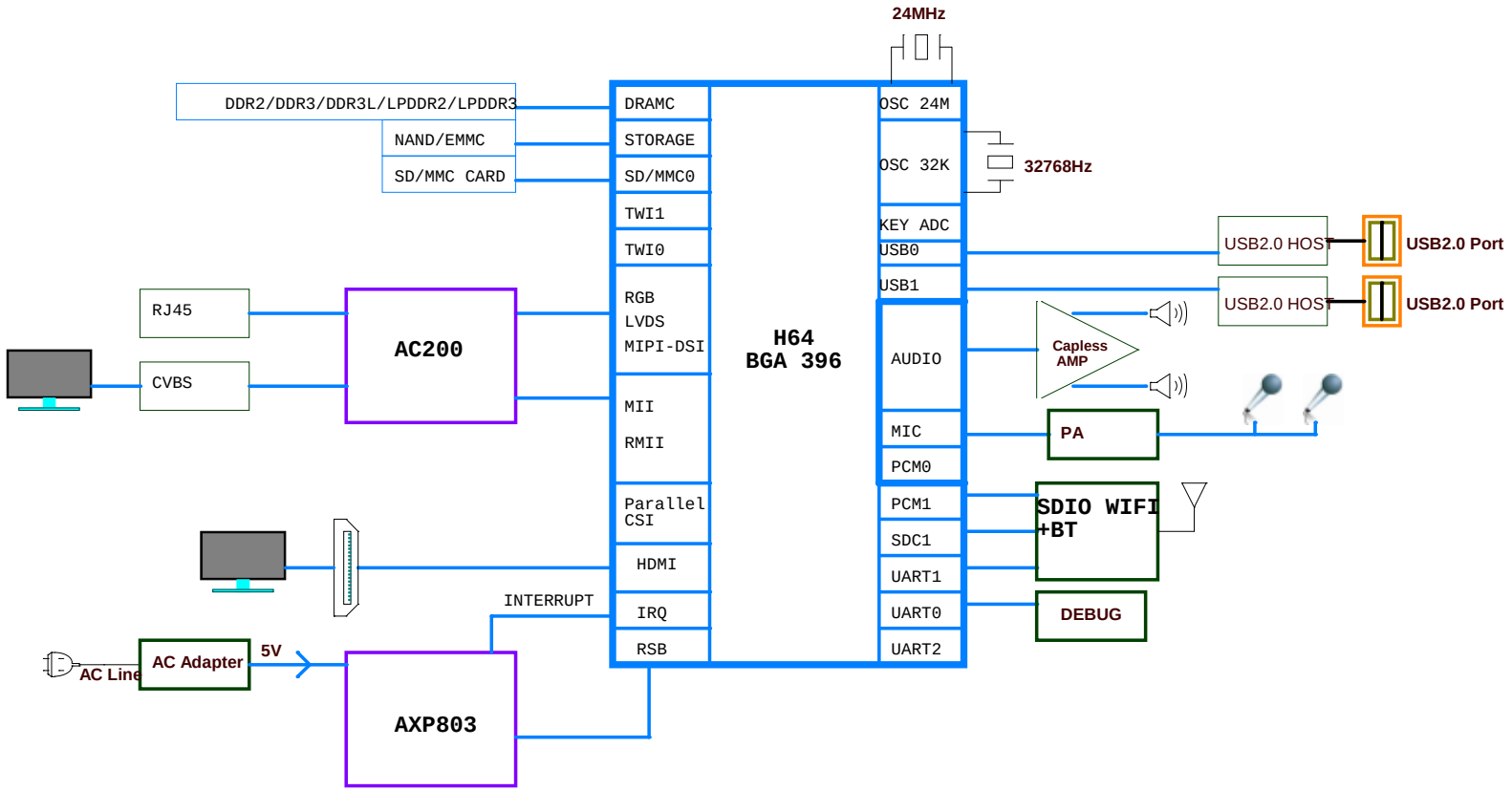
VERSION HISTORY

Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Releas version	2015-08-21			
Ver 1.1	1、增加升压模块7208 2、WIFI部分更改为只兼容AP6212和8723BS 3、更改WIFI、CSI部分PMU供电 4、更改HDMI，PMU供电	2016-09-24			
	1、NC R393 R392，WIFI电源部分 2、增加R394 R395 R396（NC）R397，VBUS供电 USB使能检测 3、R110变更为10K，R111变更改为6K2 4、音频部分更改为带MIC,MIC部分修改 5、LED灯PMU IO口控制一路更改为DCDC1电源	2016-11-02			
	1、增加跳线插件J6 2、增加KEYADC上拉和滤波电容 3、增加兼容NOR FLASH 4、更改DDR为两颗	2016-12-28			

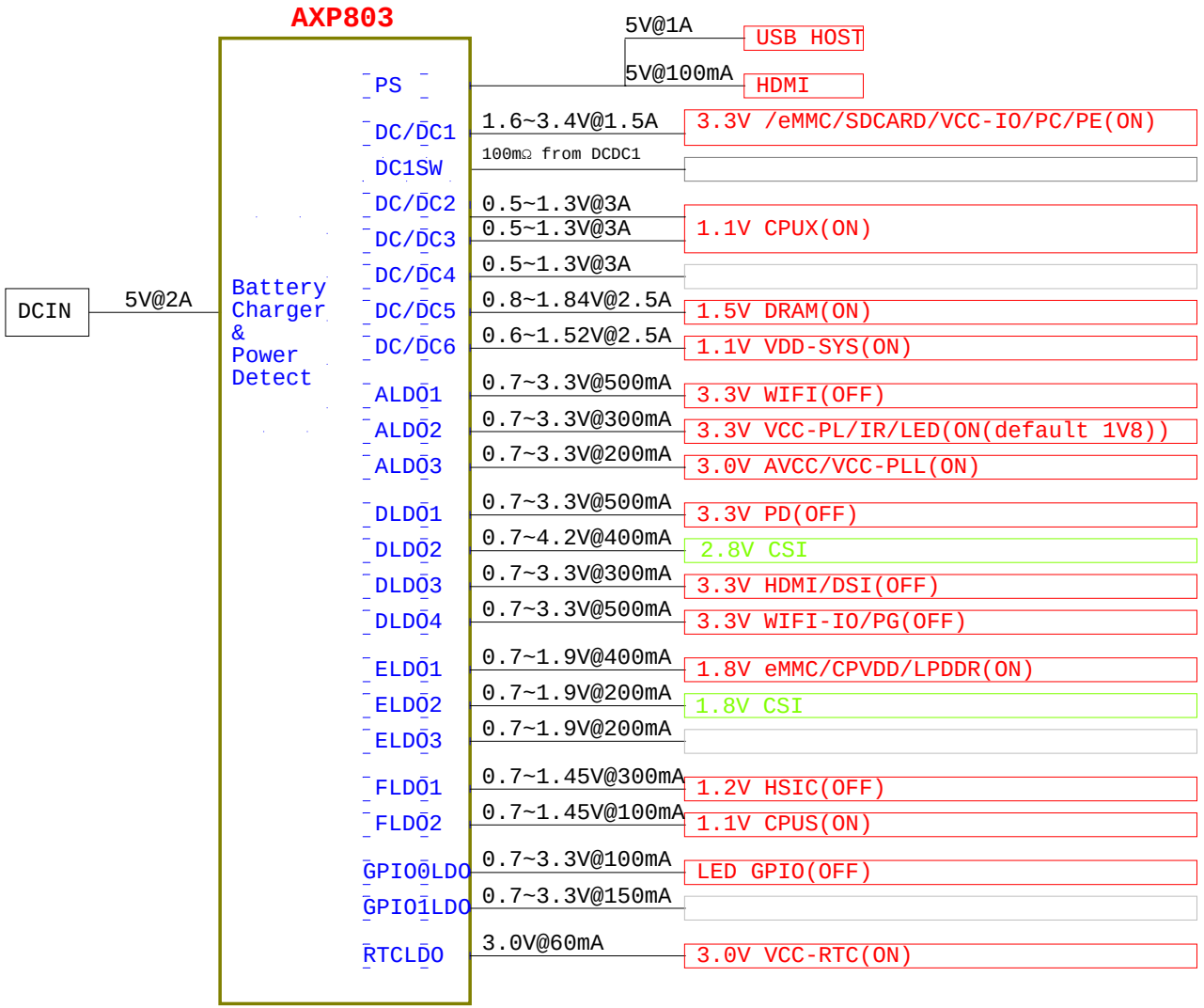
	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: VERSION HISTORY	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 1 of 17	

BLOCK DIAGRAM



	Xunlong Software	
Design Name	Orangepi-Win	
Size A3	Page Name BLOCK DIAGRAM	Rev 1.1
Date: Thursday, December 29, 2016	Sheet 2 of 17	

POWER TREE



Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: POWER TREE	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 3 of 17	

GPIO ASSIGNMENT

PIN	Define	CFG	Function
PB0	UART1_TX		GPIO
PB1	UART1_RX		
PB2	UART1_RTS		
PB3	UART1_CTS		
PB4	PA7		
PB5	PA8		
PB6	PA9		
PB7	PA10		
PB8	UART0-TX	4	DEBUG
PB9	UART0-RX	4	

PIN	Define	CFG	Function
PC0	PC7	2	GPIO
PC1	eMMC_DS	2	
PC2		2	LCD
PC3	LCD-BL-EN	2	
PC4	LCD-RST	2	
PC5	eMMC-CLK	2/3	eMMC
PC6	eMMC-CMD	2/3	
PC7		2	
PC8	eMMC-D0	2/3	
PC9	eMMC-D1	2/3	
PC10	eMMC-D2	2/3	
PC11	eMMC-D3	2/3	
PC12	eMMC-D4	2/3	
PC13	eMMC-D5	2/3	
PC14	eMMC-D6	2/3	
PC15	eMMC-D7	2/3	
PC16	eMMC-RST	2/3	

PIN	Define	CFG	Function
PD0	SPI0_CS0	5	GPIO
PD1	SPI0_CLK		
PD2	SPI0_MOSI	5	
PD3	SPI0_MISO	5	
PD4	PD14	5	
PD5	PA20	5	
PD6	PA21	5	
PD7	USB0-DRVVBUS	5	
PD8	ERXD3	5	GMAC
PD9	ERXD2	5	
PD10	ERXD1	4	
PD11	ERXD0	4	
PD12	ERXCK		
PD13	ERXDV	4	
PD14	EMAC-PWR-EN		
PD15	ETXD3	5	
PD16	ETXD2	5	
PD17	ETXD1	4	
PD18	ETXD0	4	
PD19	ECRS	4	
PD20	ETXEN	4	
PD21	ECOL		
PD22	EMDC	4	
PD23	EMDIO	4	
PD24			

PIN	Define	CFG	Function
PE0	CSI-PCLK		CSI
PE1	CSI-MCLK		
PE2	CSI-HSYNC		
PE3	CSI-VSYNC		
PE4	CSI-D0		
PE5	CSI-D1		
PE6	CSI-D2		
PE7	CSI-D3		
PE8	CSI-D4		
PE9	CSI-D5		
PE10	CSI-D6		
PE11	CSI-D7		
PE12	CSI-SCK		
PE13	CSI-SDA		
PE14	TWI2-SCK		GPIO
PE15	TWI2-SDA		
PE16	CSI-RESET#		
PE17	CSI-STBY-EN		

PIN	Define	CFG	Function
PF0	D1	2	CARD0
PF1	D0	2	
PF2	CLK	2	
PF3	CMD	2	
PF4	D3	2	
PF5	D2	2	
PF6	DET		

PIN	Define	CFG	Function
PG0	WL-SDIO-CLK	2	WIFI+BT
PG1	WL-SDIO-CMD	2	
PG2	WL-SDIO-D0	2	
PG3	WL-SDIO-D1	2	
PG4	WL-SDIO-D2	2	
PG5	WL-SDIO-D3	2	
PG6	BT-UART-RX	2	
PG7	BT-UART-TX	2	
PG8	BT-UART-CTS	2	
PG9	BT-UART-RTS	2	
PG10	BT-PCM-SYNC	3	
PG11	BT-PCM-CLK	3	
PG12	BT-PCM-DIN	3	
PG13	BT-PCM-DOUT	3	

PIN	Define	CFG	Function
PH0		2	GPIO
PH1		2	
PH2	TWI1-SCK		
PH3	TWI1-SDA		
PH4	UART2_TX		
PH5	UART2_RX		
PH6	UART2_RTS		
PH7	UART2_CTS		
PH8	TP-INT	2	
PH9	USB0-IDDET	1	
PH10	TP-RST		
PH11	STATUS-LED	2	LED

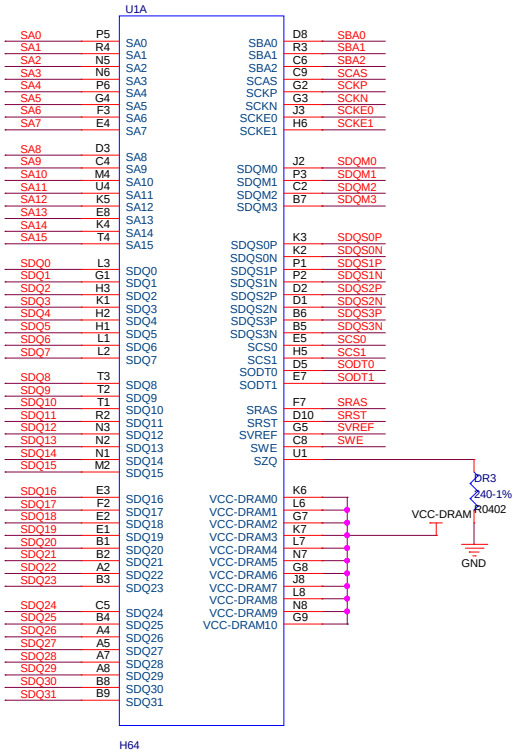
PIN	Define	CFG	Function
PL0	PMU-SCK	2	RSB
PL1	PMU-SDA	2	
PL2	UART3_TX	1	GPIO
PL3	UART3_RX	1	
PL4	BT-RST-N	1	WIFI+BT
PL5	BT-WAKE-AP	1	
PL6	AP-WAKE-BT	3	
PL7	WL-WAKE-AP		
PL8	WL-PMU-EN		
PL9	PC4	2	GPIO
PL10	PWM1	1	
PL11	IR-RX	1	

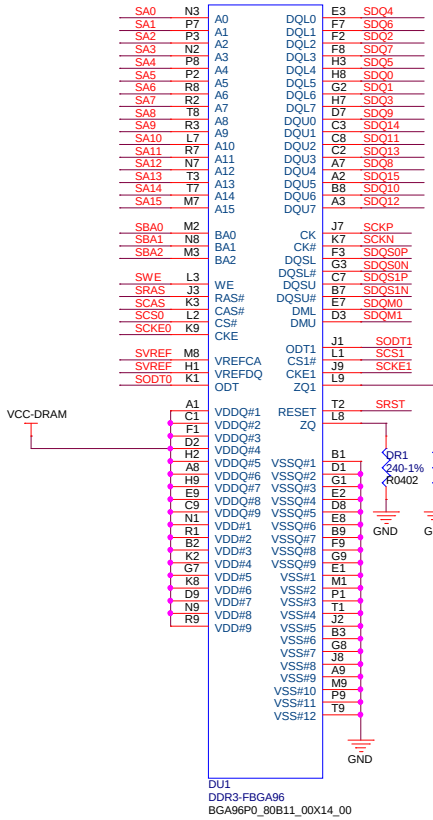
TP_SCK
TP_SDA

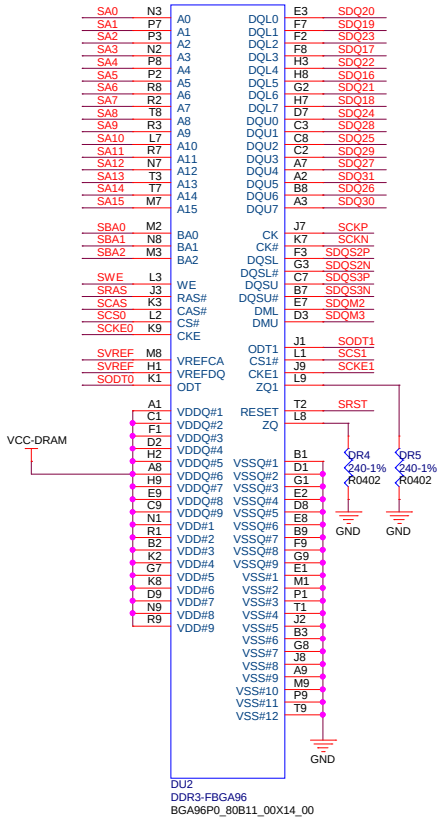
TP

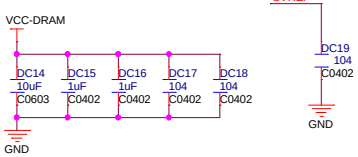
Xunlong Software
Design Name: Orangepi-Win
Size: A3
Page Name: GPIO ASSIGNMENT
Rev: 1.1
Date: Thursday, December 29, 2016
Sheet 4 of 17

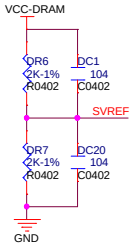
DDR3 16x2

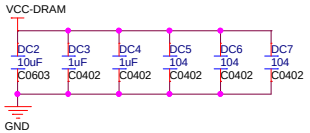


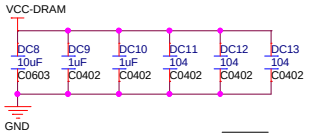


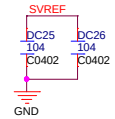


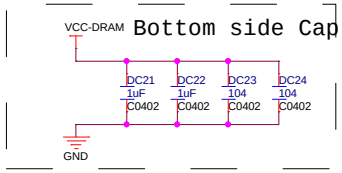






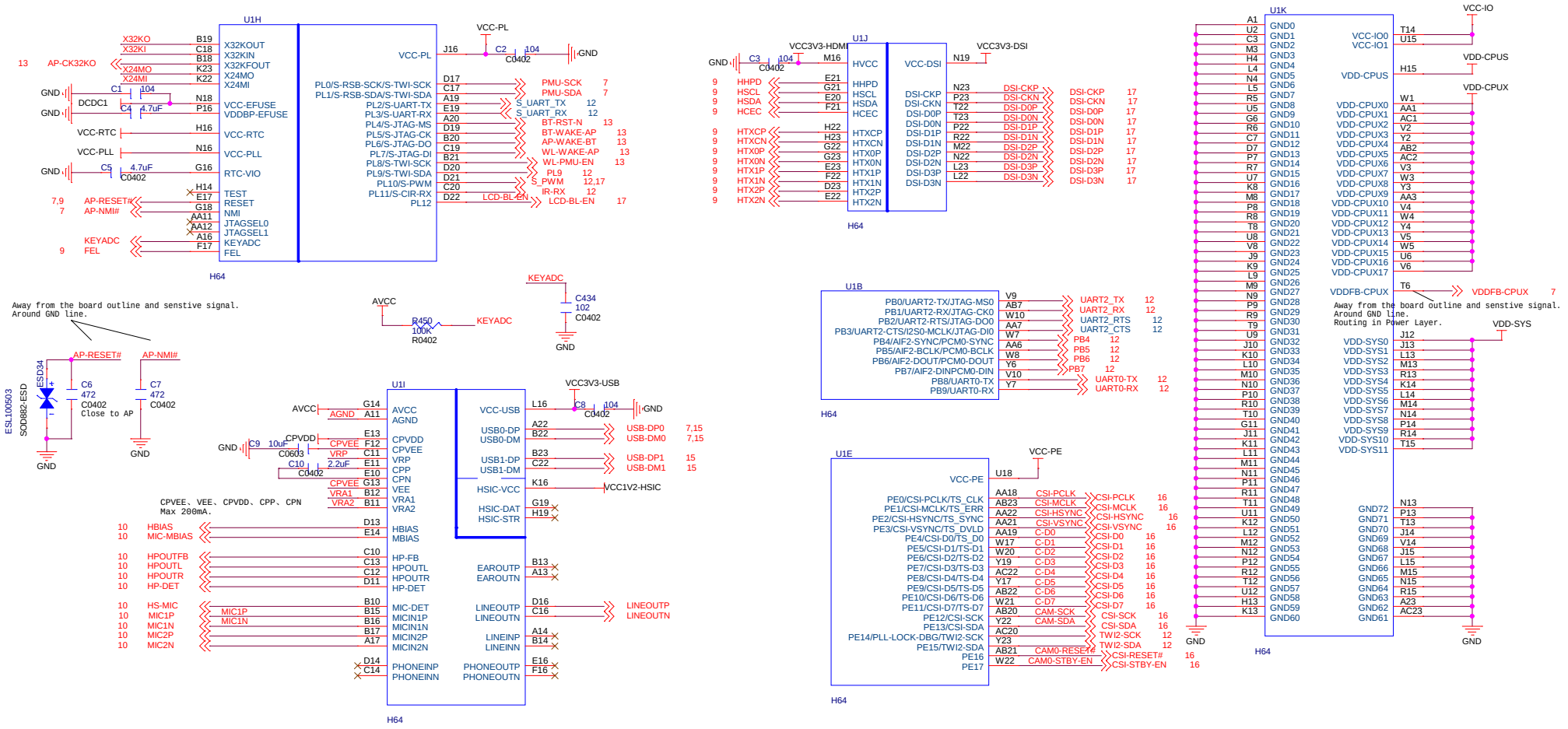






Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: DDR3 16X2	Rev
Date: Thursday, December 29, 2016	Sheet 5 of 16	

CPU



Xunlong Software			
Design Name: Orangepi-Win			
Size: A3	Page Name: CPU		Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 6 of 17		

Power DCIN

PS-5V

PMIC

IF use the battery temperature sensor: A=NC
otherwise: A=10k

Vout = 0.6 x (1 + RA/RB)
Imax = 2A

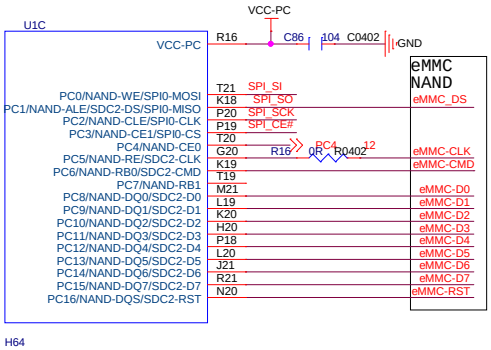
DC5SET :
Floating : 1.24V
GND : 1.5V
VINT : 1.36V

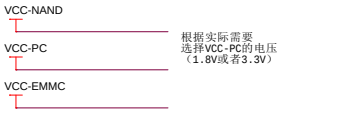
A and B mount Close to AP.

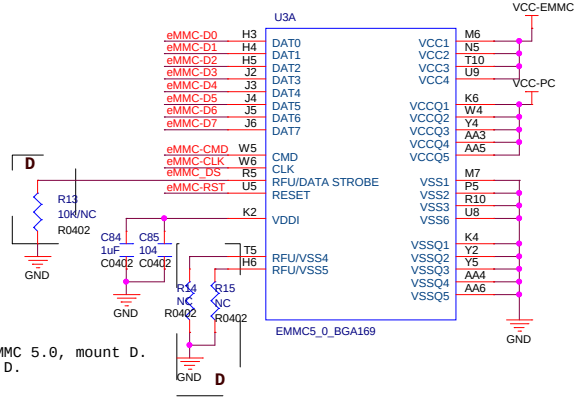
Design Name	Orangepi-Win
Page Name	PMIC
Size	A3
Rev	1.1
Date:	Thursday, December 29, 2016
Sheet	7 of 17

Xunlong Software

NAND/eMMC

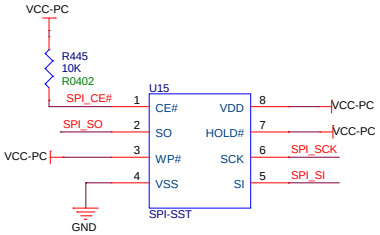


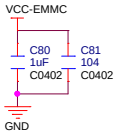


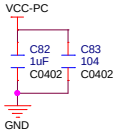


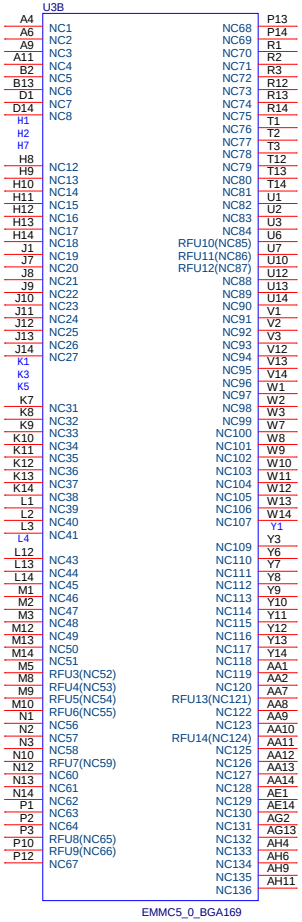
If use eMMC 5.0, mount D.
else, NC D.

NOR FLASH







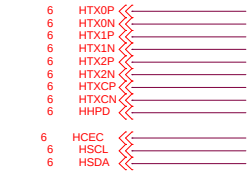


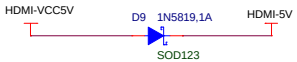
	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: eMMC&NOR FLASH	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 8 of 17	

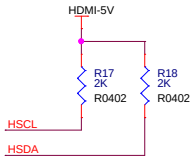
HDMI/KEY

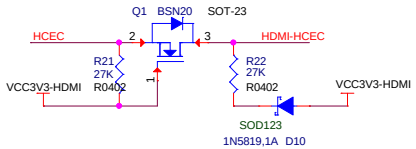
HDMI

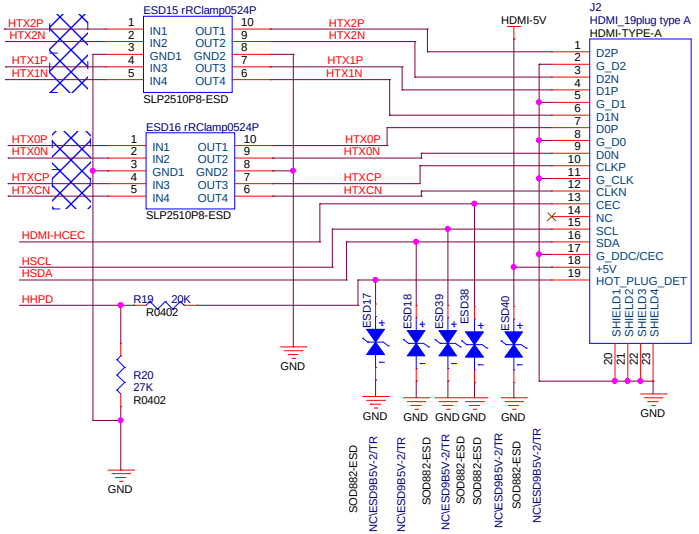
Differential pairs
Z0= 100 ohm



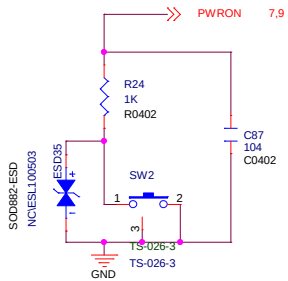


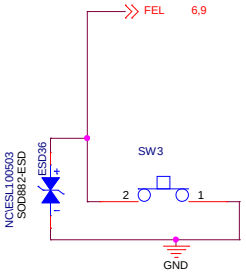


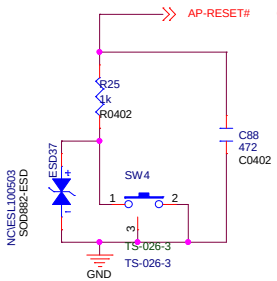




KEY

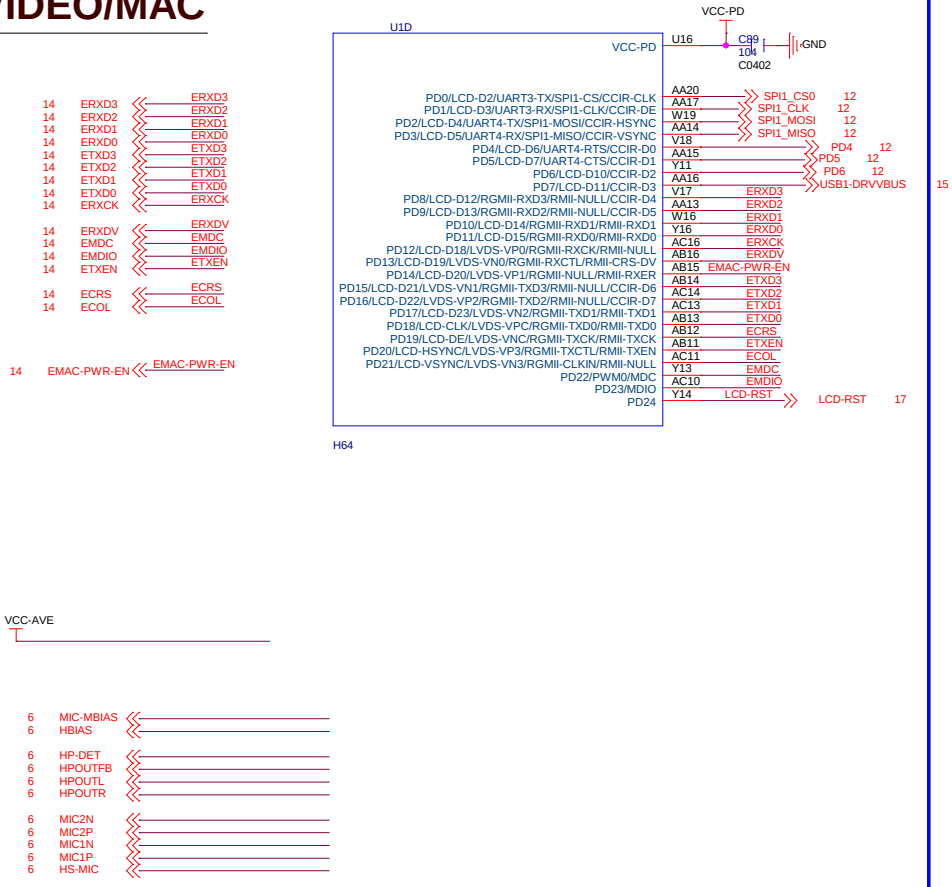




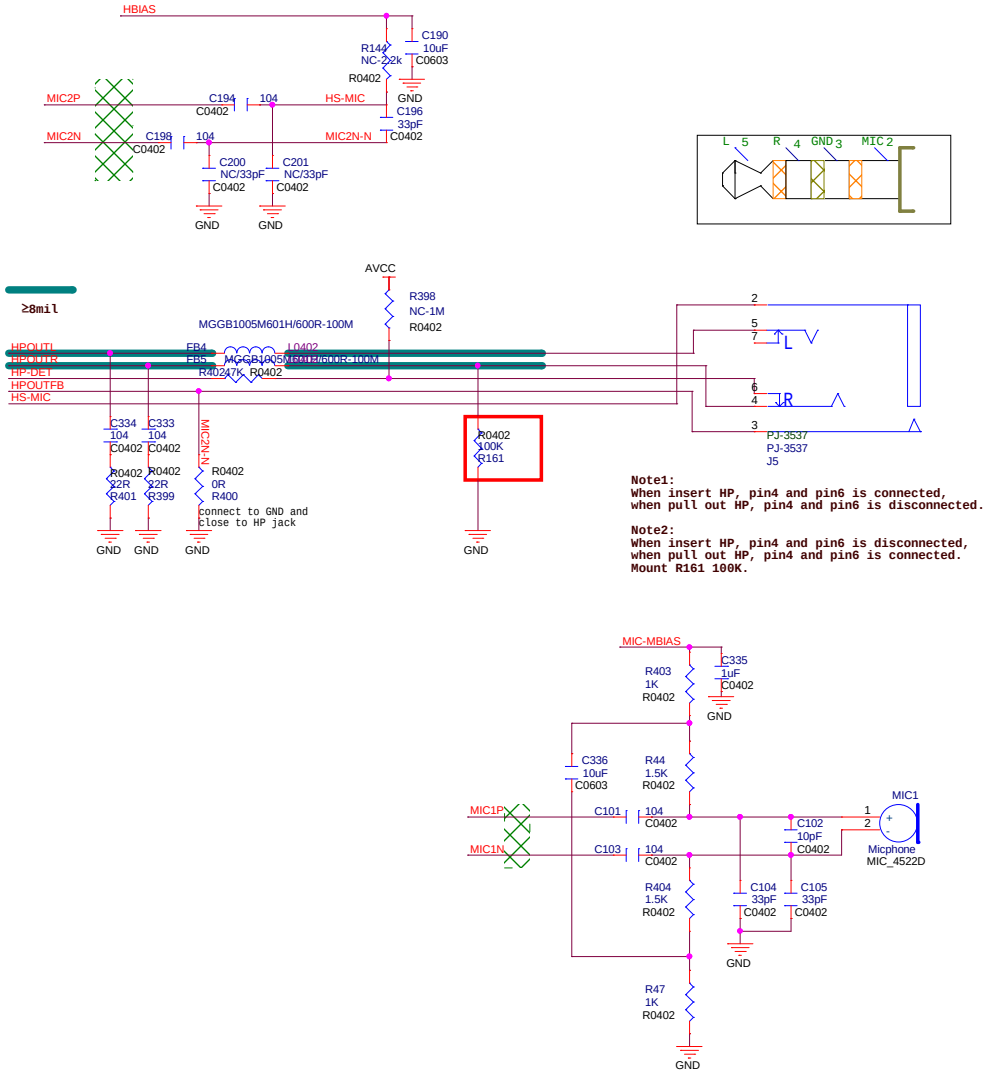


Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: HDMI/KEY	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 9 of 17	

VIDEO/MAC

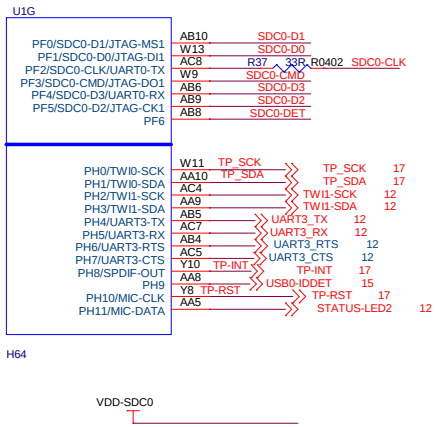


AUDIO

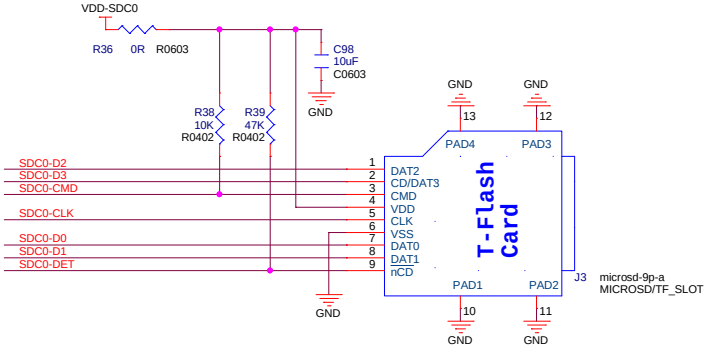


	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: VIDEO/MAC	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 10 of 17	

T-CADD/USB



T-CARD



	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: T-CARD	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 11 of 17	

IR-SPDIF-LED-DEBUG

6 UART0-TX
6 UART0-RX

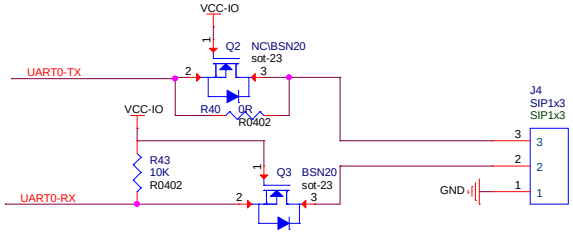
VCC-IO

VCC-IR

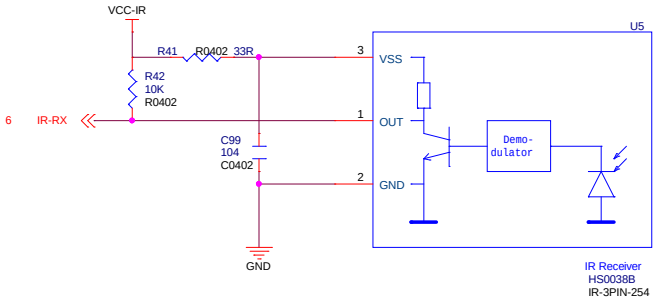
VCC-LED

OWA-5V

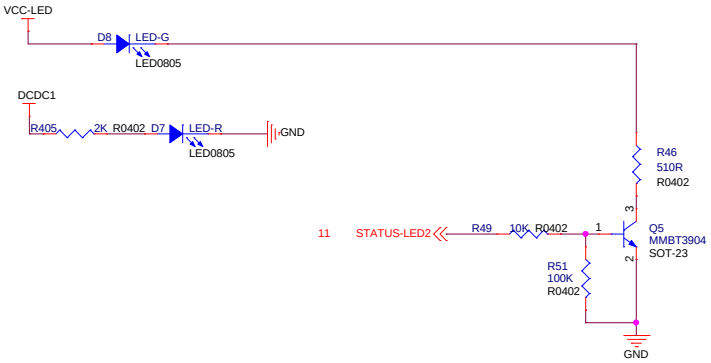
DEBUG



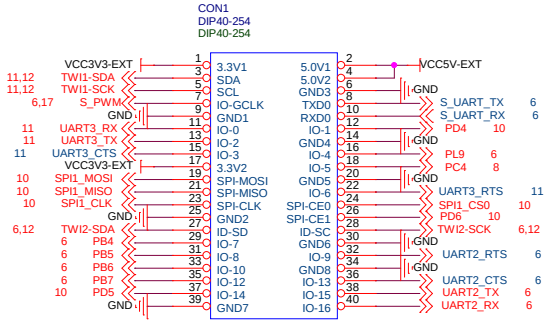
IR

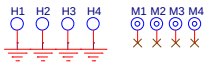


LED



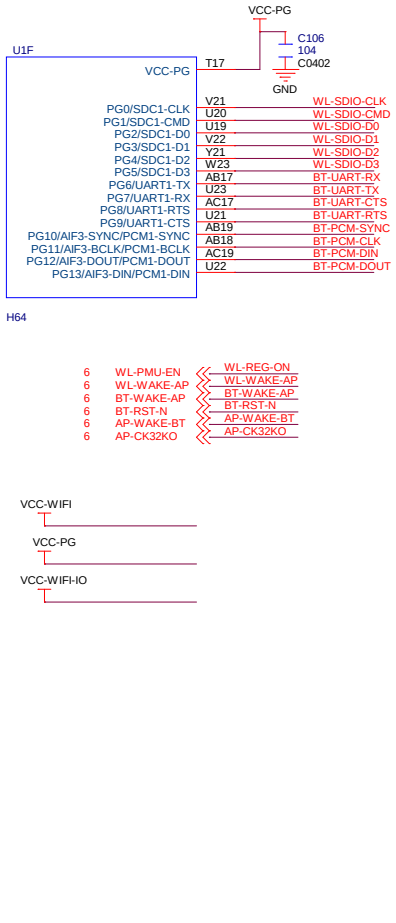
Ext Port



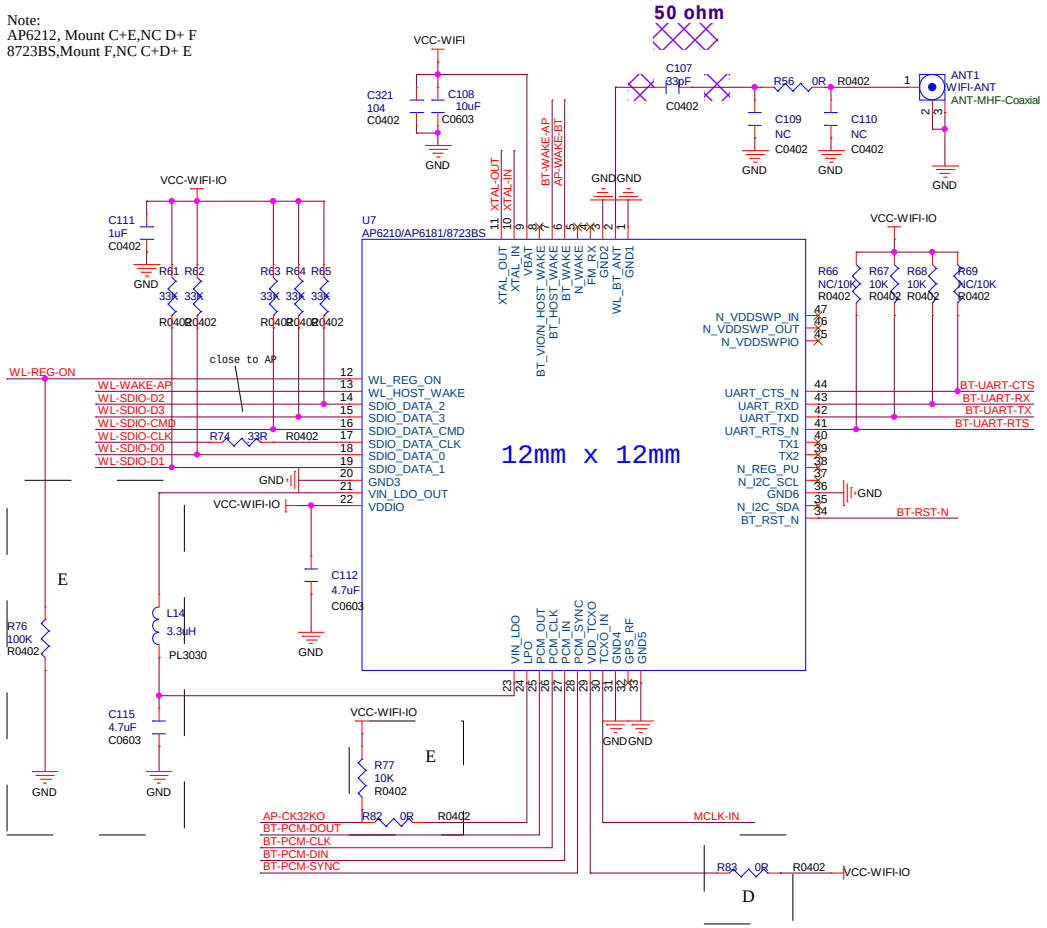


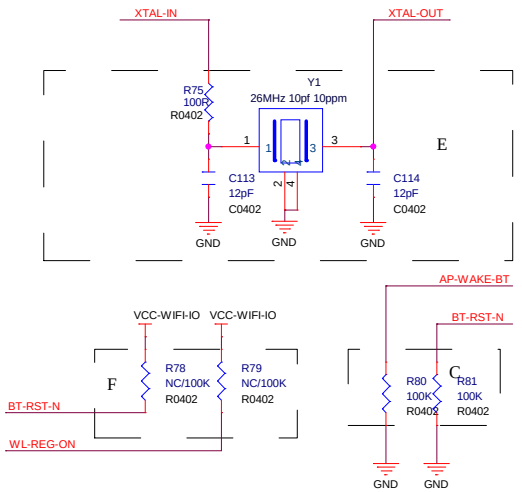
Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: IR/MIC/SPDIF/LED/DEBUG/EXT	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 12 of 17	

WIFI+BT



Note:
AP6212, Mount C+E,NC D+ F
8723BS,Mount F,NC C+D+ E

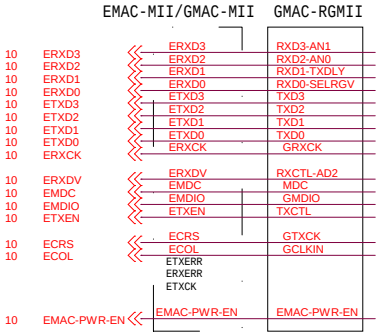


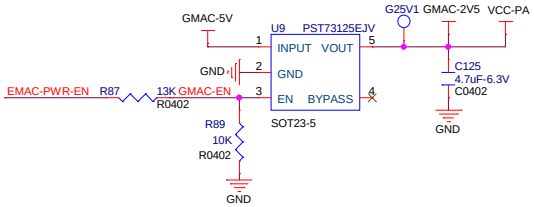


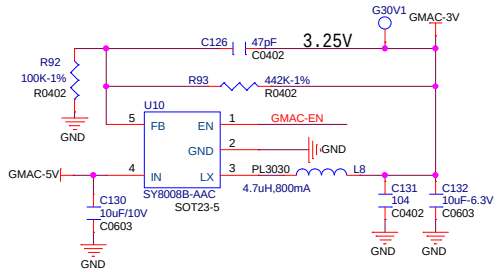
	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: WIFI+BT	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 13 of 17	

GMAC

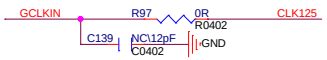
10/100/1000 RGMII Ethernet PHY



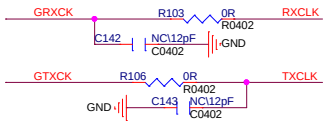


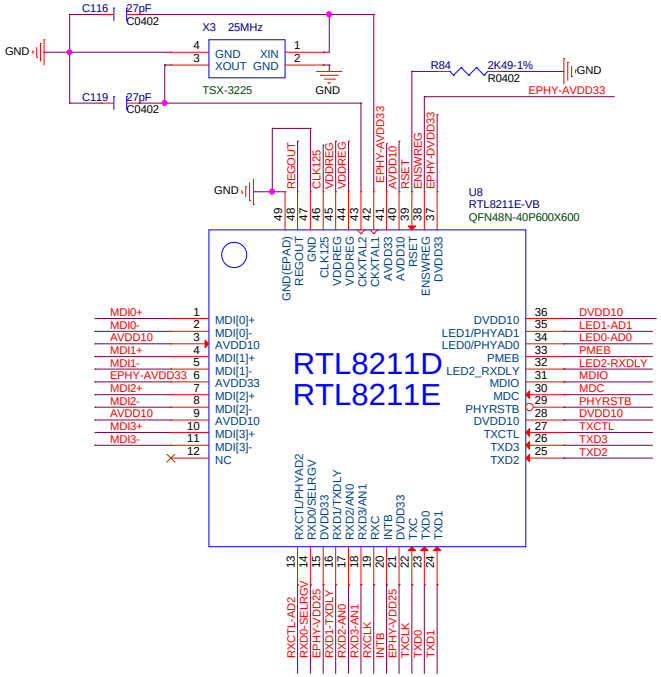


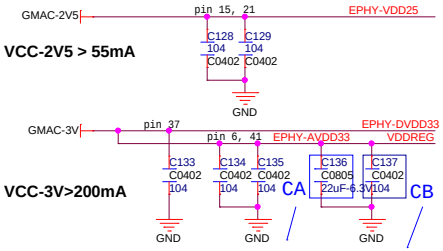
Place filter network close to CLK125.
Reserved for EMI



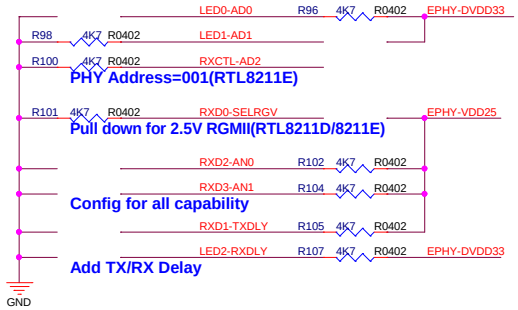
Place filter network close to RX_CLK.
Reserved for EMI



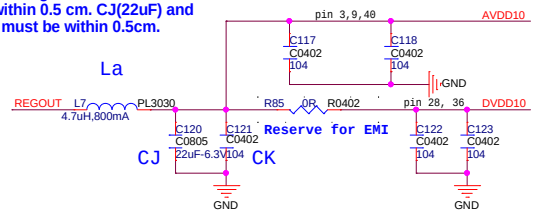


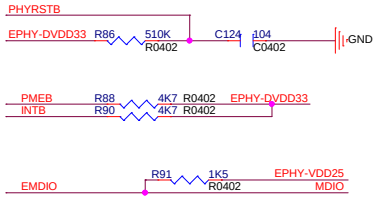


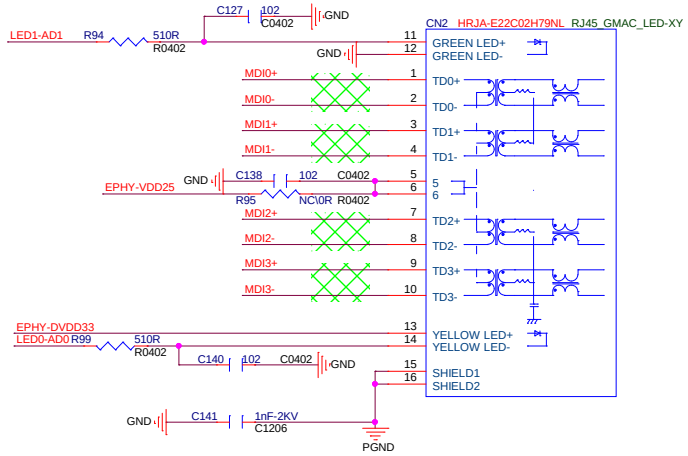
Note 2: The Trace length from CA(22uF),CB(0.1uF) to Pin 44,45(VDDREG) must bewithin 0.5 cm. The trace width from AVDD33 to Pin 44,45 should>40mils.



Note 1: The Trace length between La and PHY's Pin48 must be within 0.5 cm. CJ(22uF) and CK(0.1uF) to La must be within 0.5cm.



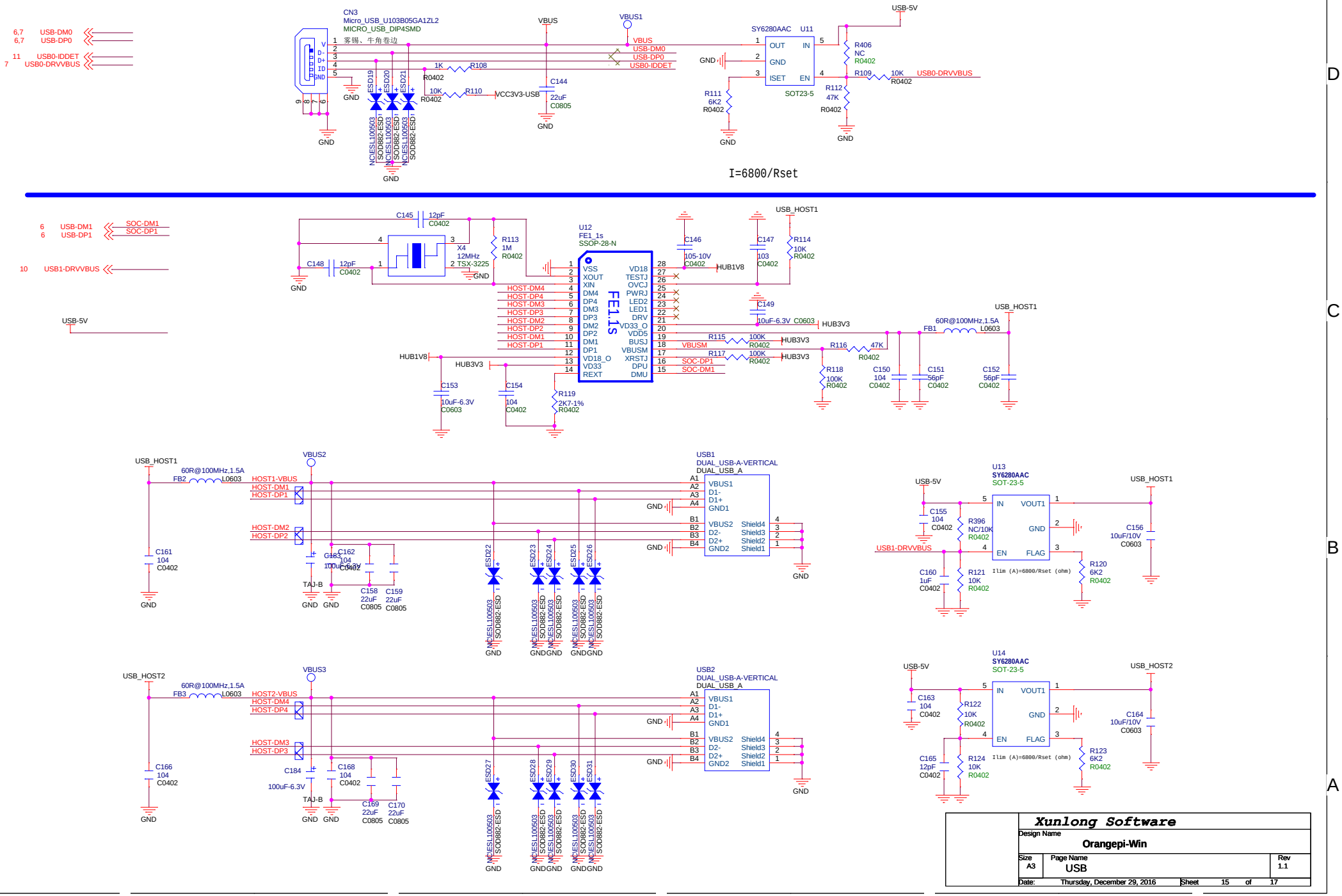




LED0:Blinking=Transmitting or Receiving.
LED1:Link Up/Down

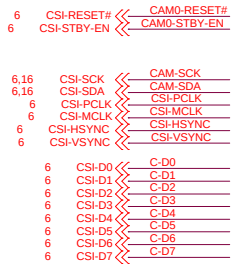
Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: GMAC	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 14 of 17	

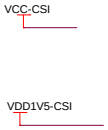
USB

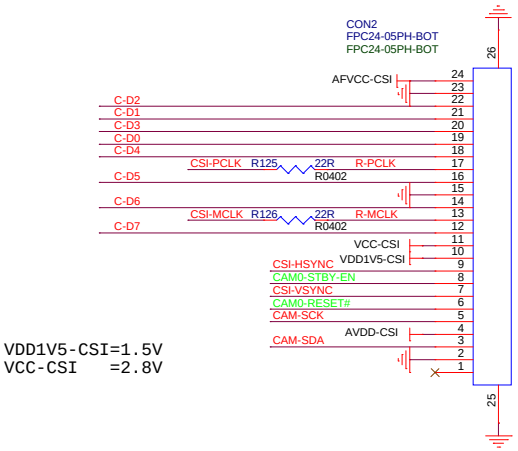


Xunlong Software		
Design Name: Orangepi-Win		
Size: A3	Page Name: USB	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 15 of 17	

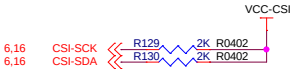
Camera

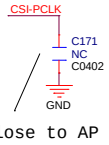




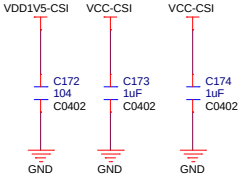


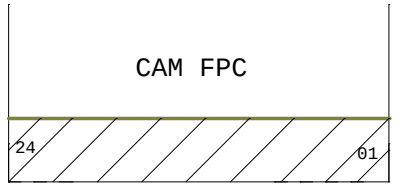
VDD1V5-CSI=1.5V
VCC-CSI =2.8V

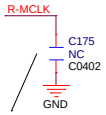




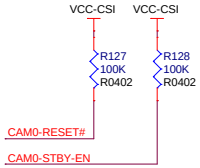
Close to AP

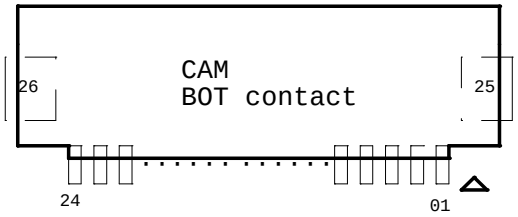


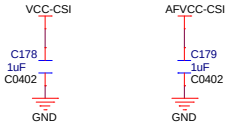




Close to camera.

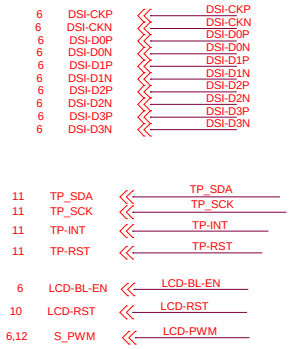


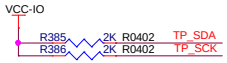


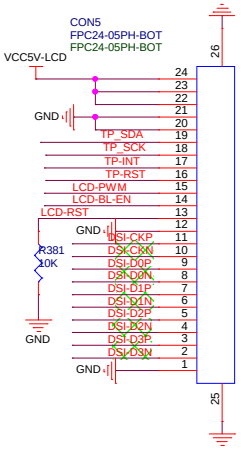


	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: CSI	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 16 of 17	

LCD







	Xunlong Software	
	Design Name: Orangepi-Win	
Size: A3	Page Name: LCD	Rev: 1.1
Date: Thursday, December 29, 2016	Sheet 17 of 17	