTION               |
|-----|---------|----------------------------|-----|--------|---------------------------|
| 1   | NC      | No Connection              | 27  | NC     | No Connection             |
| 2   | SDA/NC  | Reserved for FRC I2C Slave | 28  | RxO0N  | LVDS In ODD 0- Signal     |
| 3   | SCL/NC  |                            | 29  | RxO0P  | LVDS In ODD 0+ Signal     |
| 4   | NC      | No Connection              | 30  | RxO1N  | LVDS In ODD 1- Signal     |
| 5   | NC      | No Connection              | 31  | RxO1P  | LVDS In ODD 1+ Signal     |
| 6   | NC      | No Connection              | 32  | RxO2N  | LVDS In ODD 2- Signal     |
| 7   | NC      | No Connection              | 33  | RxO2P  | LVDS In ODD 2+ Signal     |
| 8   | NC      | No Connection              | 34  | GND    | Ground                    |
| 9   | NC      | No Connection              | 35  | RxOCN  | LVDS In ODD Clock- Signal |
| 10  | NC      | No Connection              | 36  | RxOCP  | LVDS In ODD Clock+ Signal |
| 11  | GND     | Ground                     | 37  | GND    | Ground                    |
| 12  | RXE0N   | LVDS In EVEN 0- Signal     | 38  | RxO3N  | LVDS In ODD 3- Signal     |
| 13  | RXE0P   | LVDS In EVEN 0+ Signal     | 39  | RxO3P  | LVDS In ODD 3+ Signal     |
| 14  | RXE1N   | LVDS In EVEN 1- Signal     | 40  | RxO4N  | LVDS In ODD 4- Signal     |
| 15  | RXE1P   | LVDS In EVEN 1+ Signal     | 41  | RxO4P  | LVDS In ODD 4+ Signal     |
| 16  | RXE2N   | LVDS In EVEN 2- Signal     | 42  | NC     | No Connection             |
| 17  | RXE2P   | LVDS In EVEN 2+ Signal     | 43  | NC     | No Connection             |
| 18  | GND     | Ground                     | 44  | GND    | Ground                    |
| 19  | RXECLKN | LVDS In EVEN Clock- Signal | 45  | GND    | Ground                    |
| 20  | RXECLKP | LVDS In EVEN Clock+ Signal | 46  | GND    | Ground                    |
| 21  | GND     | Ground                     | 47  | NC     | No Connection             |
| 22  | RXE3N   | LVDS In EVEN 3- Signal     | 48  | VCC    | +12V Power Supply         |
| 23  | RXE3P   | LVDS In EVEN 3+ Signal     | 49  | VCC    | +12V Power Supply         |
| 24  | RXE4N   | LVDS In EVEN 4- Signal     | 50  | VCC    | +12V Power Supply         |
| 25  | RXE4P   | LVDS In EVEN 4+ Signal     | 51  | VCC    | +12V Power Supply         |
| 26  | NC      | No Connection              | -   | -      | -                         |

### ◆ CON8 (41PIN/0.5): LVDS AB PORT TO PANEL CONNECTOR

- FI-RE41S-HF (manufactured by JAE)
- Mating Connector: FI-R41HL (JAE) or compatible

| NO. | SYMBOL | DESCRIPTION   | NO. | SYMBOL | DESCRIPTION           |
|-----|--------|---------------|-----|--------|-----------------------|
| 41  | NC     | No Connection | 20  | A4P    | LVDS OUT A Port Data4 |
| 40  | NC     | No Connection | 19  | A4N    |                       |
| 39  | NC     | No Connection | 18  | GND    | Ground                |
| 38  | NC     | No Connection | 17  | GND    | Ground                |

|    |     |                       |    |     |                       |
|----|-----|-----------------------|----|-----|-----------------------|
| 37 | NC  | No Connection         | 16 | B0P | LVDS OUT B Port Data0 |
| 36 | NC  | No Connection         | 15 | B0N |                       |
| 35 | NC  | No Connection         | 14 | B1P | LVDS OUT B Port Data1 |
| 34 | NC  | No Connection         | 13 | B1N |                       |
| 33 | GND | Ground                | 12 | B2P | LVDS OUT B Port Data2 |
| 32 | A0P | LVDS OUT A Port Data0 | 11 | B2N |                       |
| 31 | A0N |                       | 10 | GND | Ground                |
| 30 | A1P | LVDS OUT A Port Data1 | 9  | BCP | LVDS OUT B Port Clock |
| 29 | A1N |                       | 8  | BCN |                       |
| 28 | A2P | LVDS OUT A Port Data2 | 7  | GND | Ground                |
| 27 | A2N |                       | 6  | B3P | LVDS OUT B Port Data3 |
| 26 | GND | Ground                | 5  | B3N |                       |
| 25 | ACP | LVDS OUT A Port Clock | 4  | B4P | LVDS OUT B Port Data4 |
| 24 | ACN |                       | 3  | B4N |                       |
| 23 | GND | Ground                | 2  | GND | Ground                |
| 22 | A3P | LVDS OUT A Port Data3 | 1  | GND | Ground                |
| 21 | A3N |                       | -  | -   |                       |

◆ **CON1 (51PIN/0.5): LVDS CD OUTPUT TO PANEL CONNECTOR**

- FI-RE51S-HF (manufactured by JAE)

- Mating Connector: FI-R51HL (JAE) or compatible

| NO. | SYMBOL | DESCRIPTION           | NO. | SYMBOL | DESCRIPTION           |
|-----|--------|-----------------------|-----|--------|-----------------------|
| 51  | NC     | No Connection         | 25  | NC     | No Connection         |
| 50  | NC     | No Connection         | 24  | D0P    | LVDS OUT D Port Data0 |
| 49  | NC     | No Connection         | 23  | D0N    |                       |
| 48  | NC     | No Connection         | 22  | D1P    | LVDS OUT D Port Data1 |
| 47  | NC     | No Connection         | 21  | D1N    |                       |
| 46  | NC     | No Connection         | 20  | D2P    | LVDS OUT D Port Data2 |
| 45  | NC     | No Connection         | 19  | D2N    |                       |
| 44  | NC     | No Connection         | 18  | GND    | Ground                |
| 43  | NC     | No Connection         | 17  | DCP    | LVDS OUT D Port Clock |
| 42  | NC     | No Connection         | 16  | DCN    |                       |
| 41  | GND    | Ground                | 15  | GND    | Ground                |
| 40  | C0P    | LVDS OUT C Port Data0 | 14  | D3P    | LVDS OUT D Port Data3 |
| 39  | C0N    |                       | 13  | D3N    |                       |
| 38  | C1P    | LVDS OUT C Port Data1 | 12  | D4P    | LVDS OUT D Port Data4 |
| 37  | C1N    |                       | 11  | D4N    |                       |
| 36  | C2P    | LVDS OUT C Port Data2 | 10  | NC     | No Connection         |
| 35  | C2N    |                       | 9   | NC     | No Connection         |
| 34  | GND    | Ground                | 8   | GND    | Ground                |
| 33  | CCP    | LVDS OUT C Port Clock | 7   | GND    | Ground                |

|    |     |                       |   |     |                   |
|----|-----|-----------------------|---|-----|-------------------|
| 32 | CCN |                       | 6 | GND | Ground            |
| 31 | GND | Ground                | 5 | NC  | No Connection     |
| 30 | C3P | LVDS OUT C Port Data3 | 4 | VCC | +12V Power Supply |
| 29 | C3N |                       | 3 | VCC | +12V Power Supply |
| 28 | C4P | LVDS OUT C Port Data4 | 2 | VCC | +12V Power Supply |
| 27 | C4N |                       | 1 | VCC | +12V Power Supply |
| 26 | NC  | No Connection         | - | -   | -                 |

◆ **CON2 (4PIN/2.5): POWER INPUT CONNECTOR**

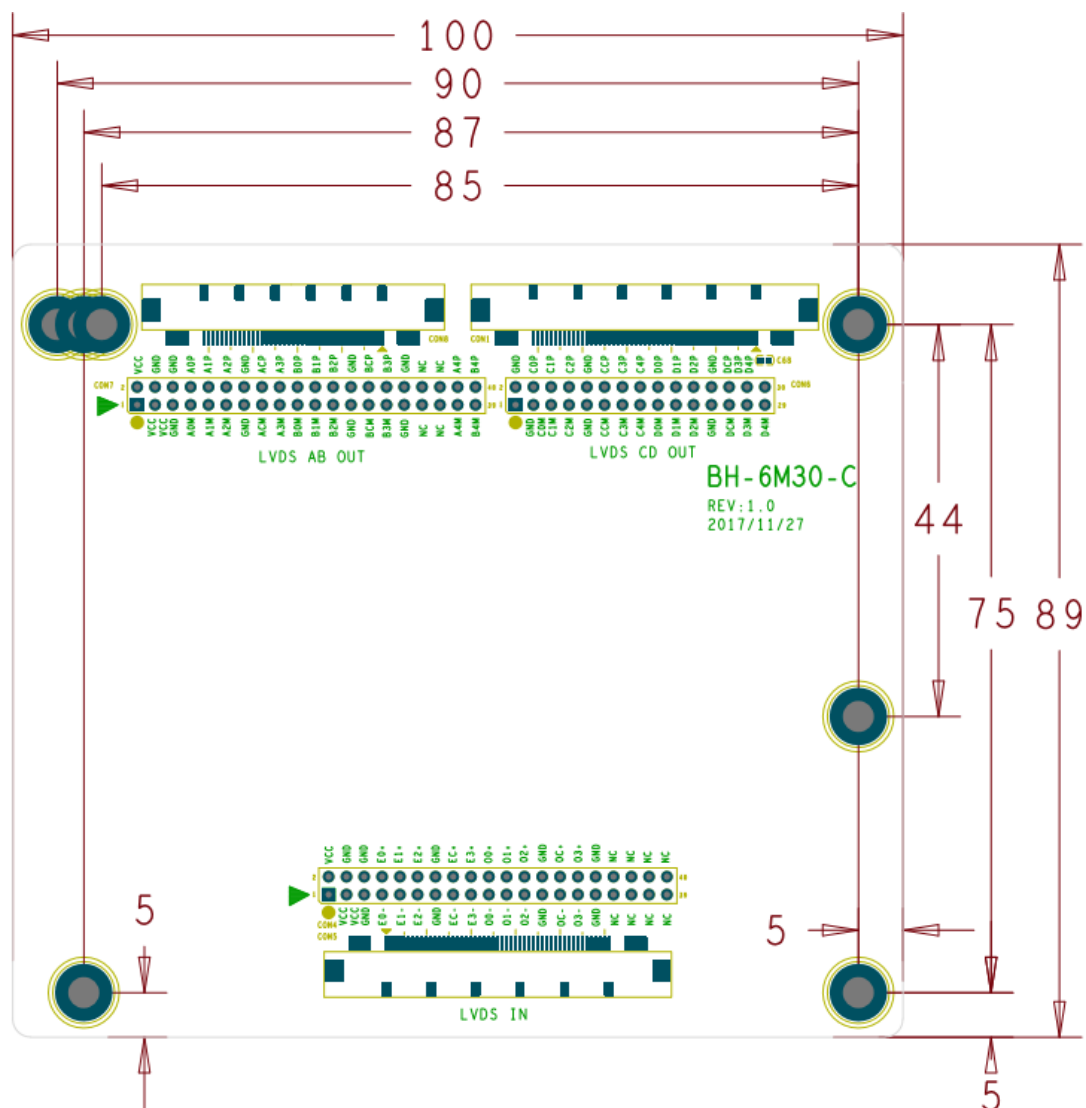
| NO. | SYMBOL | DESCRIPTION      |
|-----|--------|------------------|
| 1   | GND    | Ground           |
| 2   | GND    |                  |
| 3   | 12VIN  | 12V power supply |
| 4   | 12VIN  | 12V power supply |

◆ **CON3 (4PIN/2.0): I2C SLAVE CONNECTOR**

| NO. | SYMBOL | DESCRIPTION          |
|-----|--------|----------------------|
| 1   | NC     | No Connect           |
| 2   | GND    | Ground               |
| 3   | SDA    | I2C Slave SDA Signal |
| 4   | SCL    | I2C Slave SCL Signal |

## 5. PCB Dimension 尺寸图

The overall height of BH-6M30-C is 15 mm.



## 6. CONFIGURATION & GENERAL PRECAUTIONS

### 使用环境和注意事项

- Storage temperature: -10~60°C.
- 存储温度: -10~60°C。
- Operation temperature: 0~40°C.
- 工作温度: 0~40°C。
- Operating: 10% to 90% (Non-condensing, 无冷凝)
- 工作湿度: 10% ~ 90%
- Store: 5% to 95%
- 储存湿度: 5%~95%
- Operating: 10,000ft (max)

- 工作高度: 10,000ft ( 最大)
- Store: 20,000ft (max)
- 储存高度: 20,000ft ( 最大)
- Vibration ( 振动) 5-55Hz, 19.6m/s<sup>2</sup>(2G), 20minutes each along X, Y and Z axis.
- Protect the board from static electricity in case of damage to the IC.
- 请使板卡远离静电。
- Keep the board away from conductor when it is working.
- 请确保板卡工作时远离导体。
- Don't push or pull the connectors when the board is working.
- 板卡工作时请勿按压和扭曲。
- Don't press, distort or disassemble the board.
- 请勿拆解板卡。
- Clean the board with soft dry cloth when it's dirty.
- 如果板卡脏了, 请用干布擦拭。
- Don't wire in the board to power supply before panel is correctly connected.
- 正确接好驱屏线前请勿接通电源。
- Inner wires of the whole set should match reasonable, we suggest the LVDS twisted pair wire between the main board and panel must be tied up well and try to use shielding wire. If it's possible, try to put on the magnetic belt ring on the wire which near the board terminal, each connected wire try to not directly cross the PCB board, especially cross over from the main chips, avoid affecting the whole set EMC performance.
- 机内需合理布线, 芯片上方不建议走线, LVDS屏线必须使用双绞线并建议使用屏蔽网, 同时将地环锁死在PCB孔位上。

## 7. PACKING, SHIPPING & STORING (包装、运输、贮存)

### 7.1、Packing (包装)

Product name, part number, supplier's logo, QC stamp, Pb-free display and date must be printed on the package case.

包装箱上有产品名称、型号、厂家标识、厂家质量部门的检验合格证、制造日期等。

### 7.2、Shipping (运输)

This product can be transported through land, sea or air. Measures should be taken for water and sun proof. Also, it should be handled with care.

适应于车、船、飞机运输, 运输中应遮蓬、防晒、文明装卸。

### 7.3、Storing(贮存)

Please keep staying in the package case before using and keep away from hazardous gas, flammable or explosive substances and erosive chemical material. Avoid dramatic vibration or shock and strong magnetic field. The package cases should be racked 20cm above the ground and 50cm away from the wall, window, heat source or ventilation port. Generally the storage term of this product is 2 years. All the products should be double checked after that time.

产品未使用时应存放在包装箱内, 仓库内不允许有有害气体, 易燃, 易爆的产品及有腐蚀性的化学物品, 并且无强烈的机械振动, 冲击和强磁场作用, 包装箱应垫离地至少20cm高, 距离墙壁、热源、窗口或空气入口至少50cm, 在本规定条件下的贮存期一般为2年, 超过2年后应重新进行检验。