

5
REVISION HISTORY

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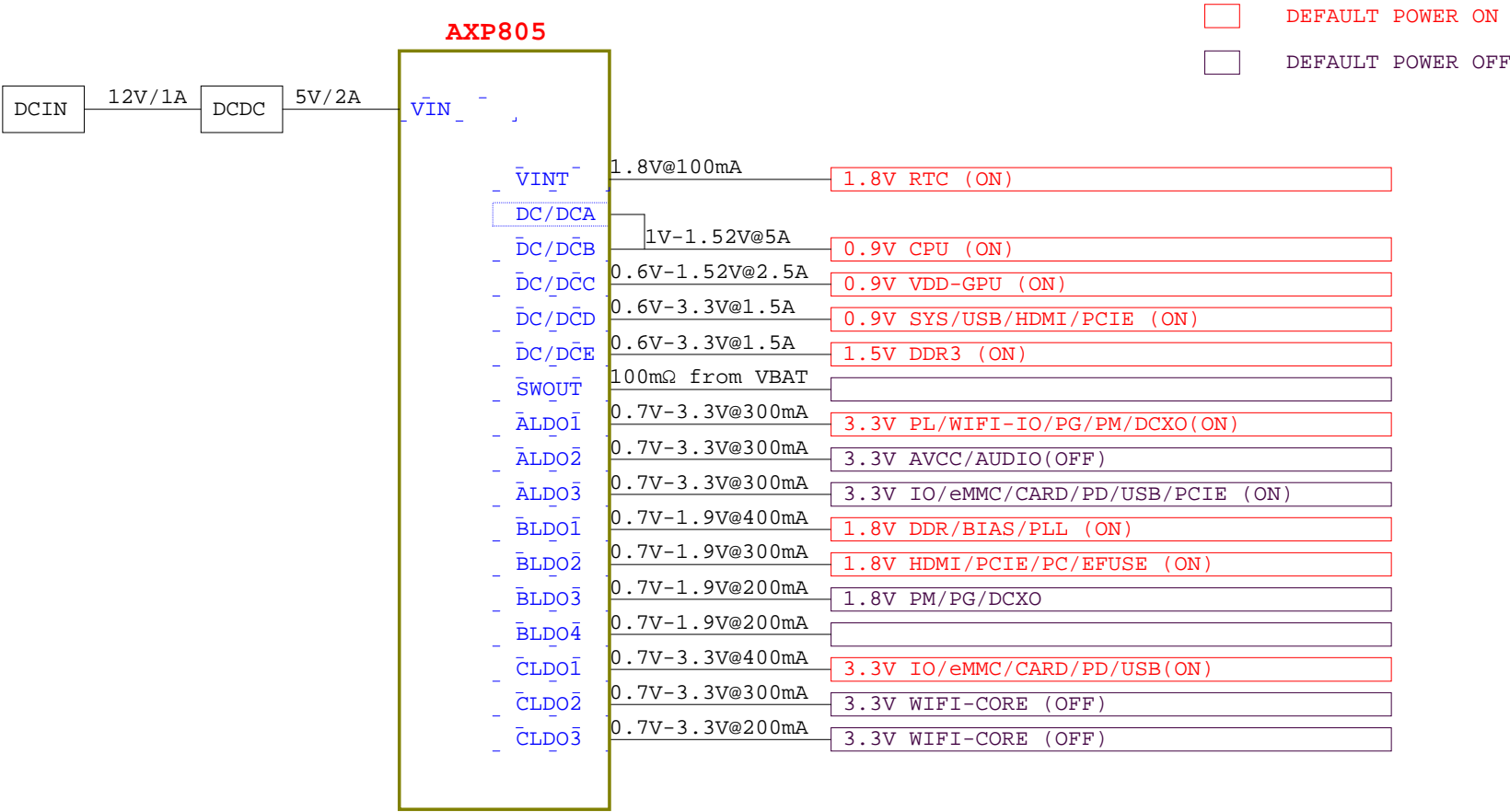
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| Revision | Description | Date | Drawn | Checked |
|----------|---|------------|-------|---------|
| Ver 0.5 | Initial Version | 2016-12-26 | HJ | |
| Ver 0.8 | | 2017-02-23 | HJ | |
| Ver 0.9 | | 2017-03-22 | HJ | |
| Ver 1.0 | 1.增加电阻，连通VCC18-RTC 和 VDD18-LPDDR 2.将HDMI和CAMERA处的SDA SCK网络进行调整，H6分两组来控制HDMI和CAMERA。 3.将H6 的PG14脚悬空。 4.主控处的电压改接成BLD01,之前是与DDR3共用。 5.将CAMERA与HDMI IN处复用的网络用0R电阻分开接出，PCB中绕线更短。 6.将之前40PIN座子修改成26PIN 7.新增USB3.0_HUB功能 8.新增千兆网口模块 | 2018-03-20 | | |
| | 9. 12页去掉AUDIO部分的放大电路模块，左右声道各加一个电阻和电容 10.13页 USB3.0去掉EEPOM模块 | | | |
| Ver 1.1 | 11.13页 USB3.0接口处的0R电阻去掉，修改TX->RX网络，ESD器件预留0402的封装，VCC18-RTC与VDD18-LPDDR网络通过0R电阻连接 | | | |
| Ver 1.6 | 从AP6255更换到AP6256型号 | 2024-04-17 | | |



| | | | |
|---------------------------------|-------------------------------|-------------|------------|
| Xunlong Software Co., Limited | | | |
| Design Name | | ORANGE_PI-3 | |
| Size A3 | Page Name REVISION HISTORY | | Rev 1.6 |
| Date: Wednesday, April 17, 2024 | | Sheet | 1 of 17 |

POWER TREE



BLOCK

5

4

3

2

1

D

D

C

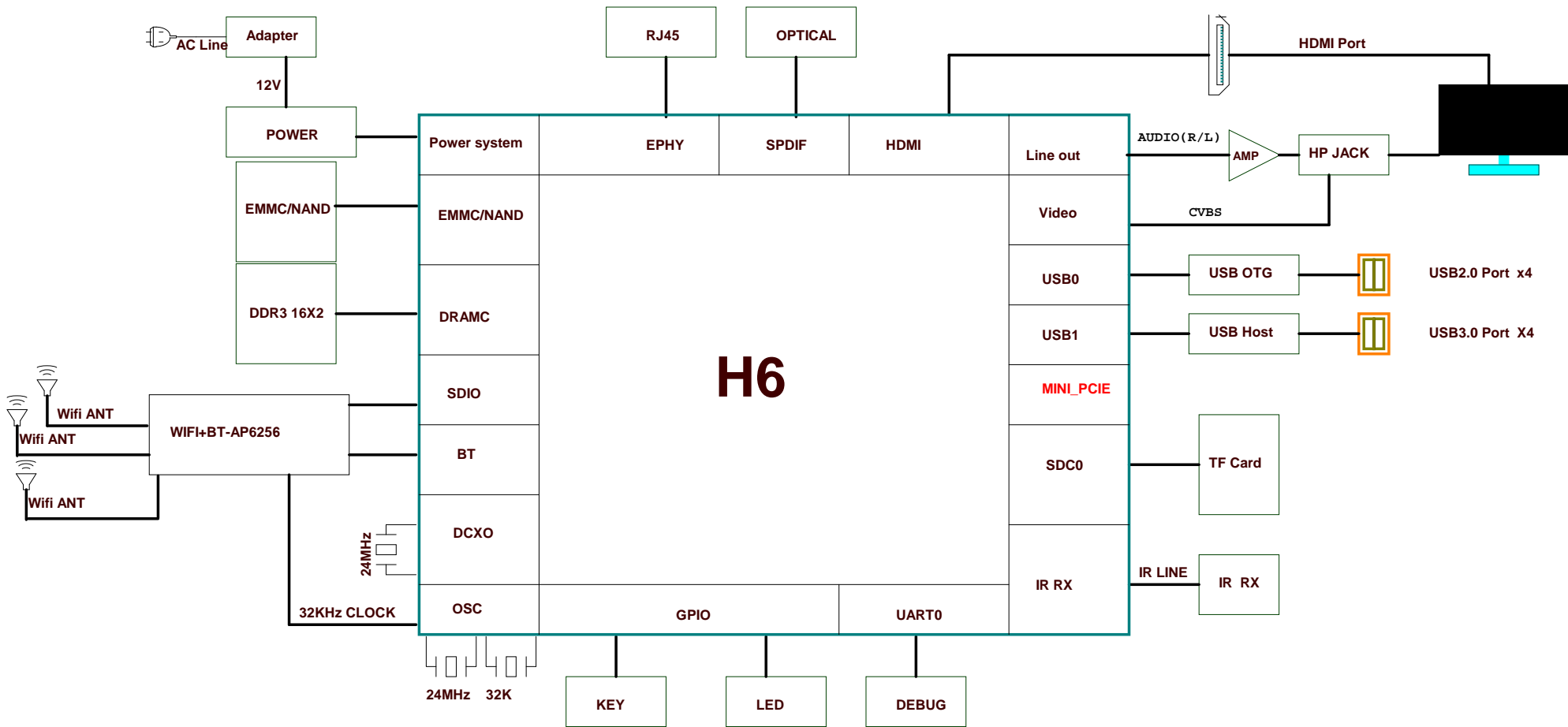
C

B

B

A

A



GPIO ASSIGNMENT

| PIN | Define | CFG | Function |
|------|-------------------|-----|-----------|
| PC0 | NAND_WE | 2 | NAND/eMMC |
| PC1 | NAND_ALE/SDC2_DS | 2/3 | |
| PC2 | NAND_CLE | 2 | |
| PC3 | NAND_CE0 | 2 | |
| PC4 | NAND_RE/SDC2_CLK | 2/3 | |
| PC5 | NAND_RB0/SDC2_CMD | 2/3 | |
| PC6 | NAND_DQ0/SDC2_D0 | 2/3 | |
| PC7 | NAND_DQ1/SDC2_D1 | 2/3 | |
| PC8 | NAND_DQ2/SDC2_D2 | 2/3 | |
| PC9 | NAND_DQ3/SDC2_D3 | 2/3 | |
| PC10 | NAND_DQ4/SDC2_D4 | 2/3 | |
| PC11 | NAND_DQ5/SDC2_D5 | 2/3 | |
| PC12 | NAND_DQ6/SDC2_D6 | 2/3 | |
| PC13 | NAND_DQ7/SDC2_D7 | 2/3 | |
| PC14 | NAND_DQS/SDC2_RST | 2/3 | |
| PC15 | NAND_CE1 | 2 | |
| PC16 | NAND_RB1 | 2 | |

| PIN | Define | CFG | Function |
|------|--------|-----|----------|
| PD0 | | | |
| PD1 | | | |
| PD2 | | | |
| PD3 | | | |
| PD4 | | | |
| PD5 | | | |
| PD6 | | | |
| PD7 | | | |
| PD8 | | | |
| PD9 | | | |
| PD10 | | | |
| PD11 | | | |
| PD12 | | | |
| PD13 | | | |
| PD14 | | | |

| PIN | Define | CFG | Function |
|------|--------|-----|----------|
| PD15 | | | |
| PD16 | | | |
| PD17 | | | |
| PD18 | | | |
| PD19 | | | |
| PD20 | | | |
| PD21 | | | |
| PD22 | | | |
| PD23 | | | |
| PD24 | | | |
| PD25 | | | |
| PD26 | | | |

| PIN | Define | CFG | Function |
|------|-----------|-----|----------|
| PG0 | SDC1_CLK | 2 | WIFI+BT |
| PG1 | SDC1_CMD | 2 | |
| PG2 | SDC1_D0 | 2 | |
| PG3 | SDC1_D1 | 2 | |
| PG4 | SDC1_D2 | 2 | |
| PG5 | SDC1_D3 | 2 | |
| PG6 | UART1_TX | 2 | |
| PG7 | UART1_RX | 2 | |
| PG8 | UART1_RTS | 2 | |
| PG9 | UART1_CTS | 2 | |
| PG10 | PCM2_SYNC | 2 | |
| PG11 | PCM2_CLK | 2 | |
| PG12 | PCM2_DOUT | 2 | |
| PG13 | PCM2_DIN | 2 | |
| PG14 | | | |

| PIN | Define | CFG | Function |
|-----|-------------------|-----|----------|
| PF0 | SDC0_D1 | 2 | CARD0 |
| PF1 | SDC0_D0 | 2 | |
| PF2 | SDC0_CLK/UART0_TX | 2/3 | |
| PF3 | SDC0_CMD | 2 | |
| PF4 | SDC0_D3/UART0_RX | 2/3 | |
| PF5 | SDC0_D2 | 2 | |
| PF6 | SDC0-DET | 2 | |

| PIN | Define | CFG | Function |
|------|-----------|-----|----------|
| PH0 | CPUX-UTX | 2 | |
| PH1 | CPUX-URX | 2 | |
| PH2 | | | |
| PH3 | | | |
| PH4 | | | |
| PH5 | | | |
| PH6 | | | |
| PH7 | SPDIF_OUT | 3 | |
| PH8 | HSCL | 2 | |
| PH9 | HSDA | 2 | |
| PH10 | HCEC | 2 | HDMI |

| PIN | Define | CFG | Function |
|------|--------------|-----|----------|
| PL0 | PMU-SCK | 3 | |
| PL1 | PMU-SDA | 3 | |
| PL2 | RECOVERY | 2 | |
| PL3 | LINK-LED | 1 | |
| PL4 | PWR-LED | 1 | |
| PL5 | USB0-DRVVBUS | 1 | |
| PL6 | MUTE | 1 | |
| PL7 | STATUS-LED | 1 | |
| PL8 | | | |
| PL9 | IR-RX | 2 | |
| PL10 | BT-WIFI-ON | 1 | WIFI+BT |
| PM0 | WL-WAKE-AP | 0 | |
| PM1 | BT-WAKE-AP | 0 | |
| PM2 | AP-WAKE-BT | 1 | |
| PM3 | WL-REG-ON | 1 | |
| PM4 | BT-REG-ON | 1 | |

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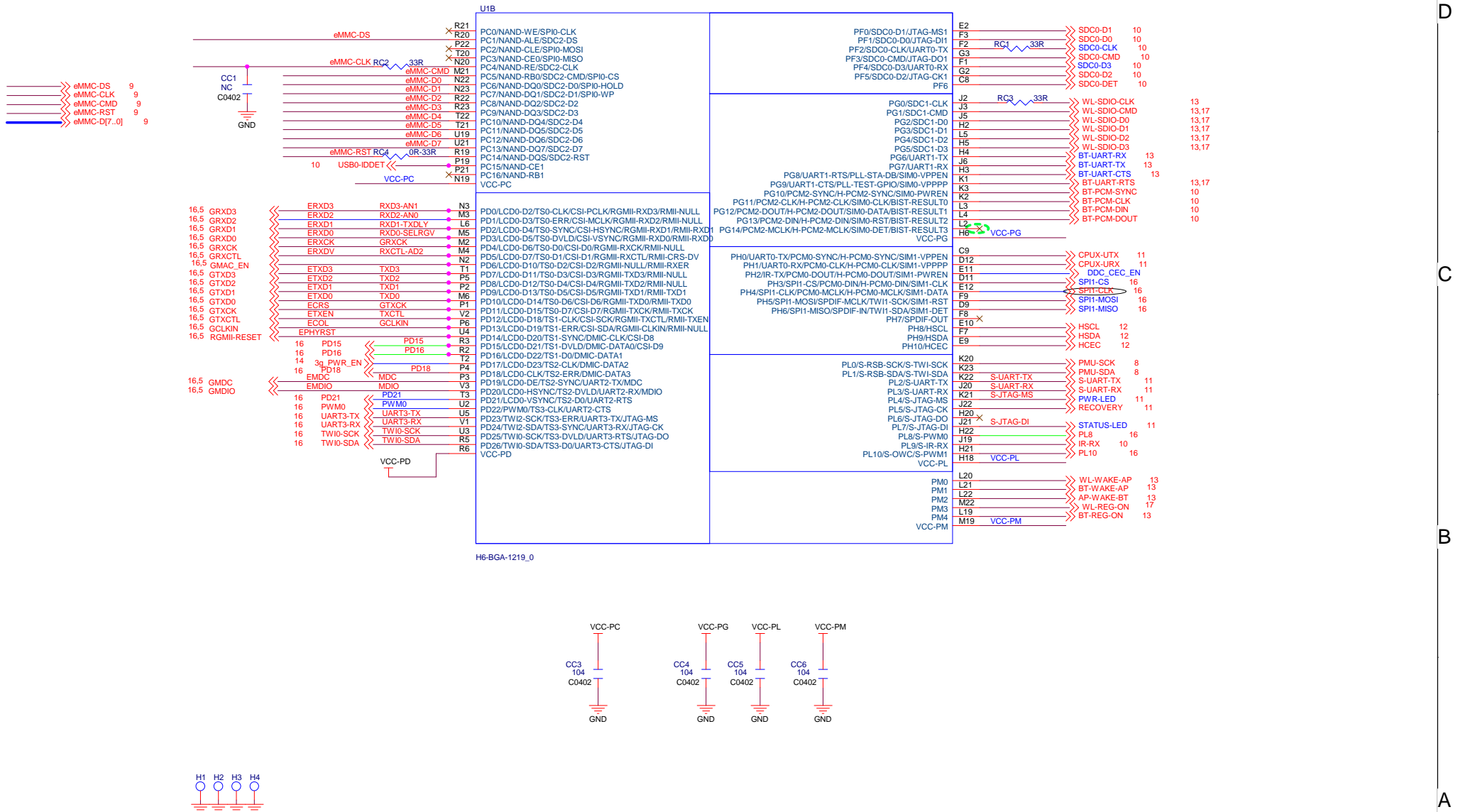
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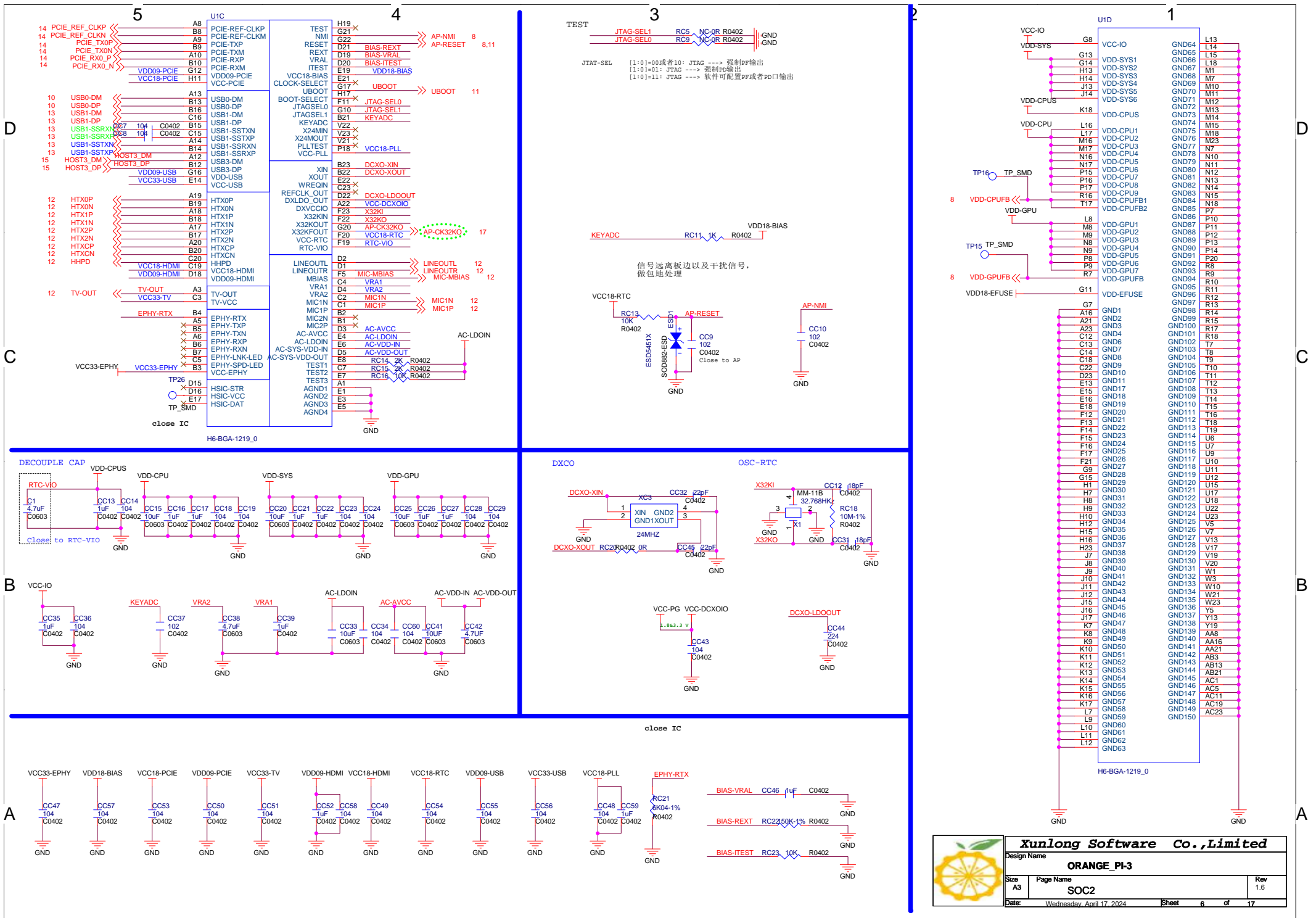
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2

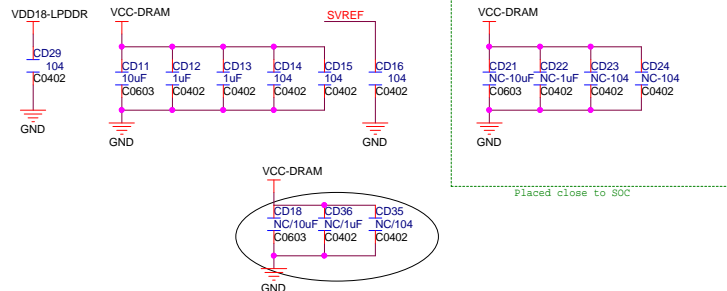
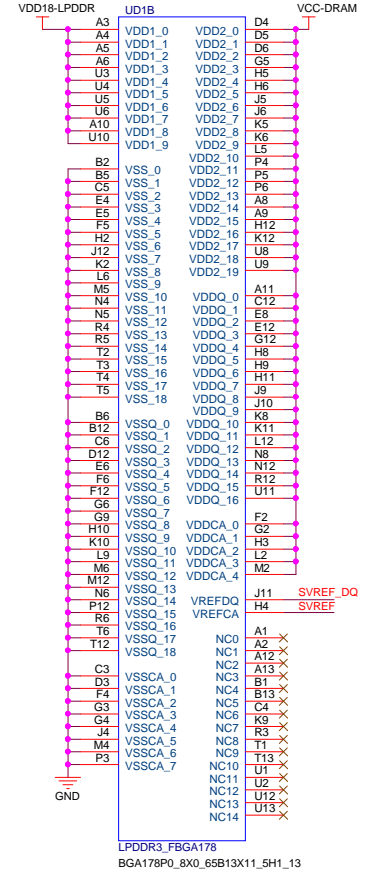
1

PC,PD, 部分IO口不具备中断功能
PF,PG,PH,PL,PM, 部分IO口有中断功能



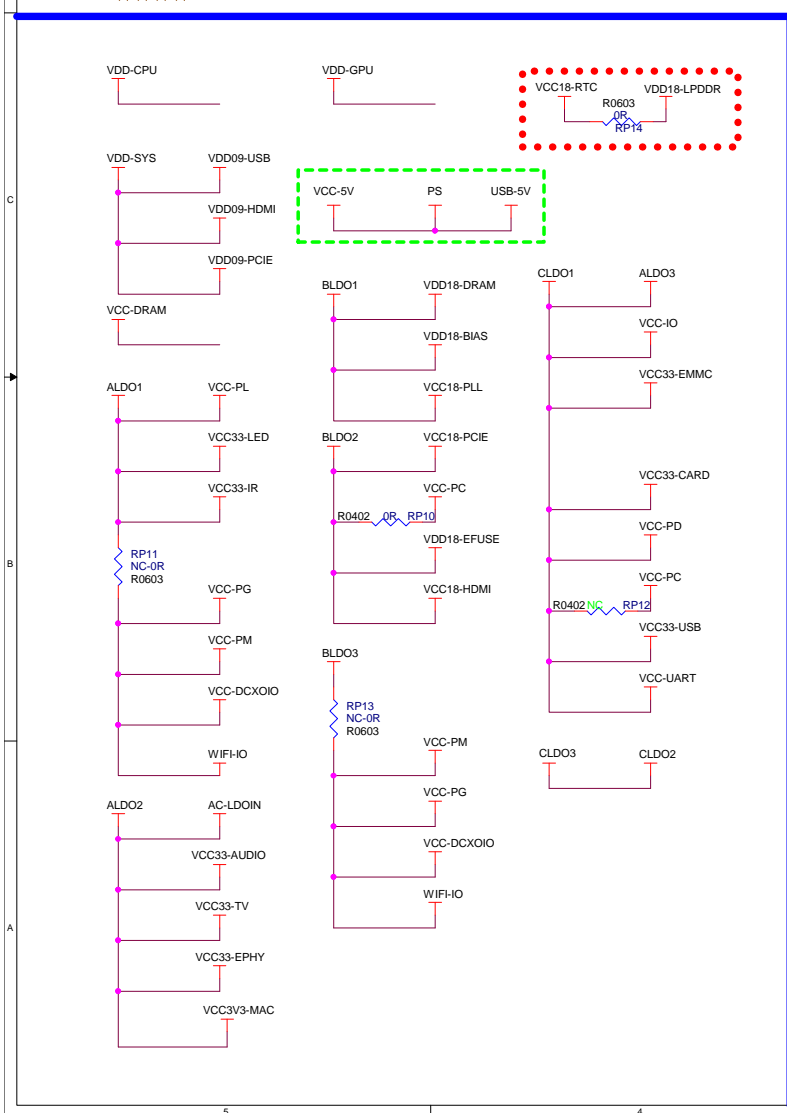
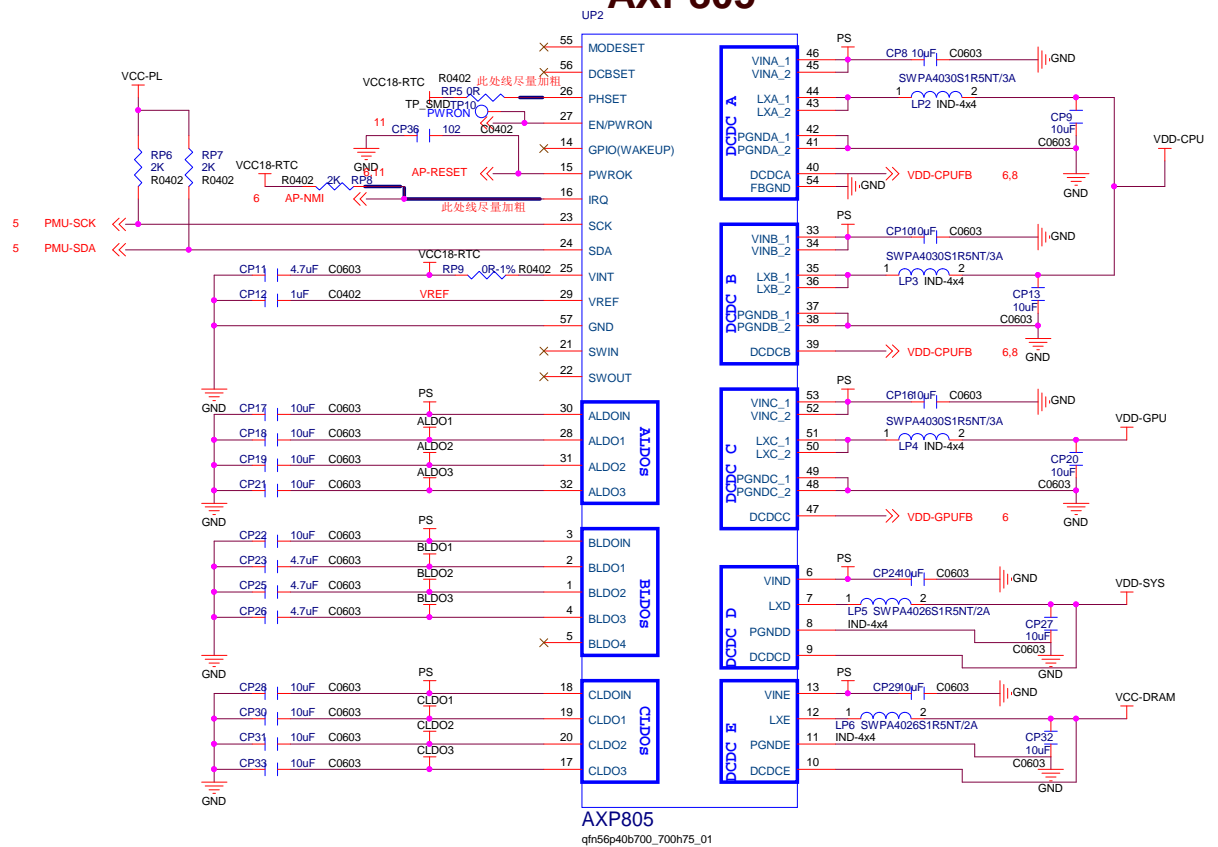


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| | | |
|------------|---------------------|------------|
| Size A3 | Page Name LPDDR2 | Rev 1.6 |
|------------|---------------------|------------|

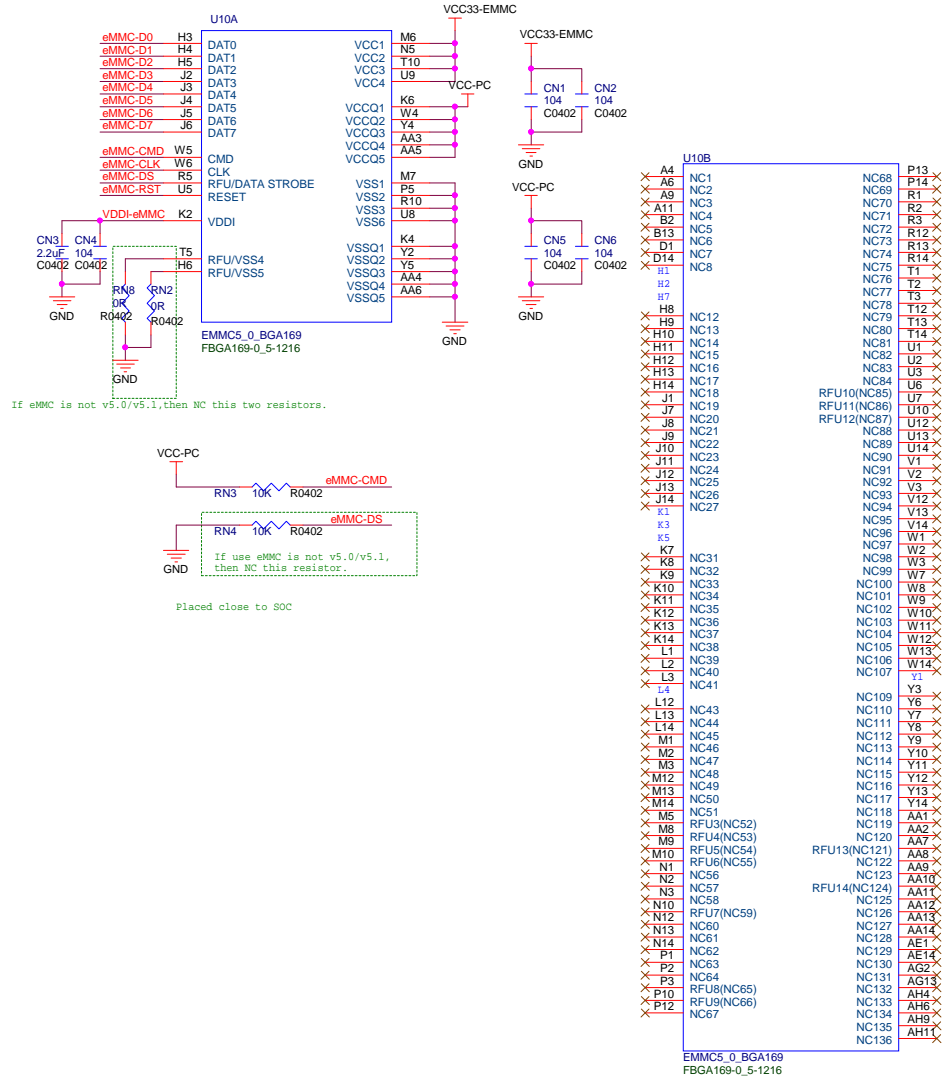
The DCIN section of the PCB layout includes a 5V DCIN connector (J1) with pins 2 and 3 connected to the DCIN signal line. The signal line is protected by an ESD diode (ESD451X) and a Schottky diode (D29, IN4736) connected to ground. A decoupling capacitor (C144, 22uF/10V) is placed near the connector. The DCIN signal line is also connected to a VCC-5V plane, which is decoupled by a capacitor (C54, 104/16V). Other components shown include C320 (10uF/10V) and C603 (10uF/10V) connected to ground.

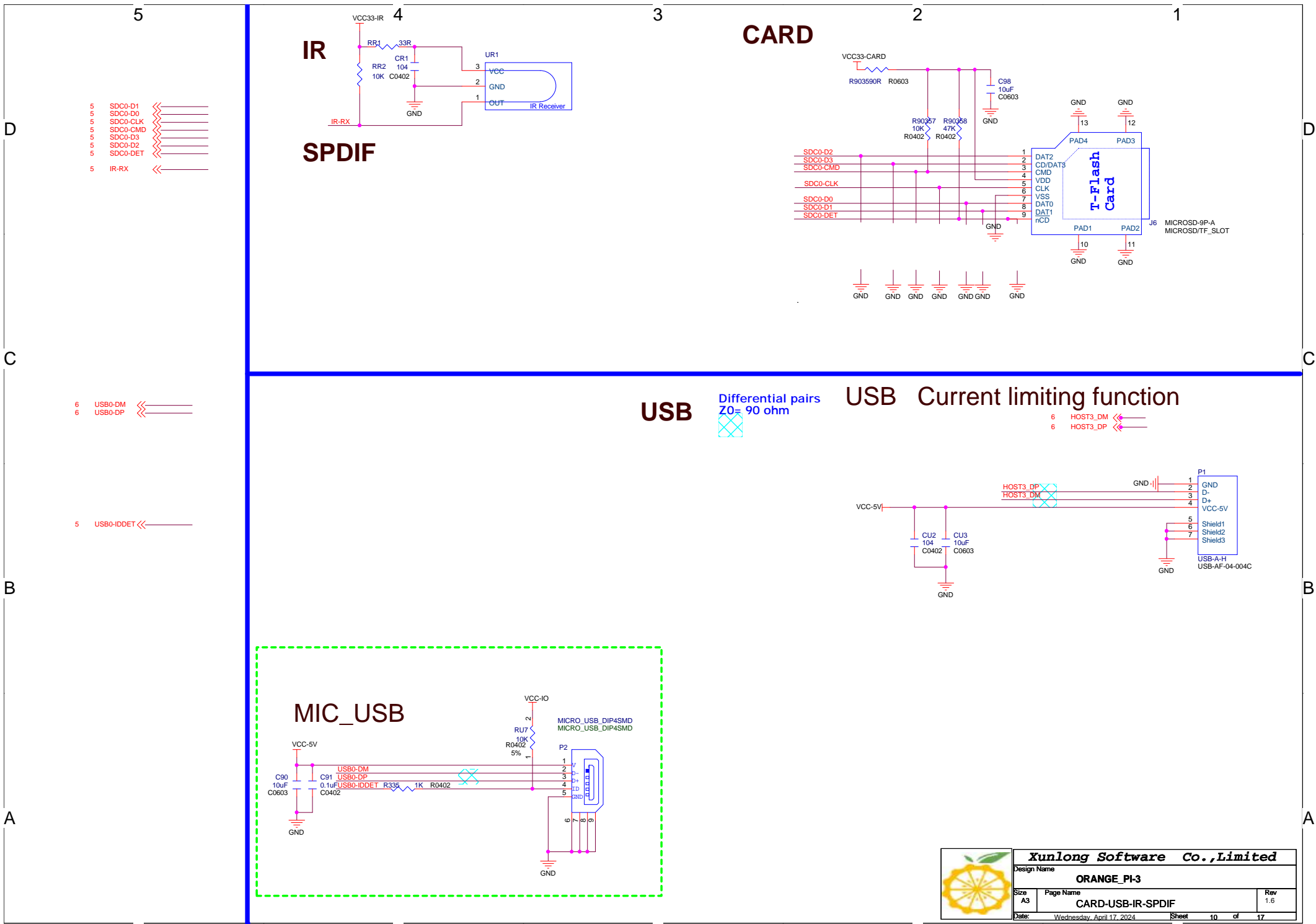
[illegible]

| | | | |
|---|---------------------------|---------------|-------------------|
| <i>Xunlong Software Co., Limited</i> | | | |
| Design Name ORANGE_PI-3 | | | |
| Size A3 | Page Name POWER | | Rev 1.6 |
| Date: | Wednesday, April 17, 2024 | Sheet 8 of 17 | |

eMMC

eMMC-DS 5
 eMMC-CLK 5
 eMMC-CMD 5
 eMMC-RST 5
 eMMC-D[7..0] 5

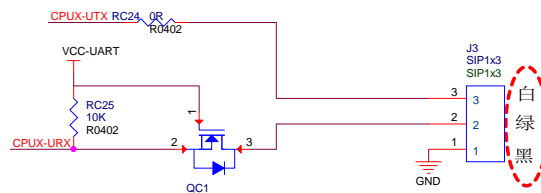




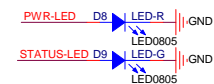
5 CPUX-UTX
5 CPUX-URX
5 PWR-LED
5 STATUS-LED

6 UBOOT
5 RECOVERY
8 PWRON

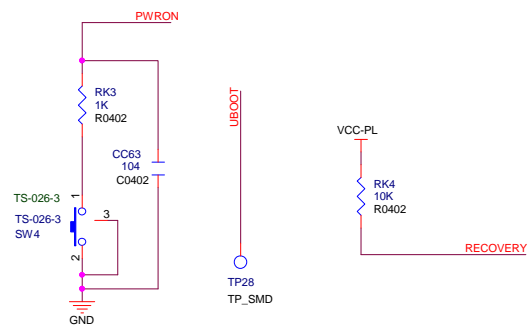
DEBUG



LED



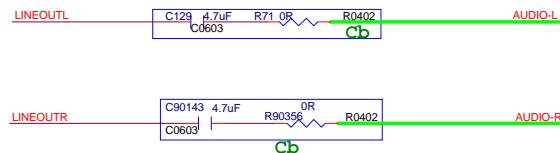
KEY



| | | |
|-------------------------------|---------------------------|----------------|
| Xunlong Software Co., Limited | | |
| Design Name | | |
| ORANGE PI-3 | | |
| Size | Page Name | Rev |
| A3 | KEY-LED-DEBUG | 1.6 |
| Date: | Wednesday, April 17, 2024 | Sheet 11 of 17 |

Audio

6 LINEOUTL
6 LINEOUTR

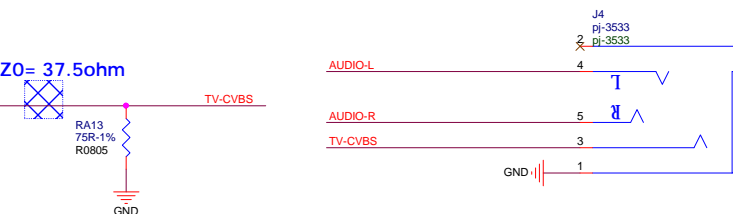


Video

走线请包地处理

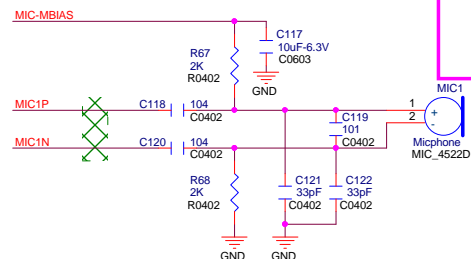
Z0= 37.5ohm

6 TV-OUT



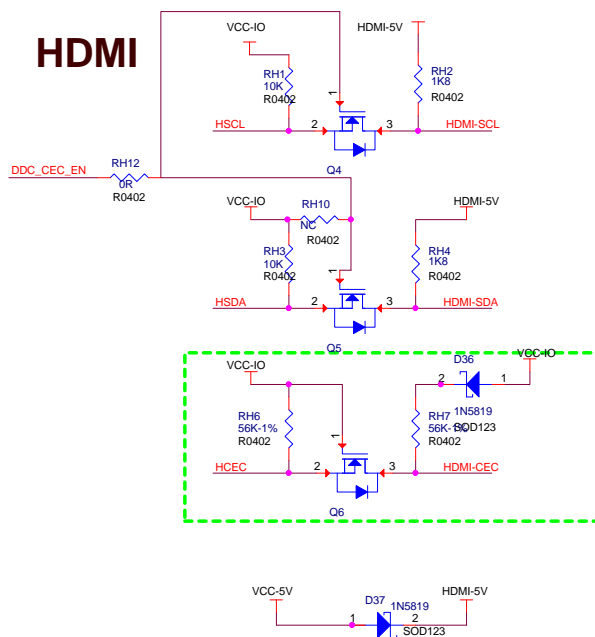
Mic

6 MIC-MBIAS
6 MIC1P
6 MIC1N

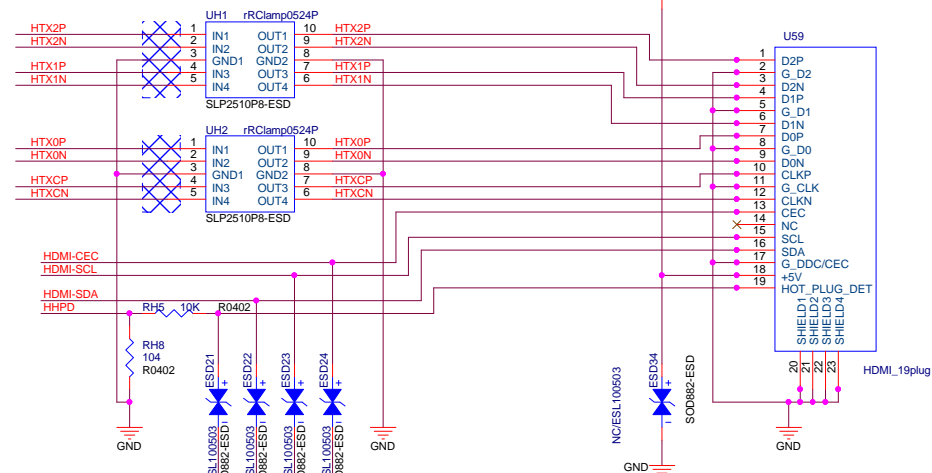


HDMI

6 HTX0P
6 HTX0N
6 HTX1P
6 HTX1N
6 HTX2P
6 HTX2N
6 HTXCP
6 HTXCN
5 HSCL
5 HSDA
5 HHPD
5 HCEC
5 DDC_CEC_EN

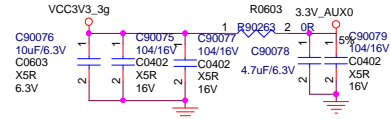


Differential pairs
Z0= 100 ohm



Xunlong Software Co., Limited

| | | |
|-------------|---------------------------|----------------|
| Design Name | ORANGE PI-3 | |
| Size | Page Name | Rev |
| A3 | AV-HDMI | 1.6 |
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4

3

2

1

D

D

C

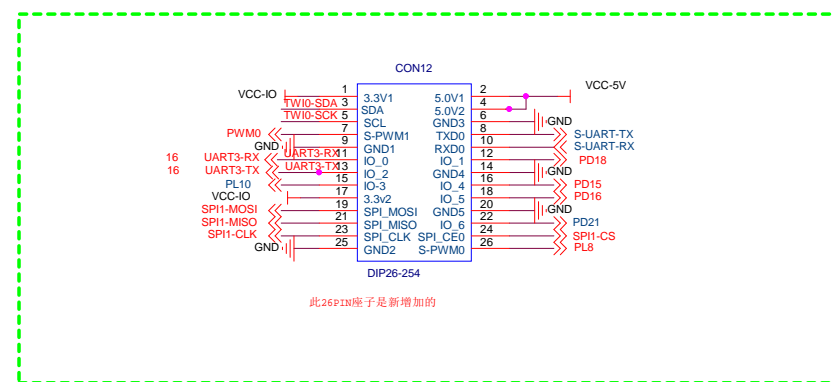
C

B

B

A

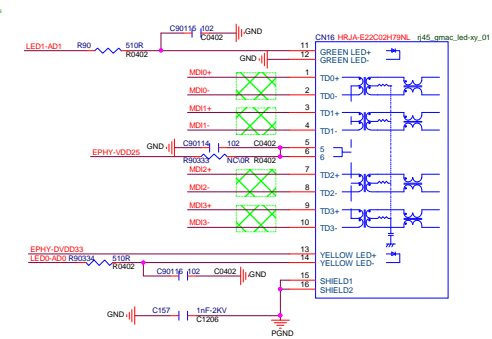
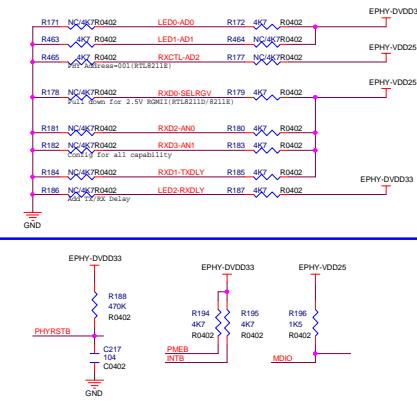
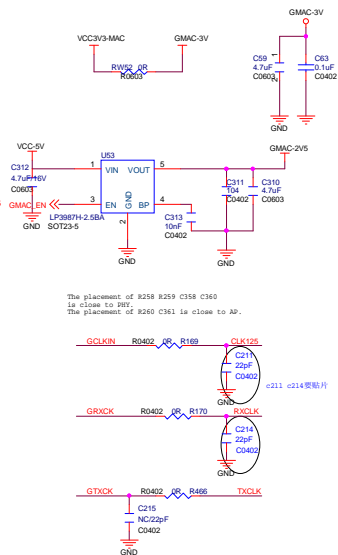
A



此26PIN座子是新增加的



10/100/1000 MII Ethernet PHY
EMAC-MII

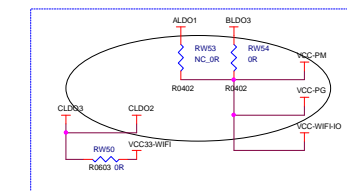


LED0:Blinking=Transmitting or Receiving
LED1:Link Up/Down


```

WL-SDIO-CMD  <<
WL-SDIO-D0    <<>>>>
WL-SDIO-D1    <<>>>>
WL-SDIO-D2    <<>>>>
WL-SDIO-D3    <<>>>>
WL-SDIO-CLK   <<>>>>

```



| | | | | | | | |
|--------|---------|----|----|----|----|----|----|
| 不带蓝牙遥控 | IO为1.8V | NC | NC | NC | 0R | NC | 0R |
| | IO为3.3V | NC | NC | NC | 0R | 0R | NC |
| 带蓝牙遥控 | IO为1.8V | 0R | NC | NC | NC | NC | NC |
| | IO为3.3V | 0R | 0R | 0R | NC | NC | NC |

