



深圳市海勤科技有限公司
SHENZHEN HIKEEN TECHNOLOGY CO., LTD

Specification

Module: HK.T.RT2871P838

销售区域: 欧洲、澳洲、东南亚、中东、非洲

产品形态: TV+POWER+LED

产品类型: 基本型|DVB-C/T/T2/S2+ATV

| Approved by HIKEEN | | | | |
|--------------------|---------|---------|-----------------|----------------|
| HW 硬件审核 | PW 电源审核 | SW 软件审核 | Rechecked by 复审 | Approved by 批准 |
| | | | | |

Please send the original back to us after you have approved and signed.

客户承认签章后敬请寄回正本一份。

| Approved by customer | | |
|----------------------|------------------|-------------------|
| Comments 确认意见 | Approved by 批准签字 | Company's seal 盖章 |
| | | |
| Customer's Name: | | |

REVISION HISTORY

| VERSION | DATE | DESCRIPTION | AUTHOR |
|---------|------------|--------------|--------|
| V1.0 | 2018.11.07 | First Issued | Mio |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

CONTENT(目录)

| | |
|---|----|
| 1. GENERAL DESCRIPTION(概述) | 3 |
| 2. STANDARD CONFIGURATION (标准配置)..... | 4 |
| 3. FEATURE(特性说明) | 4 |
| 3.1 FEATURE 1(特性说明 1) | 4 |
| 3.2 FEATURE 2(特性说明 2) | 5 |
| 3.3HARDWARE CONFIGURATION （硬件配置） | 6 |
| 4. MEDIA PLAYER FORMAT(媒体播放格式)..... | 7 |
| 5. SUBSTITUTABLE PRIMARY MATERIALS(主要材料替代物料说明)..... | 10 |
| 5.1 GENERAL MATERIALS(一般材料) | 10 |
| 5.2 KEY MATERIALS(关键材料) | 10 |
| 6. FUNCTION LAYOUT(功能布局图) | 11 |
| 6.1 THE TOP VIEW OF HK-T.RT2871P838X(顶视图)..... | 11 |
| 7. PCB DIMENSION AND CONFIGURABLE(电路板尺寸配置图) | 12 |
| 7.1 PCB DIMENSION(尺寸) | 12 |
| 7.2 CONFIGURABLE(配置说明)..... | 12 |
| 7.3 THE STRUCTURE CHART FOR LED CONTROL BOARD(配置图) | 12 |
| 8. INTERFACE DEFINITION(接口定义) | 13 |
| 9. ELECTRICAL CHARACTERISTICS(电气特性) | 15 |
| 9.1 AC INPUT CHARACTERISTICS(AC 输入特性) | 15 |
| 9.2 LED INPUT CHARACTERISTICS(LED 输入特性) | 16 |
| 9.3 LED DRIVER POWER OUTPUT CONNECTOR (LED 驱动电源输出连接器) | 16 |
| 9.4 OUTPUT PROTECTION SPECIFICATION (输出保护)..... | 16 |
| 10. FUSE PROTECTION(保护措施) | 16 |
| 11.CONFIGURATION & GENERAL PRECAUTIONS (使用注意事项) | 16 |
| 12. MOUNT PRECAUTIONS(注意事项) | 18 |
| 13. IR, KEY BOARD SCHEMATIC(遥控、按键板原理图)..... | 18 |
| 14. BOARD PACKAGING SPECIFICATION (板卡包装规格) 图)..... | 19 |

1. GENERAL DESCRIPTION(概述)

HK.T.RT2871P838X is an TV control board. That's a digital and analog TV control board, which is suitable for using the Europe, Australia, Southeast Asia, MIDE, Africa of DVBT/T2/C/S2 market. It is designed to apply the V-by-one as the interface. which can support up to 3840x2160.

HK.T. RT2871P838X is intended to support the analog TV signal, Digital TV, USB(3.0 and 2.0), HDMI(1.4 and V2.0), CVBS and YPbPr as well Coaxial output . And audio amplifier which can support 2X8W (8Ω) speaker output.

The program is built in Cortex A53 ARM quad core CPU main chip and Android7.1 OS,Also supports wired and wireless network connection, you can browse the web internet play online video.

HK.T. RT2871P838X with power consumption of the system 148W, and backlight power under 100W, and backlight voltage between 75V-180V.

HK.T.RT2871P838X是一款电视控制主板。该方案是一款支持数字和模拟的电视控制板，适用于采用 DVBT/T2/C/S2的欧洲、澳洲、东南亚、中东、非洲等市场。该方案设计为V-by-one接口，可以支持分辨率最高达3840×2160。

该方案支持模拟电视信号，数字电视，USB（3.0和2.0），HDMI（1.4和V2.0），CVBS,和YPbPr以及同轴输出。它包含一个音频放大器，可支持2X8W（8Ω）扬声器输出。

该方案内置ARM Cortex A53四核CPU主芯片和Android7.1操作系统，还支持有线和无线网络连接，可以浏览网页和播放在线视频。

整机功耗 148W，匹配背光功率 100W 以下，匹配背光电压范围 75V-180V 之间。

以上标准配置可与下列恒流规格任意搭配。具体的背光电流值依据客户的具体需求而定。

Standard configurations above could match any following backlight Spec. Specific backlight current can be selected according to customer's requirement.

| 主推电源及背光规格 | | | |
|--|----------------------|---|---|
| Main Promotion Power and backlight Spec. | | | |
| 功率 Power | 电源输出 Power Output | 恒流规格 Backlight Value | 背光插座 Backlight Connectors |
| 108W | 12V/2.3A和19V/0.7A | 75V-120V/MAX:80W 120V-180V/MAX:80W | 2PIN-2.0立式+2PIN-2.0 立式或 3PIN-2.0立式+3PIN-2.0 立式 |
| 138W | 12V/2.3A和19V/0.7A | 75V-120V/MAX:100W 120V-180V/MAX:100W | |
| | | | |
| 注意：1. 背光电流的精度为 5%。 Note: 1.The accuracy of backlight current is 5%. | | | |

2. STANDARD CONFIGURATION (标准配置)

下表为我们主推的标准配置

Pictures are for reference only, specific to prevail in kind.

图片仅供参考，请以实物为准。

The optional connectors and functions are marked with “*”.

可选的接口或者功能都以“*”标示。

| | |
|------------|---|
| 标准配置一 | 欧洲、澳洲、东南亚、中东、非洲 |
| Functions | 【HK.T.RT2871P838】 HEADPHONE, RJ45, COAX OUT, CVBS IN, AV/YPBPR L IN, AV/YPBPR R IN, YPBPR, DVBT2, DVBS2, HDMI 1, HDMI 2, HDMI 3(*ARC), CI, USB2.0, USB3.0 |
| Notes | |
| FRONT VIEW |  |
| SIDE VIEW |  |

3. FEATURE(特性说明)

3.1 FEATURE 1(特性说明1)

| | | | |
|------------------------|---|------------------|--------------------|
| Chipset (芯片) | RTD2871 | | |
| Market (市场) | Europe, Australia, Southeast Asia, MIDE, Africa | | |
| Panel (面板) | Type | TFT-LED; | |
| | Resolution | Max. 3840*2160 | |
| | Interface | V-by-one | |
| Input Signal (输入信号) | Analog TV (ATV) | Receiving range: | 48.25MHz-863.25MHz |
| | | Input impedance: | 75Ω |
| | | Video System | PAL, SECAM |
| | | Sound System | BG, DK, I, L/L' |
| | | | NICAM/A2 |

| | | | | |
|--|----------------------------------|----------------------|---------------------------------------|---------------------------------|
| | | Teletext | 1000Pages | |
| | | Max Storage Channels | 100CH | |
| | Digital TV (DVB-T/T2/C/S/S 2) | Receiving Range | VHF(52.5MHz-219MHz) | |
| | | | UHF(474MHz-862MHz) | |
| | | Input impedance | 75Ω | |
| | | Channel bandwidth | 7MHZ/8MHZ | |
| | | Modulation | DVB-T | COFDM 2K/8K QPSK,16QAM,64QAM |
| | | | DVB-T2 | QPSK,16QAM,64QAM,256QAM |
| | | | *DVB-C | 16QAM,32QAM,64QAM,128QAM,256QAM |
| | | | *DVB-S/S 2 | QPSK, 8PSK,16APSK |
| | | Video system | MPEG-2, MPEG-4, H.264, H.265,AVS | |
| | | Sound system | MPEG-1 layer 1/2, MPEG-2 layer 2, DRA | |
| | | Basic function | EPG, Subtitle | |
| | | Max Storage Channels | >800CH(dynamic) | |

3.2 FEATURE 2(特性说明2)

| | | | |
|-------------------------|--------------|----------------------|---|
| Input Signal (输入信号) | AV | CVBS | Video system: PAL /NTSC /SECAM Video Level: 1.0Vp-p +/-5% |
| | Analog RGB | MODE | Max. 1920*1080 |
| | | Signal | 0.7Vp-p@75ohm |
| | | H-Frequency | 30—80KHz |
| | | V-Frequency | 56—75Hz |
| | HDMI | Version | HDMI1&HDMI3(2.0), HDMI2(1.4a) |
| | | HDCP | HDCP 2.2 compliant receiver |
| | | Format | 480i,480P,576i,576p,720p,1080i,1080p,3840x2160@60hz |
| | YUV | Signal | Y: 1Vp-p@75ohm UV :0.7Vp-p@75ohm |
| | | Format | 480i,480P,576i,576p,720p,1080i,1080p |
| | CVBS Audio | L/R RCA Input | 0.2- 2.0 Vrms |
| | YPBPR Audio | | |
| Output Signal (输出信号) | Audio Output | Fre.q Response | 100Hz-15KHz @±3dB (1KHz, 0dB reference signal) |
| | | AMP Max Output power | 2x8W(8Ω) THD+N<5% Max:2X10W(8Ω) THD+N<7% Audio Input: 1KHz @0.5Vrms |

| | | | |
|--------------------------|-----------------|--|---------------------------|
| Power (电源) | Input | AC 110V~ 240V SUPPLY | |
| | Manage | Standby<0.5W | |
| | Panel Voltage | 12V | |
| Picture (图像) | Video decoder | H/W auto multi-standard detection and color decoding. High performance adaptive 3D comb filter for Y/C separation. Handling of weak and noisy off-air signals. Support 3-ch for CVBS and S-Video output. | |
| | De-interlace | 3D De-interlacing with Low Angle Detection | |
| | Noise Reduction | MPEG De-block&De-ringing noise reduction | |
| | Picture Enhance | Digital hut,saturation,brightness and contrast adjustments . Support DLTI/DCTI video-quality improvement. Support Black/white level extension and ACC. Support 2D Y peaking filter and coring. sRGB compliance and Gamma correction. | |
| | Scaling | Support 4:3 / 16:9 with Non-linear scaling Advanced Scaling Engine | |
| Other (其他) | OSD language | English. | |
| | Key definition | VOL-、VOL+、CH-、CH+、MENU、SOURCE、POWER | |
| Interface (接口) | Input | ATV/DTV | 2 IEC 75 Ω |
| | | CVBS | 1 RCA terminal |
| | | YPBPR | 1 headphone terminal |
| | | CVBS@YPBPR Audio | 2 RCA terminal |
| | | HDMI | 3 HDMI terminal |
| | | USB Slot | 1 USB2.0 Slot(Horizontal) |
| | | | 1 USB3.0 Slot(Horizontal) |
| | | LAN | 1 RJ45 terminal |
| | Output | Coax | 1 RCA terminal(orange) |

3.3 HARDWARE CONFIGURATION （硬件配置）

| | | | |
|-----------------------|---|-------------------------|--|
| OS | Android 7.1（AOSP） | | |
| CPU | ARM cortex –A53*4 | | |
| GPU | IMG GE7800 | | |
| CPU Frequency | 1.1 GHz | | |
| GPU Frequency | 500MHz | | |
| DDR SIZE | embedded(512MB) with external 512MBx2（*512MB+256MB可选） | | |
| eMMC flash | 4GB(*Max:32GB) | | |
| WLAN (WIFI) | Max Data Rate | 150Mbps（1T1R WIFI） | |
| | | 300Mbps（*2T2R WIFI） | |
| | Operating Frequency | 2.4GHz（1T1R WIFI） | |
| | | 2.4GHz/5GHz（*2T2R WIFI） | |

| | | |
|---|--------------------------------------|--|
| | Communications Standard | IEEE 802.11b/g/n |
| *Bluetooth (2.4G WIFI+BT) Model:RTL8723 | Max Data Rate | 1 Mbps for Basic Rate 2,3 Mbps for Enhanced Data Rate |
| | Operating Frequency | 2.4GHz |
| | Communications Standard | V2.1+EDR/BT v3.0/BT v4.0 |
| *Bluetooth (2.4G +5GWIFI+BT) Model:RTL8822B U | Max Data Rate | 1 Mbps, 2 Mbps,3 Mbps |
| | Operating Frequency | 2.4GHz |
| | Communications Standard | V4.1 |
| RJ45 NETWORK | 10/100M auto-identification and DHCP | |

Note: Licenses involved in specifications above are supposed to be obtained by customers themselves.

注意：以上规格涉及 License 部分需客户自己获取。

4.MEDIA PLAYER FORMAT(媒体播放格式)

媒体播放格式，请参考附件

| RT2871 音视频支持列表 | | | | | | |
|----------------|-----------------------|------------|---------|--------------------|-----------|----|
| 1:视频解码支持列表 | | | | | | |
| P/N | Video Decoder | Resolution | Max fps | Max bltrate (Mbps) | Bit depth | 支持 |
| MPEG1/2/4 | MPEG1 | 1920x1080 | 60 | 50M | 8 | V |
| | MPEG2 MP@HL | 1920x1080 | 60 | 100M | 8 | V |
| | MPEG4 SP@HL 3.0 | 1920x1080 | 60 | 100M | 8 | V |
| | MPEG4 ASP@HL 4.0 | 1920x1080 | 60 | 100M | 8 | V |
| H.264 | H.264 BP LV 4.0 | 1920x1080 | 30 | 50M | 8 | V |
| | H.264 MP LV4.0 | 2048x1080 | 60 | 160M | 8 | V |
| | H.264 HP LV 4.0 | 2048x1080 | 60 | 160M | 8 | V |
| | H.264 MP LV 5.1 | 4096x2160 | 30 | 250M | 8 | V |
| | H.264 HP LV 5.1 | 4096x2160 | 30 | 250M | 8 | V |
| H.265 | H.265Main profile 4.1 | 2048x1080 | 60 | 160M | 8 | V |
| | H.265Main 10 pro.4.1 | 2048x1080 | 60 | 160M | 8/9/10 | V |
| | H.265Main profile 5.0 | 4096x2160 | 30 | 250M | 8 | V |
| | H.265Main 10 pro.5.0 | 4096x2160 | 30 | 250M | 8/9/10 | V |
| | H.265Main profile 5.1 | 4096x2160 | 60 | 250M | 8 | V |

| | | | | | | |
|-------------|--------------------------|-----------|----|------|--------|---|
| | H.265Main 10 pro.5.1 | 4096x2160 | 60 | 250M | 8/9/10 | V |
| | h.265 still picture pro. | 8192x4096 | NA | NA | 8 | V |
| Geneic | Motion JPEG | 1920x1080 | 60 | 60M | 8 | V |
| WMV | Windows media video v9 | 1920x1080 | 60 | 100M | 8 | V |
| VC1 | VC-1 | 1920x1080 | 60 | 100M | 8 | V |
| VP8 | VP8 | 1920x1080 | 60 | 20M | 8 | V |
| VP9 | VP9 | 4096x2160 | 60 | 40M | 8 | V |
| RM | RV8 | 1920x1080 | 60 | 20M | 8 | V |
| | RV9 | 1920x1080 | 60 | 50M | 8 | V |
| | RV10 | 1920x1080 | 60 | 50M | 8 | V |
| AVS | AVS Ji zhun pro.6.0 | 1920x1080 | 60 | 50M | 8 | V |
| | AVS Plus | 1920x1080 | 60 | 50M | 8 | V |
| XVID | XVID | 1920x1080 | 60 | 50M | 8 | V |
| Sorenson | Sorenson H263 | 1920x1080 | 30 | 20M | 8 | V |
| Motion JPEG | M-JPEG | 1920x1080 | 60 | 60M | 8 | V |
| H.263 | H263V-M5/FW/FOU RCE/H263 | 1920x1080 | 60 | 20M | 8 | V |

| Audio Decode List | | |
|-------------------|--------------------------------------|----|
| PN | Audio Decoder | 支持 |
| PCM | WAV:PCM/AADPCM/A -law PCM /u-law PCM | V |
| | ADPCM IMA4 | V |
| AMR | AMR-NB,AAMR-WB/AMR-WB+ | NA |
| LPCM | DVD LPCM | NA |
| RA | COOK:COOK(RealAudio6) | NA |
| MPEG1/2/4 | MPEG1 Layer1/2 | V |
| | MPEG2 | V |
| | MP3 | V |
| AAC | MPEG2 AAC | V |
| | MPEG4 AAC-LC | V |
| | MPEG4 HE-AAC V1/V2 | V |
| | Raac:MPEG4 AAC-LC | V |

| | | |
|----------------|--|---|
| | Racp: mpeg4 he-aac v2 | V |
| WMA | WMA V7 | V |
| | WMA V8 | V |
| | WMA V9 | V |
| | WMA V9 | V |
| Dolby AC3 | AC3 | V |
| | Dolby Digital EX,Dolby Digital Plus,Dolby TrueHD | V |
| | Dnet:AC3 | V |
| | | |
| Dolby Eac3 | Dolby Digital PLUS | V |
| | Dolby Digital Plus,Dolby lossless | V |
| Dolby MS11 | NO-HEAAC | V |
| | | |
| Dolby MS12 | Config-A/B/D | V |
| | Config-LC | V |
| Dolby AC4 | | V |
| | | V |
| Dolby ATMOS | | V |
| | | V |
| DTS | DTS | V |
| | M6 | V |
| | DTS.DTS HD | V |
| | DTS,DTS HD ,DTS HD LBR | V |
| | ?? NEW | V |
| DRA | DRA | V |
| FLAC | FLAC | V |
| | FLAC(96h2) | V |
| VORBIS | VORBIS | V |

| Image Decoder | | | |
|-------------------|-----------|-------------|----|
| File Extension | Contalner | Data Type | 支持 |
| *.jpg | JPEG | Baseline | V |
| | | Progresslve | V |
| *.bmp | BMP | | V |
| *png | PNG | | V |
| *.gif | GIF | Static | V |

| | | | |
|------|-----|-------------|---|
| .mpo | MPO | 3d | V |
| .jps | JPS | 3d baseline | V |
| .pns | PNS | 3d | V |

Note1: Licenses are required for Divx,MPEG,H.264,AC3, MP3,WMA and ACC.

5. SUBSTITUTABLE PRIMARY MATERIALS(主要材料替代物料说明)

5.1 GENERAL MATERIALS(一般材料)

Including SMT capacitors, SMT resistors, diodes, transistors, MOSFET, connectors, common inductance, electrolytic capacitor, PCB etc., and having no obvious changes in appearance or color. Our company has two or three alternative suppliers with these materials; maybe we will alternative use these materials for follow-up mass production due to delivery time, stock or other reasons. We no longer notice your company the alternative materials used. If necessary, you can apply for using related materials (mention as above) in samples stage.

(Note: The alternative materials which have been accepted by our materials Confirmation department and PP will enter our system.)

包括贴片电容, 贴片电阻, 二极管, 晶体管, MOSFET, 连接器, 常见的电感, 电解电容, 印刷电路板等, 并具有在外观或颜色没有明显变化。我们有两个或三个备选供应商提供这些材料;也许我们会交替使用, 由于交货时间, 库存或其他原因, 这些材料为后续批量生产。如果贵公司有所使用的替代材料, 可以在样品阶段申请使用相关材料。

(注: 已接受了我们的材料确认部门和 PP 将进入我们的系统的替代材料。)

5.2 KEY MATERIALS(关键材料)

The table is for reference only, the actual is the standard.

该表仅供参考, 以实际为准。

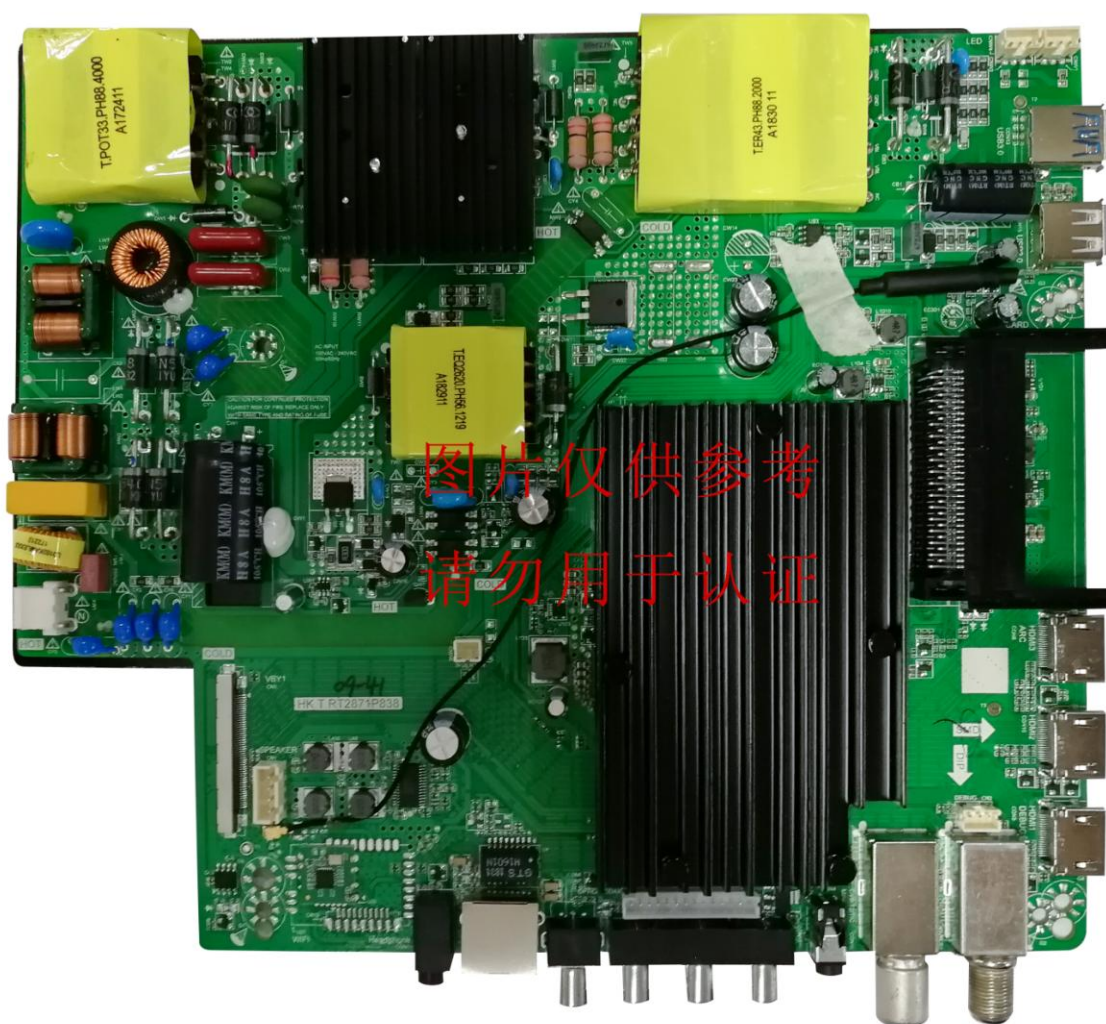
| NAME | TYPE | BRAND | BACKUP TYPE | BACKUP BRAND |
|------------|----------------------|---------|----------------------|--------------|
| FLASH/EMMC | THGBMDG5D1LB AIL | TOSHIBA | H26M41204HPR | Hynix |
| DDR | NT5CC128M16JR- EK | NANYA | NT5CB256M16DP -DI | NANYA |
| LDO | AP1117-ADJ | AP | BL1117 | BL |
| | | | BCD1117 | BCD |
| CRYSTAL | 'X-24.000MHz | ML | 'X-27.000MHz | FL |
| DC_DC | SY8113BADC | SILERGY | XC8112B | 创新科技 |
| | SY8120B1ABC | SILERGY | XC8113 | 创新科技 |

| | | | | |
|-----|------------|---------|------------|-----|
| | SY8368AQQC | SILERGY | | |
| AMP | AD52060 | ESMT | TPA3110LD2 | TI |
| | | | RDA3118E | 锐迪科 |

说明：备用的规格型号可以为多种。

6. FUNCTION LAYOUT(功能布局图)

6.1 THE TOP VIEW OF HK.T.RT2871P838X(顶视图)



7. PCB DIMENSION AND CONFIGURABLE(电路板尺寸配置图)

7.1 PCB DIMENSION(尺寸)

PCB Height=20.00mm

PCB Length=240.00mm

PCB Width=205.00mm

PCB Screw Bore Size: Diameter is 3.5mm

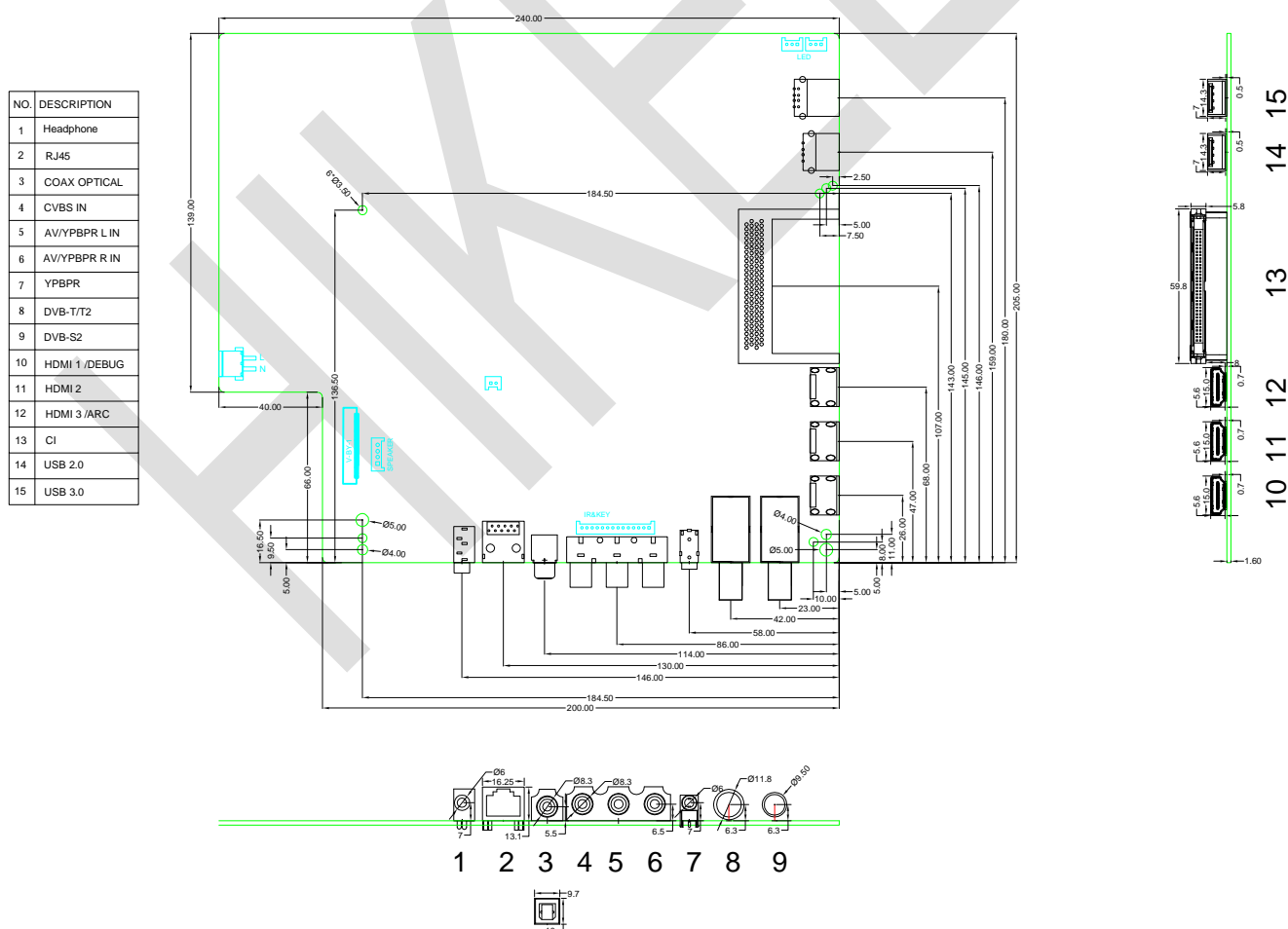
7.2 CONFIGURABLE(配置说明)

The structure chart is for a reference only; the actual item is the standard.

Jack configuration can be adjusted according to your jack terminal, it just depends on your board basic, and the final bracket Configuration is determined by the practical sample.

按照标准配置分别制作结构图

7.3 THE STRUCTURE CHART FOR LED CONTROL BOARD(配置图)

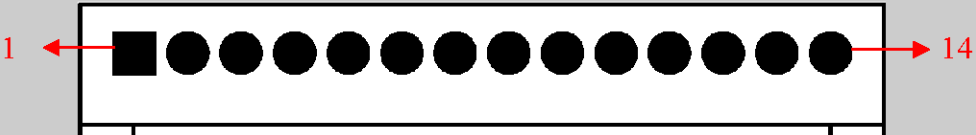


8. INTERFACE DEFINITION(接口定义)


Below, please see the definition and description from left PIN to right PIN or from up PIN to down PIN.

Below, please see the definition and description from left PIN to right PIN or from up PIN to down PIN.

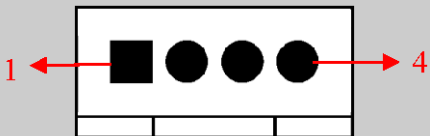
◆ CN5 (14Pin / 2.0): TO IR/KEY BOARD

|  | | |
|--|------------|-----------------|
| NO | DEFINITION | DESCRIPTION |
| 1 | 5V | 5V Power Supply |
| 2 | R | Red Indicator |
| 3 | G | Green Indicator |
| 4 | IR | Remote Receive |
| 5 | GND | GND |
| 6 | K0 | SOURCE |
| 7 | K1 | MENU |
| 8 | K2 | P+ |
| 9 | K3 | P- |
| 10 | K4 | V+ |
| 11 | K5 | V- |
| 12 | K6 | POWER |
| 13 | K7 | NC |
| 14 | GND | Ground |

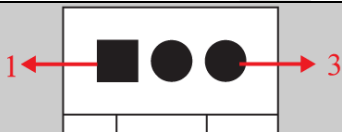
◆ CNW6 (2 Pin / 2.0): INVERTER

|  | | |
|---|------------|--------------|
| NO | DEFINITION | DESCRIPTION |
| 1 | 12V | Power Supply |
| 2 | GND | Ground |


◆ CN1 (4 Pin / 2.54): Audio OUT

|  | | |
|--|------------|--------------------------|
| NO | DEFINITION | DESCRIPTION |
| 1 | LP | Left Positive audio Out |
| 2 | LN | Left Negative audio Out |
| 3 | RN | Right Negative audio Out |
| 4 | RP | Right Positive audio Out |

◆ CN2 (3 Pin / 2.0): TO DEBUG

|  | | |
|---|------------|-------------------------|
| NO | DEFINITION | DESCRIPTION |
| 1 | TX | Serial Data Transmitter |
| 2 | RX | Serial Data Receive |
| 3 | GND | Ground |

◆ CN3 (51 Pin / 0.5FIR): TO V-by-one

|  | | | |
|--|------------|----|------------|
| NO | DEFINITION | NO | DEFINITION |
| 1 | Vin | 27 | GND |
| 2 | Vin | 28 | RX0N |
| 3 | Vin | 29 | RX0P |
| 4 | Vin | 30 | GND |
| 5 | Vin | 31 | RX1N |
| 6 | Vin | 32 | RX1P |
| 7 | Vin | 33 | GND |
| 8 | Vin | 34 | RX2N |
| 9 | NC | 35 | RX2P |
| 10 | GND | 36 | GND |

| | | | |
|----|-------|----|------|
| 11 | GND | 37 | RX3N |
| 12 | GND | 38 | RX3P |
| 13 | GND | 39 | GND |
| 14 | GND | 40 | RX4N |
| 15 | NC | 41 | RX4P |
| 16 | NC | 42 | GND |
| 17 | NC | 43 | RX5N |
| 18 | SDA | 44 | RX5P |
| 19 | SCL | 45 | GND |
| 20 | NC | 46 | RX6N |
| 21 | NC | 47 | RX6P |
| 22 | LD_EN | 48 | GND |
| 23 | NC | 49 | RX7N |
| 24 | NC | 50 | RX7P |
| 25 | HTPDN | 51 | GND |
| 26 | LOCKN | | |

9. ELECTRICAL CHARACTERISTICS(电气特性)

9.1 AC INPUT CHARACTERISTICS(AC输入特性)

| Input | Minimum | Nominal | Maximum | Unit |
|---------------------------|---|---------|---------|------|
| Voltage | 100 | 110-240 | 264 | V |
| Current | --- | --- | 2.0 | A |
| Frequency range | 50/60±5% | | | Hz |
| Efficiency(Full Load) | 80%minimum at 220Vac | | | |
| Standby Power Consumption | ≤0.5W; 240Vac input and no load condition | | | |
| Inrush Current | 50A _{typ} peak, 110Vac ;100A _{typ} peak, 240Vac | | | |
| Leakage Current | Less Than 0.7mA, 240Vac input | | | |
| Input Fuse | T5AL/250Vac | | | |

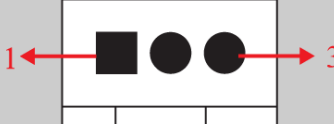
9.2 LED INPUT CHARACTERISTICS(LED输入特性)

| Parameter 参 数 | Symbol 符 号 | Min 最小值 | Typical 典型值 | Max 最大值 | Unit 单 位 | Remark 备 注 |
|------------------|---------------|------------|----------------|------------|-------------|----------------------------------|
| INPUT VOLTAGE | Von/off | | 0 | 0.8 | V | Off State |
| | | 2.5 | - | 3.3 | V | On State |
| ADJ VOLTAGE | Vadj | 0 | - | 3.3 | V | Vadj=0V 最亮 |
| EFFICIENCY | η | 80 | - | - | % | Von/off=3.3V Vadj=0V,RL=Panel |

*Vadj采用直流调光，调光频率范围：22 KHz-28KHz;

9.3 LED DRIVER POWER OUTPUT CONNECTOR (LED驱动电源输出连接器)

◆ CNW1/CNW2/CNW3/CNW4(3 pin 2.0 立式):

|  | |
|---|------------|
| NO. | DEFINITION |
| 1 | LED- |
| 2 | LED- |
| 3 | LED+ |

Note: With Power of constant current part less than 100W

9.4 OUTPUT PROTECTION SPECIFICATION (输出保护)

| Signal Name | LED Short Protection | LED Open Protection |
|----------------|----------------------|---------------------------|
| | Specification | Specification |
| LED output | Auto restart | Shut down or auto restart |

10. FUSE PROTECTION(保护措施)

The Fuse inside the power supply shall open when the AC input current is over the rated current of fuse. This Fuse protection will cause switching power supply to fail.

10.1 SAFETY(安全)

The power supply shall compliance with the following Criterion:

- 1) UL60950/UL60065
- 2) EN60950/EN60065
- 3) GB4943-19950/GB8898-2001

10.2 ISOLATION(隔离)

HI-POT

| | |
|-----------------|---|
| Input To Output | 3000Vac 50Hz 1minute $\leq 10\text{mA}$ |
| Input To FG | 3000Vac 50Hz 1minute $\leq 10\text{mA}$ |
| Output To FG | Non Isolated |

INSULATION RESISTANCE

| | |
|-----------------|---|
| Input To Output | DC500V 50M Ω min (at room temperature) |
| Input To FG | DC500V 50M Ω min (at room temperature) |
| Output To FG | Non Isolated |

11. CONFIGURATION & GENERAL PRECAUTIONS (使用注意事项)

Relative Humidity: $\leq 80\%$

相对湿度: $\leq 80\%$ 。

Storage Temperature: $-10 \sim +60^{\circ}\text{C}$

存储温度: $-10 \sim +60^{\circ}\text{C}$ 。

Operation Temperature: $0 \sim +40^{\circ}\text{C}$

使用温度: $0 \sim +40^{\circ}\text{C}$ 。

Keep the board away from conductor, static electricity and water when it is working.

请确保板卡工作时远离导体，静电和水。

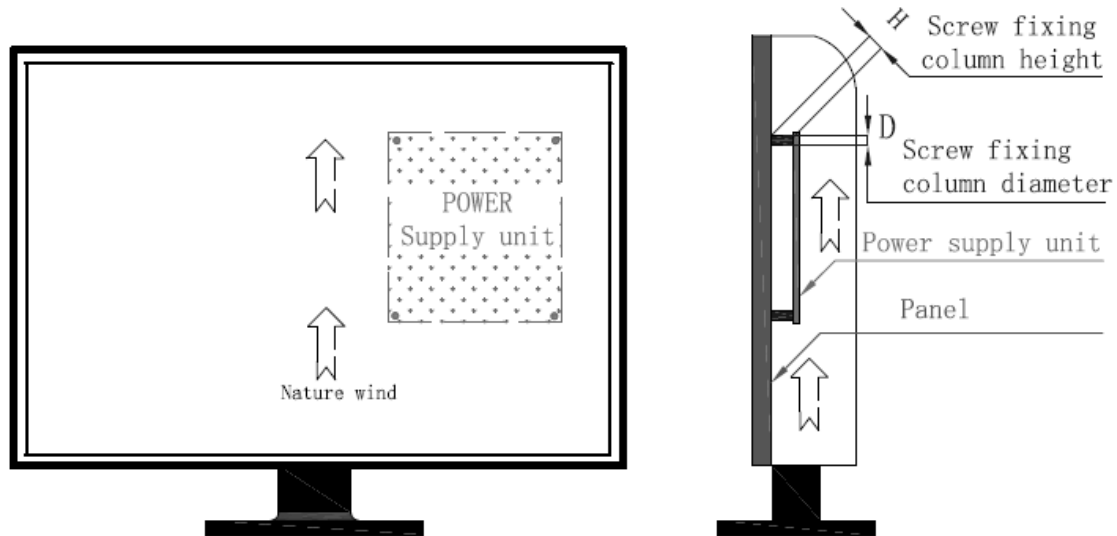
Don't push or pull the connectors when the board is working.

板卡工作时请勿按压和扭曲。

Clean the board with soft dry cloth when it's dirty.

如果板卡脏了，请用干布擦拭。

12. MOUNT PRECAUTIONS(注意事项)

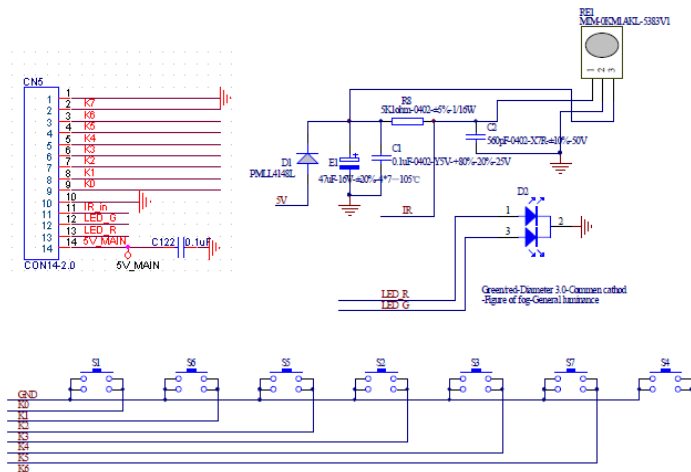


Note:

a、The H should be greater than or equal 8mm, otherwise you must add the mylar under PCB bottom.

b、The D should be less than 8mm. Mount the power supply unit to the screw fixing column using M3 screw. The maximum value of the tightening torque is 0.4N-M

13. IR, KEY BOARD SCHEMATIC(遥控、按键板原理图)



按键功能：信号源，菜单，音量+，音量-，频道+，频道-，电源

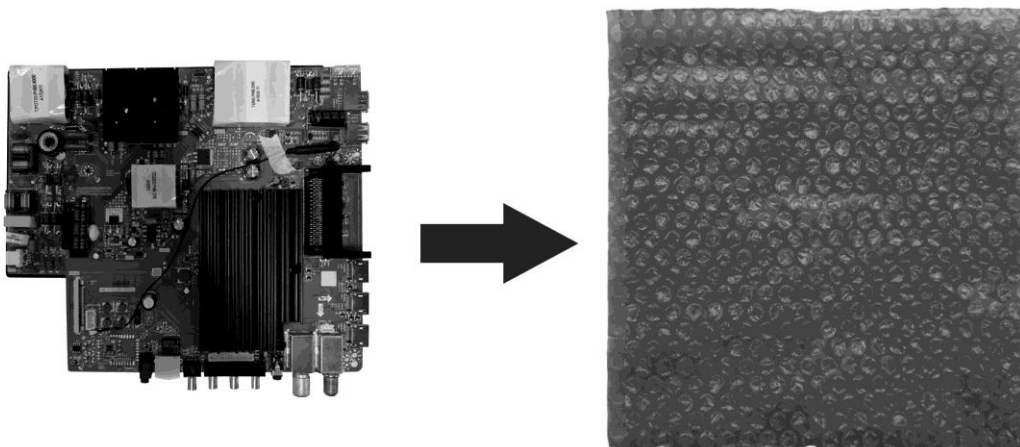
KEY FUNCTION: TV/AV, MENU, VOL+, VOL-, CH+, CH-, POWER

Note: The dividing resistor which is corresponding to the power key must be zero(equivalent to the voltage

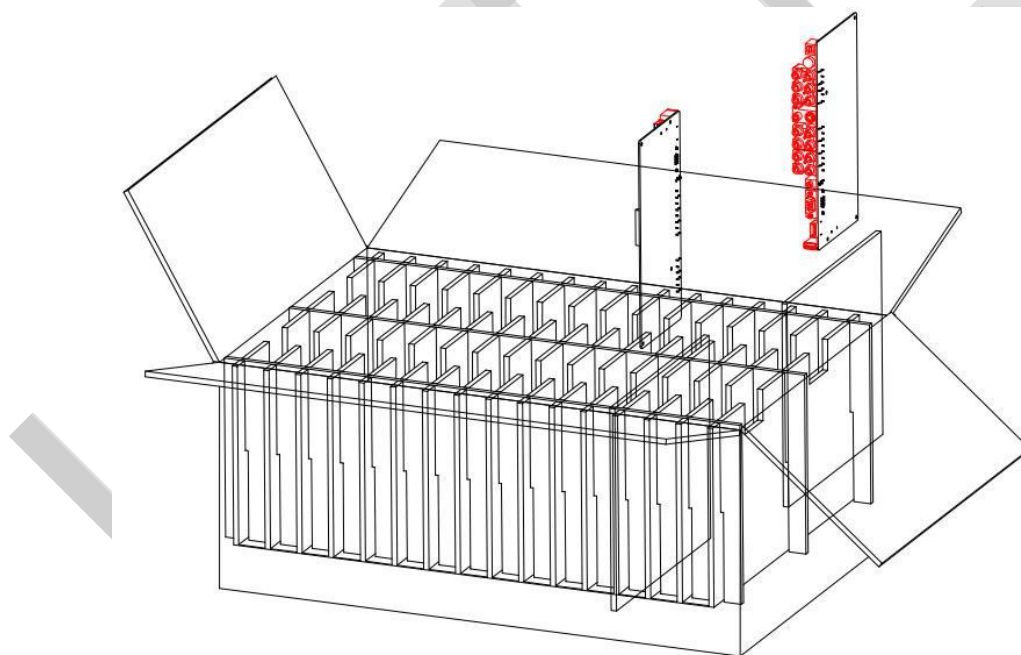
is zero). Otherwise, the board will not work. K6 is default power.

14. BOARD PACKAGING SPECIFICATION (板卡包装规格)

1.所有板卡必须采用防静电气泡袋，操作过程中必须采取静电防护，禁止板卡直接接触纸箱；



2.将装有板卡的气泡袋放入纸箱的槽格中，要求所有端子必须靠纸箱内侧和上方，禁止端子向下（如高频头、同轴等;如图红色为端子）；



| 气泡袋尺寸 | | 纸箱尺寸 | | | 单位 | 装箱数量 |
|-------|-------|-------|-------|-------|-----|------|
| 长(cm) | 宽(cm) | 长(cm) | 宽(cm) | 高(cm) | | |
| 30 | 30 | 69.5 | 32 | 30 | PCS | 20 |

3. 纸箱材质要求:

3.1 应符合 GB13023《瓦楞纸板》、GB13024《箱纸板》的规定（图纸有规定以图纸为准）

| 用途 | 纸板 | 瓦楞楞型 | 耐破强度 kgf/cm ² | 边压强度 kgf/cm | 戳穿强度 kg*cm | 含水率% |
|----|-----|------|-----------------------------|----------------|---------------|------|
| 纸箱 | K=A | BC | 12 | 8 | 90 | 9%±1 |
| 刀卡 | A=B | BC | 8 | 5.5 | 45 | 9%±1 |
| 平卡 | A3A | BC | 8 | 6.5 | 60 | 9%±1 |

3.2 防静电袋要求表面阻抗 $10^8\Omega\sim10^{11}\Omega$;