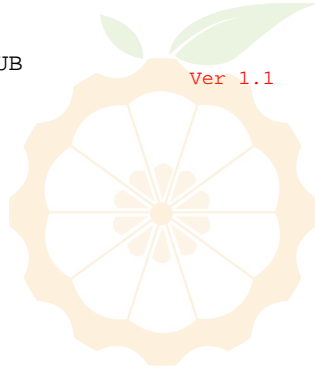


REVISION HISTORY

Schematics Index:

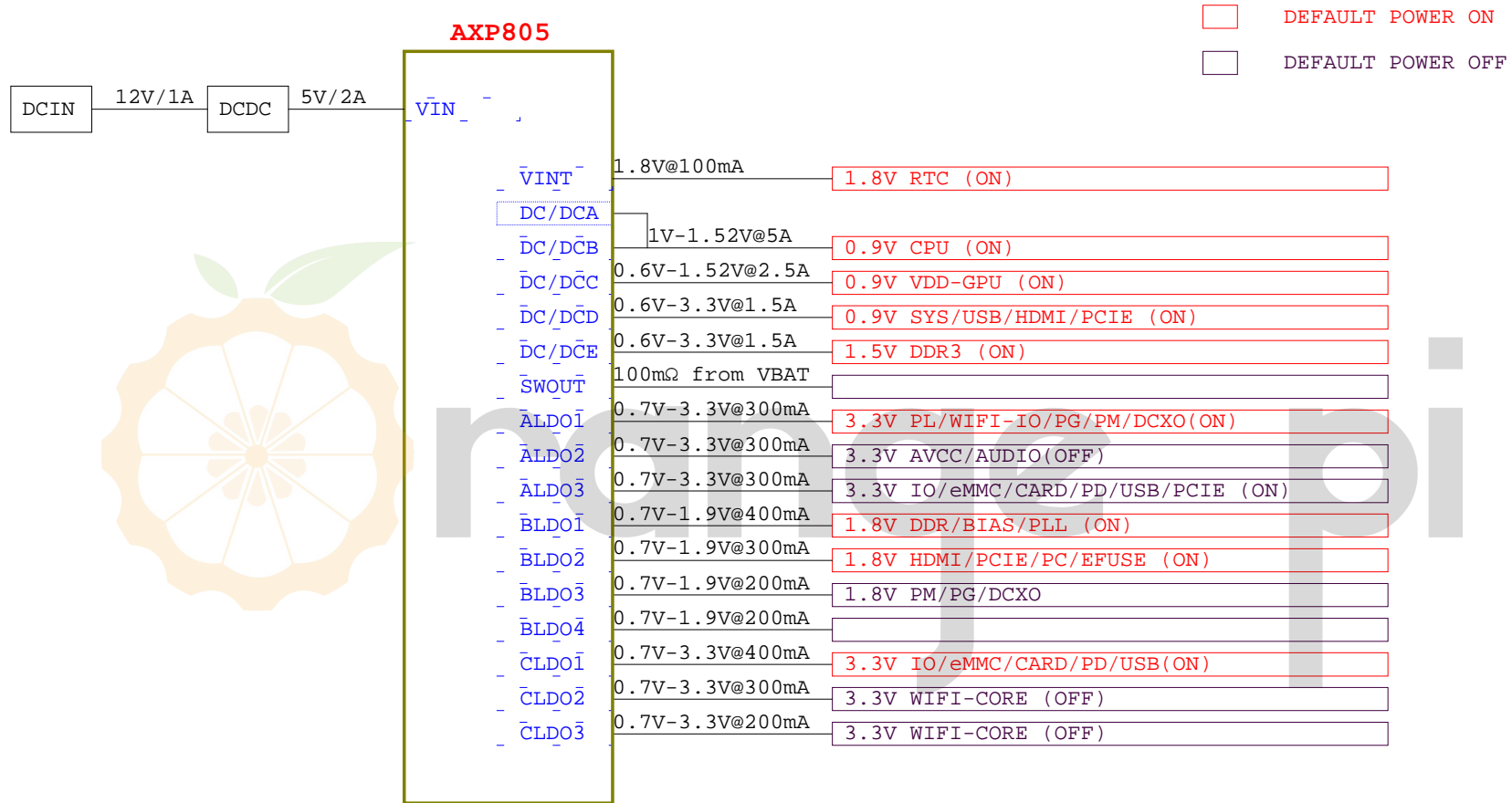
- P01: REVISION HISTORY
- P02: BLOCK
- P03: POWER TREE
- P04: GPIO ASSIGNMENT
- P05: SOC1
- P06: SOC2
- P07: DDR3 16X2
- P08: POWER
- P09: NAND-eMMC
- P10: CARD-USB-IR
- P11: KEY-LED-DEBUG
- P12: AV-HDMI
- P13: USB3.0 4-Port HUB
- P14: MINI PCIe
- P15: CSI-EXPORT
- P16: LAN_1000M
- P17: WIFI-BT 1T1R

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OR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		
Ver 1.1	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 11.13页 USB3.0接口处的OR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OR电阻连接			



orange pi

POWER TREE



BLOCK

5 4 3 2 1

D

D

C

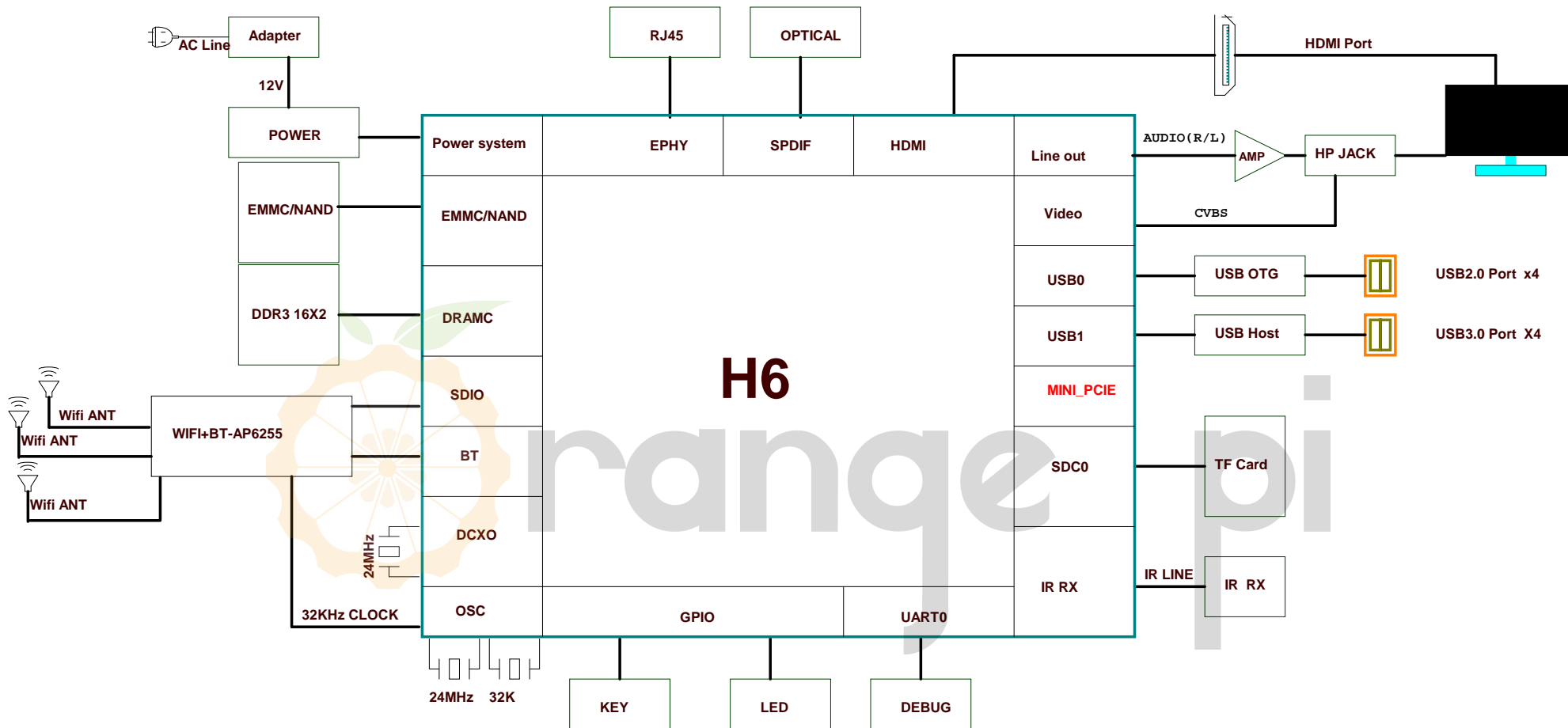
C

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_CEO	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_CEO	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			

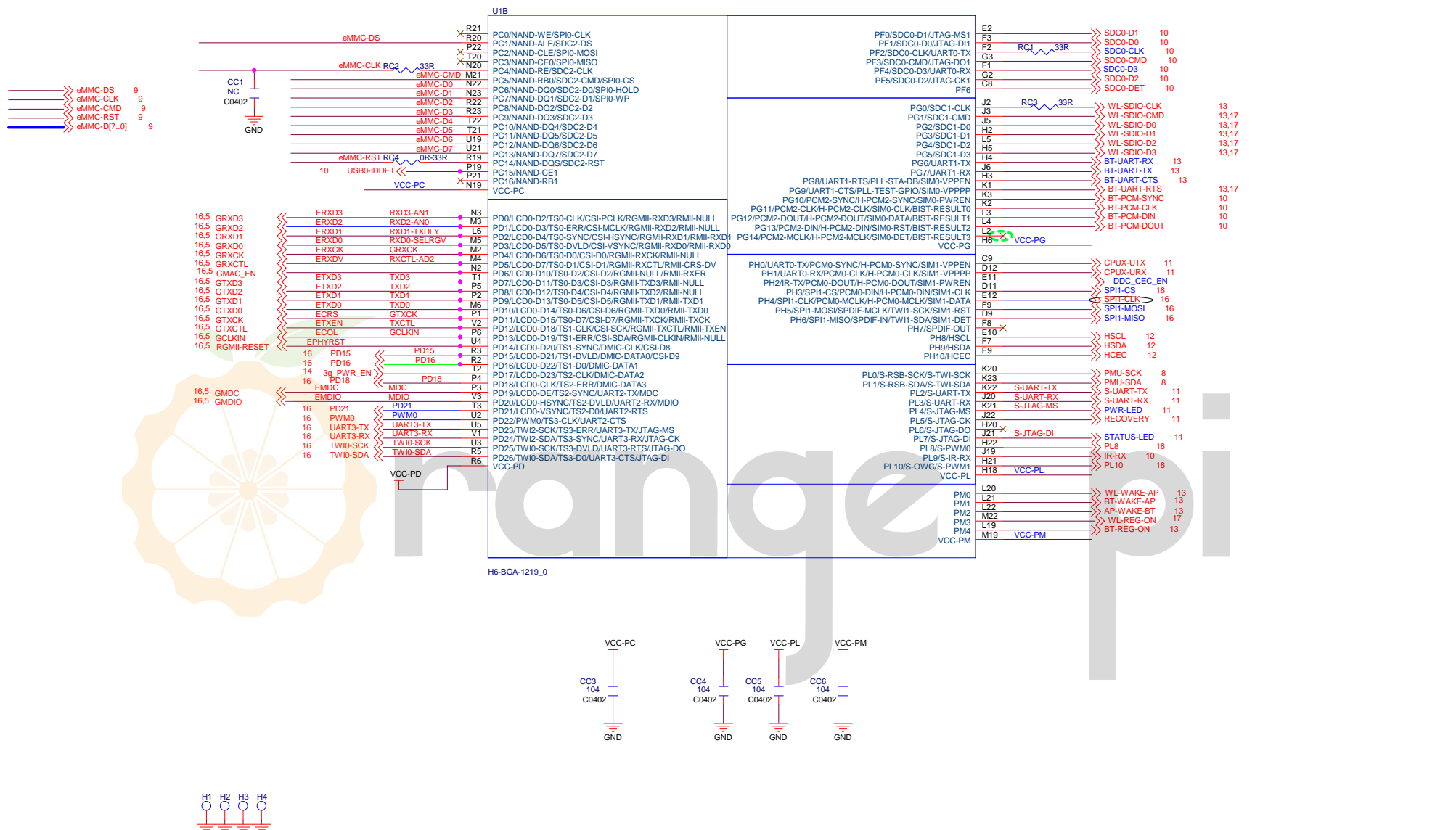
PIN	Define	CFG	Function
PF0	SDC0_D1	2	CARD0
PF1	SDC0_D0	2	
PF2	SDC0_CLK/UART0_TX	2/3	
PF3	SDC0_CMD	2	
PF4	SDC0_D3/UART0_RX	2/3	
PF5	SDC0_D2	2	
PF6	SDC0-DET	2	

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

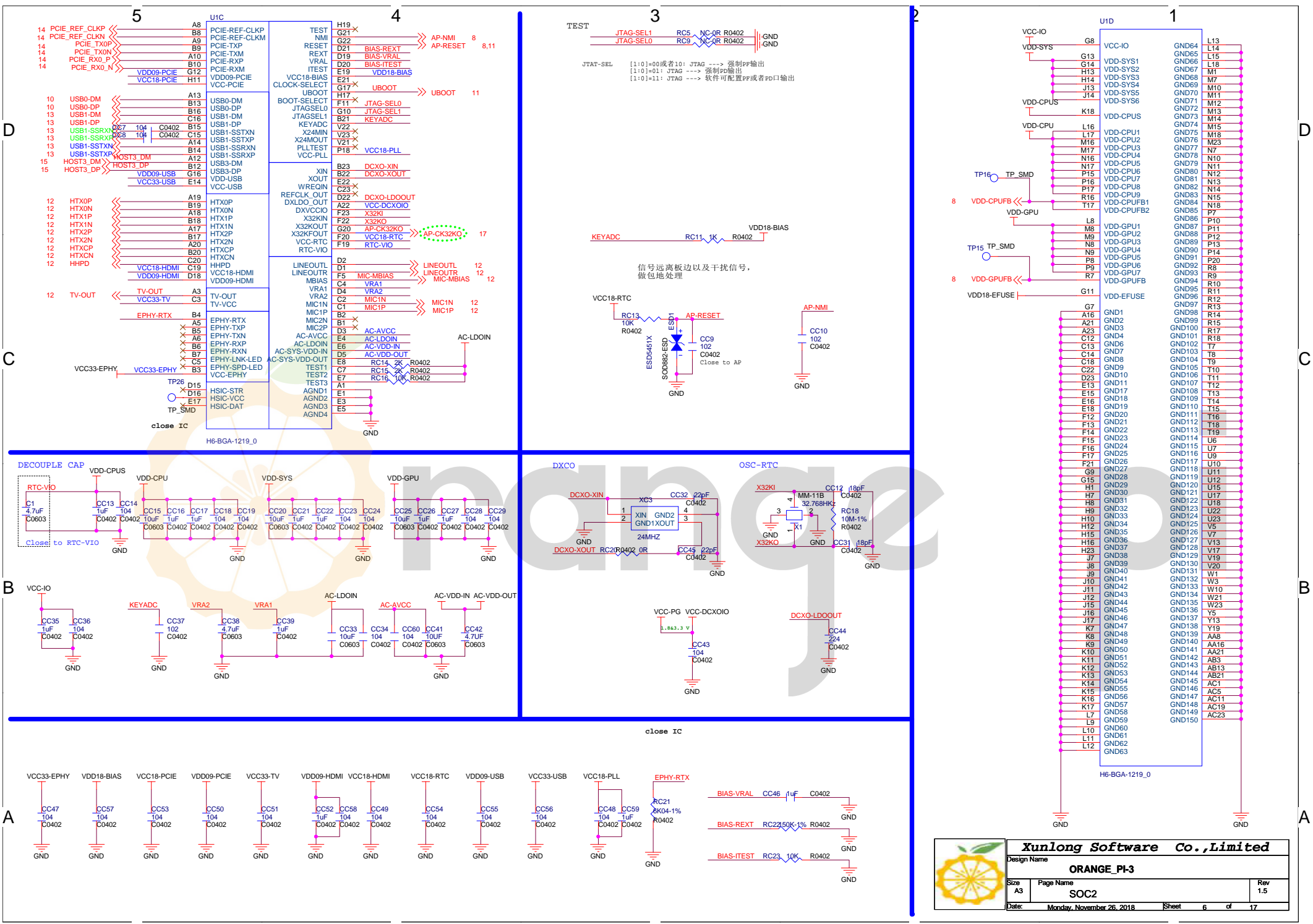
PIN	Define	CFG	Function
PL0	PMU-SCK	3	WIFI+BT
PL1	PMU-SDA	3	
PL2	RECOVERY	2	
PL3	LINK-LED	1	
PL4	PWR-LED	1	
PL5	USB0-DRVVBUS	1	
PL6	MUTE	1	
PL7	STATUS-LED	1	
PL8			
PL9	IR-RX	2	
PL10	BT-WIFI-ON	1	
PM0	WL-WAKE-AP	0	
PM1	BT-WAKE-AP	0	
PM2	AP-WAKE-BT	1	
PM3	WL-REG-ON	1	
PM4	BT-REG-ON	1	

5 4 3 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



H6-BGA-1219_0



LPDDR3

5

4

3

2

1

D

D

C

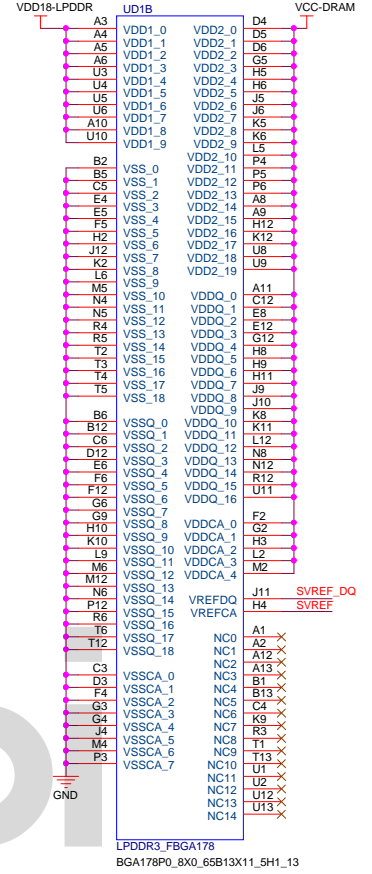
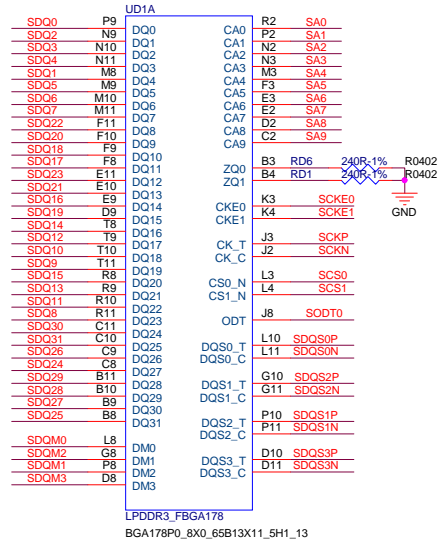
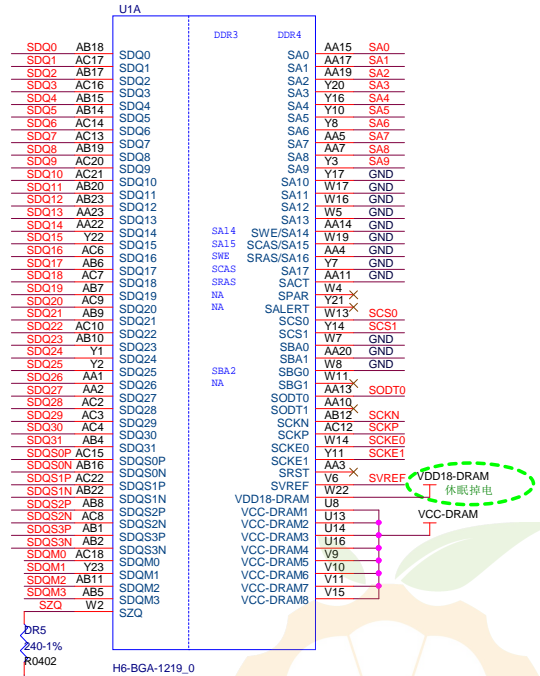
C

B

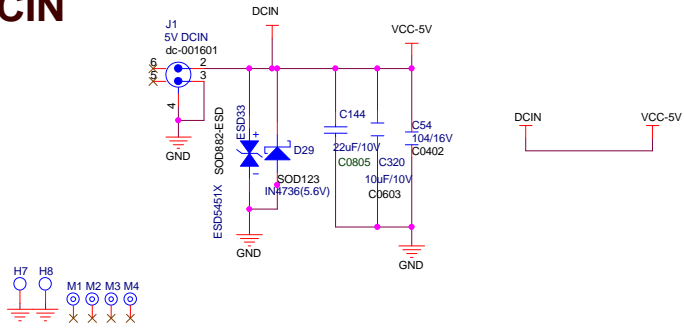
B

A

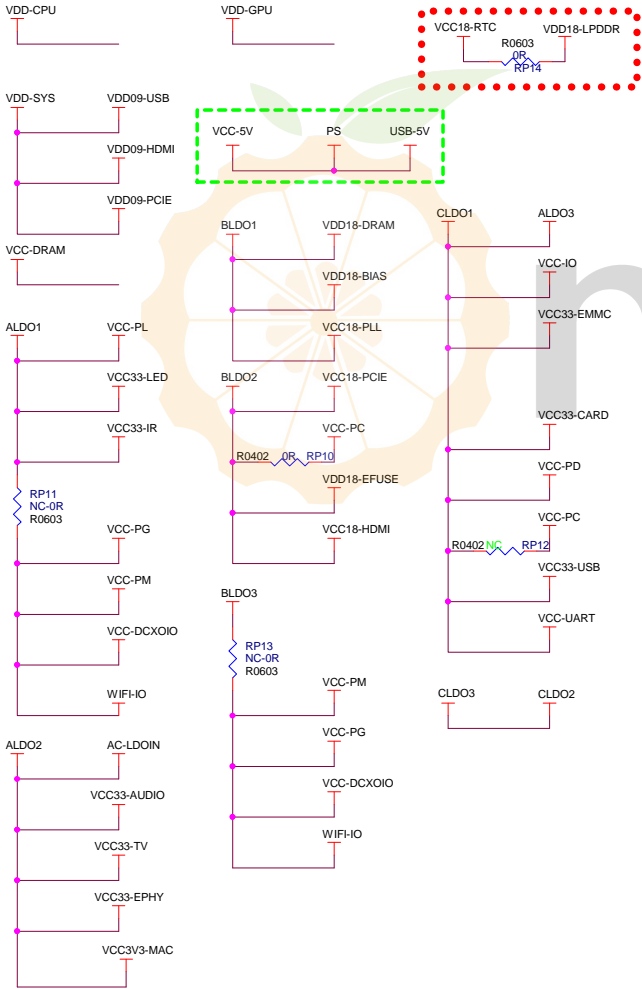
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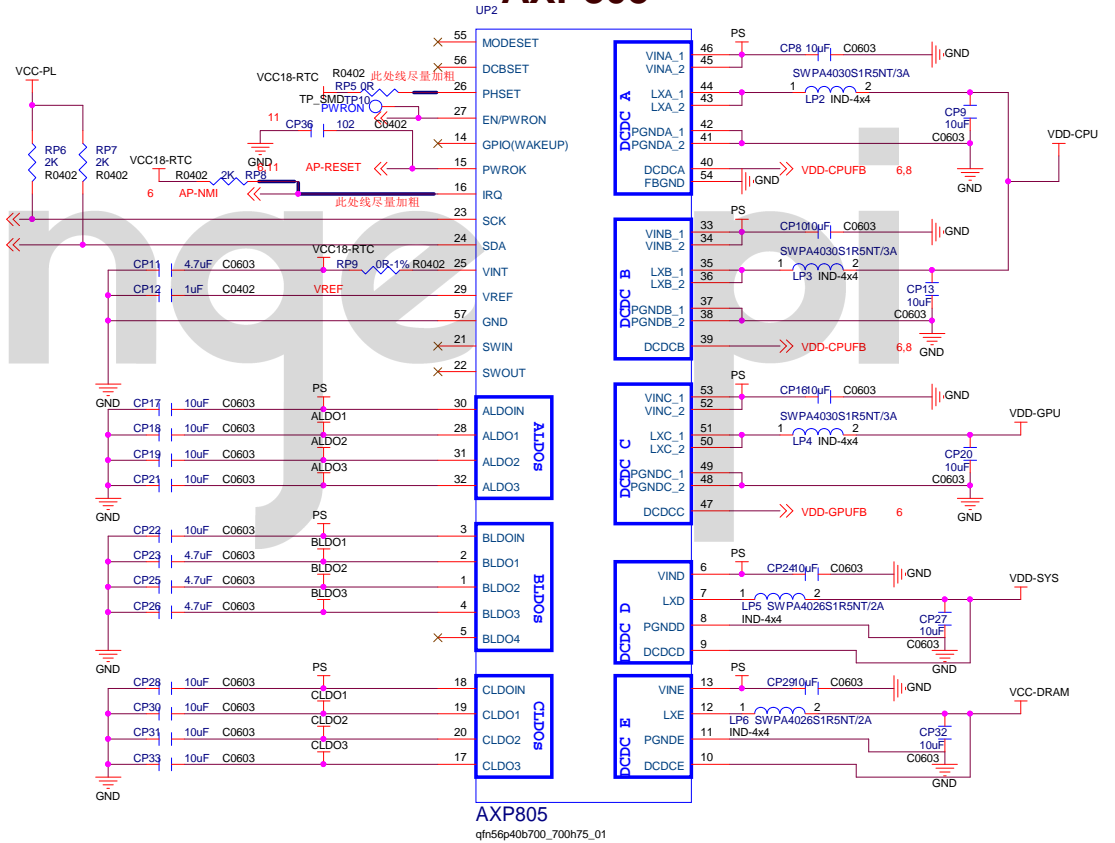
DCIN



PMIC



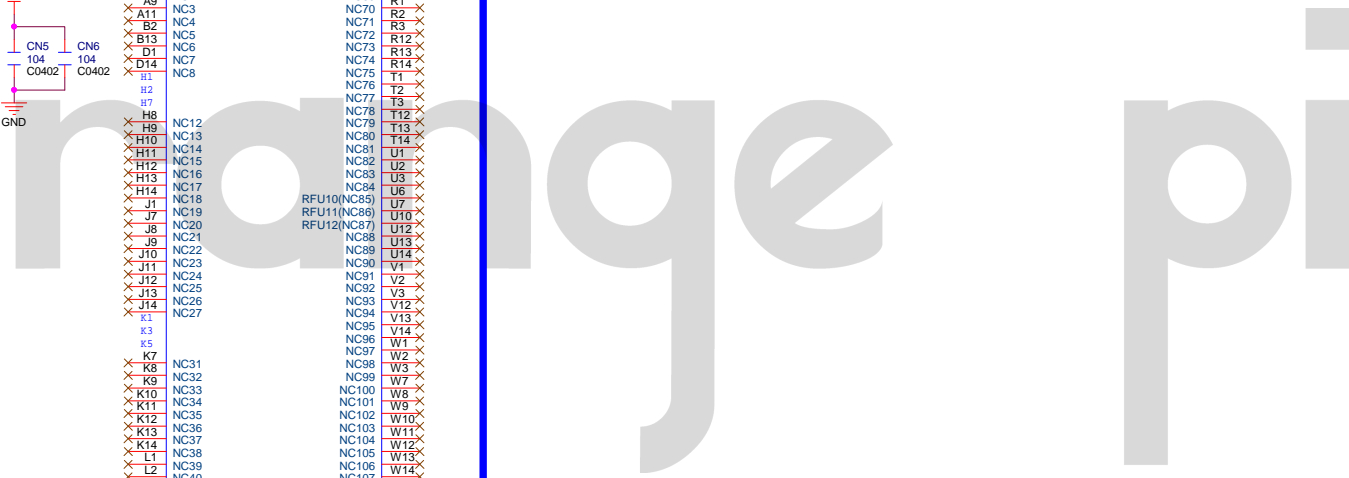
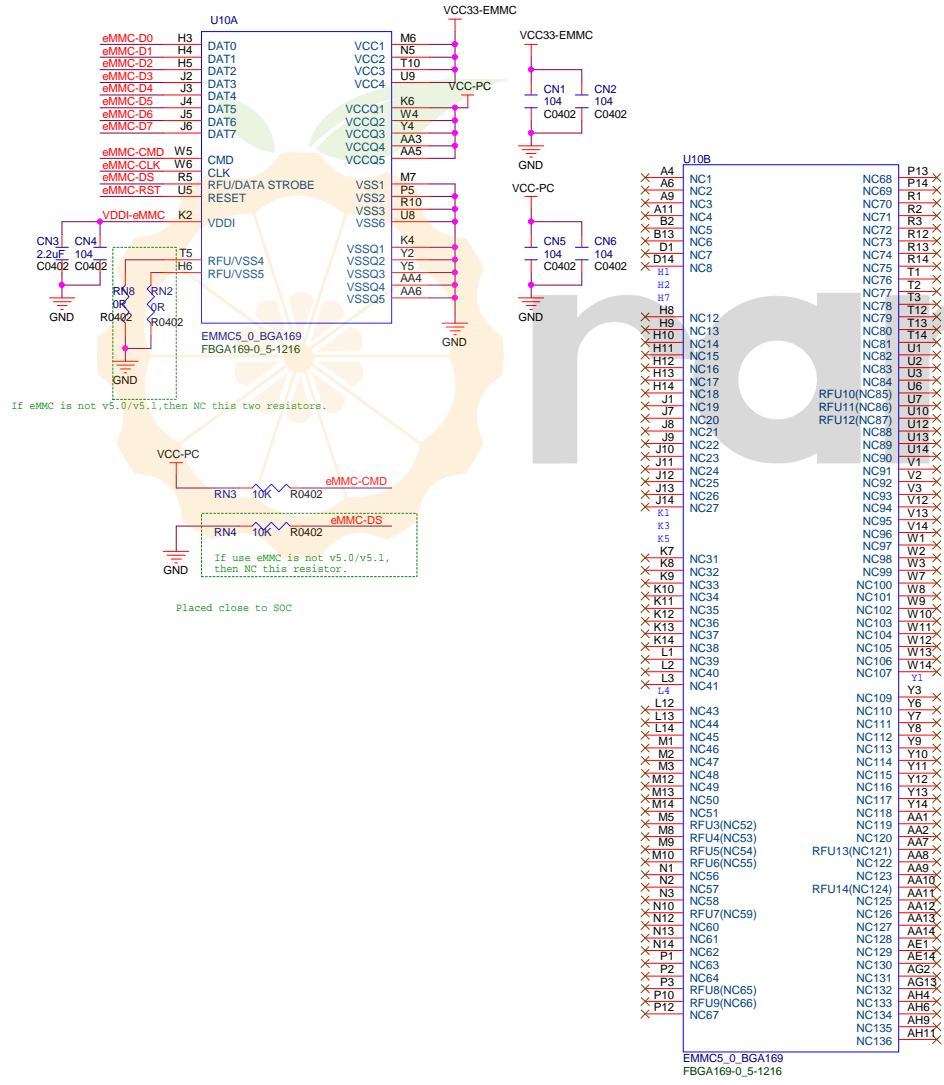
AXP805



Xunlong Software Co., Limited			
Design Name		ORANGE_PI-3	
Size	Page Name		
A3	POWER		
Date:	Monday, November 26, 2018	Sheet	8 of 17

eMMC

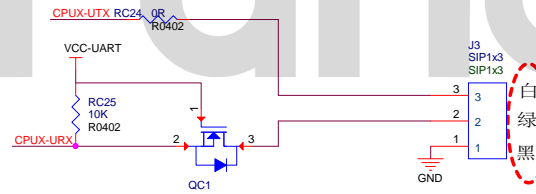
- 5 eMMC-DS
- 5 eMMC-CLK
- 5 eMMC-CMD
- 5 eMMC-RST
- 5 eMMC-D[7..0]



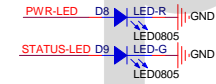
5 CPUX-UTX
 5 CPUX-URX
 5 PWR-LED
 5 STATUS-LED

6 UBOOT
 5 RECOVERY
 8 PWRON

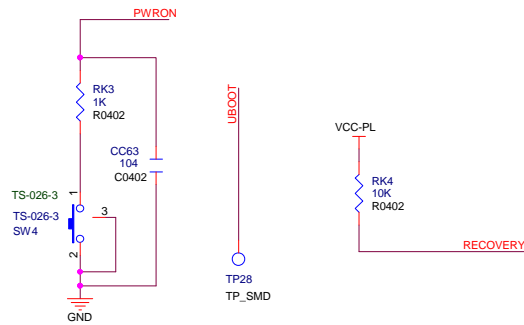
DEBUG



LED



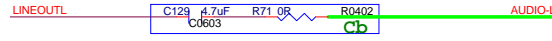
KEY



Xunlong Software Co., Limited		
Design Name	ORANGE_PI-3	
Size	Page Name	Rev
A3	KEY-LED-DEBUG	1.5
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Audio

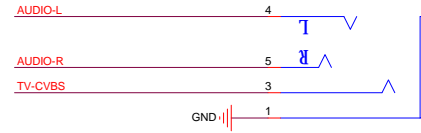
6 LINEOUTL
6 LINEOUTR



Video

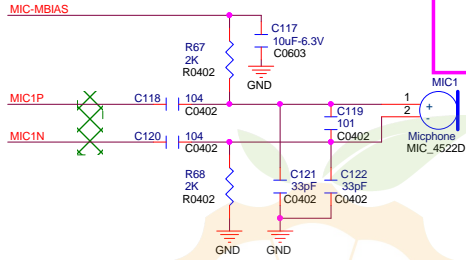
走线请包地处理

Z0 = 37.5ohm



Mic

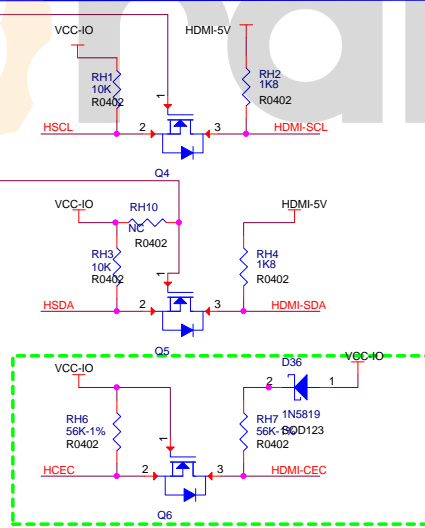
6 MIC-MBIAS
6 MIC1P
6 MIC1N



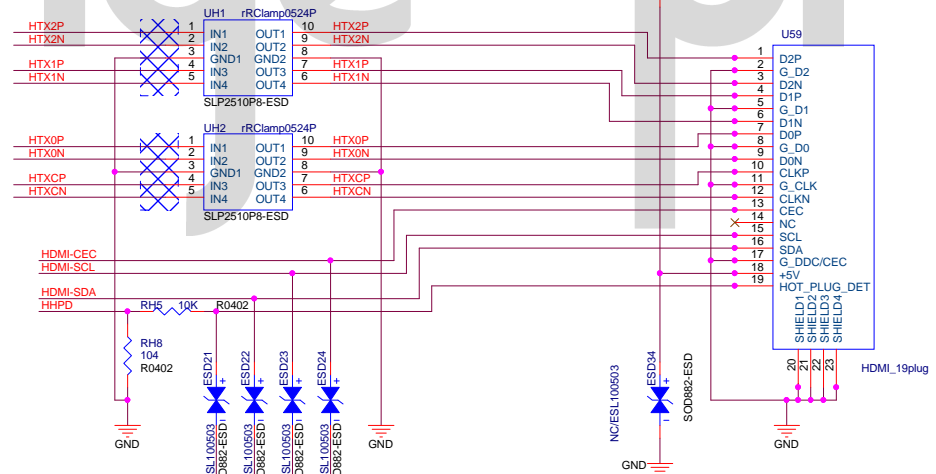
HDMI

6 HTXOP
6 HTXON
6 HTX1P
6 HTX1N
6 HTX2P
6 HTX2N
6 HTXCP
6 HTXCN
5 HSCL
5 HSDA
5 HHPD
5 HCEC

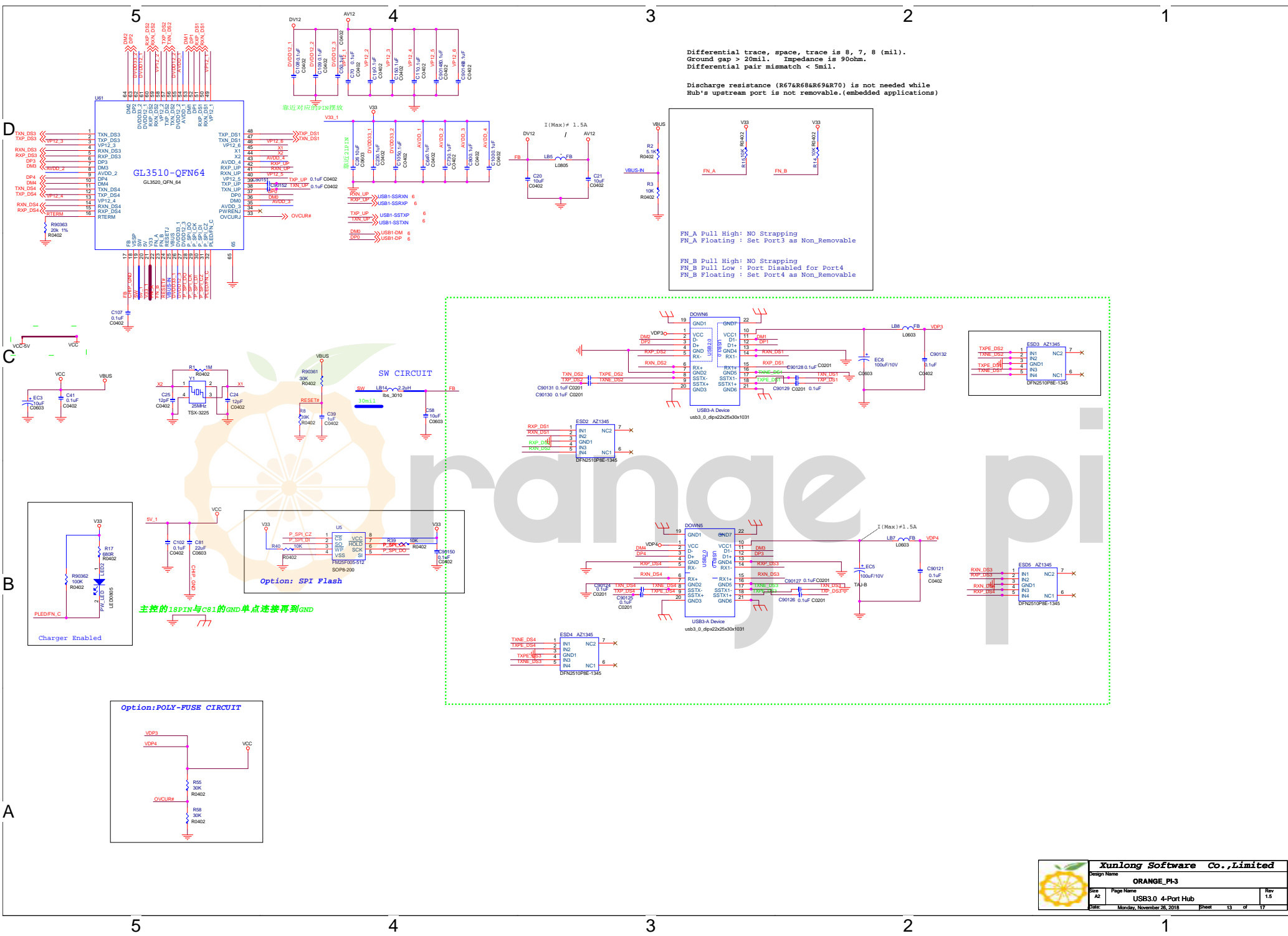
DDC_CEC_EN



Differential pairs
Z0 = 100 ohm

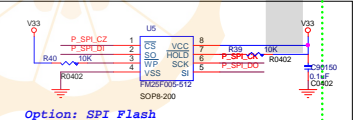
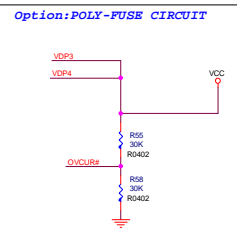
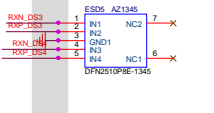
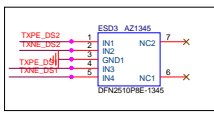
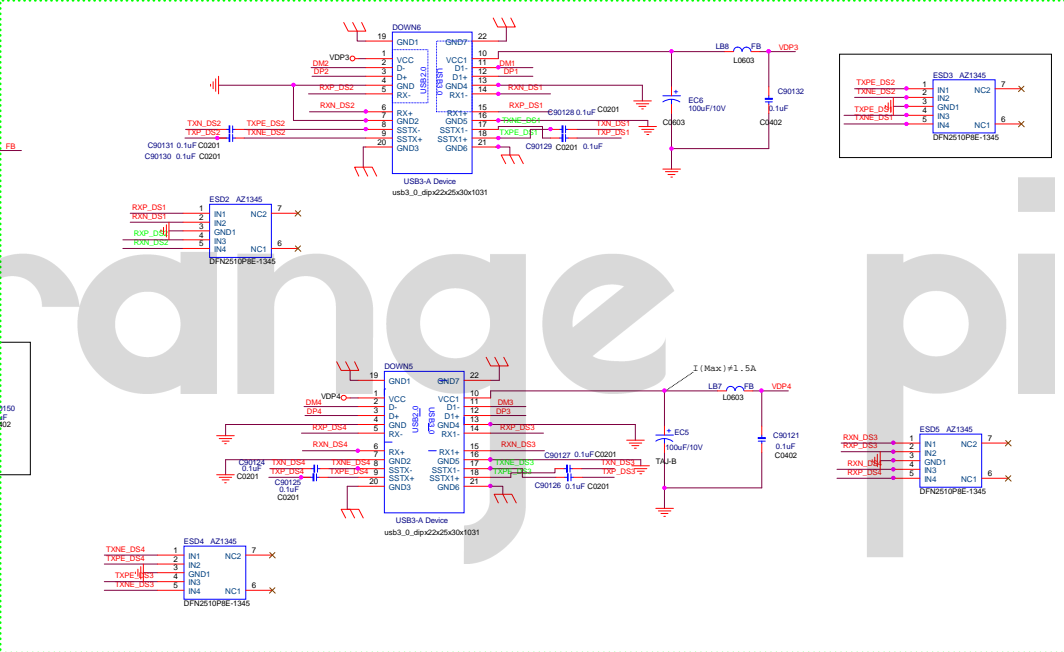
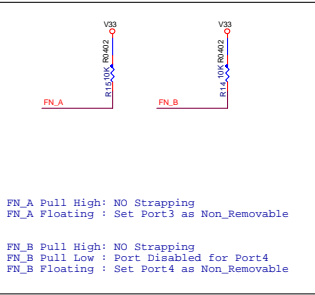


Xunlong Software Co., Limited		
Design Name	ORANGE-PI-3	
Size	Page Name	Rev
A3	AV-HDMI	1.5
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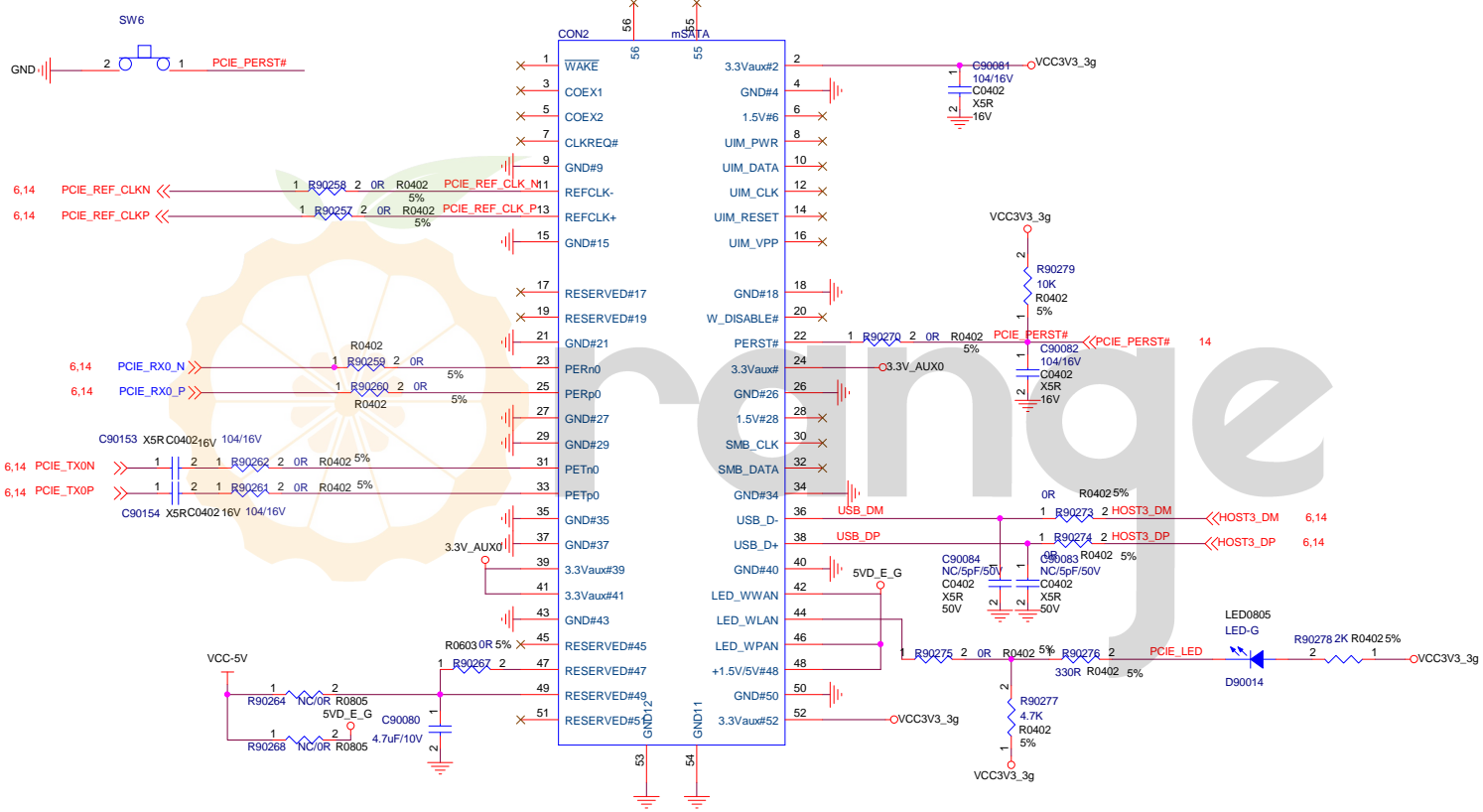
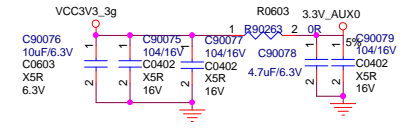
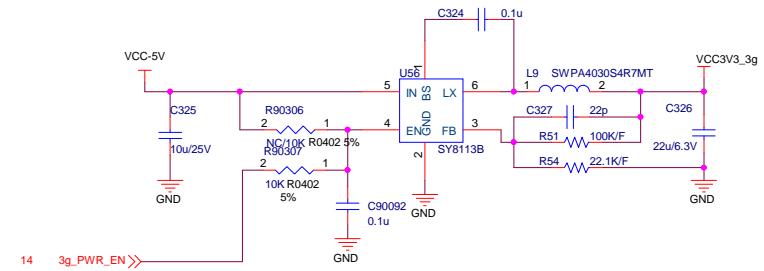
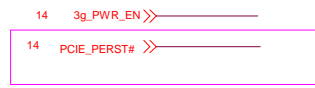
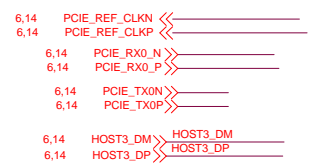
Differential trace, space, trace is 8, 7, 8 (mil).
Ground gap > 20mil. Impedance is 90ohm.
Differential pair mismatch < 5mil.

Discharge resistance (R67&R68&R69&R70) is not needed while
Hub's upstream port is not removable.(embedded applications)



主控的18PIN与C81的GND单点连接再到GND

5 4 3 2 1



D

D

C

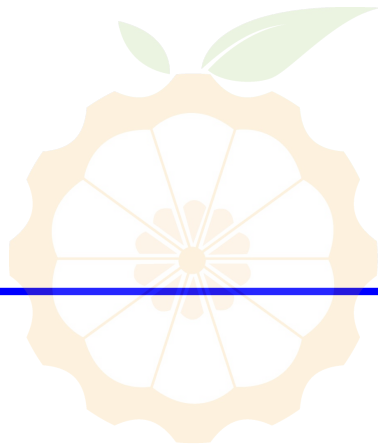
C

B

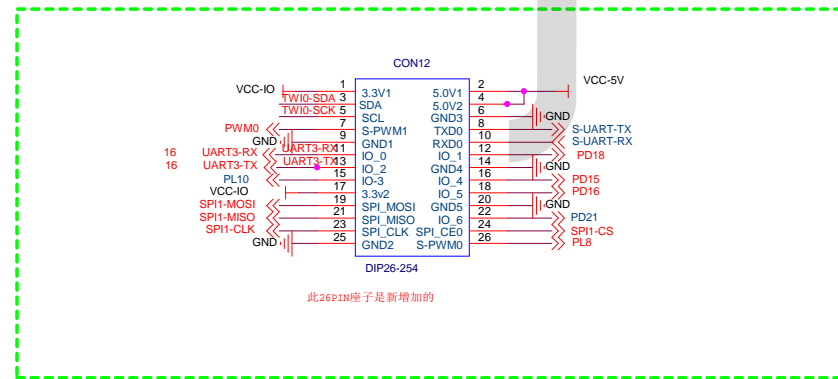
B

A

A



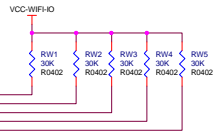
orange pi



WIFI+BT

5.17
5.17
5.17
5.17
5.17
5

WL_SDO_CMD
WL_SDO_D0
WL_SDO_D1
WL_SDO_D2
WL_SDO_D3
WL_SDO_CLK



5.17
5.17
5.17
5
5
5
5

BT_UART_TX
BT_UART_RX
BT_UART_RTS
BT_UART_CTS
BT_PCM_SYNC
BT_PCM_CLK
BT_PCM_DIN
BT_PCM_DOUT

Note:

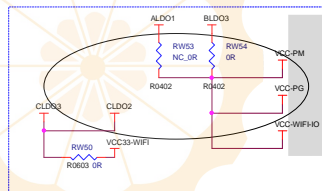
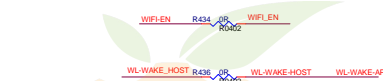
AP6181: 贴 B+E, 不贴 A+C+D+F
S7238S: 贴 F, 不贴 A+B+C+D+E
AP6330/6355: Mount B+C+E, NCA+D+F

5
5.17
5.17
5.17
6.17

BT-REG-ON
WL-WAKE-AP
BT-WAKE-AP
AP-WAKE-BT
AP-CK32K0
AP-CK32K0

5

WL-REG-ON
WIFI-EN



RW51 RW45 RW46 RW50 RW52 RW53

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	0R	NC	NC
	IO为3.3V	0R	0R	0R	NC	NC	NC

