

REVISION HISTORY

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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BLDO1,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.新增千兆网卡模块	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 1.2	12. 删除USB HUB芯片；USB端口更改为1个USB3.0，2个USB2.0；供电口更改为Type-C端口；删除Mini-PCIE接口			
Ver 1.3	13. 删除TP15、TP16、TP26、RC5、RC9；更改CC7、CC8，由0420封装更改为0201封装			
Ver 1.4	14. 解决PHY芯片更改为YT8531C后，部分芯片导致AV无输出问题。			

BLOCK

5 4 3 2 1

D

D

C

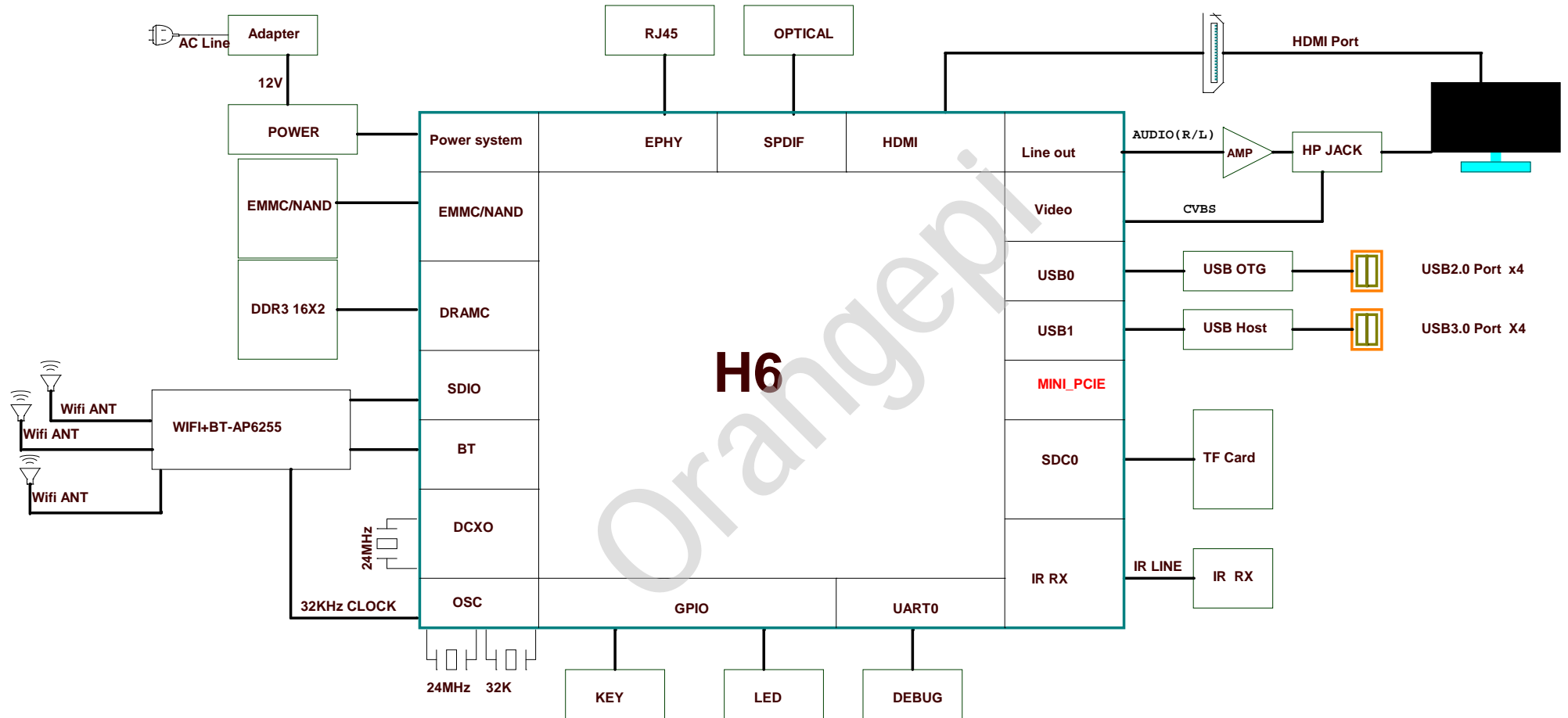
C

B

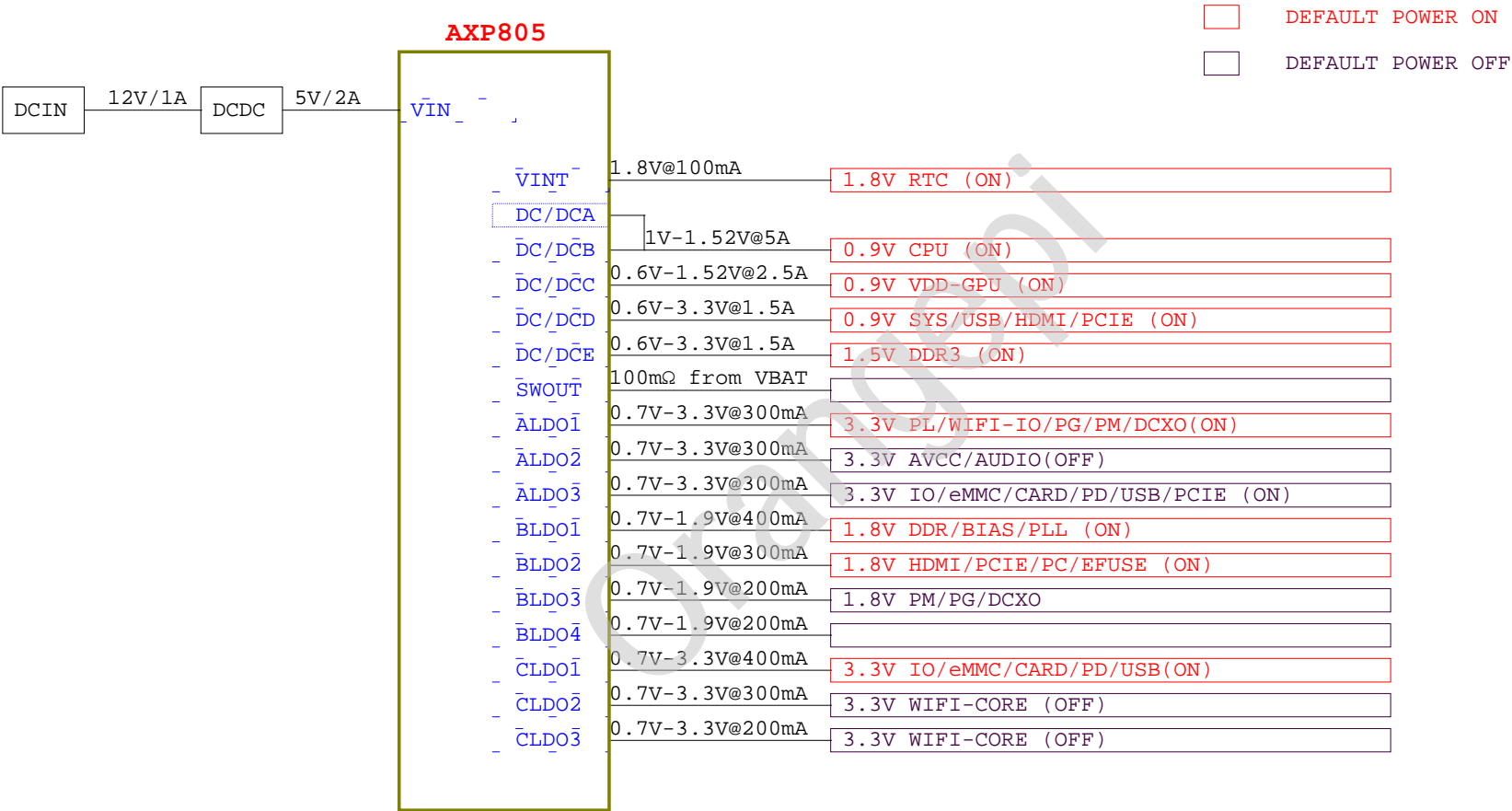
B

A

A



POWER TREE



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	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

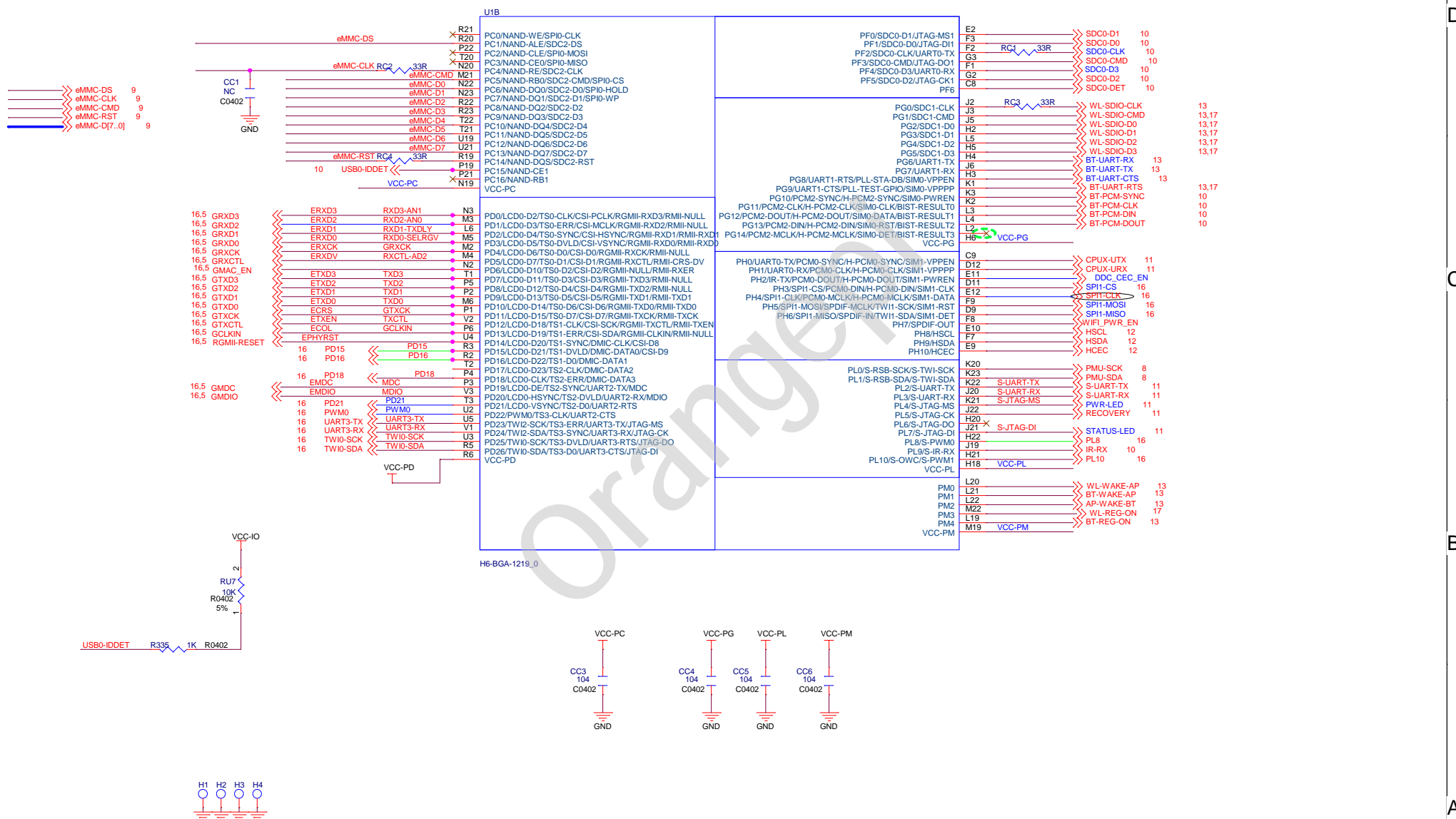
4

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



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Design Name

ORANGE_PI3 LTS

Size
A3

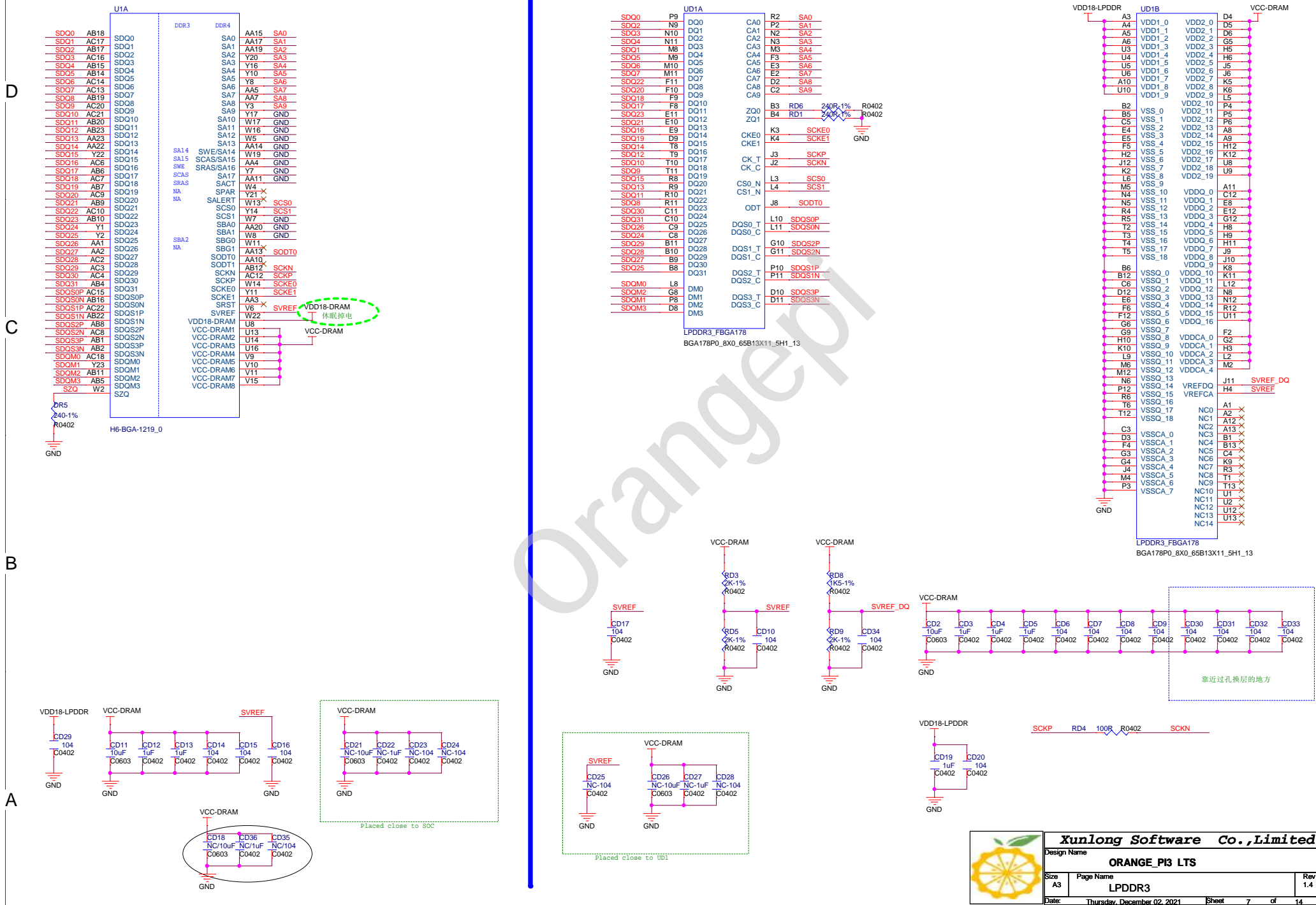
Page Name
SOC1

Rev
1.4

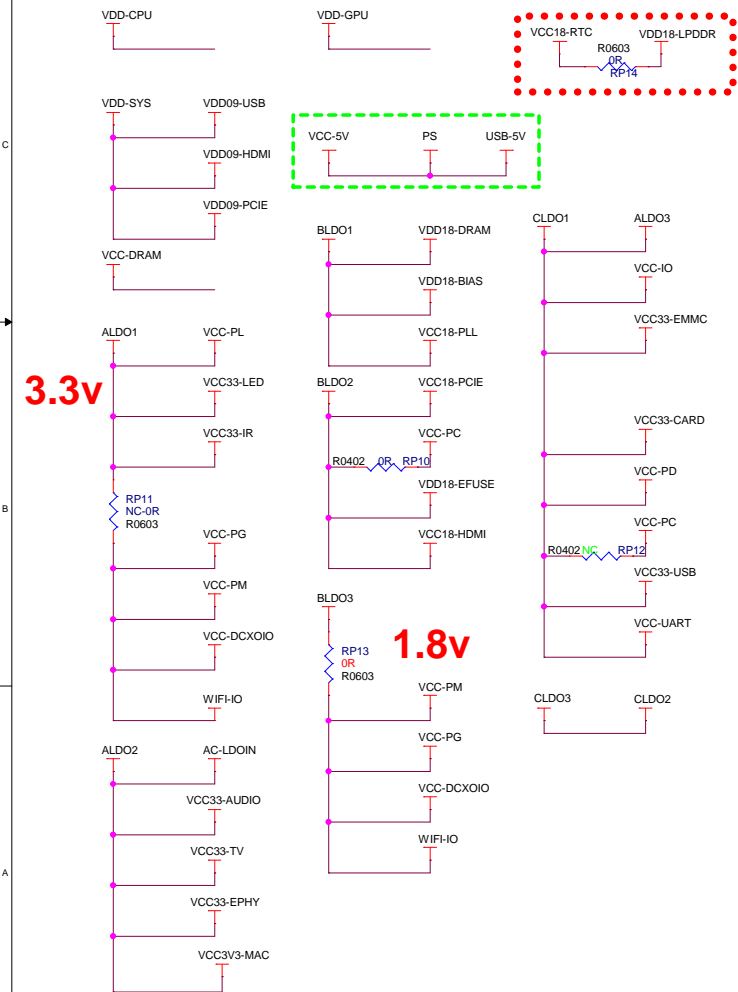
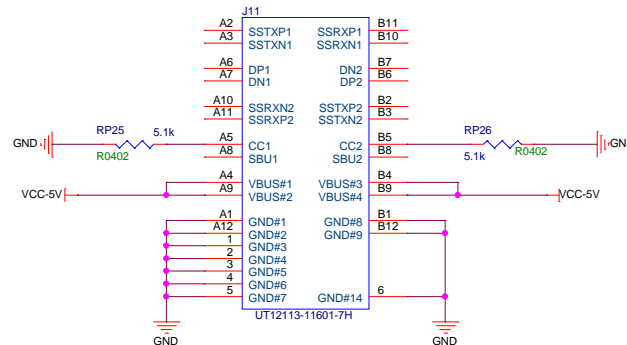
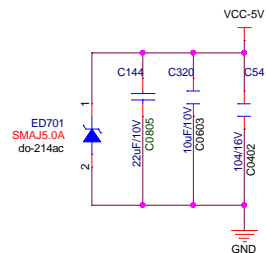
Date: Thursday, December 02, 2021 Sheet 5 of 14



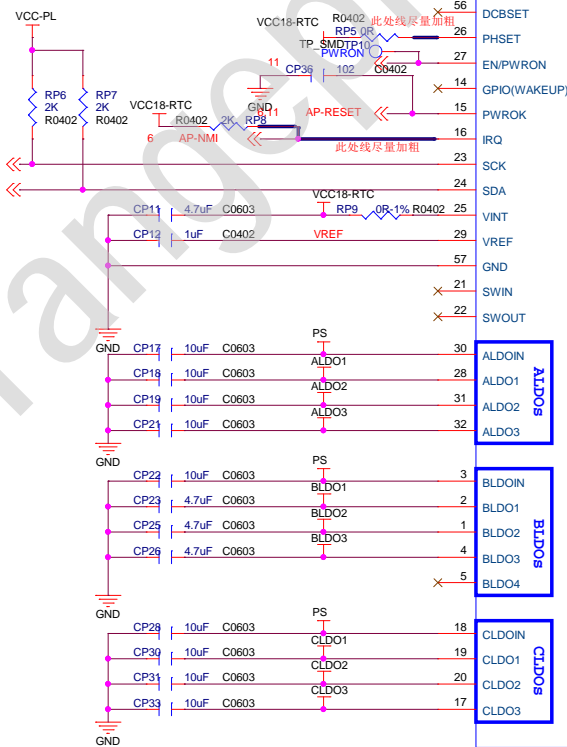
LPDDR3



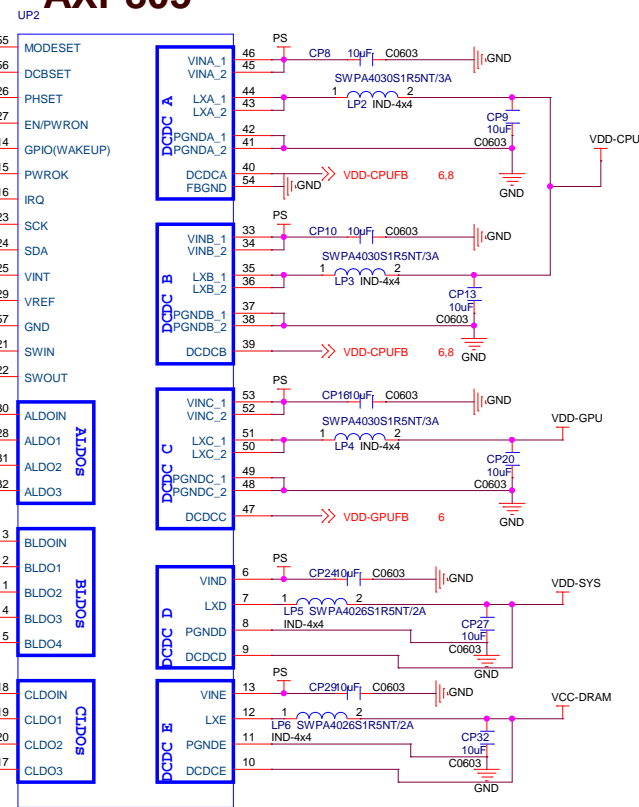
DCIN



PMIC



AXP805



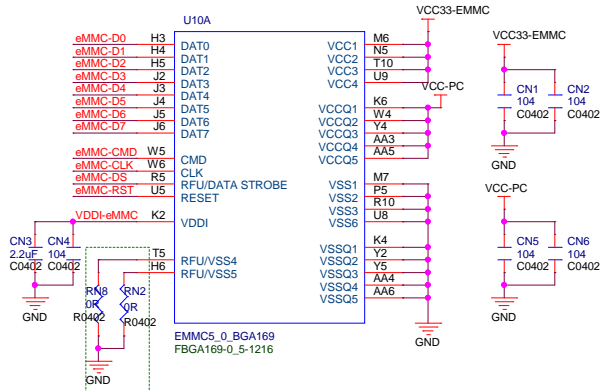
AXP805
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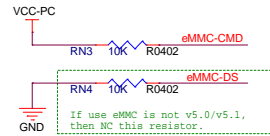
Xunlong Software Co., Limited			
Design Name			
ORANGE_PI3 LTS			
Size	Page Name	Rev	
A3	POWER	1.4	
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eMMC

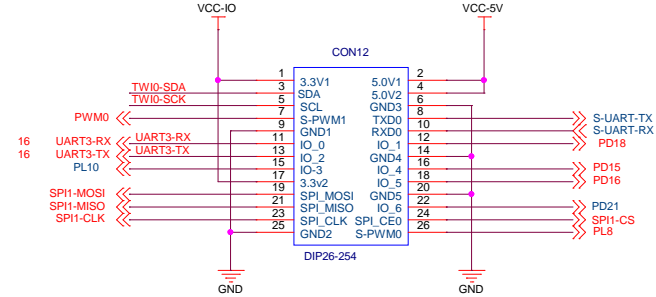
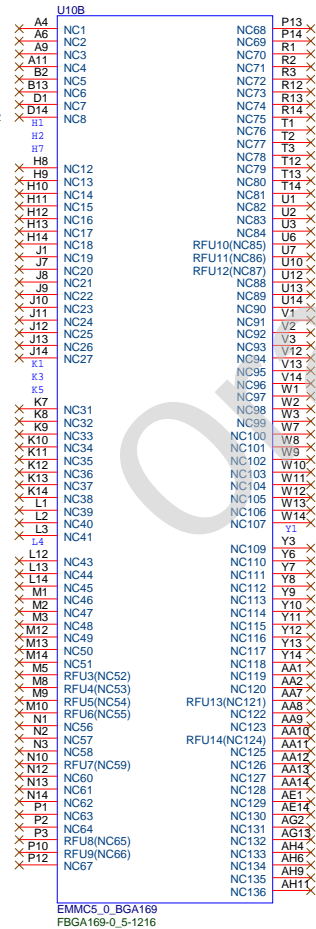
eMMC-DS 5
 eMMC-CLK 5
 eMMC-CMD 5
 eMMC-RST 5
 eMMC-D[7..0] 5



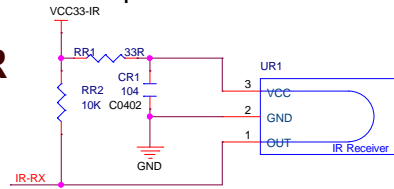
If eMMC is not v5.0/v5.1, then NC these two resistors.



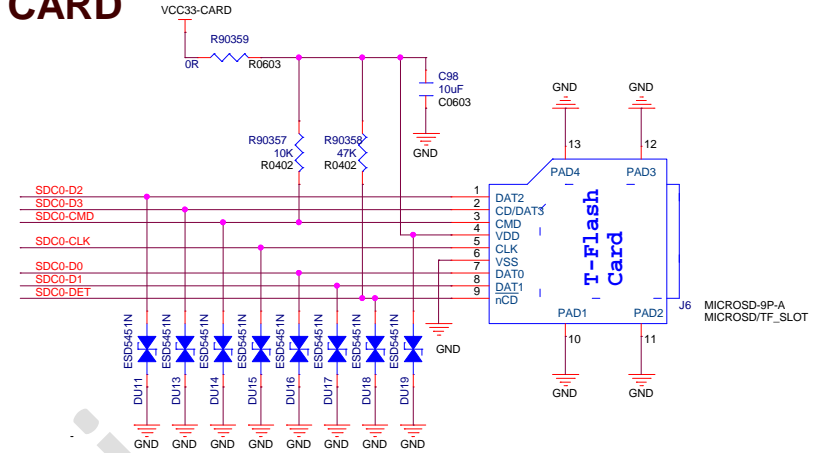
Placed close to SOC



IR



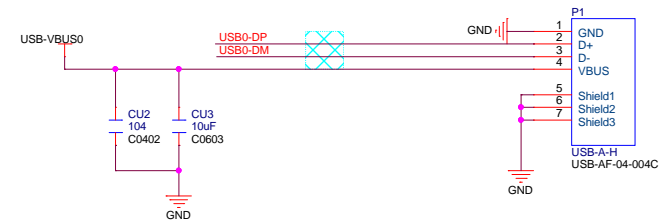
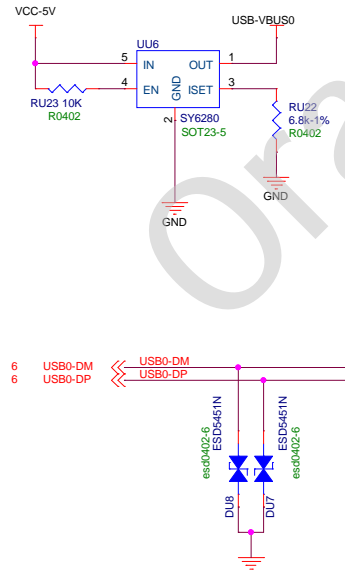
CARD



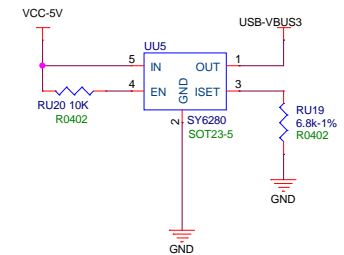
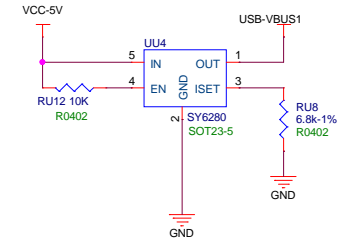
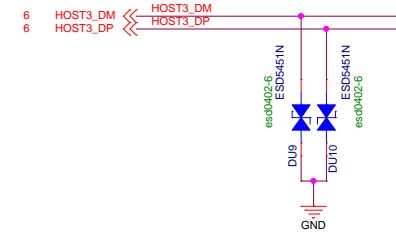
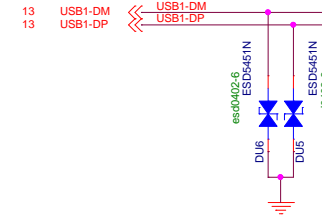
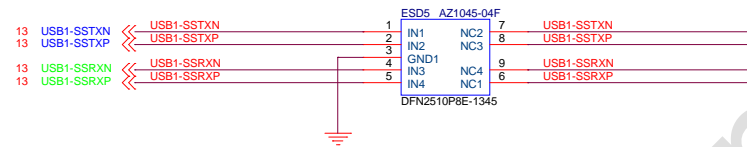
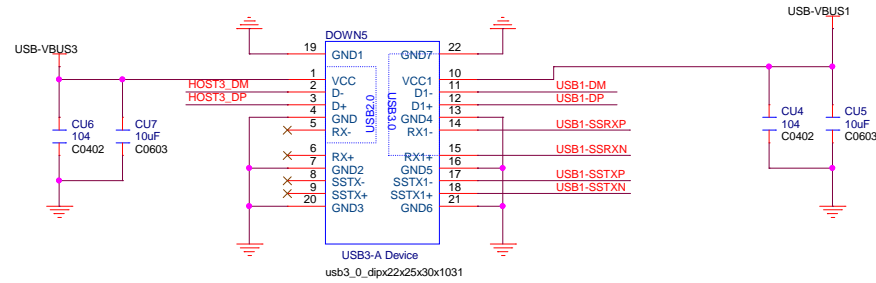
USB

Differential pairs
Z0= 90 ohm

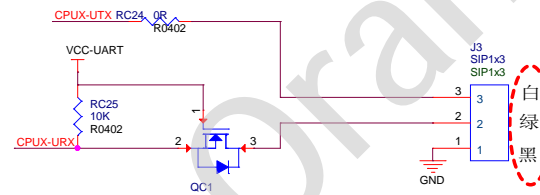
USB Current limiting function



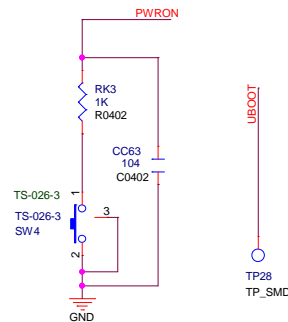
Xunlong Software Co., Limited			
Design Name			
ORANGE_P13 LTS			
Size	Page Name	Rev	
A3	CARD-USB-IR	1.4	
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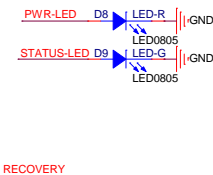
DEBUG



KEY



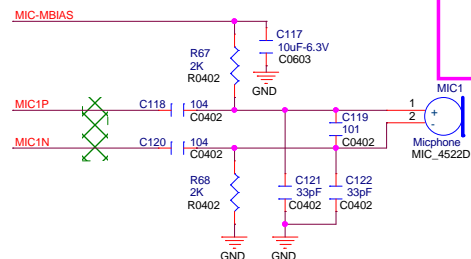
LED



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Design Name			
ORANGE_P13 LTS			
Size	Page Name	Rev	
A3	USB-KEY-LED-DEBUG	1.4	
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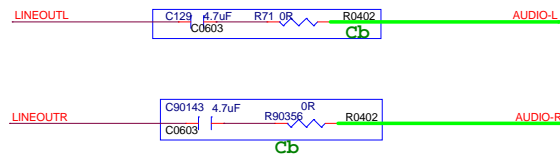
Mic

6 MIC-MBIAS
6 MIC1P
6 MIC1N



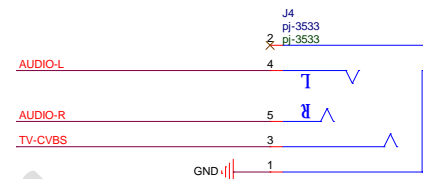
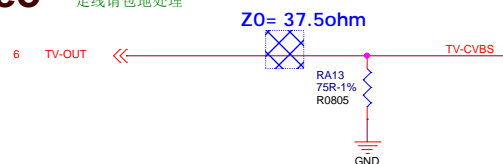
Audio

6 LINEOUTL
6 LINEOUTR



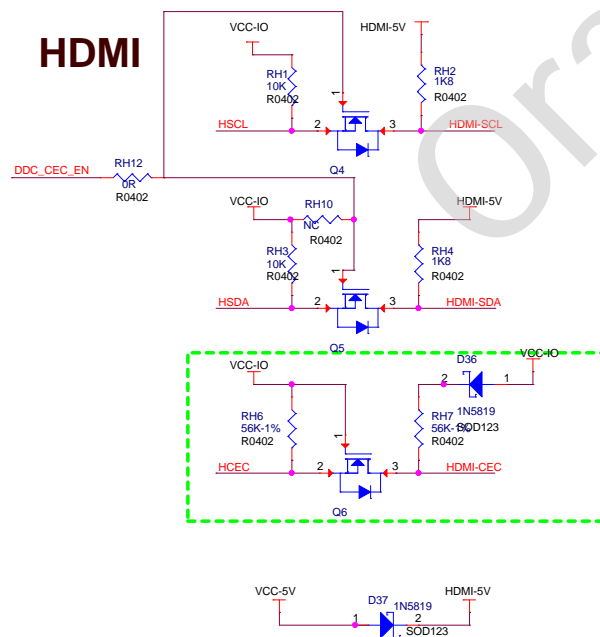
Video

走线请包地处理

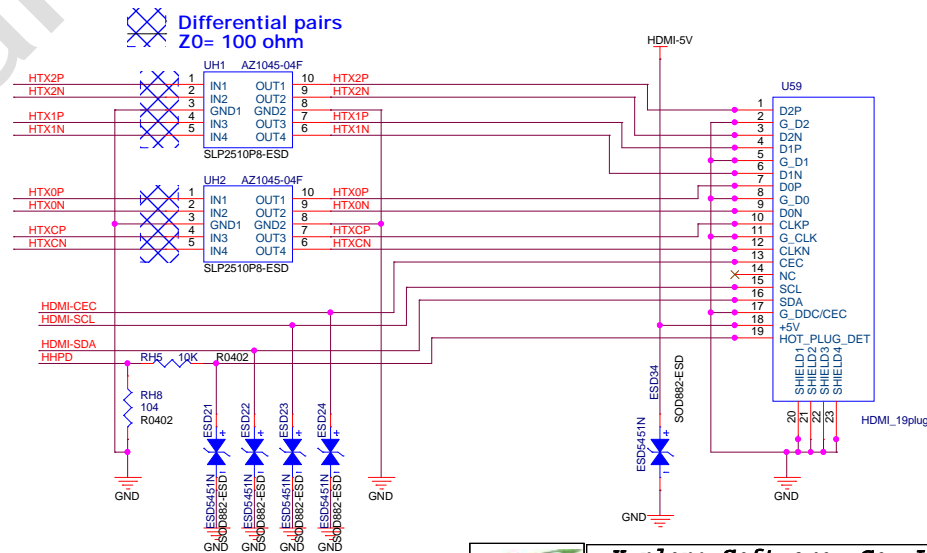


HDMI

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

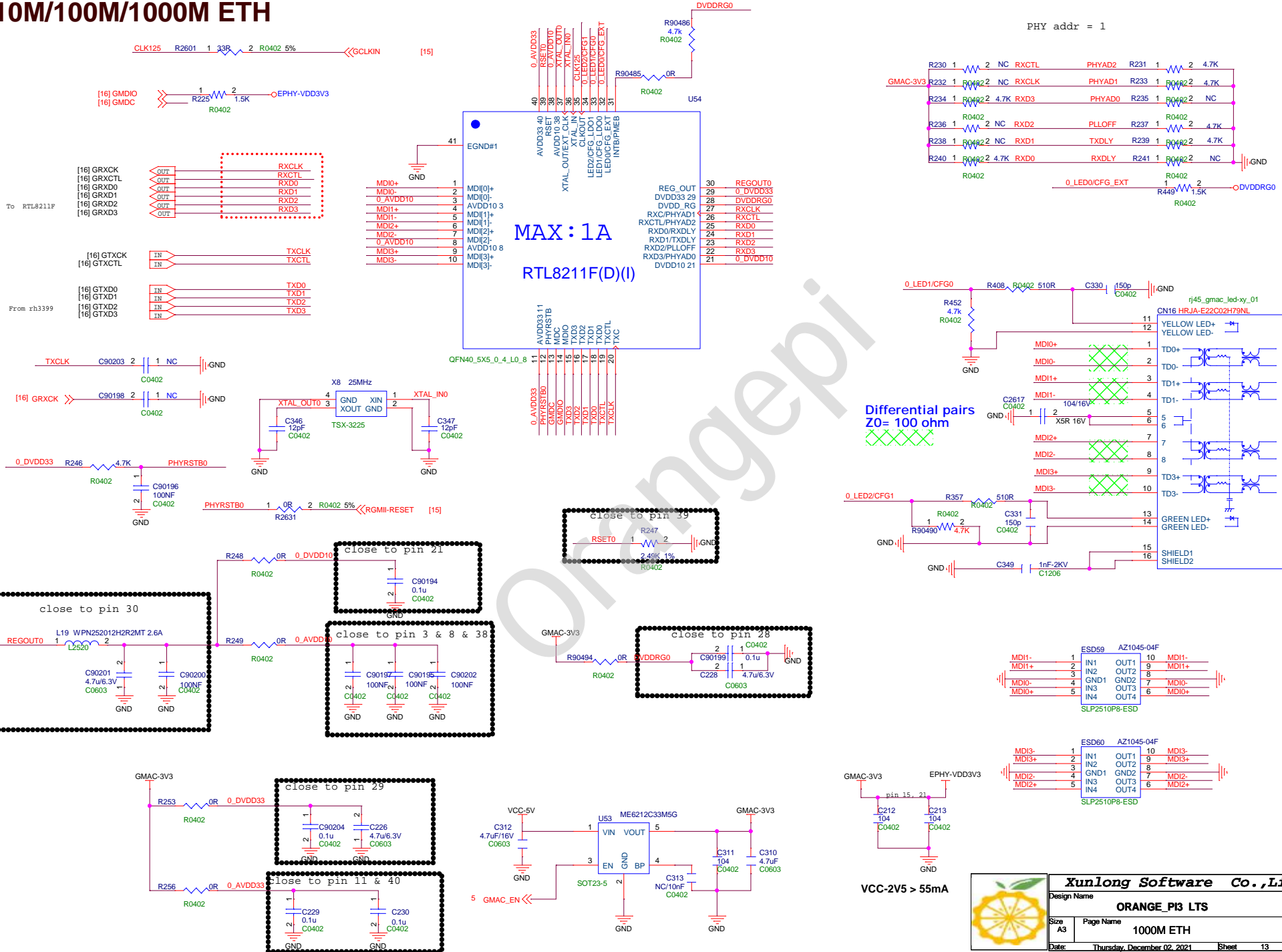


Differential pairs
Z0= 100 ohm

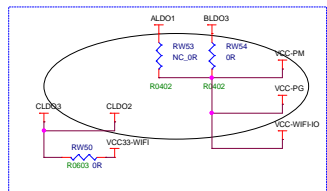


Xunlong Software Co., Limited			
Design Name			
ORANGE_P13 LTS			
Size	Page Name	Rev	
A3	AV-HDMI	1.4	
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10M/100M/1000M ETH



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



		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	NC	NC	NC
	IO为3.3V	0R	0R	0R	NC	NC	NC

