



深圳市海天雄电子有限公司  
Shenzhen Haitianxiong Electronic Co., Ltd.

# CES-6818-CORE (插针型)

## 产品手册

ARM 核心板

Rev. V1.0

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## 介绍

CES-6818 核心板是一款低功耗、高性能的嵌入式 ARM 主板,使用 Samsung 高端主流 ARM 处理器 S5P6818: 64 位 Cortex-A53 八核 CPU, 主频 1.4~1.6GHz, 拥有 2\*512KByte 二级缓存, 采用 28nm 制作工艺, 配备 Mali-400GPU, 具有高内存带宽, 全高清显示, 1080P 硬件编解码, 高速接口等特点, 性能强大。

该核心板集合了 S5P6818 处理器、内存单元、EMMC 存储单元、PMU 电源管理单元和千兆以太网等核心部件, 提供丰富的功能接口, 支持 LVDS 和 RGB 双路显示控制接口, HDMI1.4a 和 MIPI-DSI 接口, 提供四路 USB 2.0 HOST, 一路 USB OTG、五路 UART 串口, 提供可扩展的 GPIO 及其他外设接口。

CES-6818 核心板适用于不同的产品应用, 包括医疗设备、汽车电子、POS 一体机、触控一体机、工业控制设备、加油机自动终端设备、手持 PDA 及其他行业产品。

## 特性

- 基于 Samsung ARM Cortex™-A53 S5P6818 八核高性能处理器
- 配置 1GB DDR3 内存和 8GB eMMC 存储器
- 支持 LVDS、MIPI DSI、RGB、HDMI 等接口
- 支持 1080p 60fps 全高清视频硬件编解码及 3D 图形硬件
- 支持 Android5.1, Embedded Linux3.4, Ubuntu12.04 操作系统

## 规格

|                |  |
|----------------|--|
| <b>处理器</b>     |  |
| CPU            | Samsung ARM Cortex™ -A53 S5P6818 八核高性能处理器                                  |
| 缓存             | 32KB (Instruction) /32KB (Data) Cache and 1MB L2 Cache                     |
| <b>存储</b>      |  |
| 工艺             | 32-bit DDR3/LVDDR3 800MHz  |
| 容量             | 配置 1GB DDR3, 可选配 2GB DDR3  |
| Flash          | 配置 8GB eMMC  |
| <b>电源管理单元</b>  |  |
| 芯片组            | AXP228   |
| <b>B2B 连接器</b> |  |
| 连接器类型          | 精密广濂 0.5mm 双排 2*30PIN 连接器, 4 个   |
| 管脚数量           | 共计 240PIN  |
| 管脚功能           | POWER、GPIO、ADC、MIPI DSI/CSI、LVDS、RGB、HDMI、I2C、I2S、UART、SPI、USB、PWM、RESET 等 |
| <b>B2B 固定孔</b> |  |
| 固定孔            | 4  |
| <b>操作系统</b>    |  |
| 操作系统           | 支持 Android 5.1、Embedded Linux 3.4、Ubuntu12.04                              |
| <b>环境</b>      |  |
| 工作环境           | 温度: -10~60°C自然对流, 湿度: 5%~95%RH@31°C无冷凝                                     |
| 存储环境           | 温度: -40~85°C, 湿度: 5%~95%RH@39°C无冷凝   |
| <b>尺寸</b>      |  |
| 尺寸(mm)         | 42*58mm  |

## 管脚定义

| J1      |                 |                 |                                |          |
|---------|-----------------|-----------------|--------------------------------|----------|
| PIN NO. | Signal Name     | CPU Ball Number | CPU Ball Name                  | Remark   |
| 1       | GND             |                 |                                | 电源地      |
| 2       | GND             |                 |                                | 电源地      |
| 3       | GND             |                 |                                | 电源地      |
| 4       | GND             |                 |                                | 电源地      |
| 5       | MCU_CVBS_GND    |                 |                                | CVBS GND |
| 6       | MCU_CVBS_GND    |                 |                                | CVBS GND |
| 7       | MCU_CVBS_OUT    | AE2             | CVBS                           | CVBS OUT |
| 8       | MCU_CVBS_GND    |                 |                                | CVBS GND |
| 9       | MCU_CVBS_GND    |                 |                                | CVBS GND |
| 10      | MCU_CVBS_GND    |                 |                                | CVBS GND |
| 11      | GND             |                 |                                | 电源地      |
| 12      | GND             |                 |                                | 电源地      |
| 13      | GND             |                 |                                | 电源地      |
| 14      | MCU_USB-        | J24             | USB2.0OTG_DM                   | USB OTG  |
| 15      | GND             |                 |                                | 电源地      |
| 16      | MCU_USB+        | J25             | USB2.0OTG_DP                   | USB OTG  |
| 17      | MCU_USB_HOST_D- | L24             | USB2.0HOST_DM                  | USB HOST |
| 18      | MCU_USB_ID      | H25             | USB2.0OTG_ID                   | USB OTG  |
| 19      | MCU_USB_HOST_D+ | L25             | USB2.0HOST_DP                  | USB HOST |
| 20      | MCU_OTG_PWRON   | AB21            | GPIOC28/ NSCS1/ UARThRI1       | USB OTG  |
| 21      | GND             |                 |                                | 电源地      |
| 22      | GND             |                 |                                | 电源地      |
| 23      | MCU_SDA_0       | AC19            | GPIOD3/ SDA0/ ISO7816          | I2C      |
| 24      | MCU_HDMI_CEC    | W18             | SA3/ GPIOC3/ HDMI_CEC/ SDnRST0 | HDMI     |
| 25      | MCU_SCL_0       | AC20            | GPIOD2/ SCL0/ ISO7816          | I2C      |
| 26      | MCU_HDMI_HPD    | U19             | HDMI_HOT5V                     | HDMI     |
| 27      | MCU_HDMI_TXCN   | A25             | HDMI_TXNCLK                    | HDMI     |
| 28      | MCU_HDMI_TX0N   | A24             | HDMI_TXN0                      | HDMI     |
| 29      | MCU_HDMI_TXCP   | B25             | HDMI_TXPCLK                    | HDMI     |
| 30      | MCU_HDMI_TX0P   | B24             | HDMI_TXP0                      | HDMI     |
| 31      | MCU_HDMI_TX1N   | A23             | HDMI_TXN1                      | HDMI     |
| 32      | MCU_HDMI_TX2N   | A22             | HDMI_TXN2                      | HDMI     |
| 33      | MCU_HDMI_TX1P   | B23             | HDMI_TXP1                      | HDMI     |
| 34      | MCU_HDMI_TX2P   | B22             | HDMI_TXP2                      | HDMI     |
| 35      | GND             |                 |                                | 电源地      |

|    |               |     |               |          |
|----|---------------|-----|---------------|----------|
| 36 | GND           |     |               | 电源地      |
| 37 | MCU_LVDS_CLKP | B16 | LVDS_TPCLK    | LVDS     |
| 38 | MCU_LVDS_Y3P  | B17 | LVDS_TP3      | LVDS     |
| 39 | MCU_LVDS_CLKM | A16 | LVDS_TNCLK    | LVDS     |
| 40 | MCU_LVDS_Y3M  | A17 | LVDS_TN3      | LVDS     |
| 41 | MCU_LVDS_Y2P  | B15 | LVDS_TP2      | LVDS     |
| 42 | MCU_LVDS_Y1P  | B14 | LVDS_TP1      | LVDS     |
| 43 | MCU_LVDS_Y2M  | A15 | LVDS_TN2      | LVDS     |
| 44 | MCU_LVDS_Y1M  | A14 | LVDS_TN1      | LVDS     |
| 45 | MCU_LVDS_Y0P  | C15 | LVDS_TP0      | LVDS     |
| 46 | GND           |     |               | 电源地      |
| 47 | MCU_LVDS_Y0M  | C14 | LVDS_TN0      | LVDS     |
| 48 | MIPIDSI_DP3   | B11 | MIPIDSI_DP3   | MIPI DSI |
| 49 | GND           |     |               | 电源地      |
| 50 | MIPIDSI_DN3   | A11 | MIPIDSI_DN3   | MIPI DSI |
| 51 | MIPIDSI_DP2   | B10 | MIPIDSI_DP2   | MIPI DSI |
| 52 | MIPIDSI_DP1   | B9  | MIPIDSI_DP1   | MIPI DSI |
| 53 | MIPIDSI_DN2   | A10 | MIPIDSI_DN2   | MIPI DSI |
| 54 | MIPIDSI_DN1   | A9  | MIPIDSI_DN1   | MIPI DSI |
| 55 | MIPIDSI_DP0   | B8  | MIPIDSI_DP0   | MIPI DSI |
| 56 | MIPIDSI_DPCLK | B7  | MIPIDSI_DPCLK | MIPI DSI |
| 57 | MIPIDSI_DN0   | A8  | MIPIDSI_DN0   | MIPI DSI |
| 58 | MIPIDSI_DNCLK | A7  | MIPIDSI_DNCLK | MIPI DSI |
| 59 | GND           |     |               | 电源地      |
| 60 | GND           |     |               | 电源地      |

## J2

| PIN NO | Signal Name | CPU Ball Number | CPU Ball Name | Remark   |
|--------|-------------|-----------------|---------------|----------|
| 1      | MIPICSI_DN3 | A5              | MIPICSI_DN3   | MIPI CSI |
| 2      | MIPICSI_DN2 | A4              | MIPICSI_DN2   | MIPI CSI |
| 3      | MIPICSI_DP3 | B5              | MIPICSI_DP3   | MIPI CSI |
| 4      | MIPICSI_DP2 | B4              | MIPICSI_DP2   | MIPI CSI |
| 5      | MIPICSI_DN1 | A3              | MIPICSI_DN1   | MIPI CSI |
| 6      | MIPICSI_DN0 | A2              | MIPICSI_DN0   | MIPI CSI |
| 7      | MIPICSI_DP1 | B3              | MIPICSI_DP1   | MIPI CSI |
| 8      | MIPICSI_DP0 | B2              | MIPICSI_DP0   | MIPI CSI |

|    |                     |      |                                  |             |
|----|---------------------|------|----------------------------------|-------------|
| 9  | MIPICSI_DNCLK       | A1   | MIPICSI_DNCLK                    | MIPI CSI    |
| 10 | GND                 |      |                                  | 电源地         |
| 11 | MIPICSI_DPCLK       | B1   | MIPICSI_DPCLK                    | MIPI CSI    |
| 12 | SPEED_LED           |      |                                  | 以太网指示灯      |
| 13 | GND                 |      |                                  | 电源地         |
| 14 | LINK_LED            |      |                                  | 以太网指示灯      |
| 15 | MDI0_P              |      |                                  | 以太网信号       |
| 16 | MDI1_P              |      |                                  | 以太网信号       |
| 17 | MDI0_N              |      |                                  | 以太网信号       |
| 18 | MDI1_N              |      |                                  | 以太网信号       |
| 19 | MDI2_P              |      |                                  | 以太网信号       |
| 20 | MDI3_P              |      |                                  | 以太网信号       |
| 21 | MDI2_N              |      |                                  | 以太网信号       |
| 22 | MDI3_N              |      |                                  | 以太网信号       |
| 23 | GND                 |      |                                  | 电源地         |
| 24 | GND                 |      |                                  | 电源地         |
| 25 | MCU_CAM1_D7         | V19  | GPIOB10/VID1[7]/SDEX7/I2SDIN2    | CAMERA/GPIO |
| 26 | GPIOB8              | V20  | GPIOB8/VID1[5]/SDEX5/I2SDOUT2    | GPIO/CAMERA |
| 27 | MCU_CAM1_D4         | R19  | GPIOB6/VID1[4]/SDEX4/I2SDOUT1    | CAMERA/GPIO |
| 28 | MCU_CAM1_D3         | R20  | GPIOB4/VID1[3]/SDEX3/I2SLRCK2    | CAMERA/GPIO |
| 29 | MCU_CAM1_D2         | P19  | GPIOB2/VID1[2]/SDEX2/I2SBCLK2    | CAMERA/GPIO |
| 30 | MCU_CAM1_D1         | P20  | GPIOB0/VID1[1]/SDEX1/I2SLRCK1    | CAMERA/GPIO |
| 31 | MCU_CAM1_D0         | N19  | GPIOA30/VID1[0]/SDEX0/I2SBCLK1   | CAMERA/GPIO |
| 32 | MCU_CAM0_D7         | AE11 | GPIOE3/VID0[7]/TSIDATA1[7]       | CAMERA      |
| 33 | MCU_CAM0_D6         | AD10 | GPIOE2/VID0[6]/TSIDATA1[6]       | CAMERA      |
| 34 | MCU_CAM0_D5         | AE9  | GPIOE1/VID0[5]/TSIDATA1[5]       | CAMERA      |
| 35 | MCU_CAM0_D4         | AB9  | GPIOE0/VID0[4]/TSIDATA1[4]       | CAMERA      |
| 36 | MCU_CAM0_D3         | AC11 | GPIOD31/VID0[3]/TSIDATA1[3]      | CAMERA      |
| 37 | MCU_CAM0_D2         | AD9  | GPIOD30/VID0[2]/TSIDATA1[2]      | CAMERA      |
| 38 | MCU_CAM0_D1         | AC9  | GPIOD29/VID0[1]/TSIDATA1[1]      | CAMERA      |
| 39 | MCU_CAM0_D0         | AA9  | GPIOD28/VID0[0]/TSIDATA1[0]/SA24 | CAMERA      |
| 40 | MCU_CAM0_HSYN<br>C  | AA11 | GPIOE5/VIHSYNC0/TSISYNC1         | CAMERA      |
| 41 | MCU_CAM0_VSYN<br>C  | AD11 | GPIOE6/VIVSYN0/TSIDP1            | CAMERA      |
| 42 | MCU_CAM0_PCLK       | AE10 | GPIOE4/VICLK0/TSICLK1            | CAMERA      |
| 43 | MCU_CAMERA_M<br>CLK | W13  | SA13/GPIOC13/PWM1/SDnINT2        | CAMERA      |
| 44 | MCU_CAMERA_PN       | AC22 | SA4/GPIOC4/UARTrnDCD1/SDnINT0    | CAMERA      |

|    |                |      |                                 |            |
|----|----------------|------|---------------------------------|------------|
| 45 | MCU_CAMERA_RST | AD22 | SA5/GPIOC5/UARTnCTS1/SDWP0      | CAMERA     |
| 46 | MCU_CAMERA_PD  | AE22 | SA6/GPIOC6/UARTnRTS1/SDnCD0     | CAMERA     |
| 47 | GND            |      |                                 | 电源地        |
| 48 | GND            |      |                                 | 电源地        |
| 49 | SPDIF_TX       | AC21 | nSWAIT/GPIOC25/SPDIFTX          | SPDIF      |
| 50 | SPDIF_RX       | AE12 | LATADDR/GPIOC24/SPDIFRX/VID2[7] | SPDIF      |
| 51 | MCU_NRESETIN   | AE3  | nRESET                          | nRESET     |
| 52 | IR             | Y12  | GPIOD8/PPM                      | GPIO/PPM   |
| 53 | MCU_NRESETOUT  | AB7  | nGRESETOUT                      | NGRESETOUT |
| 54 | GND            |      |                                 | 电源地        |
| 55 | GND            |      |                                 | 电源地        |
| 56 | ADC0           | AD2  | ADC0                            | ADC        |
| 57 | ADC1           | AB5  | ADC1                            | ADC        |
| 58 | ADC3           | AD6  | ADC3                            | ADC        |
| 59 | ADC4           | Y9   | ADC4                            | ADC        |
| 60 | ADC5           | W9   | ADC5                            | ADC        |

### J3

| PIN NO. | Signal Name   | CPU Ball Number | CPU Ball Name                     | Remark      |
|---------|---------------|-----------------|-----------------------------------|-------------|
| 1       | MCU_I2S_SDIN  | AC15            | GPIOD11/I2SDIN0/AC97_DIN          | I2S AUDIO   |
| 2       | MCU_I2S_SDOUT | AD15            | GPIOD9/I2SDOUT0/AC97_DOUT         | I2S AUDIO   |
| 3       | MCU_I2S_MCLK  | AA15            | GPIOD13/I2SMCLK0/AC97_nRST        | I2S AUDIO   |
| 4       | MCU_I2S_BCK   | AB15            | GPIOD10/I2SBCLK0/AC97_BCLK        | I2S AUDIO   |
| 5       | MCU_I2S_LRCK  | AC17            | GPIOD12/I2SLRCK0/AC97_SYNC        | I2S AUDIO   |
| 6       | GND           |                 |                                   | 电源地         |
| 7       | MCU_SCL_1     | AB17            | GPIOD4/SCL1                       | I2C         |
| 8       | MCU_SCL_2     | AC18            | GPIOD6/SCL2                       | I2C         |
| 9       | MCU_SDA_1     | AB18            | GPIOD5/SDA1                       | I2C         |
| 10      | MCU_SDA_2     | AB19            | GPIOD7/SDA2                       | I2C         |
| 11      | GND           |                 |                                   | 电源地         |
| 12      | GND           |                 |                                   | 电源地         |
| 13      | MCU_KEY_VOLDN | AC24            | SD15/GPIOB31/TSIDATA0[7]          | 按键 (音量-)    |
| 14      | MCU_KEY_VOLUP | AD24            | SD14/GPIOB30/TSIDATA0[6]          | 按键 (音量+)    |
| 15      | MCU_PWRKEY    | AE6             | nVDDPWRTOGGLE                     | 按键 (电源)     |
| 16      | MCU_TOUCH_INT | AE24            | SD13/GPIOB29/TSIDATA0[5]/UARTTXD4 | 中断 (TOUCH)  |
| 17      | MCU_SEN0_INT  | AE25            | SD12/GPIOB28/TSIDATA0[4]/UARTRXD4 | 中断 (SENSOR) |

|    |              |      |  |            |
|----|--------------|------|--|------------|
| 18 | MCU_HP_DET   | AD25 | SD11/GPIOB27/TSIDATA0[3]                   | 中断 (AUDIO) |
| 19 | MCU_VG_EN    | W16  | SA10/GPIOC10/SPIFRM2                       | 控制引脚 (LCD) |
| 20 | GPIOB25      | AB25 | SD9/GPIOB25/TSIDATA0[1]                    | GPIO       |
| 21 | GND          |      |  | 电源地        |
| 22 | GND          |      |  | 电源地        |
| 23 | MCU_SD1_CLK  | AA20 | GPIOD22/SDCLK1                             | SD/MMC     |
| 24 | MCU_SD1_CMD  | AA19 | GPIOD23/SDCMD1                             | SD/MMC     |
| 25 | MCU_SD1_D0   | AA18 | GPIOD24/SDDAT1[0]                          | SD/MMC     |
| 26 | MCU_SD1_D1   | AA17 | GPIOD25/SDDAT1[1]                          | SD/MMC     |
| 27 | MCU_SD1_D2   | Y15  | GPIOD26/SDDAT1[2]                          | SD/MMC     |
| 28 | MCU_SD1_D3   | Y14  | GPIOD27/SDDAT1[3]                          | SD/MMC     |
| 29 | GND          |      |  | 电源地        |
| 30 | GND          |      |  | 电源地        |
| 31 | MCU_SD0_CD   | AA8  | AliveGPIO1                                 | SD/MMC     |
| 32 | MCU_SD0_CLK  | T24  | GPIOA29/SDCLK0                             | SD/MMC     |
| 33 | MCU_SD0_CMD  | U23  | GPIOA31/SDCMD0                             | SD/MMC     |
| 34 | MCU_SD0_D0   | T25  | GPIOB1/SDDAT0[0]                           | SD/MMC     |
| 35 | MCU_SD0_D1   | U24  | GPIOB3/SDDAT0[1]                           | SD/MMC     |
| 36 | MCU_SD0_D2   | U25  | GPIOB5/SDDAT0[2]                           | SD/MMC     |
| 37 | MCU_SD0_D3   | V24  | GPIOB7/SDDAT0[3]                           | SD/MMC     |
| 38 | GND          |      |  | 电源地        |
| 39 | GND          |      |  | 电源地        |
| 40 | MCU_SPI0_RXD | AD16 | GPIOD0/SPIRXD0/PWM3                        | SPI        |
| 41 | MCU_SPI0_TXD | AE16 | GPIOC31/SPITXD0                            | SPI        |
| 42 | MCU_SPI0_FRM | AD17 | GPIOC30/SPIFRM0                            | SPI        |
| 43 | MCU_SPI0_CLK | AE17 | GPIOC29/SPICLK0                            | SPI        |
| 44 | MCU_SPI_WP   | AC25 | SD10/GPIOB26/TSIDATA0[2]                   | SPI        |
| 45 | GND          |      |  | 电源地        |
| 46 | GND          |      |  | 电源地        |
| 47 | GPIOE13      | E14  | GPIOE13/GMAC_COL/VIHSYNC1                  | GPIO       |
| 48 | GPIOC11      | W14  | SA11/GPIOC11/SPIRXD2/USB2.0OTG_Drv<br>VBUS | GPIO       |
| 49 | GPIOC7       | AE21 | SA7/GPIOC7/UARtNDSR1/SDnRST1               | GPIO       |
| 50 | GPIOC12      | W15  | SA12/GPIOC12/SPITXD2/SDnRST2               | GPIO       |
| 51 | PWM2         | AD12 | SA14/GPIOC14/PWM2/VICLK2                   | PWM        |
| 52 | GND          |      |  | 电源地        |
| 53 | MCU_UART0_TX | AD19 | GPIOD18/UARtTXD0/ISO7816/SDWP2             | UART       |
| 54 | MCU_UART1_TX | AD18 | GPIOD19/UARtTXD1/ISO7816/SDnCD2            | UART       |
| 55 | MCU_UART0_RX | AE19 | GPIOD14/UARTRXD0/ISO7816                   | UART       |
| 56 | MCU_UART1_RX | AE18 | GPIOD15/UARTRXD1/ISO7816                   | UART       |



|    |              |     |                                  |      |
|----|--------------|-----|----------------------------------|------|
| 57 | MCU_UART2_TX | Y18 | GPIOD20/UARTTXD2/RESERVED/SDWP1  | UART |
| 58 | MCU_UART3_TX | W17 | GPIOD21/UARTTXD3/RESERVED/SDnCD1 | UART |
| 59 | MCU_UART2_RX | Y19 | GPIOD16/UARTRXD2/RESERVED        | UART |
| 60 | MCU_UART3_RX | Y17 | GPIOD17/UARTRXD3/RESERVED        | UART |

## J4

| PIN NO. | Signal Name       | CPU Ball Number | CPU Ball Name                    | Remark            |
|---------|-------------------|-----------------|----------------------------------|-------------------|
| 1       | GPIOA28           | U21             | GPIOA28/VICLK1/I2SMCLK2/I2SMCLK1 | GPIO              |
| 2       | GPIOB9            | U20             | GPIOB9/VID1[6]/SDEX6/I2SDIN1     | GPIO              |
| 3       | MCU_BACKLIGHT_PWM | AE15            | GPIOD1/PWM0/SA25                 | PWM (LCD)         |
| 4       | LCD_R7            | R22             | GPIOA24/DISD23                   | LCD (Digital RGB) |
| 5       | LCD_R6            | M20             | GPIOA23/DISD22                   | LCD (Digital RGB) |
| 6       | LCD_R5            | R21             | GPIOA22/DISD21                   | LCD (Digital RGB) |
| 7       | LCD_R4            | R24             | GPIOA21/DISD20                   | LCD (Digital RGB) |
| 8       | LCD_R3            | P21             | GPIOA20/DISD19                   | LCD (Digital RGB) |
| 9       | LCD_R2            | R23             | GPIOA19/DISD18                   | LCD (Digital RGB) |
| 10      | LCD_R1            | P22             | GPIOA18/DISD17                   | LCD (Digital RGB) |
| 11      | LCD_R0            | M21             | GPIOA17/DISD16                   | LCD (Digital RGB) |
| 12      | LCD_G7            | L23             | GPIOA16/DISD15                   | LCD (Digital RGB) |
| 13      | LCD_G6            | M22             | GPIOA15/DISD14                   | LCD (Digital RGB) |
| 14      | LCD_G5            | G22             | GPIOA14/DISD13                   | LCD (Digital RGB) |
| 15      | LCD_G4            | K19             | GPIOA13/DISD12                   | LCD (Digital RGB) |
| 16      | LCD_G3            | L21             | GPIOA12/DISD11                   | LCD (Digital RGB) |
| 17      | LCD_G2            | L22             | GPIOA11/DISD10                   | LCD (Digital RGB) |
| 18      | LCD_G1            | M19             | GPIOA10/DISD9                    | LCD (Digital RGB) |
| 19      | LCD_G0            | J22             | GPIOA9/DISD8                     | LCD (Digital RGB) |
| 20      | LCD_B7            | J19             | GPIOA8/DISD7                     | LCD (Digital RGB) |
| 21      | LCD_B6            | L20             | GPIOA7/DISD6                     | LCD (Digital RGB) |
| 22      | LCD_B5            | F21             | GPIOA6/DISD5                     | LCD (Digital RGB) |
| 23      | LCD_B4            | L19             | GPIOA5/DISD4                     | LCD (Digital RGB) |
| 24      | LCD_B3            | H20             | GPIOA4/DISD3                     | LCD (Digital RGB) |
| 25      | LCD_B2            | H21             | GPIOA3/DISD2                     | LCD (Digital RGB) |
| 26      | LCD_B1            | G21             | GPIOA2/DISD1                     | LCD (Digital RGB) |
| 27      | LCD_B0            | J23             | GPIOA1/DISD0                     | LCD (Digital RGB) |

|    |            |     |                  |                     |
|----|------------|-----|------------------|---------------------|
| 28 | LCD_CLK    | R25 | GPIOA0/DISCLK    | LCD (Digital RGB)   |
| 29 | LCD_DE     | H22 | GPIOA27/DISDE    | LCD (Digital RGB)   |
| 30 | LCD_HSYNC  | J20 | GPIOA26/DISHSYNC | LCD (Digital RGB)   |
| 31 | LCD_VSYNC  | J21 | GPIOA25/DISVSYNC | LCD (Digital RGB)   |
| 32 | GND        |     |                  | 电源地                 |
| 33 | GND        |     |                  | 电源地                 |
| 34 | DC5V_OTG   |     |                  | USB 供电 (输入)         |
| 35 | VCC3P3_SYS |     |                  | 电源 3V3(输出)          |
| 36 | DC5V_OTG   |     |                  | USB 供电 (输入)         |
| 37 | VCC3P3_SYS |     |                  | 电源 3V3(输出)          |
| 38 | DC5V_OTG   |     |                  | USB 供电 (输入)         |
| 39 | VCC3P3_SYS |     |                  | 电源 3V3(输出)          |
| 40 | GND        |     |                  | 电源地                 |
| 41 | GND        |     |                  | 电源地                 |
| 42 | GND        |     |                  | 电源地                 |
| 43 | GND        |     |                  | 电源地                 |
| 44 | VDD_RTC    |     |                  | RTC 电源 (输入)         |
| 45 | VBAT       |     |                  | 单节锂电池供电 (输入)        |
| 46 | VDD_RTC    |     |                  | RTC 电源 (输入)         |
| 47 | VBAT       |     |                  | 单节锂电池供电 (输入)        |
| 48 | GND        |     |                  | 电源地                 |
| 49 | VBAT       |     |                  | 单节锂电池供电 (输入)        |
| 50 | GND        |     |                  | 电源地                 |
| 51 | GND        |     |                  | 电源地                 |
| 52 | DCIN       |     |                  | DC 供电 (3.8~6.3V,输入) |
| 53 | GND        |     |                  | 电源地                 |
| 54 | DCIN       |     |                  | DC 供电 (3.8~6.3V,输入) |
| 55 | VBAT_SYS   |     |                  | IPSOUT (输出)         |
| 56 | DCIN       |     |                  | DC 供电 (3.8~6.3V,输入) |
| 57 | VBAT_SYS   |     |                  | IPSOUT (输出)         |
| 58 | GND        |     |                  | 电源地                 |
| 59 | VBAT_SYS   |     |                  | IPSOUT (输出)         |
| 60 | GND        |     |                  | 电源地                 |

## 服务支持

技术支持联系方式：

电话：0755-86325375 86325376

邮箱：ces\_support@ces-tech.com

技术支持服务时间：

周一至周五：9：00~12：00，13：30~18：00

## 声明

本手册信息仅供用户参考使用，对于所作修改，恕不另行通知。

更多产品信息，请登录 [www.nrisc.com](http://www.nrisc.com)

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