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- 11.LCM-LVDS Panel
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- 13.3G-UNA
- 14.Audio Codec-ALC3224
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- 16.TP COB-CT363
- 17.TF Card
- 18.HDMI
- 19.AX88178A(USB-ETH)
- 20.JM23029(USB-SATA)
- 21.MXM-CONNECTOR

I2C address(7bit):

1.I2C0 POWER:

ACT8846 0x5a  
 CW2013 0x62  
 HYM8563 0x51  
 RT5C619 0x32  
 SYR827 0x40  
 SYR828 0x41

2.I2C1 Sensor:

CM3218 0x10,0x0c  
 LSM330TR G:0x6a A:0x1e  
 MMA8452Q 0X1d  
 MPU6050C 0x68  
 LIS3DH 0X19  
 LSM303D 0X1d

3.I2C2 Audio Codec:

ALC3224 0x19  
 ALC5623 0x1a  
 ALC5631 0x1a  
 ES8323 0x10

4.I2C3 Camera:

OV2659 0x30  
 OV8825 0x36

5.I2C4 Touch:

CT363 0x1b  
 FT5506  
 GSL3680 0x40



**RADXA\_ROCK2**

Design Name

**RADXA\_ROCK2\_BASEBD**

Size  
A4

Page Name

**Index**

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Version	Date	Author	Change Note	Approved
V1.0	20140930	Prince	First edictor	Prince



**RADXA\_ROCK2**

Design Name

**RADXA\_ROCK2\_BASEBD**

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A4

Page Name

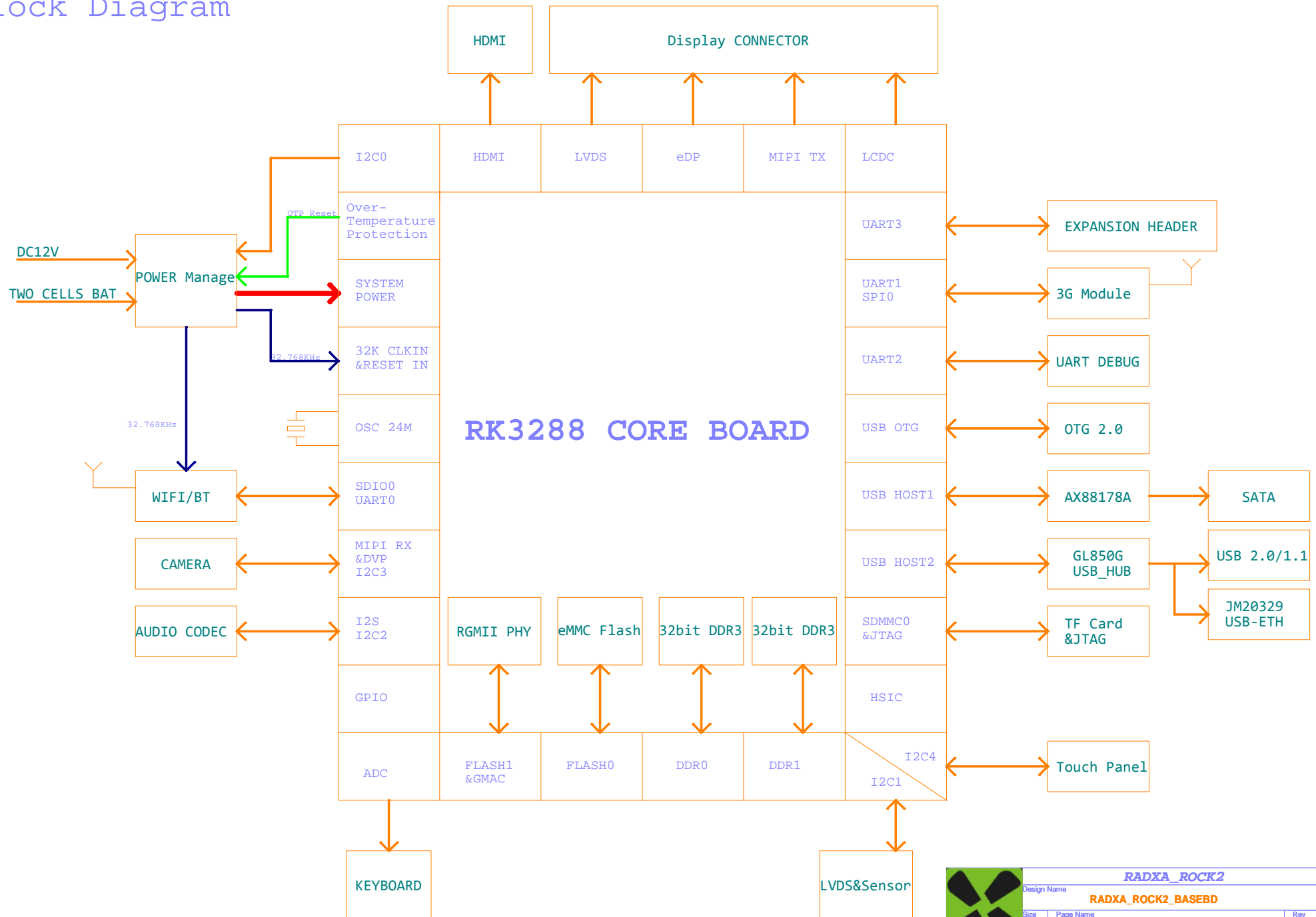
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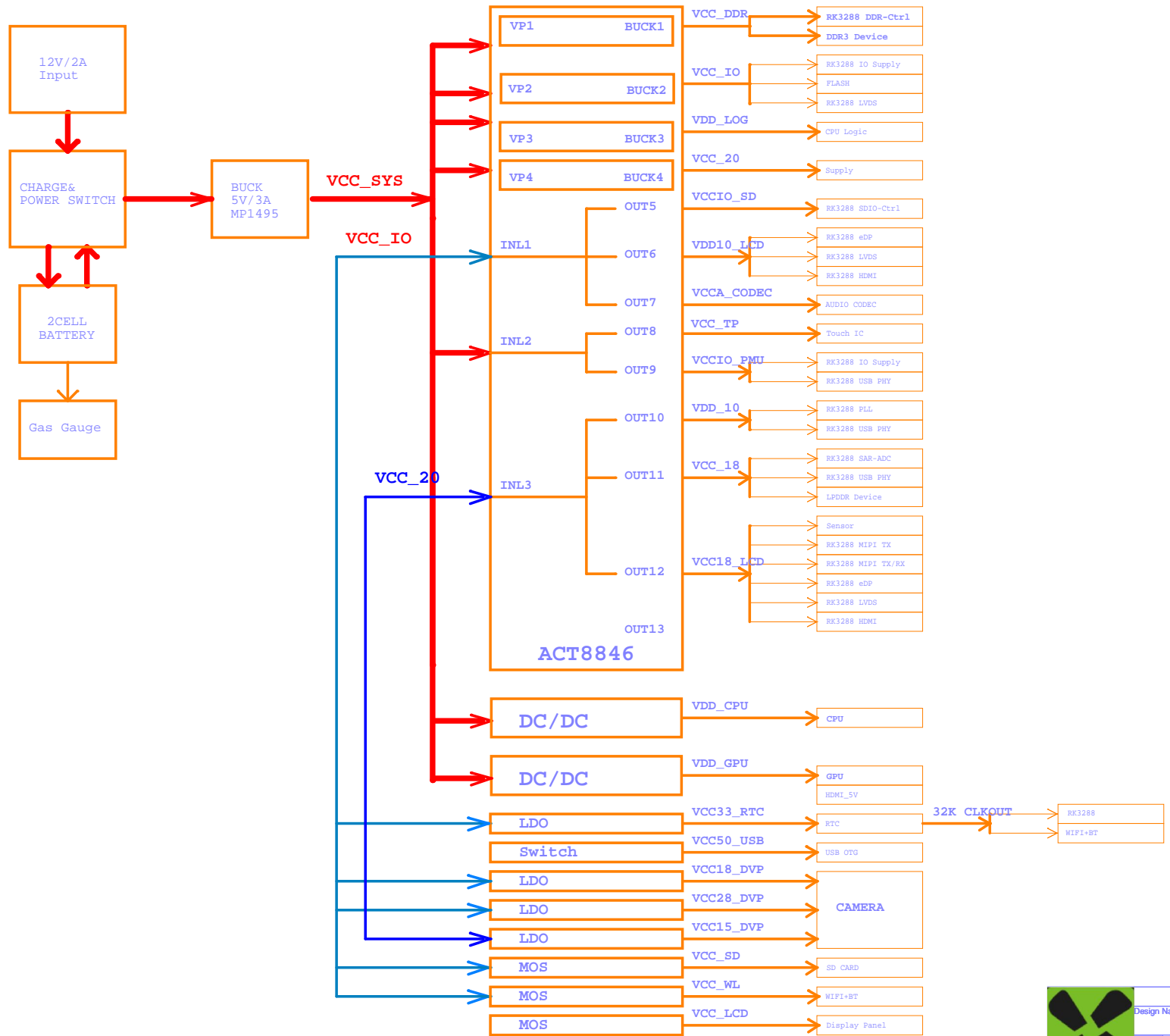
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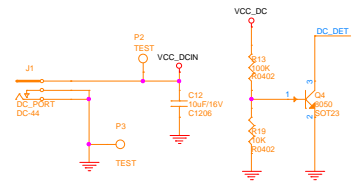
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# Block Diagram



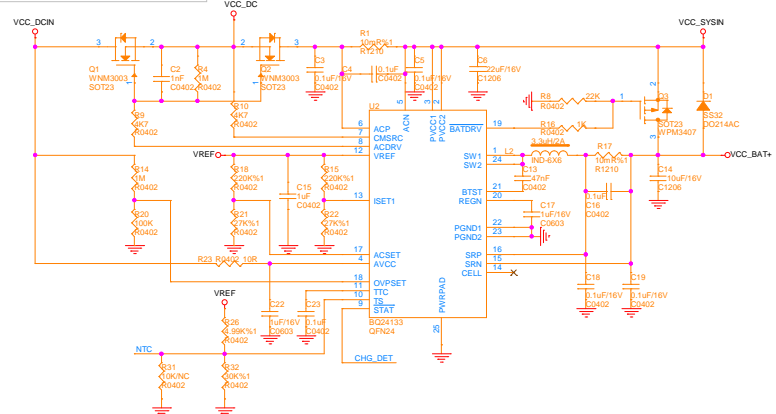


### DC IN

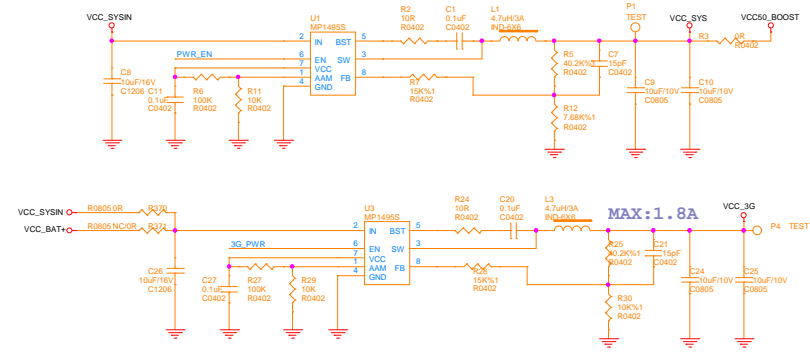


Note:  
Please use a 12V DC.

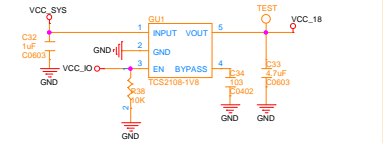
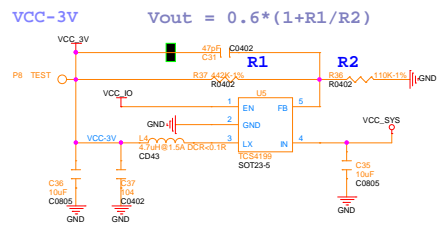
### Battery Charger



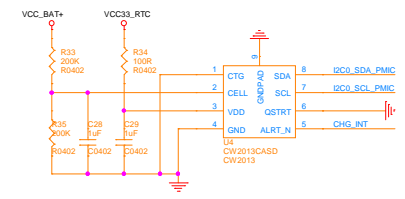
### BATTERY



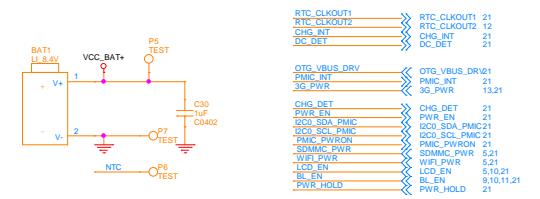
### LDO



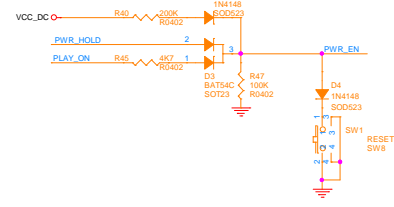
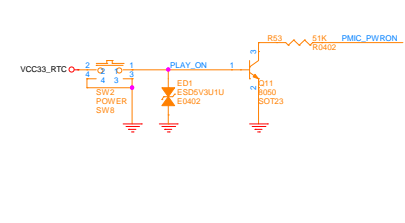
### CW2013



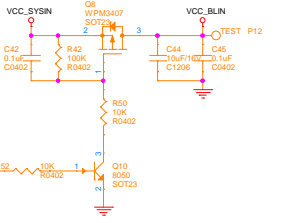
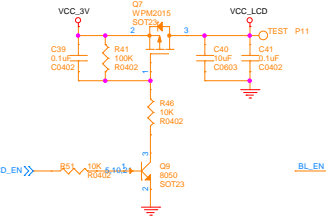
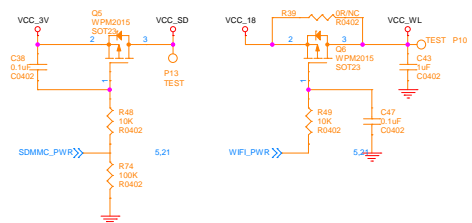
### BATTERY



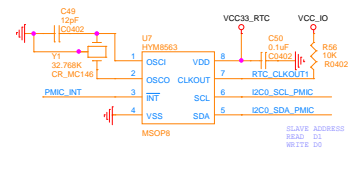
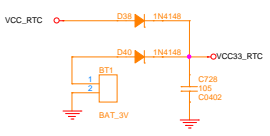
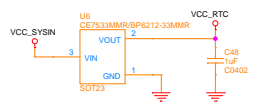
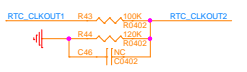
### PWR&RST KEY



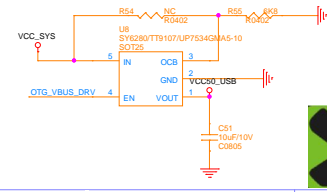
### PWR CTL



### RTC

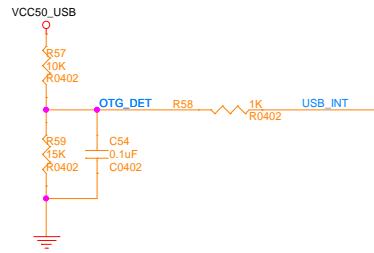


### OTG\_PWR

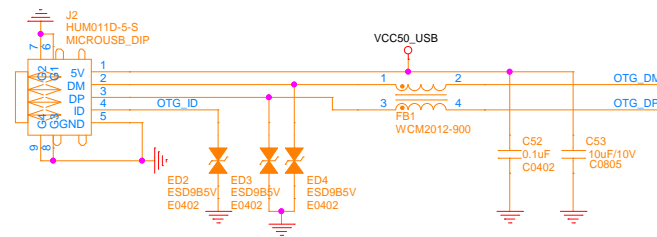


<b>RADXA_ROCK2</b>			
Design Name	RADXA_ROCK2_BASEBD		
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# USB Detection

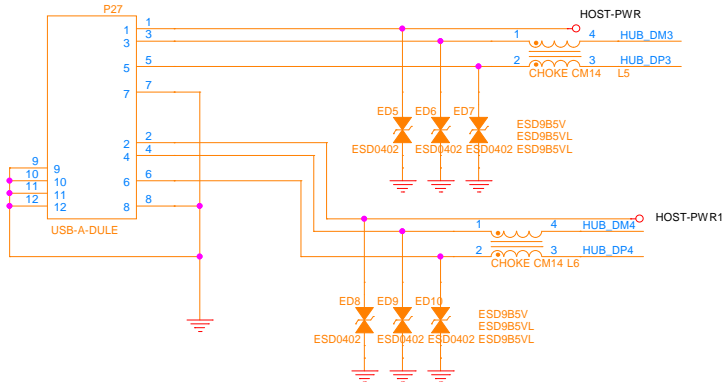


# USB OTG

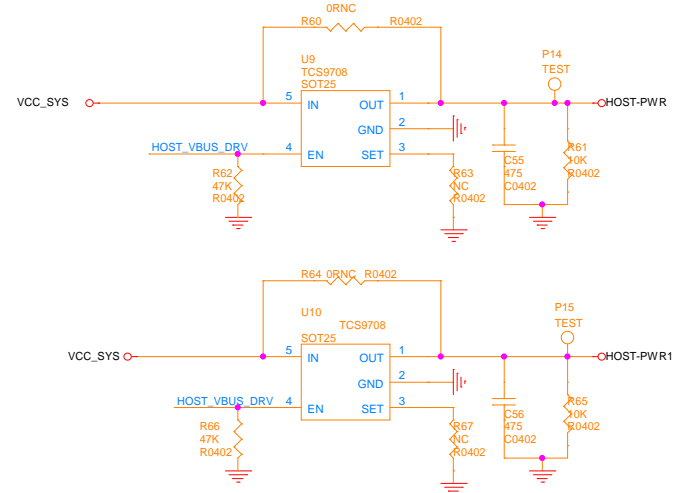


OTG_DM	>>> OTG_DM	21
OTG_DP	>>> OTG_DP	21
OTG_ID	>>> OTG_ID	21
OTG_DET	>>> OTG_DET	21
USB_INT	>>> USB_INT	21
HOST1_DP	>>> HOST1_DP	21
HOST1_DM	>>> HOST1_DM	21
HOST_VBUS_DRV	>>> HOST_VBUS_DRV	21
HUB_DP1	>>> HUB_DP1	19
HUB_DM1	>>> HUB_DM1	19
HUB_DM2	>>> HUB_DM2	13
HUB_DP2	>>> HUB_DP2	13

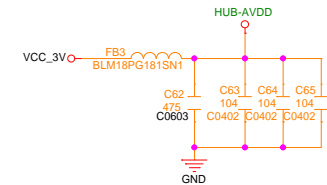
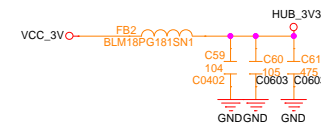
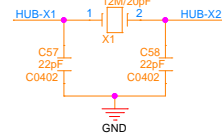
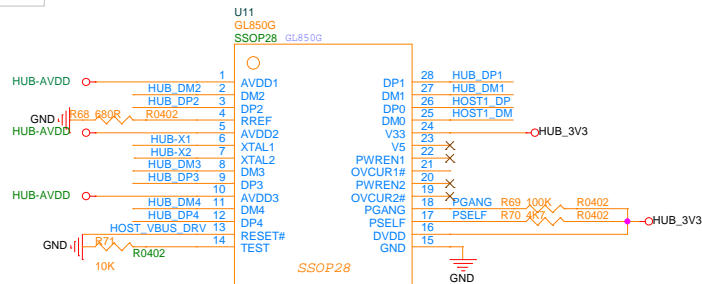
# USB HOST



# HOST PWR

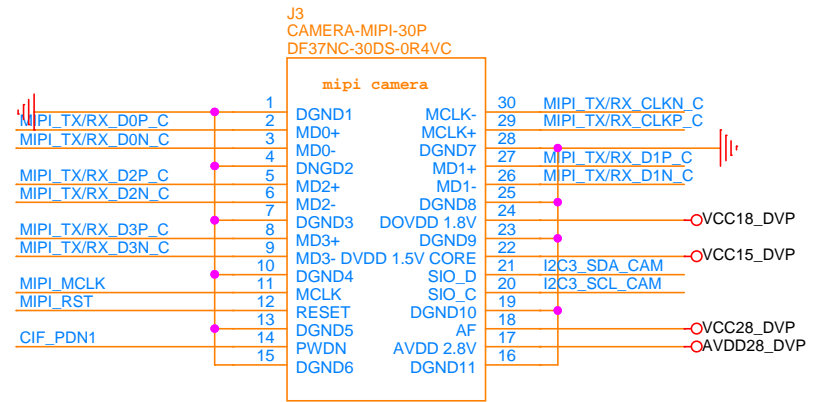
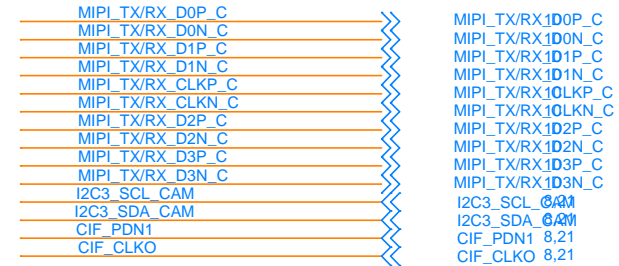
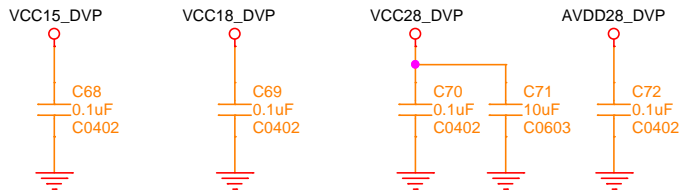
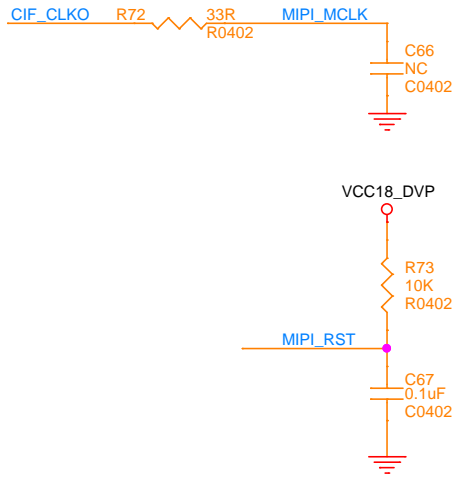


# USB HUB



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RADXA_ROCK2_BASEBD		
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# MIPI Camera



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A4

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**Camera-MIPI**

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1.0

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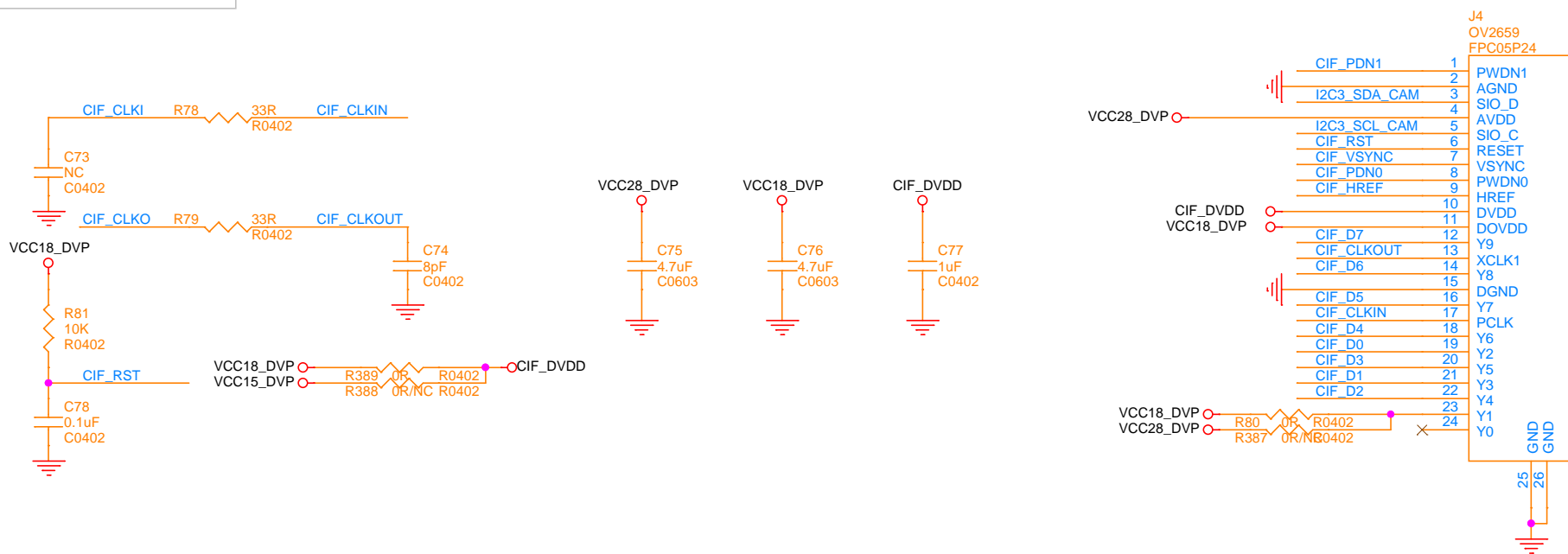
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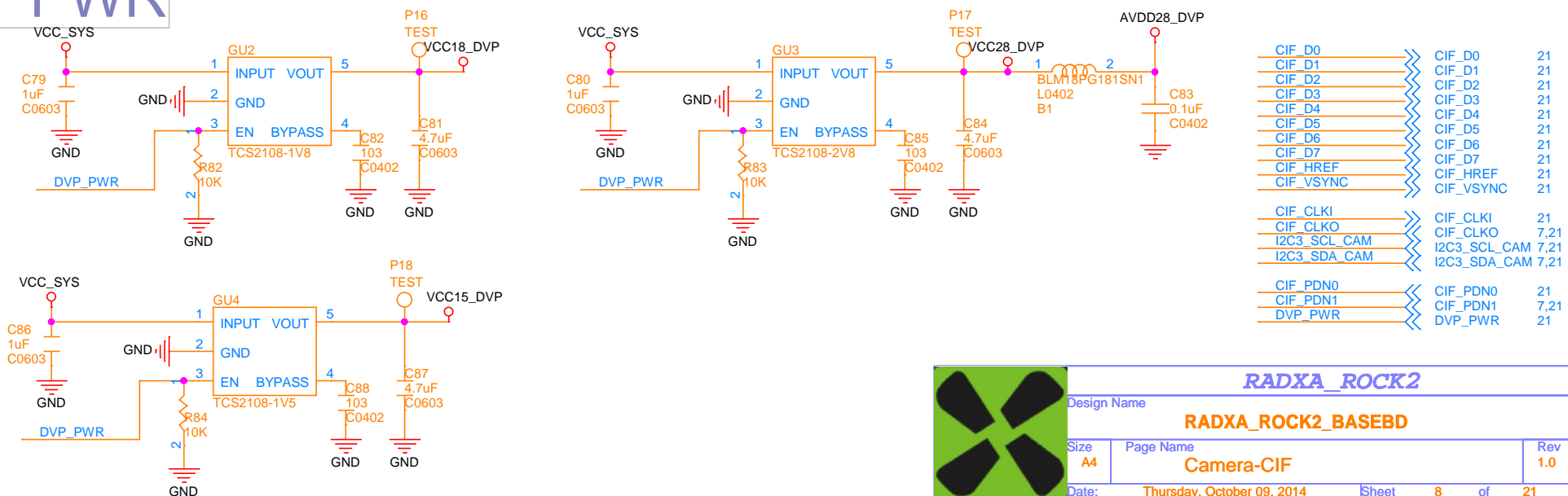
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# CIF Camera



# CIF PWR

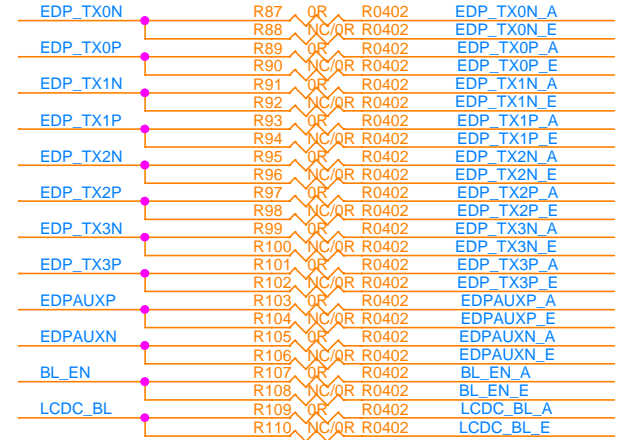
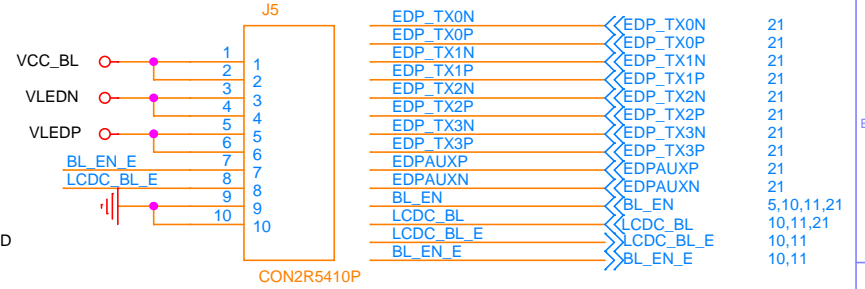
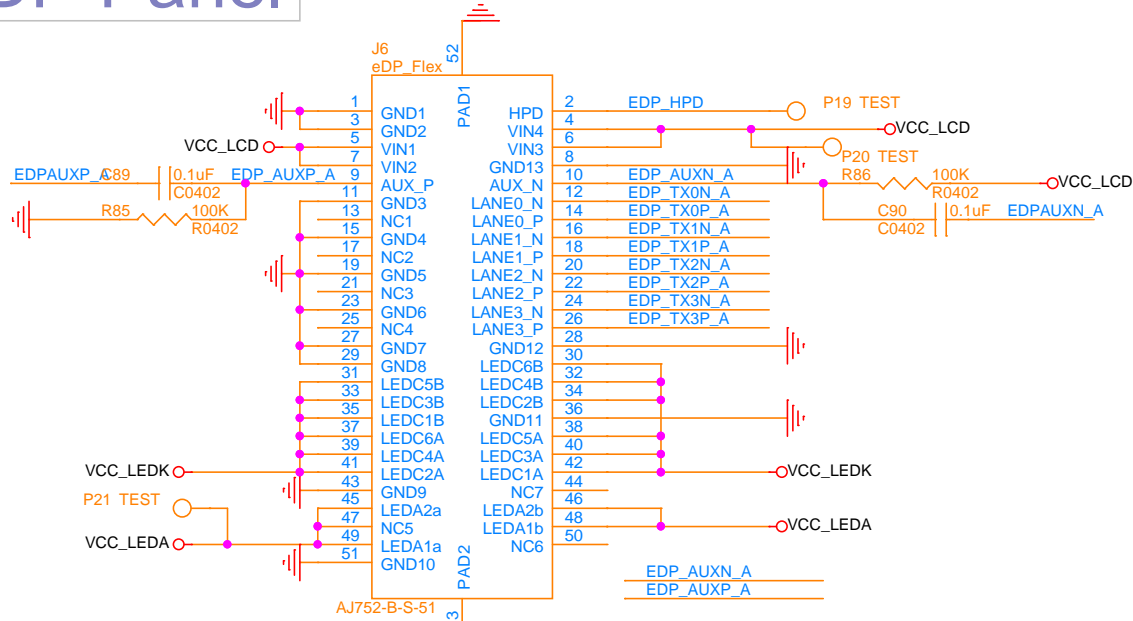


**RADXA\_ROCK2**

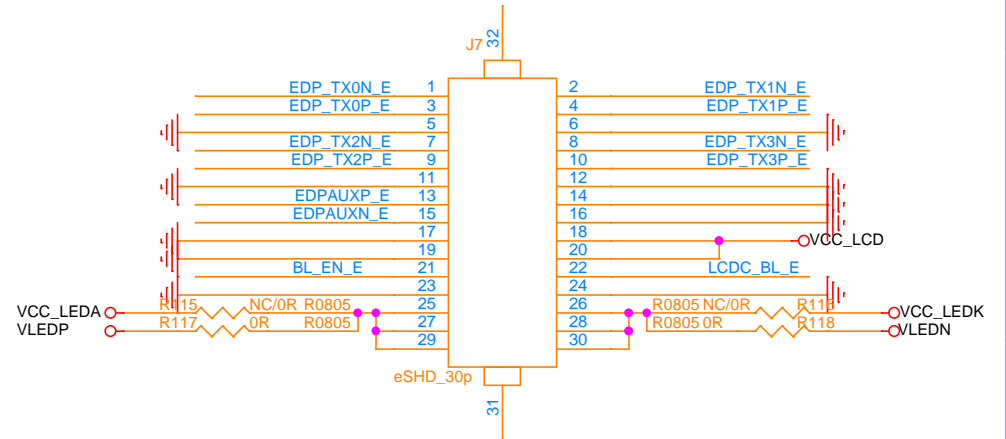
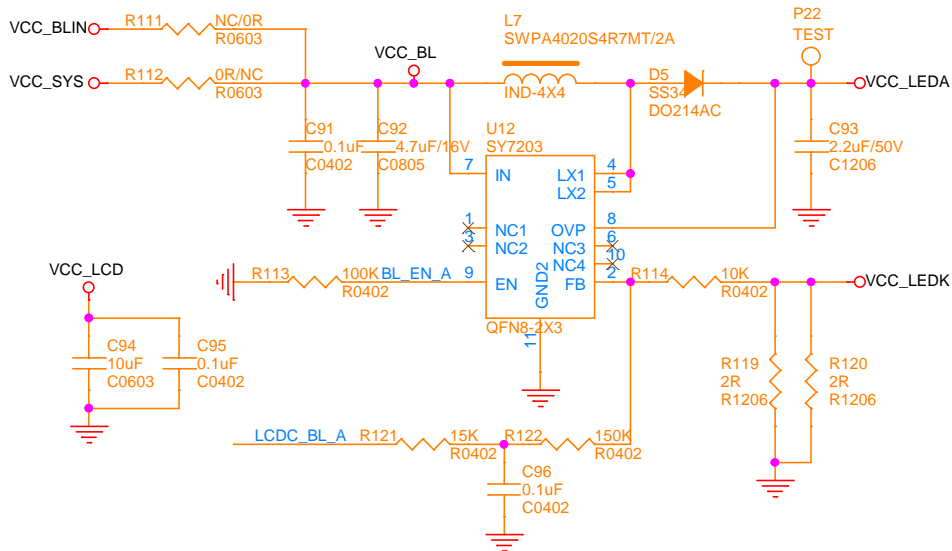
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<b>RADXA_ROCK2_BASEBD</b>		
Size	Page Name	Rev
A4	Camera-CIF	1.0
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# eDP Panel



# BACKLIGHT



**RADXA\_ROCK2**

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**RADXA\_ROCK2\_BASEBD**

Size

Page Name

**LCM-eDP Panel**

Rev

1.0

Date:

Thursday, October 09, 2014

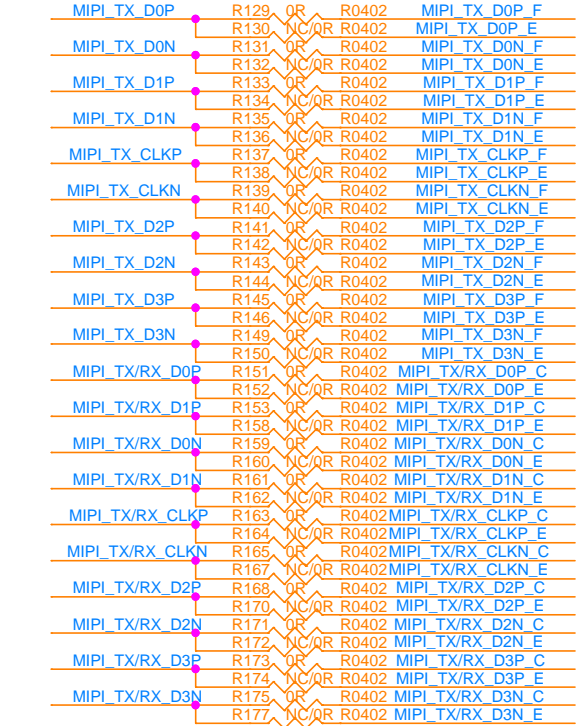
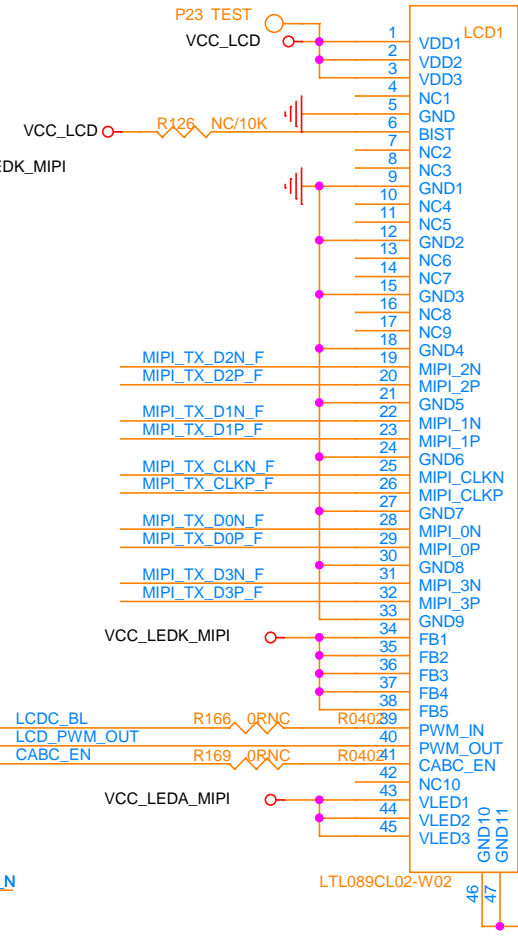
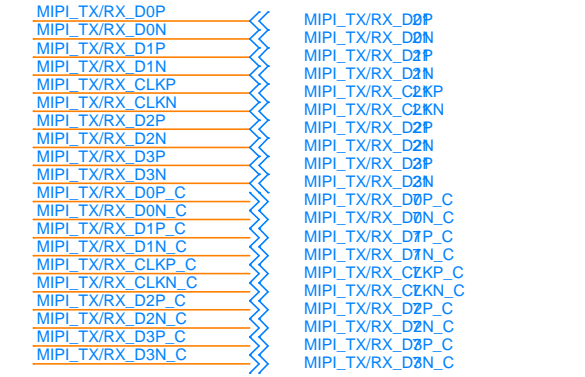
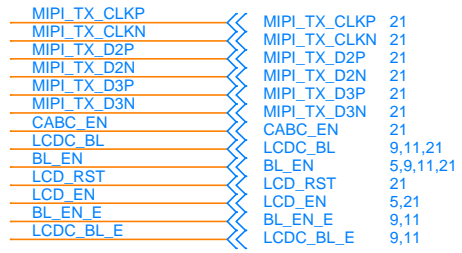
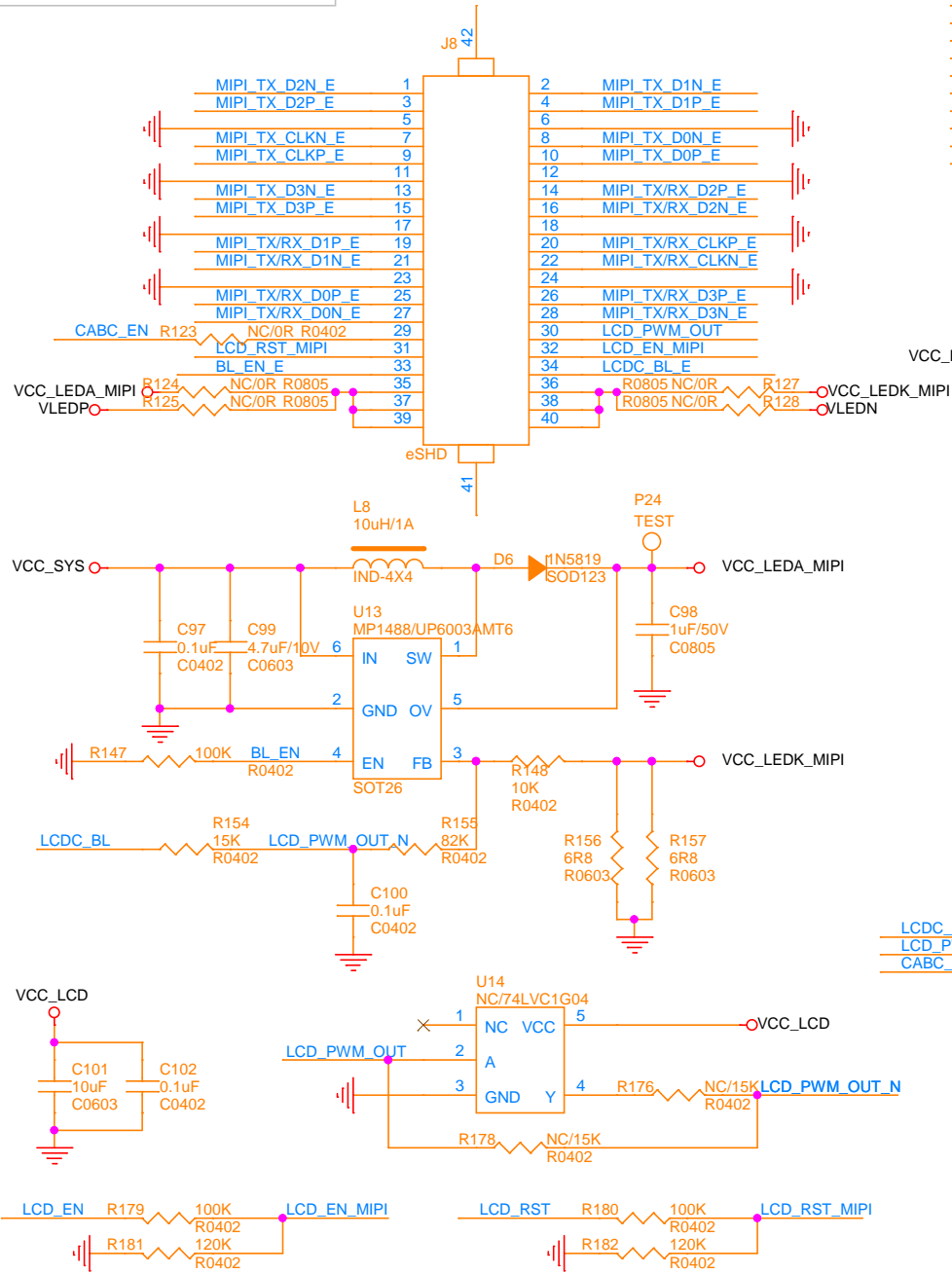
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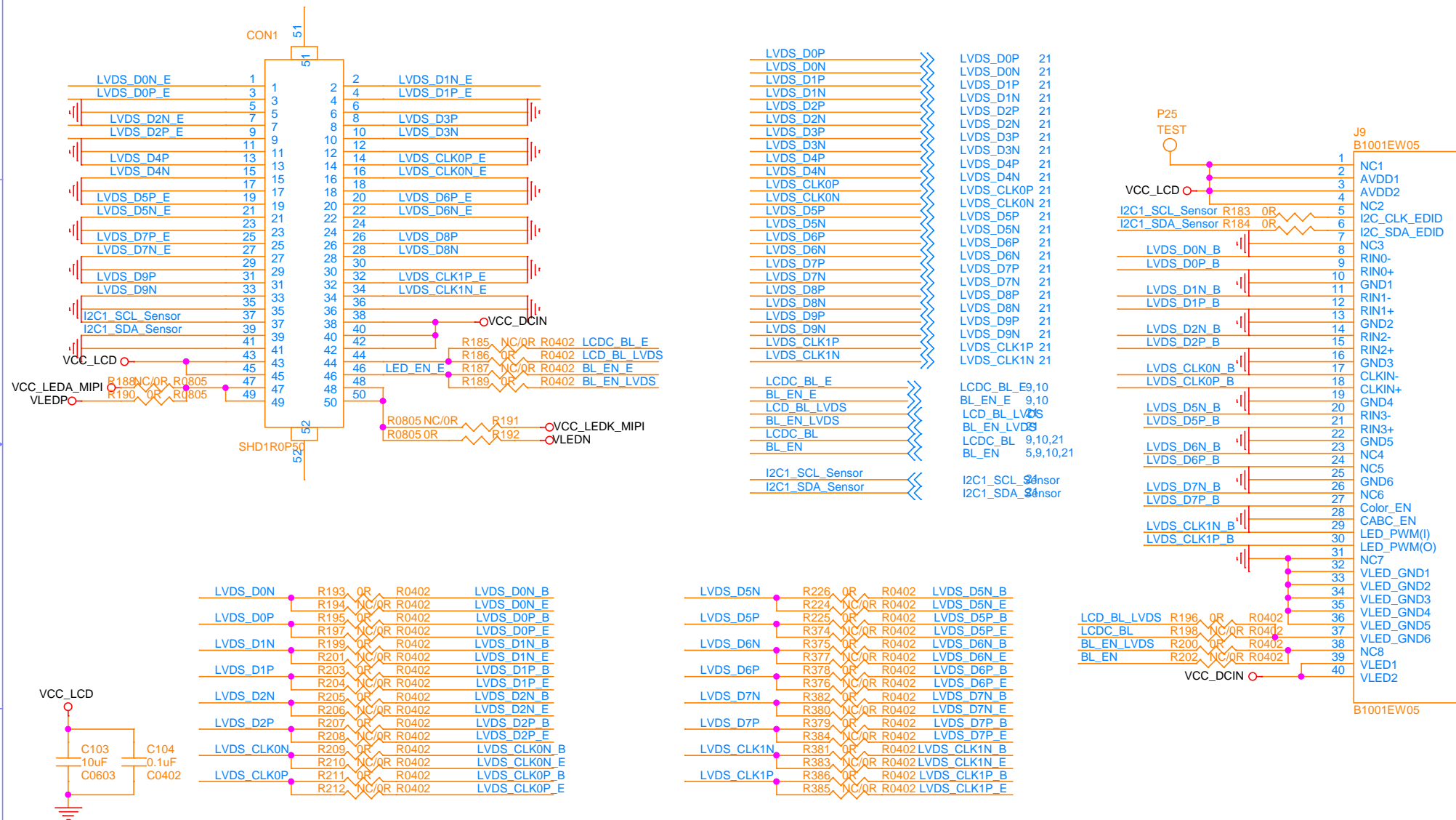
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# MIPI Panel



# LVDS Panel



**RADXA\_ROCK2**

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**RADXA\_ROCK2\_BASEBD**

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A4

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**LCM-LVDS Panel**

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1.0

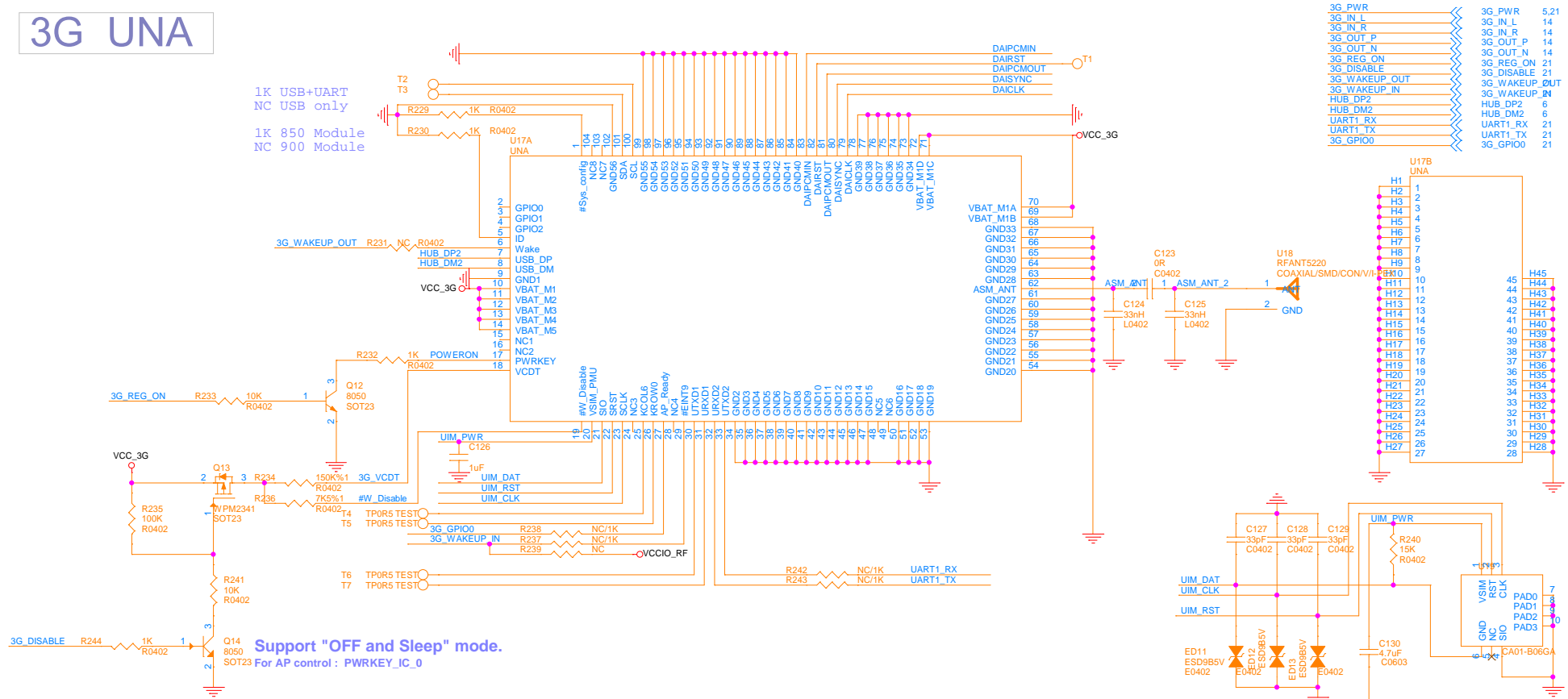
Date: Thursday, October 09, 2014

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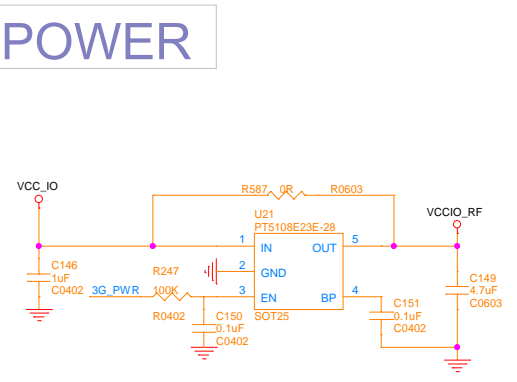
# 3G UNA

1K USB+UART  
NC USB only  
  
1K 850 Module  
NC 900 Module

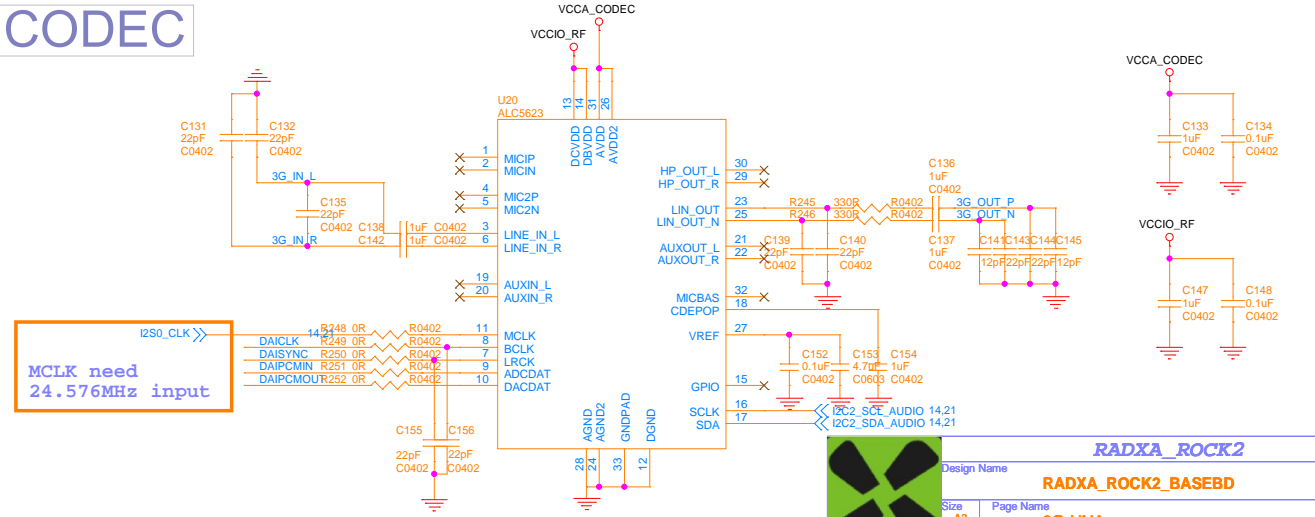


Support "OFF and Sleep" mode.  
For AP control : PWRKEY\_IC\_0

# POWER



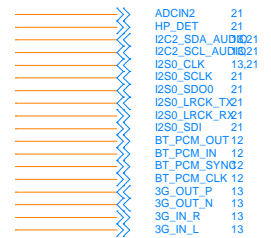
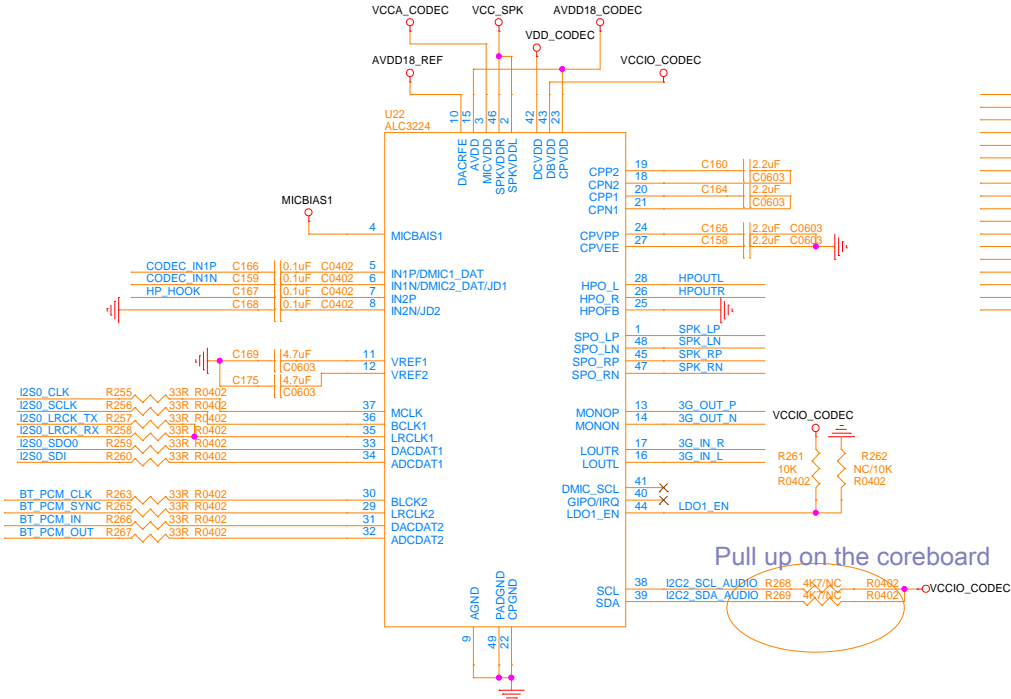
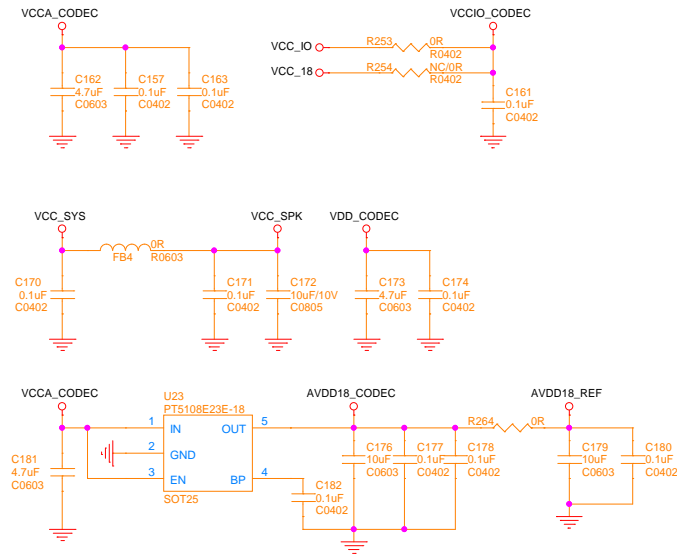
# CODEC



MCLK need  
24.576MHz input

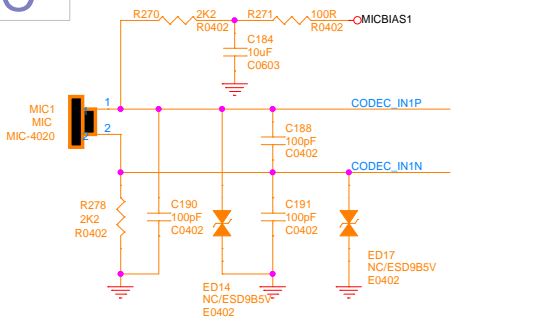


# CODEC

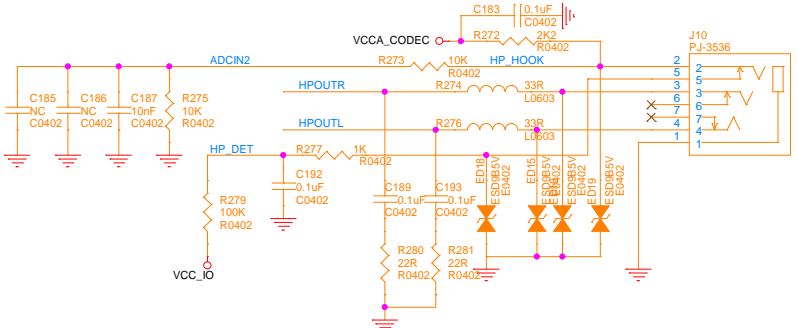


Pull up on the coreboard

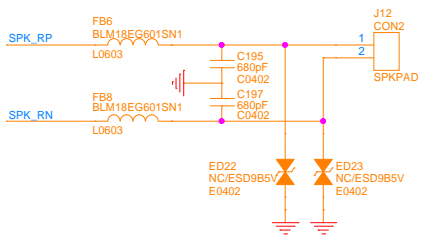
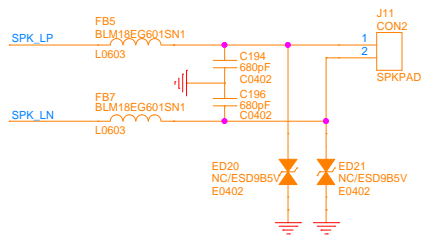
# MIC



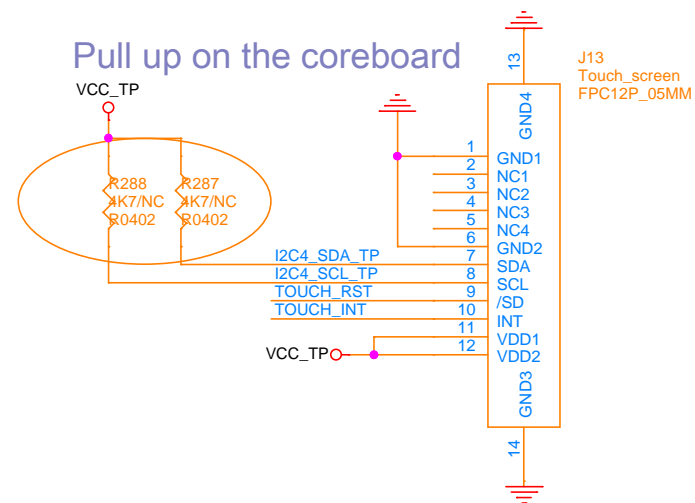
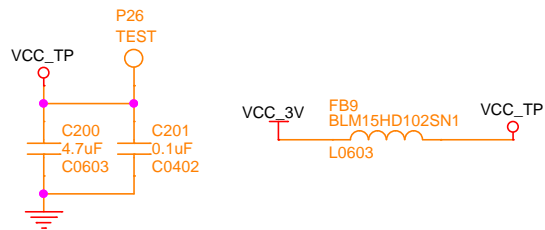
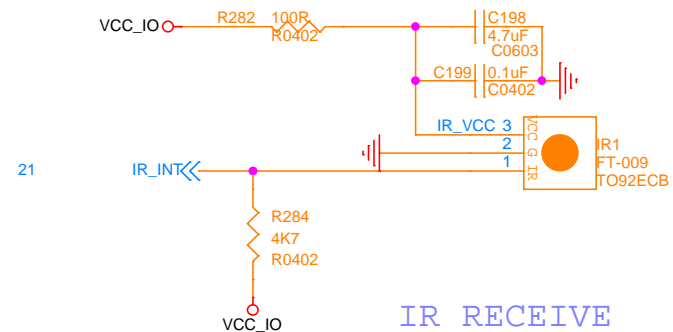
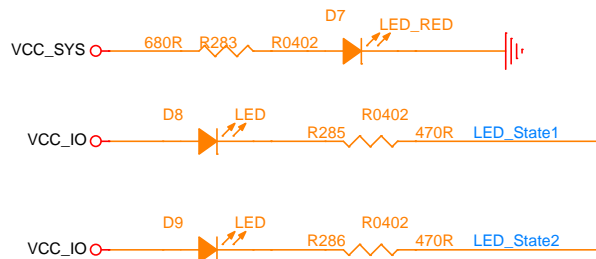
# EARPHONE



# SPEAKER



# TP&IR

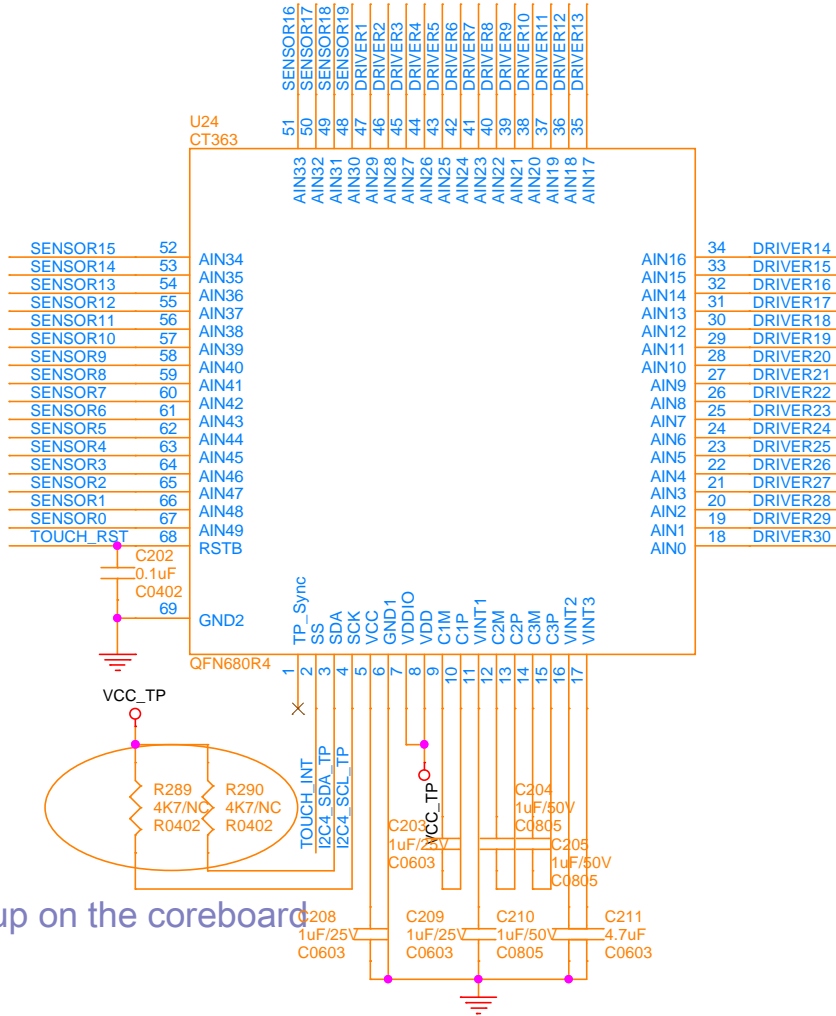
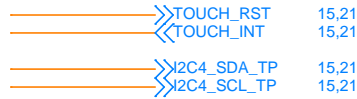


## RADXA\_ROCK2

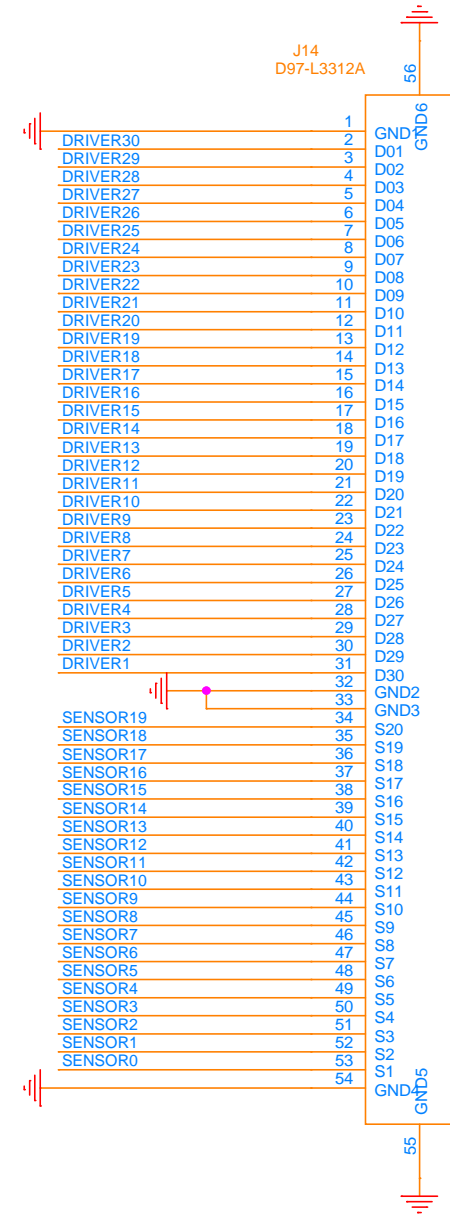
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RADXA_ROCK2_BASEBD		
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A4	TP COF	1.0
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# Touch IC

note: CT363 suit for Touch Panel Size<10.1''.



Pull up on the coreboard



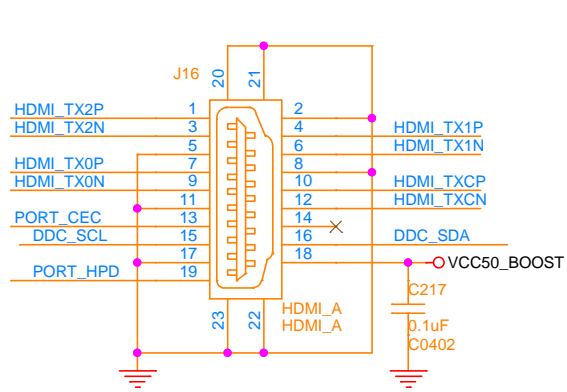
**RADXA\_ROCK2**

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<b>RADXA_ROCK2_BASEBD</b>		
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A4	<b>TP COB-CT363</b>	1.0
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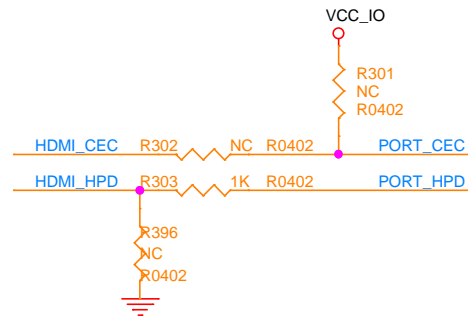
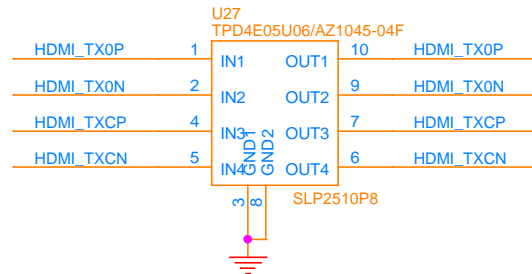
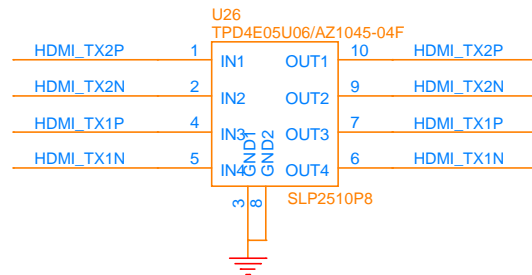




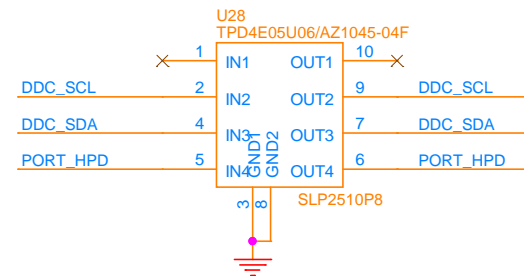
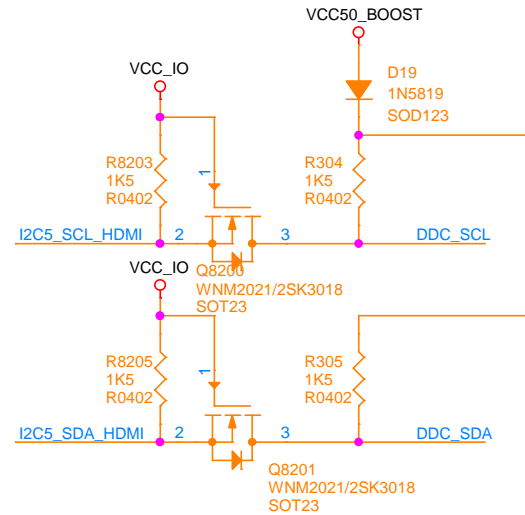
# HDMI



HDMI OUT



HDMI_TX0P	HDMI_TX0P	21
HDMI_TX0N	HDMI_TX0N	21
HDMI_TX1P	HDMI_TX1P	21
HDMI_TX1N	HDMI_TX1N	21
HDMI_TX2P	HDMI_TX2P	21
HDMI_TX2N	HDMI_TX2N	21
HDMI_TXCP	HDMI_TXCP	21
HDMI_TXCN	HDMI_TXCN	21
HDMI_HPDI	HDMI_HPDI	21
HDMI_CEC	HDMI_CEC	21
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I2C5_SDA_HDMI	I2C5_SDA_HDMI	21



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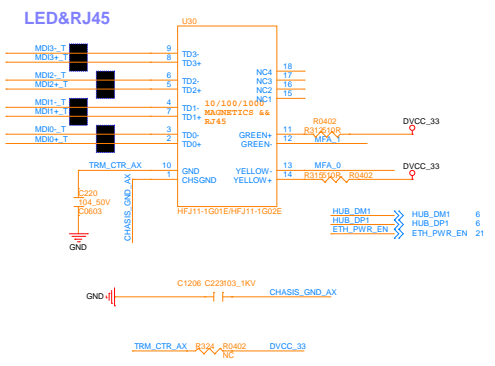
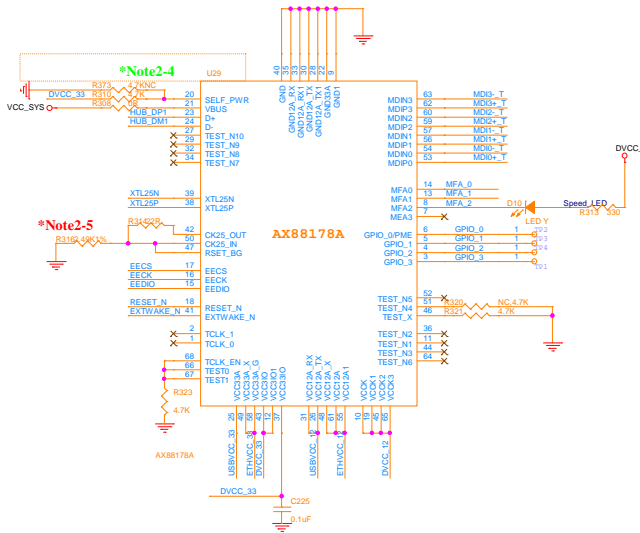
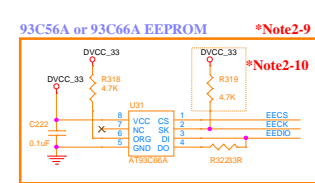
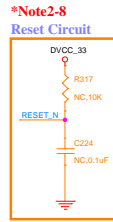
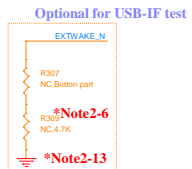
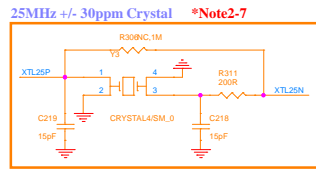
**HDMI**

1.0

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# AX88178A



**\*Note2-1:**  
When you need to mount the CM2 choke, please remember to cut the D+/D- traces below the CM2 choke.

**\*Note2-2:**  
The C12 cap between the D+ and D- pins is used to filter the common-mode noise and should be placed as close as AX88178A pin #23 and #24.

**\*Note2-3:**  
When the CM1/CM3/CM4/CM5 chokes are unmount, pin #1 and pin #2 traces of CM1/CM3/CM4/CM5 chokes locations should be short together, and pin #3 and pin #4 traces of CM1/CM3/CM4/CM5 chokes locations should be short together.

**\*Note2-4:**  
For the bus-power applications, the SELF\_PWR signal should be pulled down; for the self-power applications, the SELF\_PWR signal should be pulled high and the VBUS signal can be pulled high directly.

**\*Note2-5:**  
The R7 resistor should be near to AX88178A CK25\_OUT pin.

**\*Note2-6:**  
The R24 resistor of RSET\_BG signal MUST be 2.49K 1%.

**\*Note2-7:**  
The 1M feedback resistor is optional for 25MHz crystal circuit. The reference 25MHz crystal is the NSK NXK25.000AC12F-KAB6 SMD 25MHz crystal with CL 12pF and Drive Level 350uW. The 25MHz clock signals should be within 25MHz +/- 30ppm.

**\*Note2-8:**  
The RC reset circuit is optional for AX88178A applications. You can reserve the RC reset circuit on your AX88178A schematic to fine tune the reset timing if necessary.

**\*Note2-9:**  
The AX88178A supports 16-bit mode 93C56/93C66 EEPROM. The R1 resistor is mounted to set the AT93C66A EEPROM to 16-bit mode.

**\*Note2-10:**  
The AX88178A EECK signal MUST be pulled up through 4.7K resistor (R2) for normal operation.

**\*Note2-11:**  
All power pins should be implemented with a by-pass capacitor, and the by-pass capacitors should be as close as the power pins.

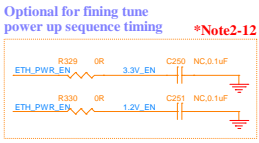
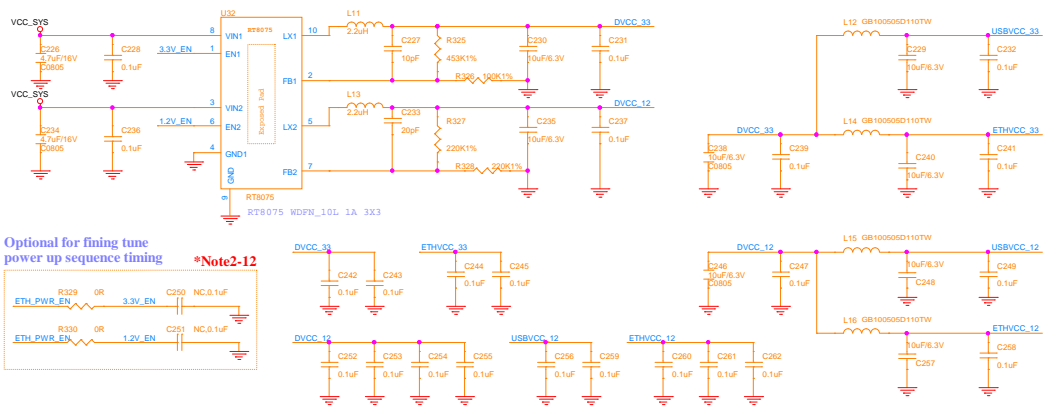
**\*Note2-12:**  
The R11, C17, R15, C19 resistors and capacitors are optional for fine tune the DVCC\_33 and DVCC\_12 power up sequence timing. (Refer to below "DVCC\_33 & DVCC\_12 Output Power Timing Setting" table for details.)

**DVCC\_33 & DVCC\_12 Output Power Timing Setting**

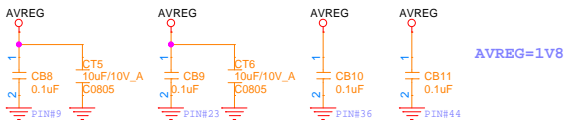
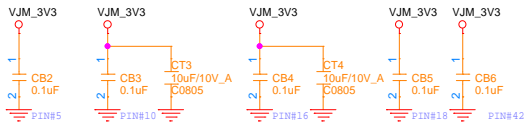
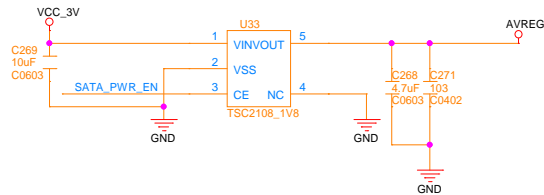
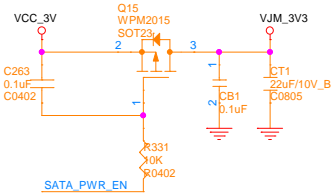
DVCC_33 & DVCC_12 without delay	Mount R11, R15 with 0 ohm resistors Unmount C17, C19
Delay DVCC_33	Mount R15 with 4.7K ohm resistor and mount C19 with 0.1uF
Delay DVCC_12	Mount R11 with 4.7K ohm resistor and mount C17 with 0.1uF

**\*Note2-13:**  
Please reserve the EXTWAKE\_N circuit location if you need to run the USB-IF compliant test (mount R22 4.7K resistor and mount a Button part at R21 location). Don't need mount R21, R22 in production.

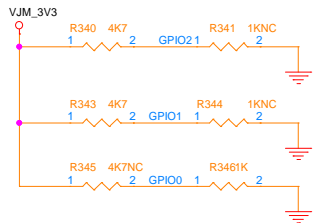
**Power Circuits and By-pass Capacitors** \*Note2-11



# JM20329



### Option function : Switch circuit



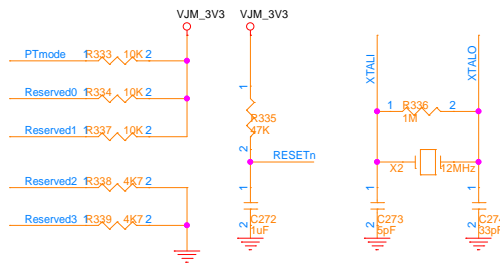
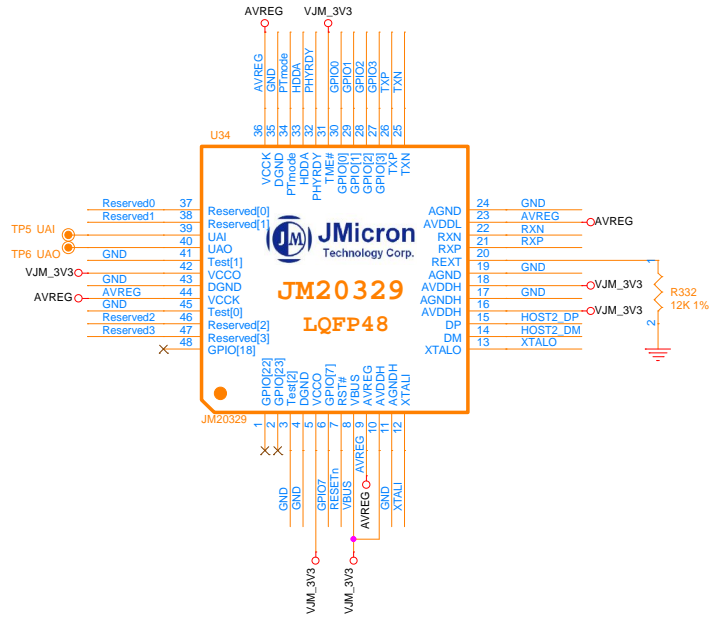
One touch backup use GPIO0(SW3) If there aren't switch circuit don't care R\_SET2,R8 and R\_SET4

R_SET1(4K7)	R_SET2(1K)	Power On Detection Sequence.
GPIO2 1-2 (PD)	2-3 (PU)	0: Enable USB before detecting attached device.
2-3 (PU)	1-2 (PD)	1: Enable USB after detecting attached device.

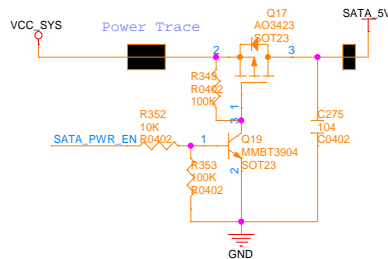
Default GPIO2 Pull High

GPIO0 R_SET3(4K7)	R_SET4(1K)	GPIO0 ATA power down mode
1-2 (PD)	2-3 (PU)	0: Enable
2-3 (PU)	1-2 (PD)	1: Disable

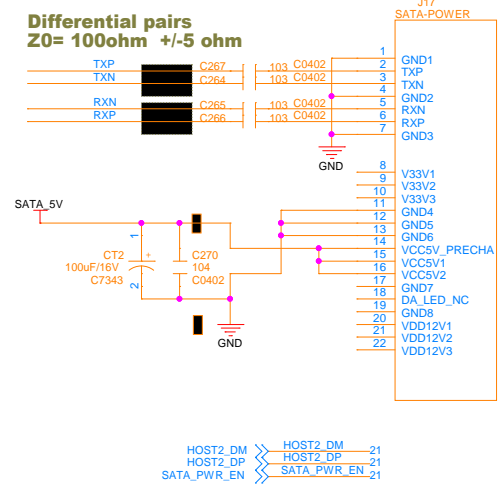
In ATA Power Down Mode, GPIO0 should be pull-down.



### Option function :

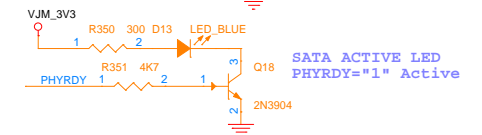
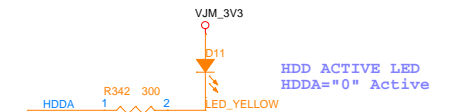
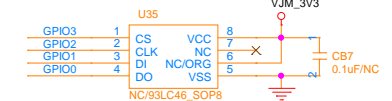


### Differential pairs Z0= 100ohm +/- 5 ohm



### Option function :

#### Support EEPROM 93C46



Design Name			RADXA_ROCK2		
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