



























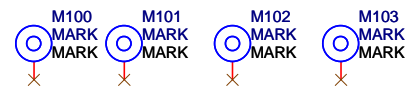
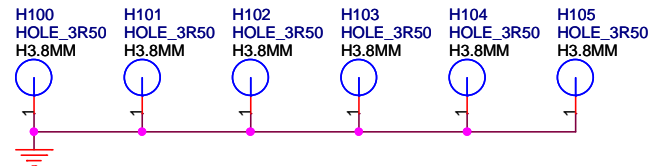
# HAIER RK3288 KitchenHub V1.0

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## 6 LAYERS PCB STACK (e.g. PCB=1.0mm)

TOP	Prepreg 1080*1 (75um)	Silkscreen (25um) 1oz(35um)
GND1	Prepreg 2116*1 (115um)	Hoz(18um)
POWER	Adjust Core (465um)	Hoz(18um)
SIGNAL	Prepreg 2116*1 (115um)	Hoz(18um)
GND2	Prepreg 1080*1 (75um)	Hoz(18um)
BOTTOM		1oz(35um) Silkscreen (25um)



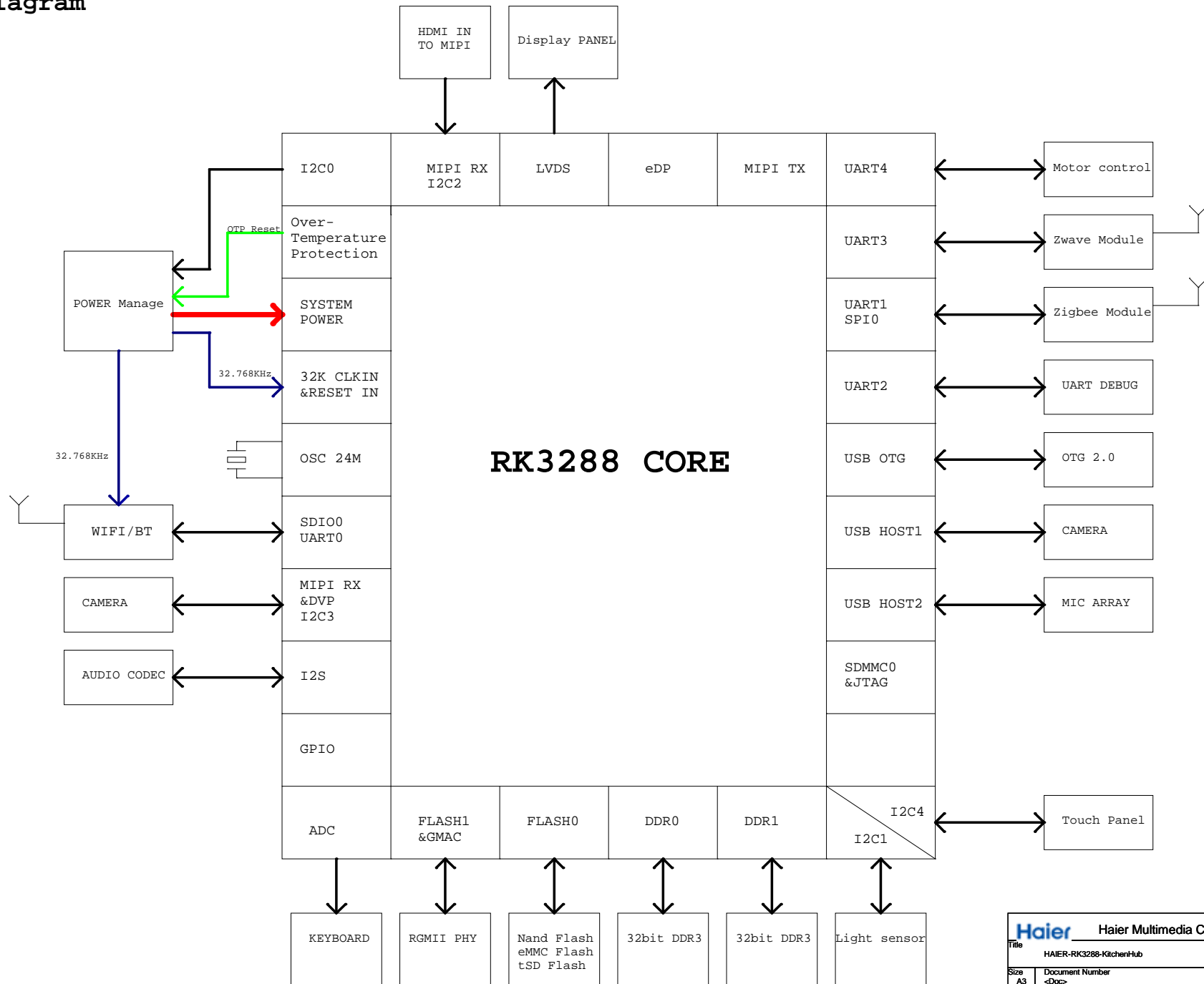
<b>Haier</b> Haier Multimedia Co.,LTD.		
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# Change List

Version	Date	Author	Change Note	Approved
V1.0	2018.4.12	Zuo Chuanjin	First edition	
V1.1	2018.7.20	Zuo Chuanjin	Second edition	

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# Block Diagram

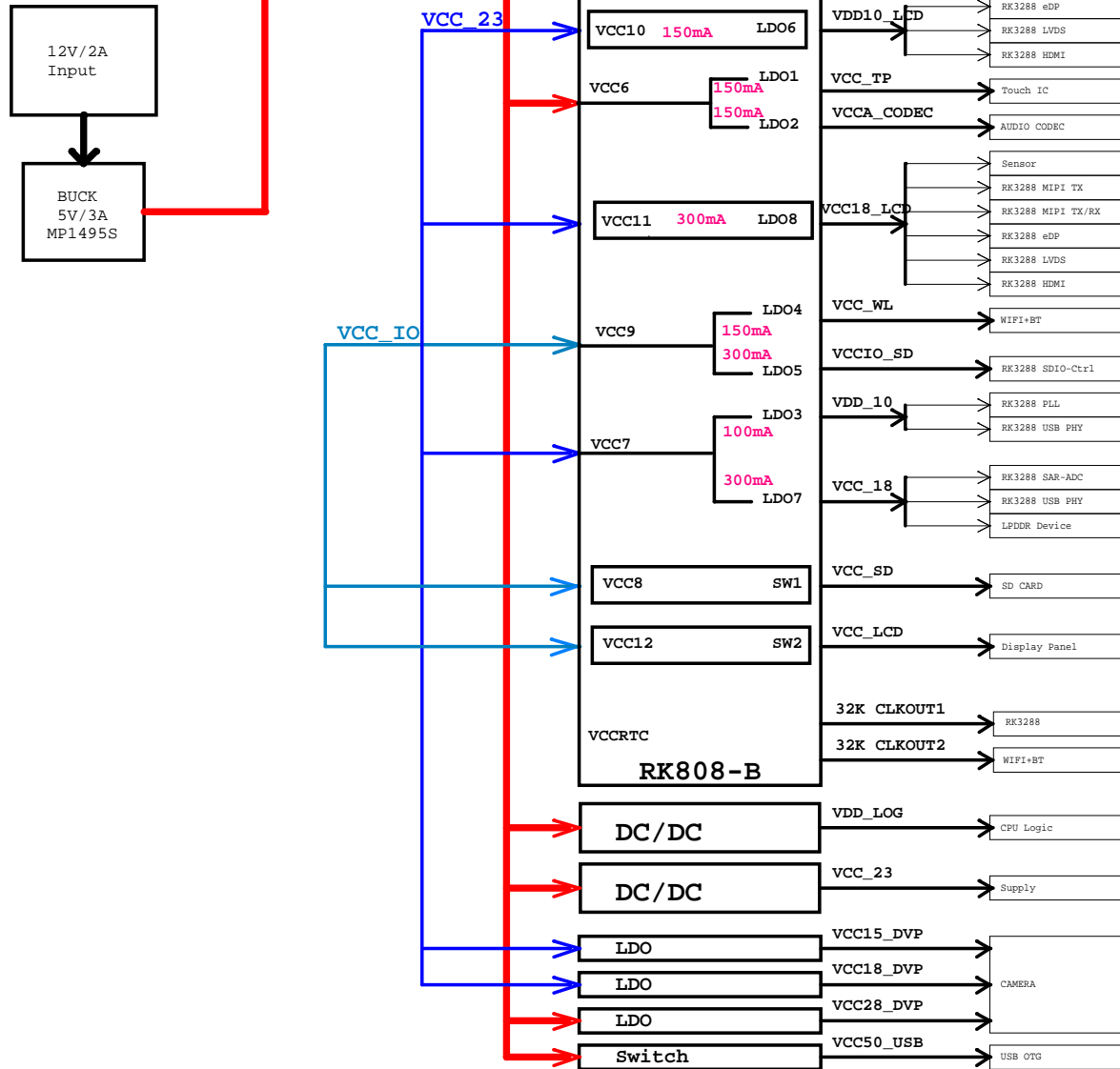


# I2C MAP

Port	Pin name	Domain	Bus name	Pull-up voltage	Slave Device	Slave Addr (MS 7Bits)	Note	Slave Bus Capability
I2C0	I2C0_SDA/PMUGPIO0_B7 I2C0_SCL/PMUGPIO0_C0	PMUIO	I2C0_SDA_PMIC I2C0_SCL_PMIC	VCCIO_PMU	Rockchip RK808	0x36(1b)	PMIC	100kHz,400KHz
I2C1	I2C1_SDA/SC_RST/GPIO8_A4 I2C1_SCL/SC_CLK/GPIO8_A5	APIO2	I2C1_SDA_sensor I2C1_SCL_sensor	VCC_IO	OPT3001	0x88(44)	LIGHT-Sensor	100kHz,400KHz
I2C2	I2C2_SDA/GPIO6_B1 I2C2_SCL/GPIO6_B2	APIO4	I2C2_SDA_AUDIO I2C2_SCL_AUDIO	VCCIO_CODEC	TC358743XBG	0x1e(0f)	HDMI to MIPI bridge.	100kHz,400KHz
					ALC5651	0x34(1a)	Audio codec	100kHz,400KHz
I2C3	I2C3_SCL/GPIO2_C0 I2C3_SDA/GPIO2_C1	DVPIO	I2C3_SDA_CAM I2C3_SCL_CAM	VCC18_DVP	IMX179	0x20(10)	Image Sensor	100kHz,400KHz
I2C4	I2C4_SDA/GPIO7_C1 I2C4_SCL/GPIO7_C2	APIO1	I2C4_SDA_TP I2C4_SCL_TP	VCCIO_TP	ILI2312	0x41	Touch IC	100kHz,400KHz
I2C5	I2C5_SDA/EDPHDMI_I2C_SDA/GPIO7_C3 I2C5_SCL/EDPHDMI_I2C_SCL/GPIO7_C4	APIO1	I2C5_SDA_HDMI I2C5_SCL_HDMI					

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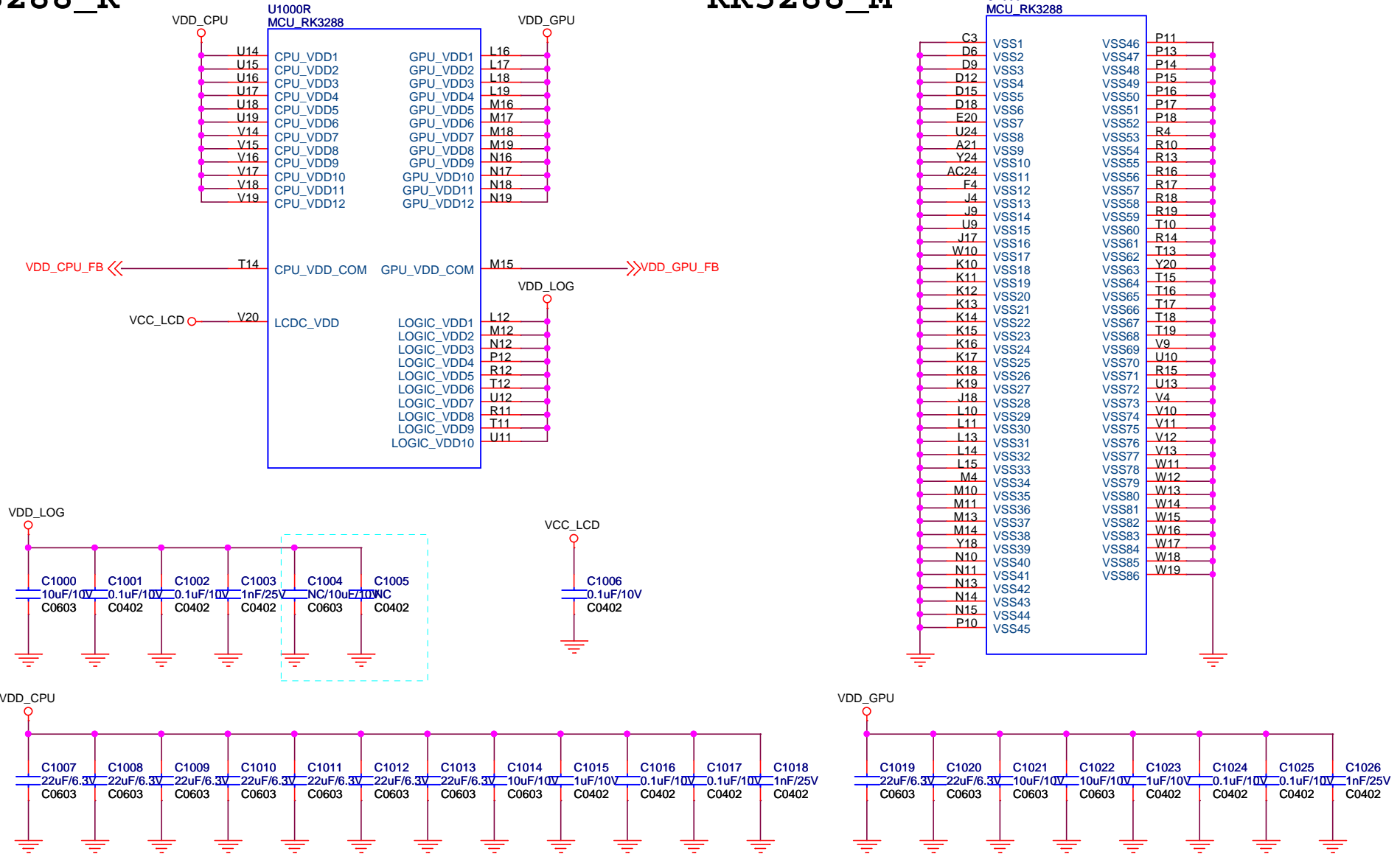
# RK808-B POWER DIAGRAM



PowerName	Channel	TIMER (2ms)	Default ON/OFF	default voltage	sleep ON/OFF
VDD_I0	VLD03	sol:1:1	ON	1.0V	ON
VDD_CPU	DCDC1	sol:1:2	ON	1.1V	OFF
VDD_GPU	DCDC2	sol:1:3	ON	1.1V	OFF
VCC_DDR	DCDC3	sol:1:3	ON	DDR3 1.5V DDR3L 1.35V LPDDR 1.25V	ON
VCC_LOG	EX_DDC0	sol:1:3A	ON	1.1V	ON
VCC_18	VLD07	sol:1:3	ON	1.8V	ON
VCC_TP	VLD01	sol:1:4	ON	1.8V	ON
VCC_I0	DCDC4	sol:1:4	ON	3.3V	ON
VCCIO_SD	VLD05	sol:1:5	ON	3.3V	OFF
VCC_SD	VSK071	sol:1:5	ON	3.3V	OFF
VDD10_LCD	VLD06		OFF	1.0V	OFF
VCC18_LCD	VLD08		OFF	1.8V	OFF
VCCA_CODECC	VLD02		OFF	3.3V	OFF
VCC_WL	VLD04		OFF	1.8V	OFF
VCC_LCD	VSK072		OFF	3.3V	OFF

# RK3288\_R

# RK3288\_M

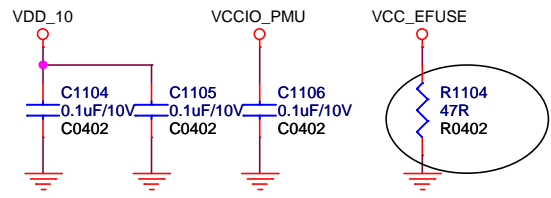
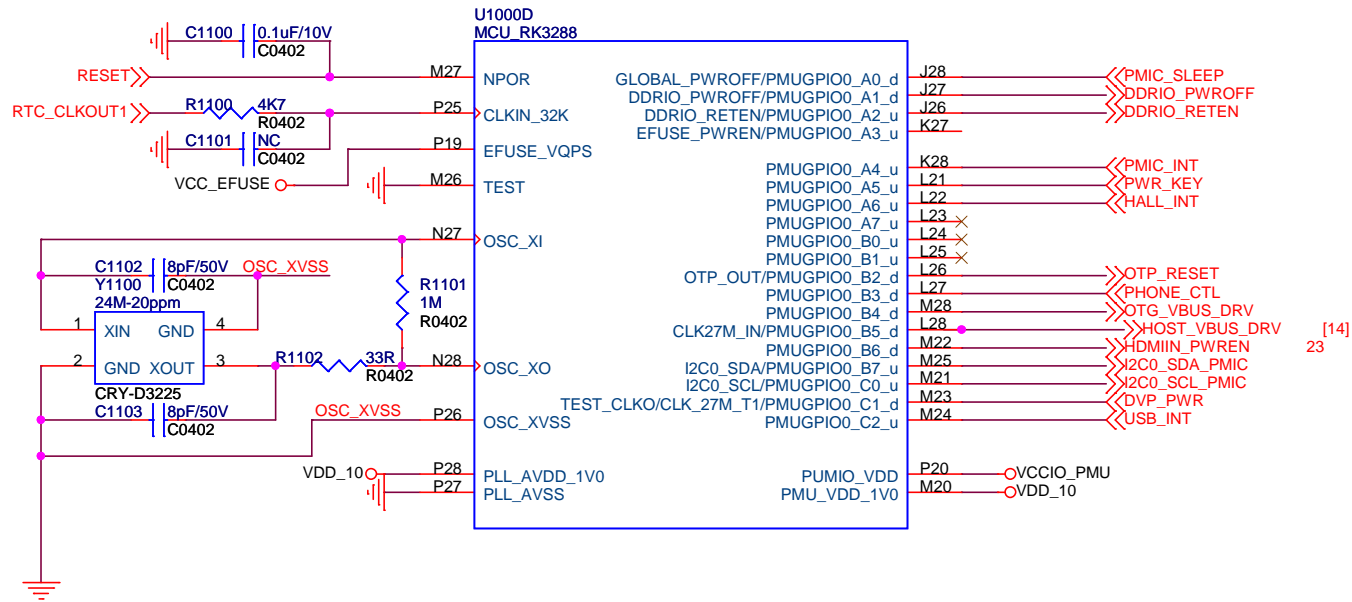


## RK3288 Power Filter

Note: All the capacitor should be place close to the power pin of RK3288.

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# RK3288\_D

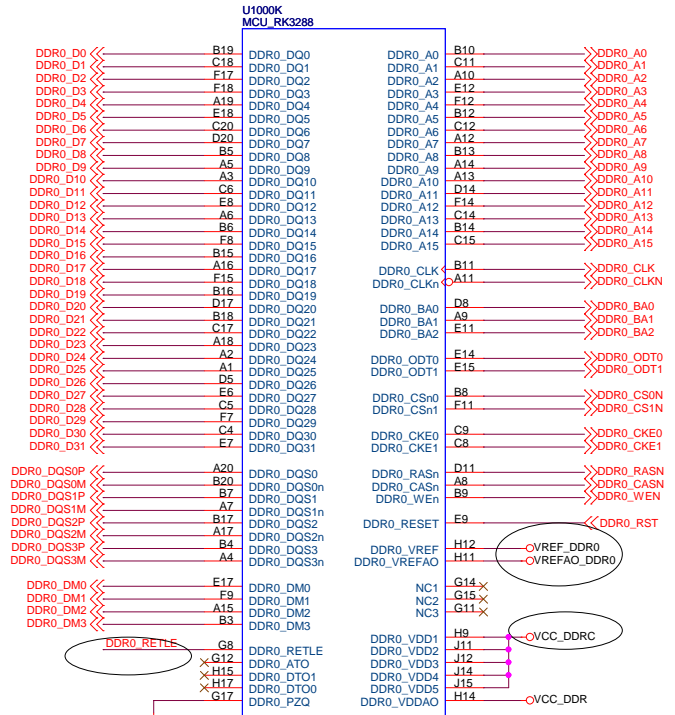


Note: All the capacitor should be place close to the power pin of RK3288.

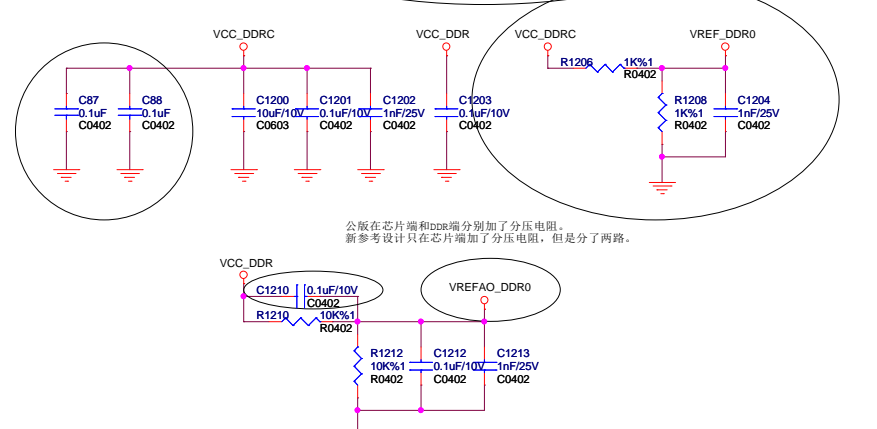
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# RK3288\_K

## DDR Channel-0



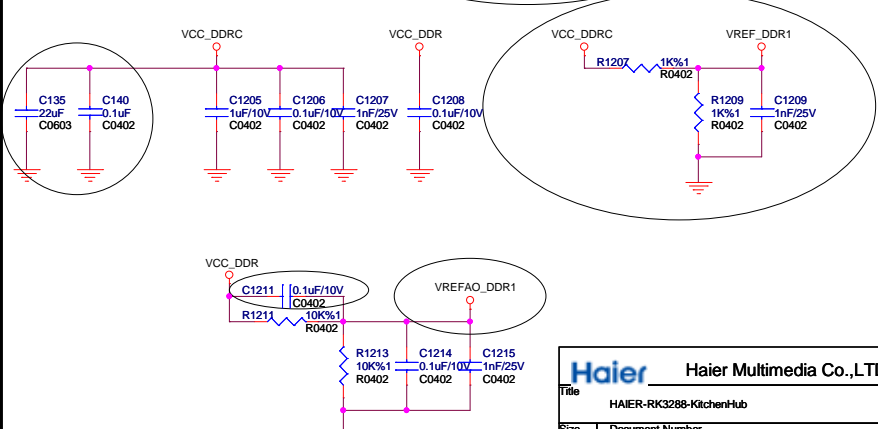
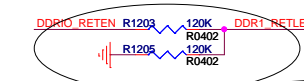
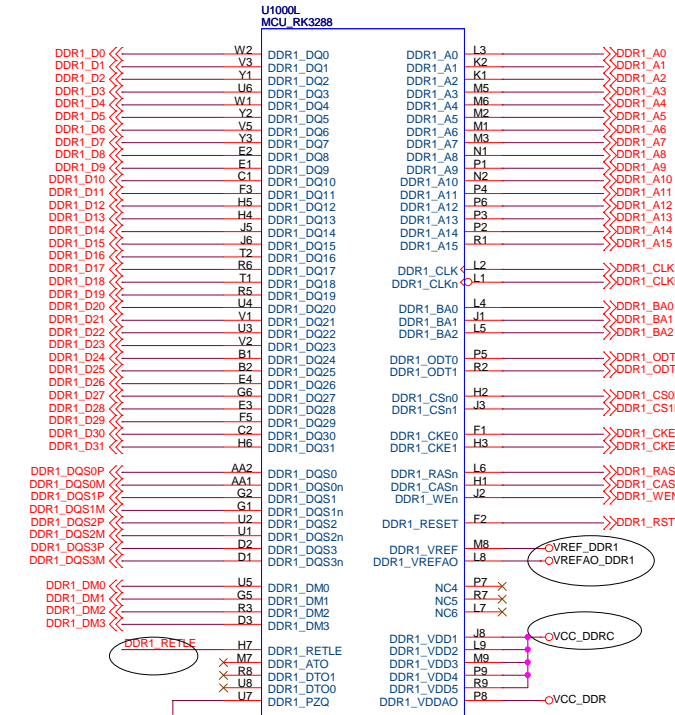
	R1202	R1204
DDR3	120K	120K
LPDDR2/3	100K	82K



Note: All the capacitor should be place close to the power pin of RK3288.

# RK3288\_L

## DDR Channel-1



Note: All the capacitor should be place close to the power pin of RK3288.

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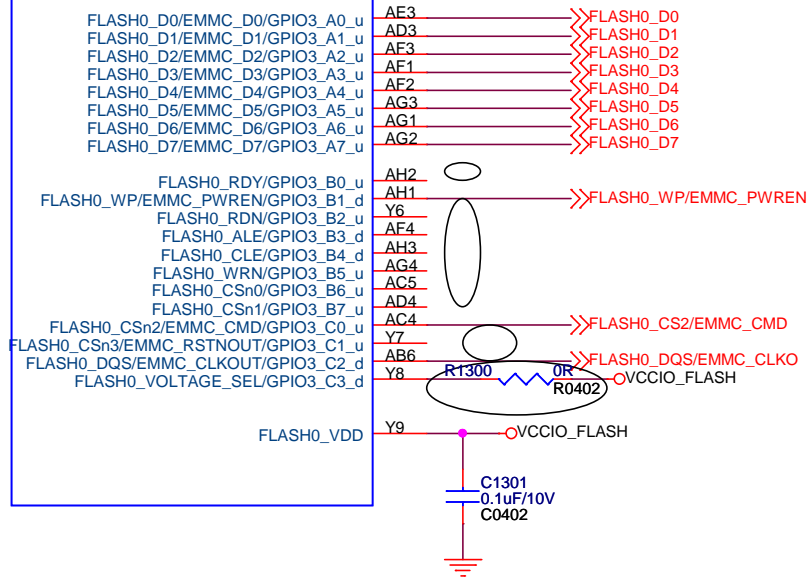
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# RK3288\_P

U1000P  
MCU\_RK3288

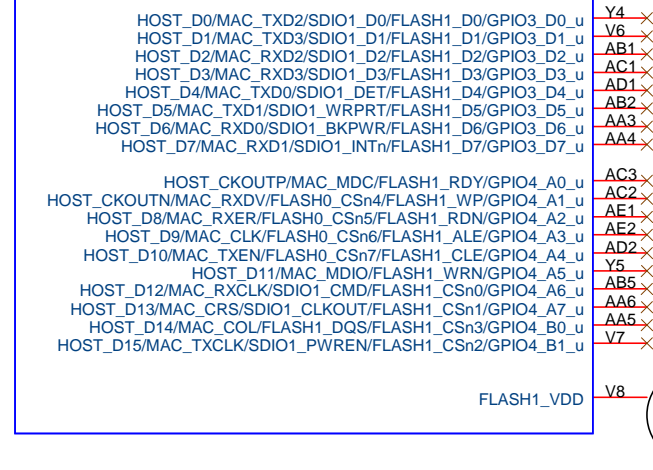


Note: All the capacitor should be place close to the power pin of RK3288.

	VCCIO_FLASH=1.8V	VCCIO_FLASH=3.3V
FLASH0_VOLTAGE_SEL pin connect to	VCCIO_FLASH	Floating(Default)
R1300	OR	DNP

# RK3288\_Q

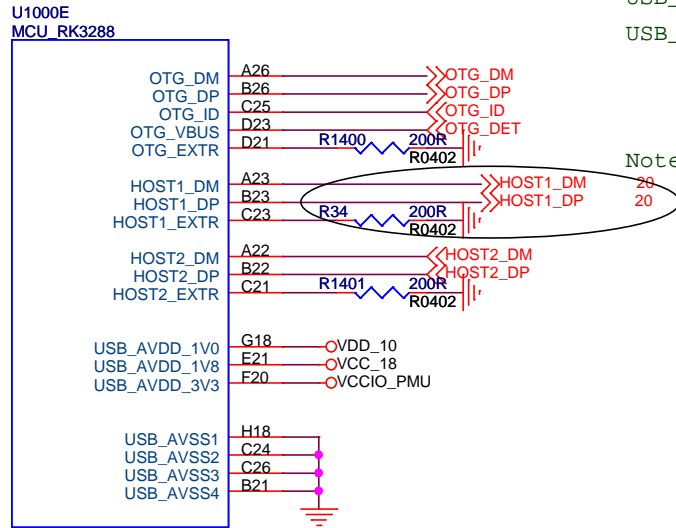
U1000Q  
MCU\_RK3288



Note: All the capacitor should be place close to the power pin of RK3288.

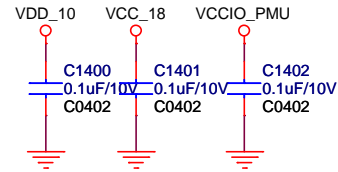
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# RK3288\_E



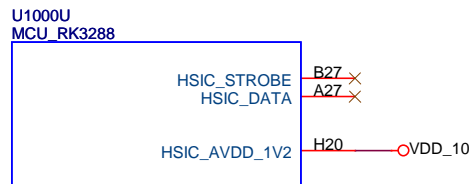
OTG port for debug.  
 USB\_HOST1 for USB camera.  
 USB\_HOST2 for MIC array.

Note2: USB\_HOST1 don't support USB1.1;



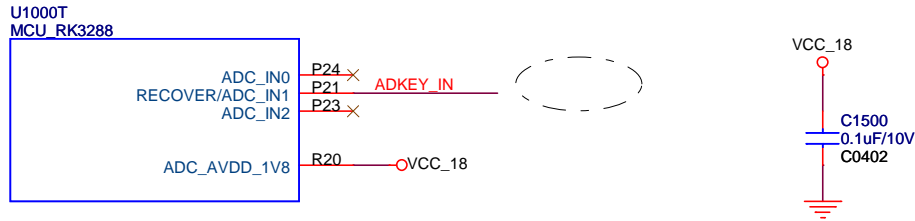
Note: All the capacitor should be place close to the power pin of RK3288.

# RK3288\_U



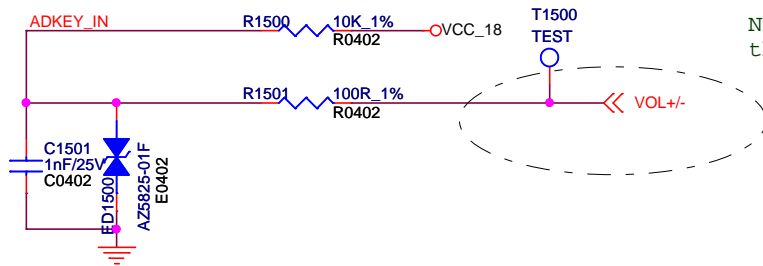
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# RK3288\_T



Note: All the capacitor should be place close to the power pin of RK3288.

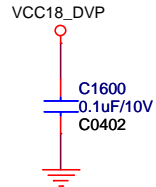
## KEY



Note: When the system power on, if ADKEY\_IN=0V, then enter Recovery mode;

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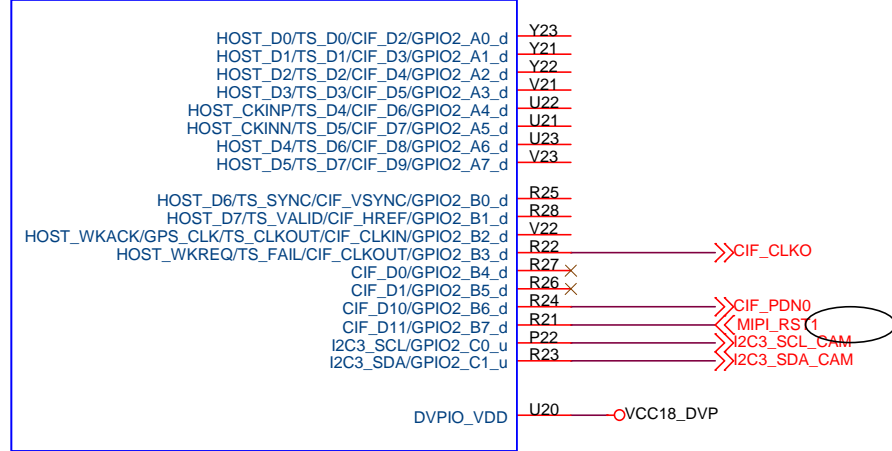
# RK3288\_C



CIF depends on camera.

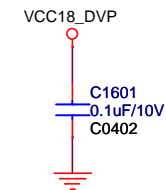
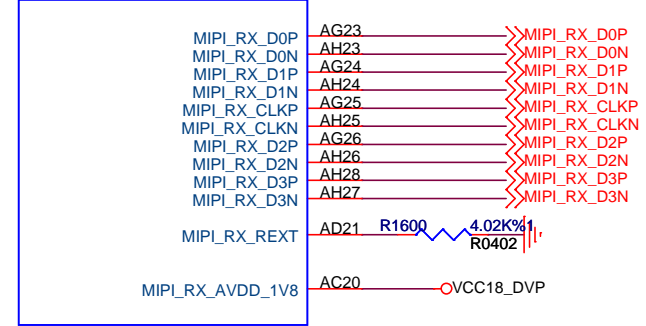
Note: All the capacitor should be place close to the power pin of RK3288.

U1000C  
MCU\_RK3288



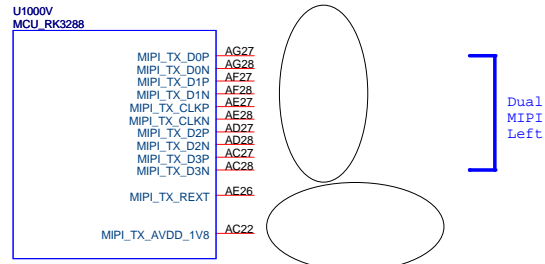
# RK3288\_W

U1000W  
MCU\_RK3288

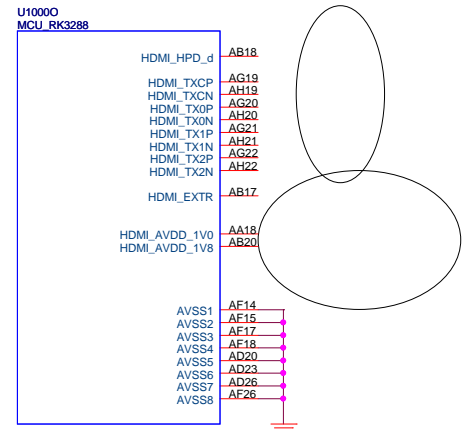


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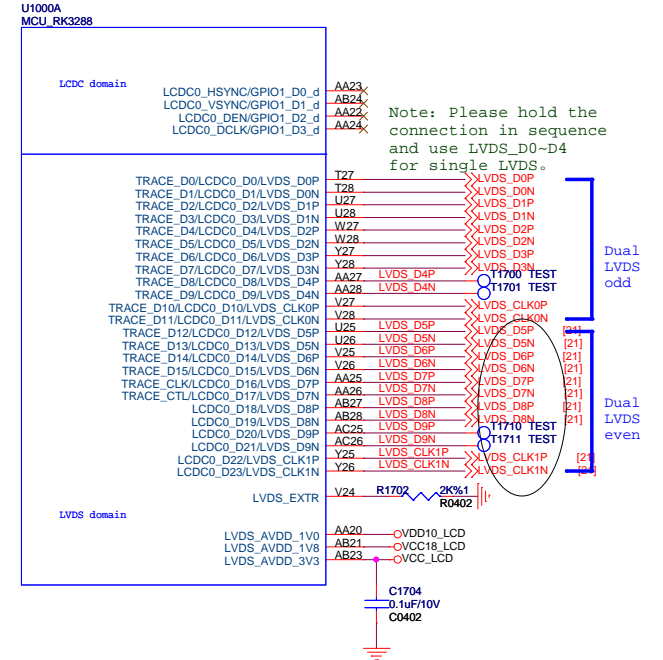
# RK3288\_V



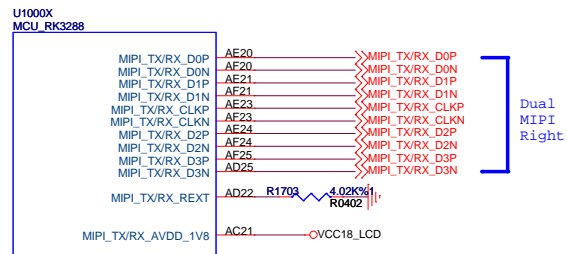
# RK3288\_O



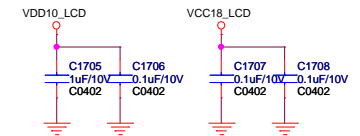
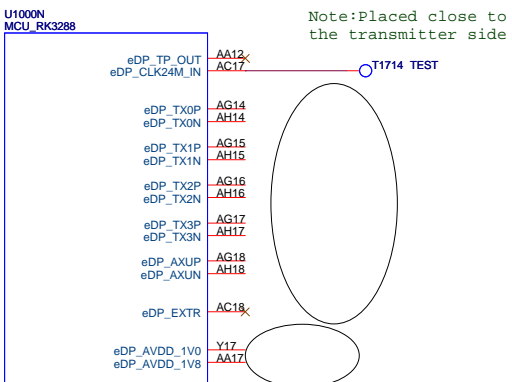
# RK3288\_A



# RK3288\_X



# RK3288\_N

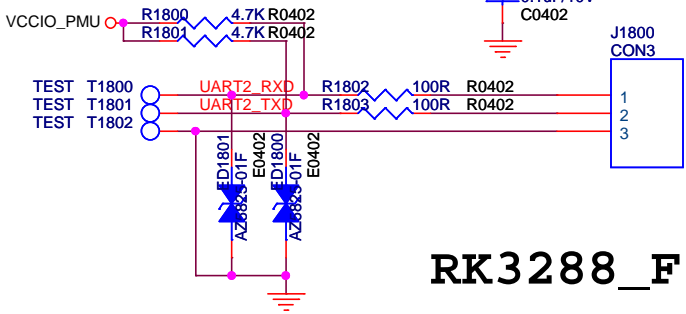
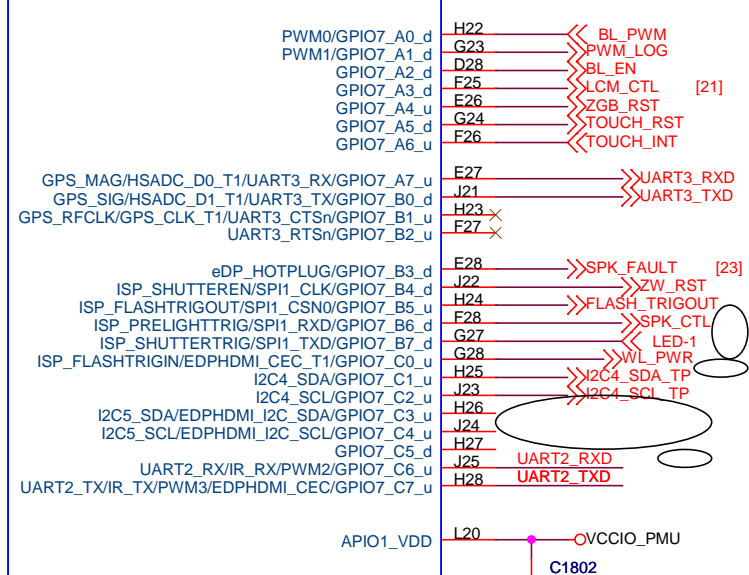


Note: All the capacitor should be place close to the power pin of RK3288.

Correspondence between LCDC DATA and RGB

LCDC_D0	B0	LCDC_D8	G0	LCDC_D16	R0
LCDC_D1	B1	LCDC_D9	G1	LCDC_D17	R1
LCDC_D2	B2	LCDC_D10	G2	LCDC_D18	R2
LCDC_D3	B3	LCDC_D11	G3	LCDC_D19	R3
LCDC_D4	B4	LCDC_D12	G4	LCDC_D20	R4
LCDC_D5	B5	LCDC_D13	G5	LCDC_D21	R5
LCDC_D6	B6	LCDC_D14	G6	LCDC_D22	R6
LCDC_D7	B7	LCDC_D15	G7	LCDC_D23	R7

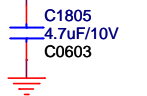
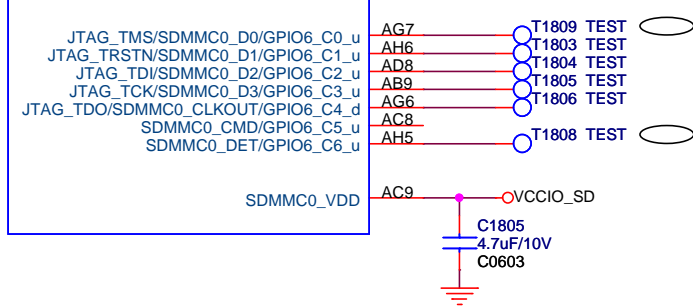
U1000F  
MCU\_RK3288



**RK3288\_F**

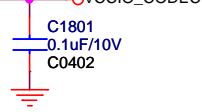
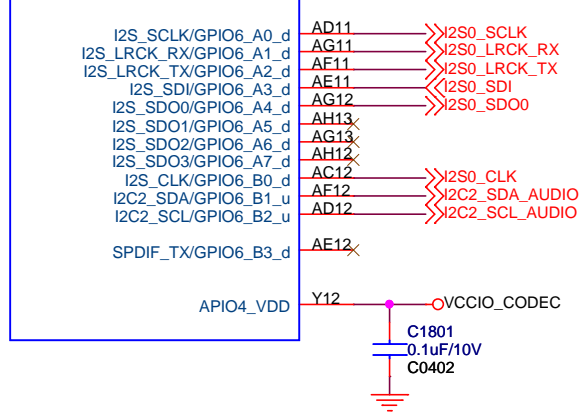
**RK3288\_B**

U1000B  
MCU\_RK3288



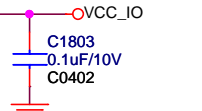
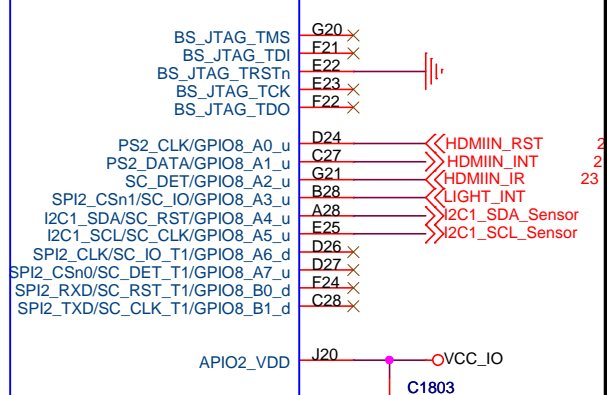
**RK3288\_I**

U1000I  
MCU\_RK3288



**RK3288\_G**

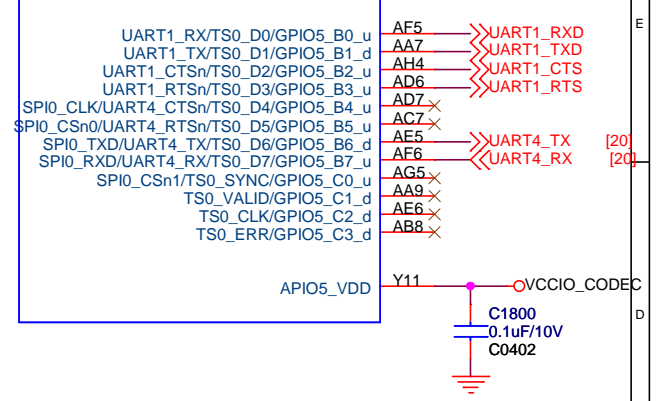
U1000G  
MCU\_RK3288



Note: BS\_JTAG\_TRSTn must be connected to VSS and APIO2\_VDD must be power supply always.  
Note: All the capacitor should be place close to the power pin of RK3288.

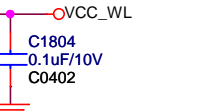
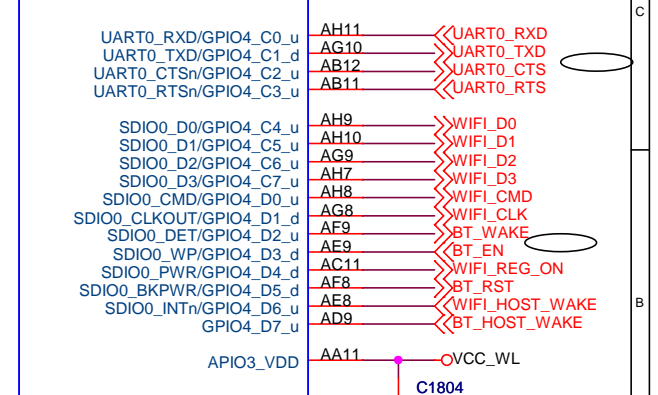
**RK3288\_J**

U1000J  
MCU\_RK3288



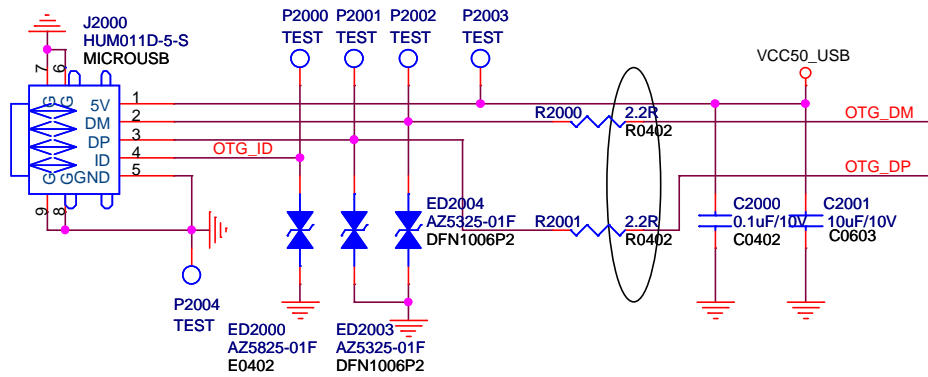
**RK3288\_H**

U1000H  
MCU\_RK3288

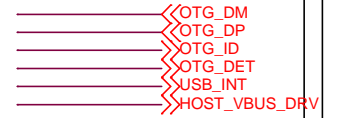
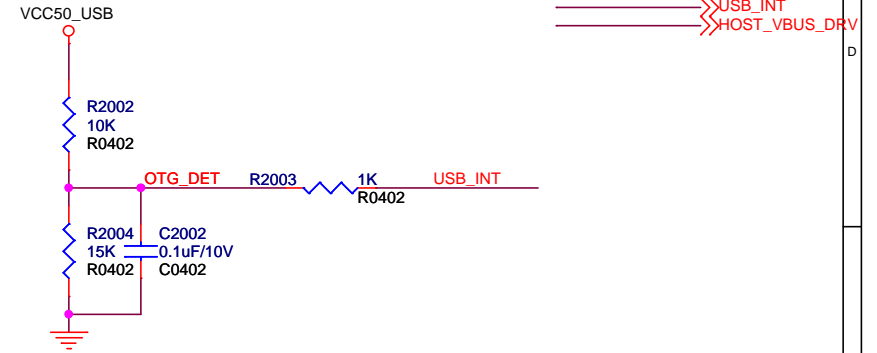


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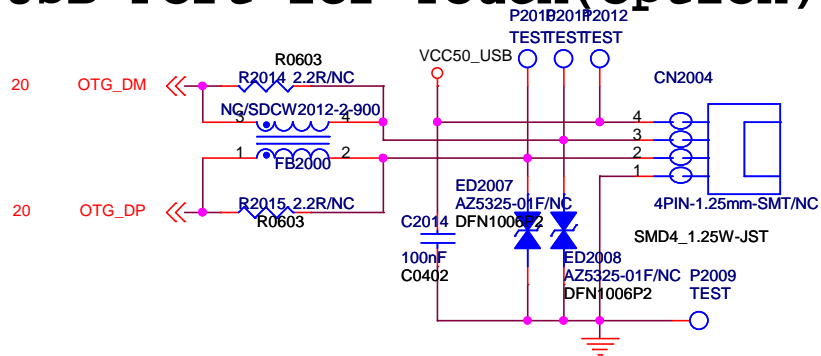
# USB OTG PORT



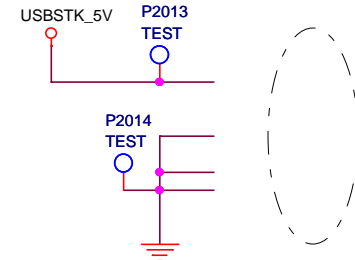
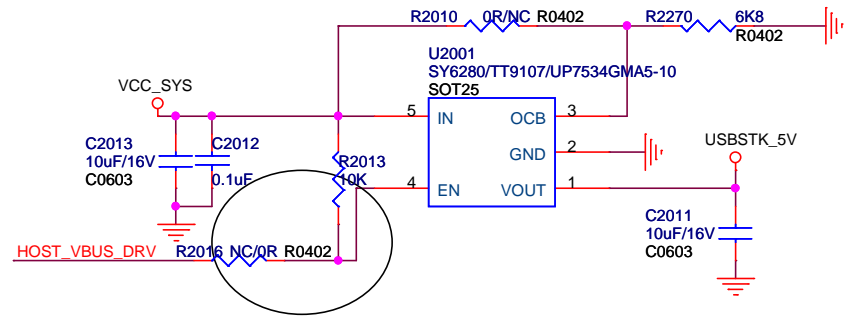
# USB Detection



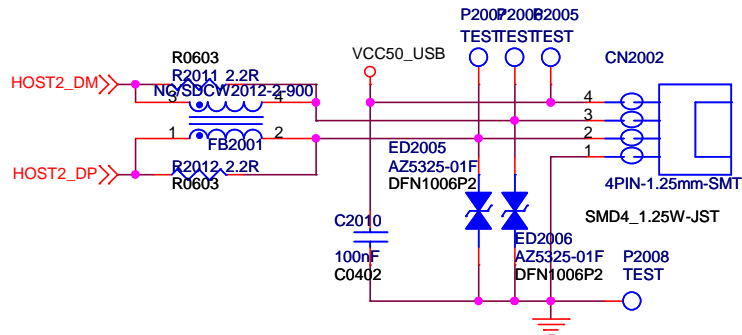
# USB Port for Touch(option)



# Power supply for Memorystick

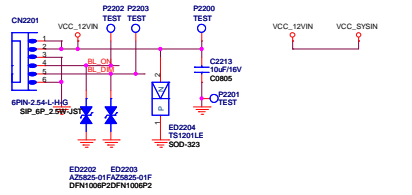


# USB Port for Camera

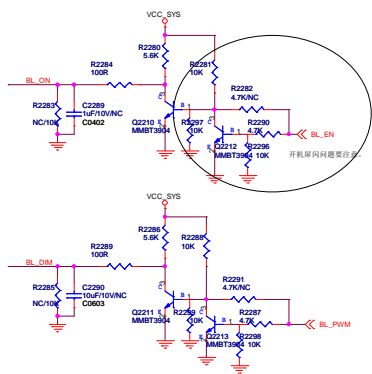


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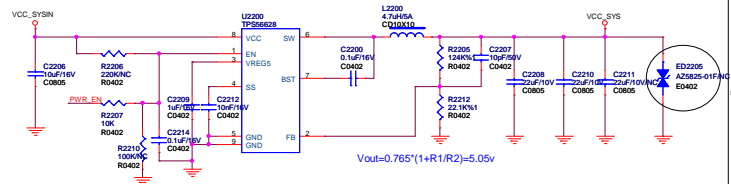
### DC IN



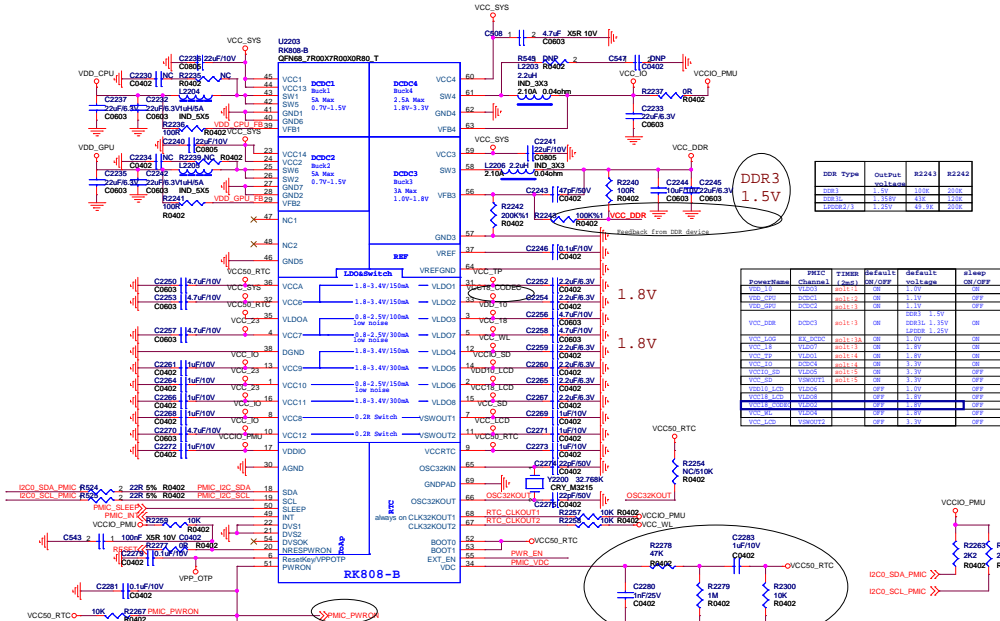
### Backlight Control



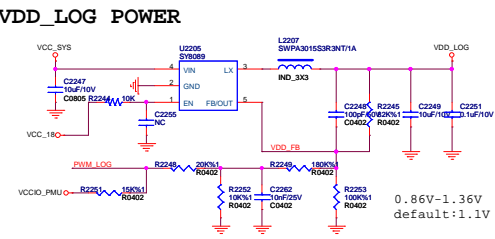
### VCC\_SYS POWER



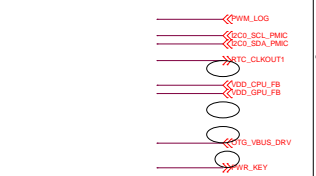
### PMIC RK808-B



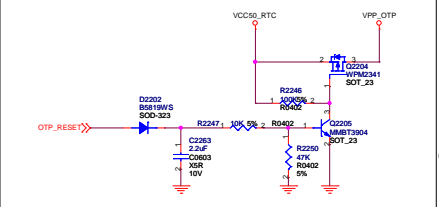
### Gas Gauge



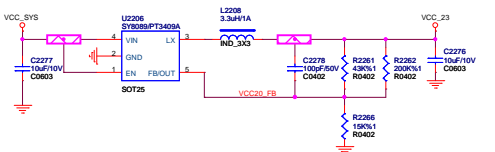
### BATTERY



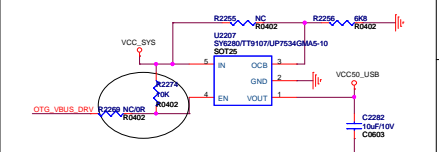
### OTP & RESET



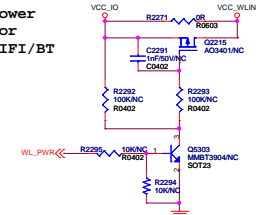
### VCC\_20 POWER



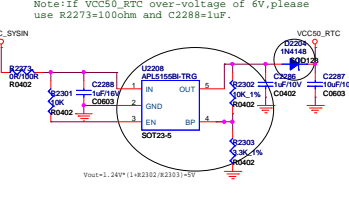
### OTG POWER



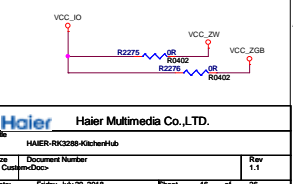
### Power for WIFI/BT



### RTC POWER

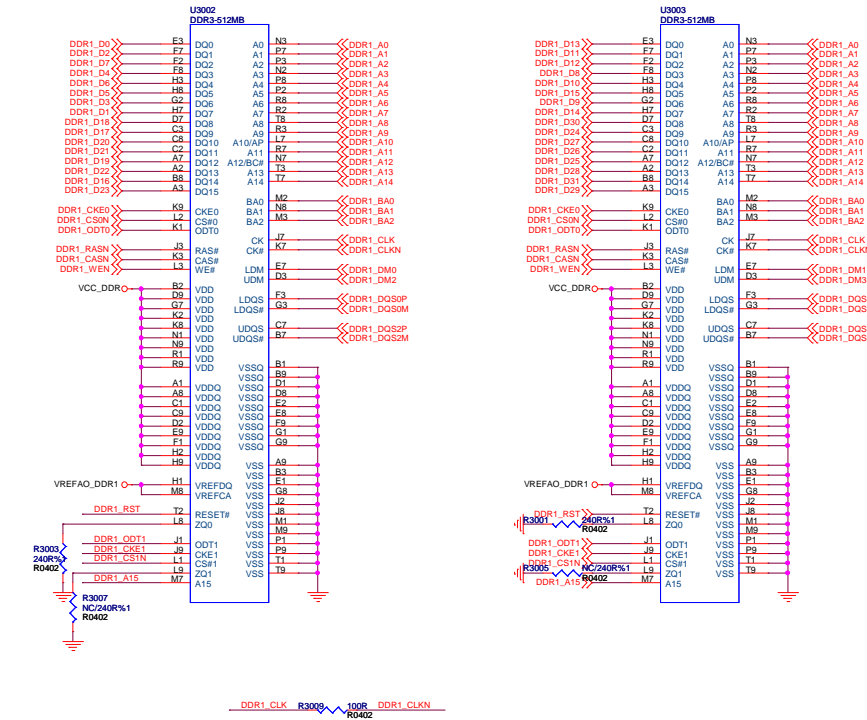
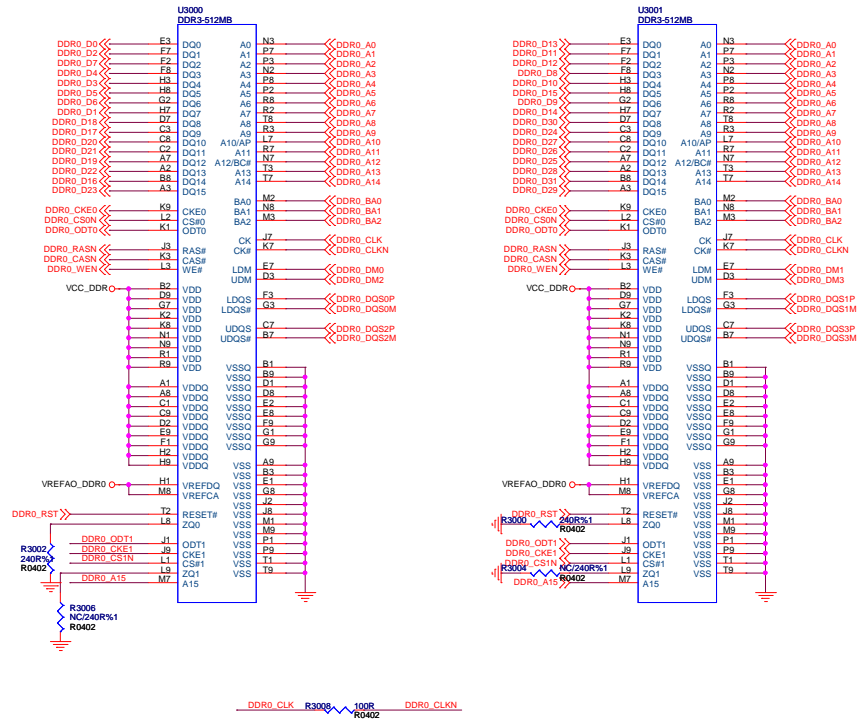


### Power for ZIGBEE/ZWAVE

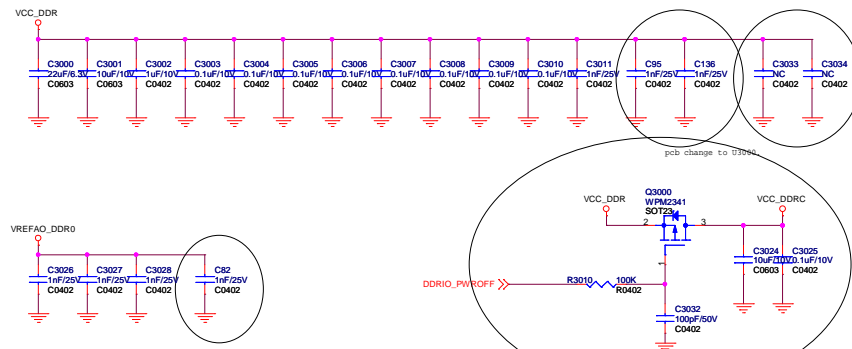




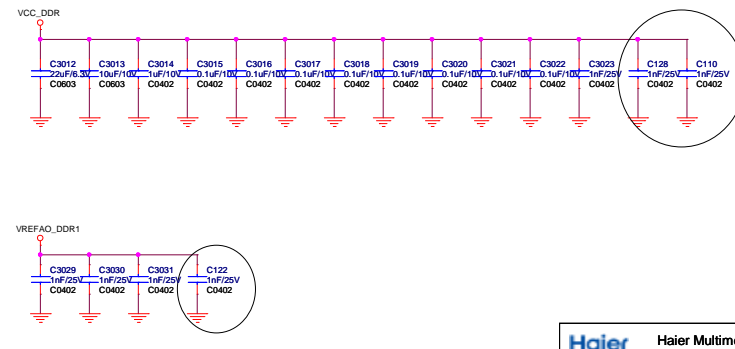
# DDR3 4x16bit



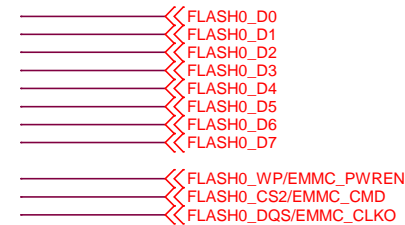
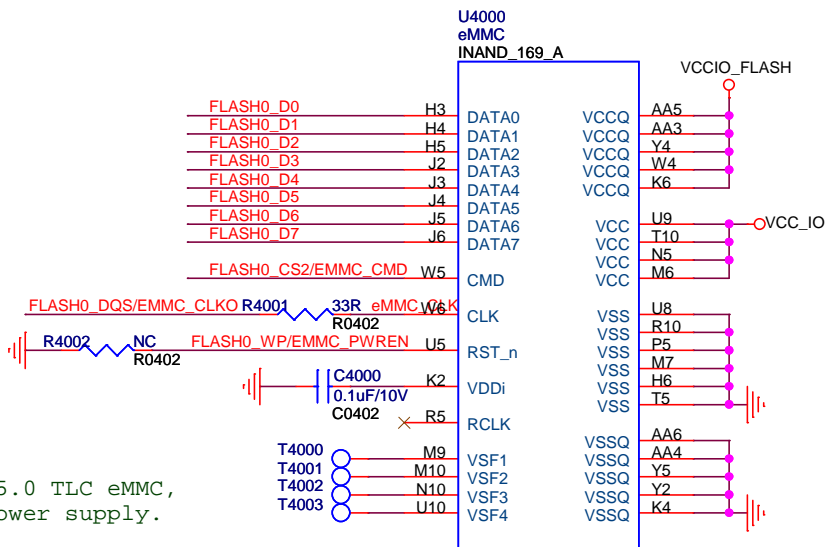
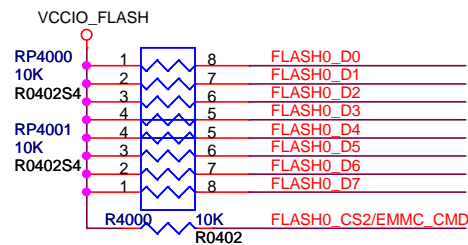
# DDR0 FILTER



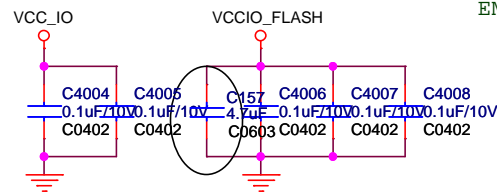
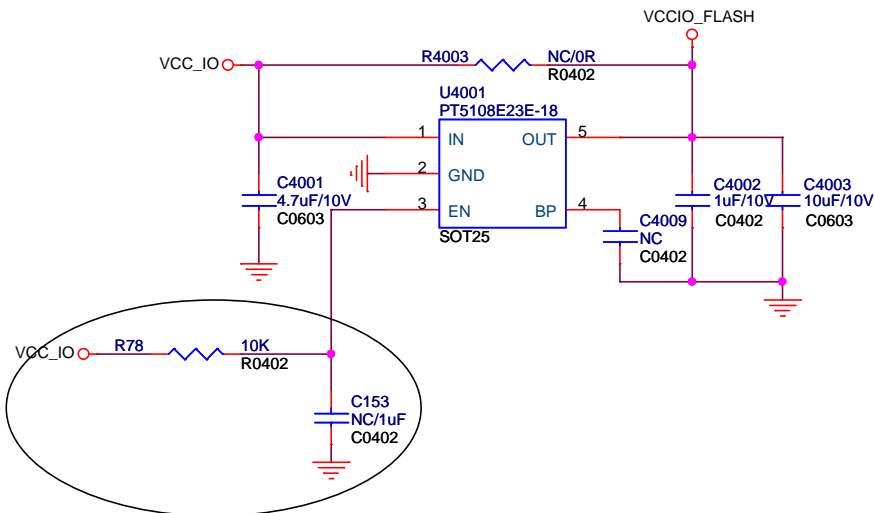
# DDR1 FILTER



# eMMC FLASH

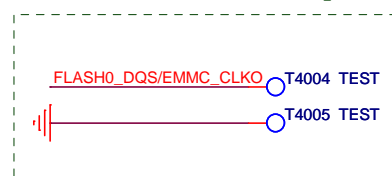


Note:U4001 must be use for Sandisk 5.0 TLC eMMC, because it support only 1.8V VCCQ power supply.



Note:For eMMC&Nand Flash Compatible layout, please make sure the EMMC\_CLKO stub as short as possible.

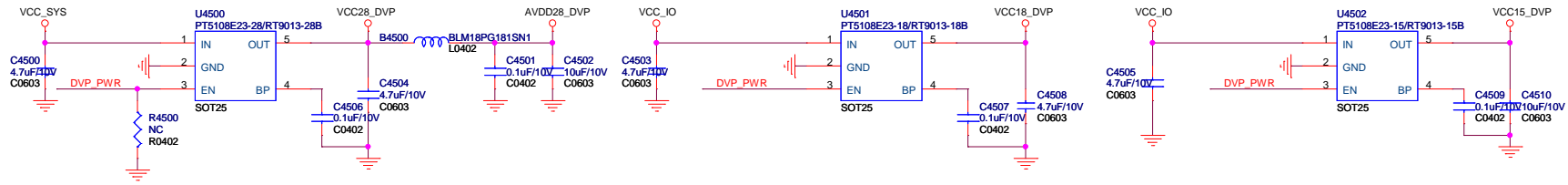
Note:Reserve PAD for Update



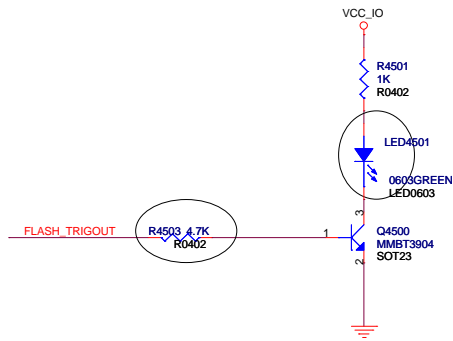
<b>Haier</b> Haier Multimedia Co.,LTD.		
Title HAIER-RK3288-KitchenHub		
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# DVP Power

— << FLASH\_TRIGOUT  
— << DVP\_PWR



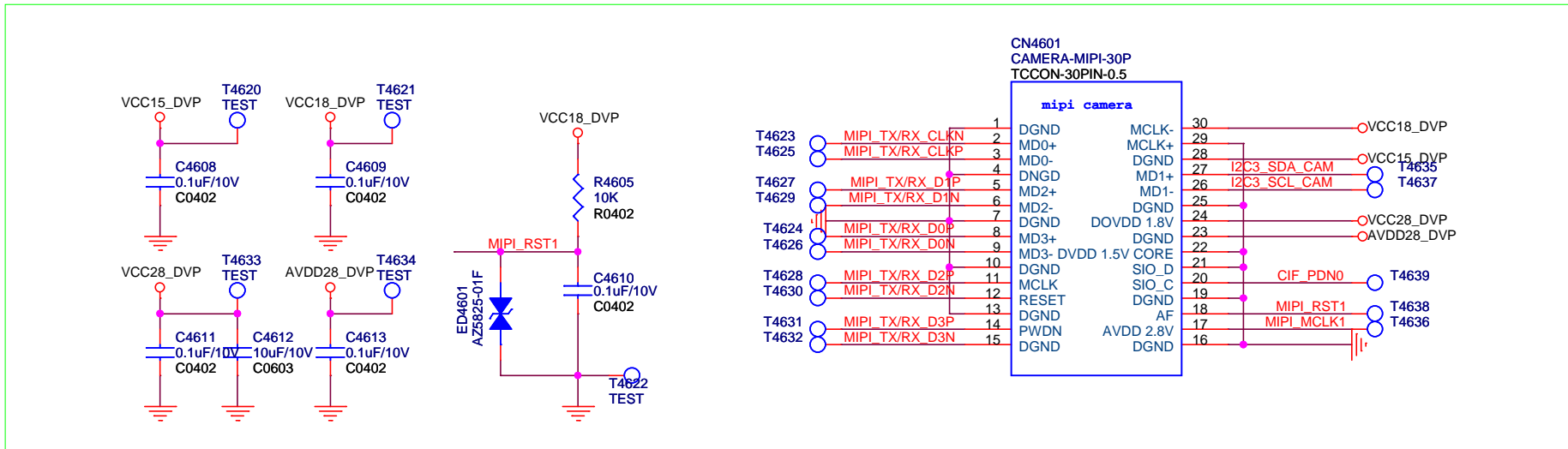
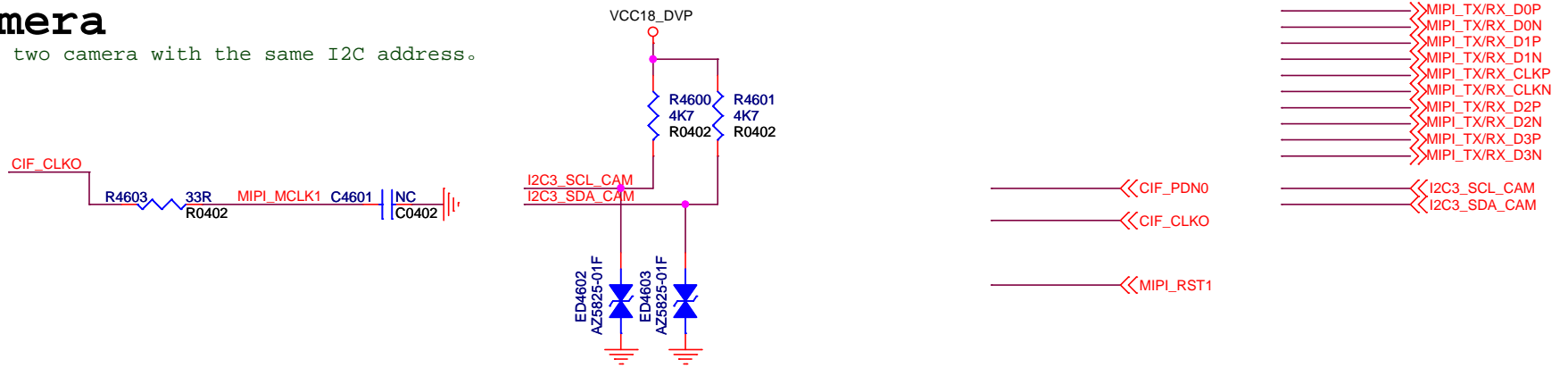
# INDICATOR LED



<b>Haier</b> Haier Multimedia Co.,LTD.	
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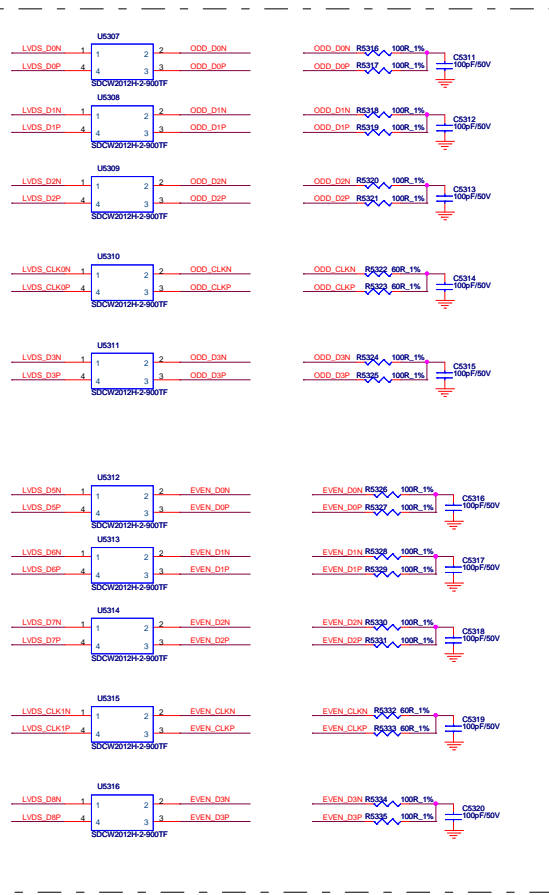
# MIPI Camera

Note: Do not use two camera with the same I2C address.

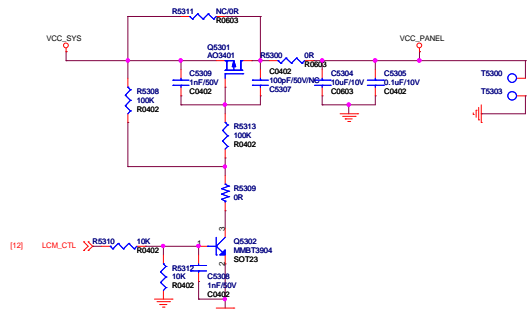
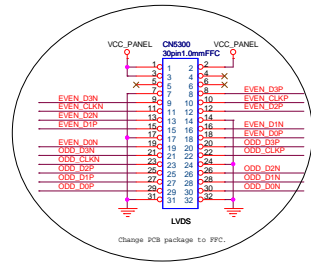


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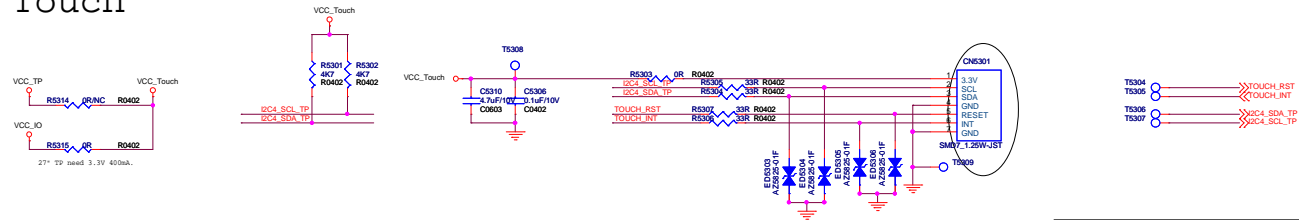
# LVDS Panel



TS310	ODD_D2N	LVDS_D2N	[1]
TS311	ODD_D2P	LVDS_D2P	[1]
TS312	ODD_D1N	LVDS_D1N	[1]
TS313	ODD_D1P	LVDS_D1P	[1]
TS314	ODD_D2N	LVDS_D2N	[1]
TS315	ODD_D2P	LVDS_D2P	[1]
TS316	ODD_CLKIN	LVDS_CLKIN	[1]
TS317	ODD_CLKIP	LVDS_CLKIP	[1]
TS318	ODD_D1N	LVDS_D1N	[1]
TS319	ODD_D1P	LVDS_D1P	[1]
TS320	EVEN_D2N	LVDS_D2N	[1]
TS321	EVEN_D2P	LVDS_D2P	[1]
TS322	EVEN_D1N	LVDS_D1N	[1]
TS323	EVEN_D1P	LVDS_D1P	[1]
TS324	EVEN_D2N	LVDS_D2N	[1]
TS325	EVEN_D2P	LVDS_D2P	[1]
TS326	EVEN_CLKIN	LVDS_CLKIN	[1]
TS327	EVEN_CLKIP	LVDS_CLKIP	[1]
TS328	EVEN_D1N	LVDS_D1N	[1]
TS329	EVEN_D1P	LVDS_D1P	[1]



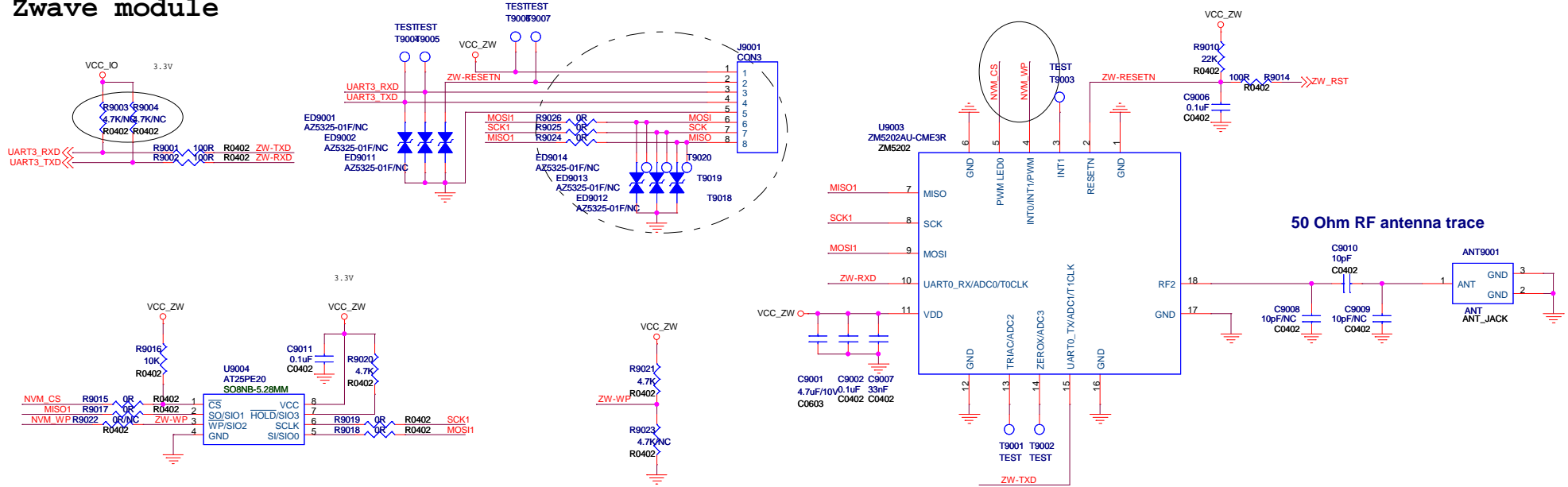
# Touch



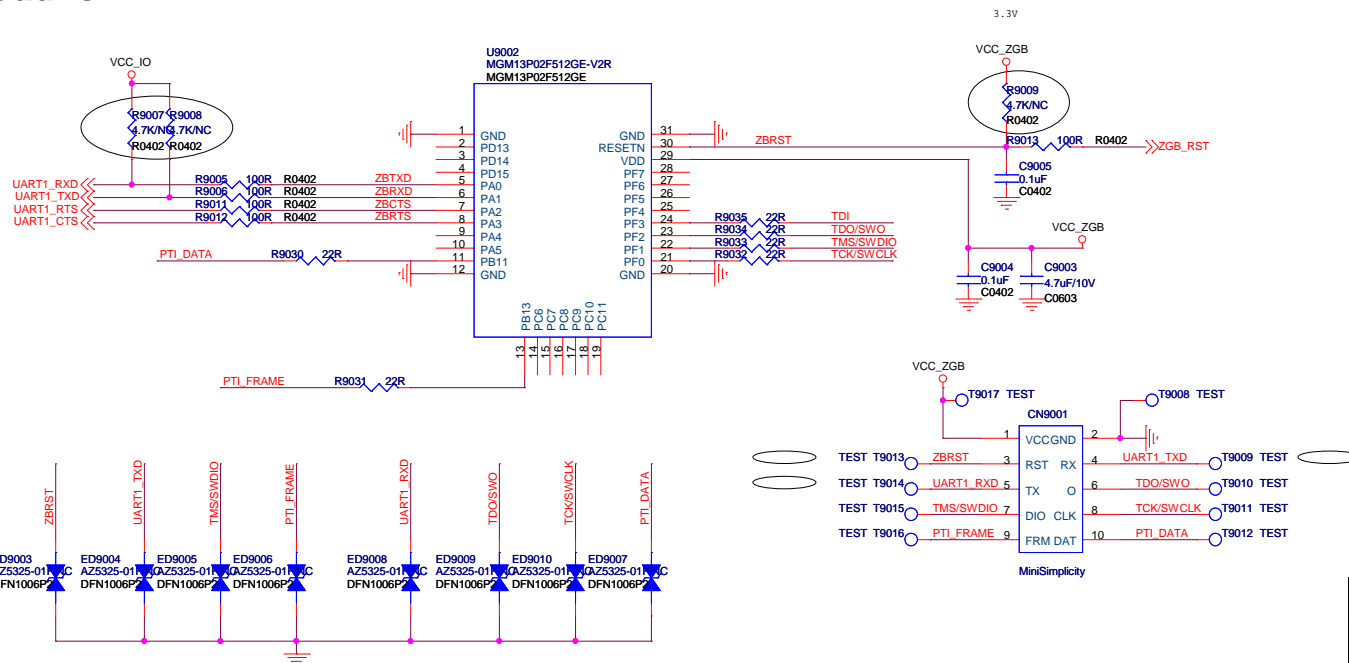
NOTE:VCC\_TP default is 1.8V SW configure to 3.3V needed  
R5303 is added

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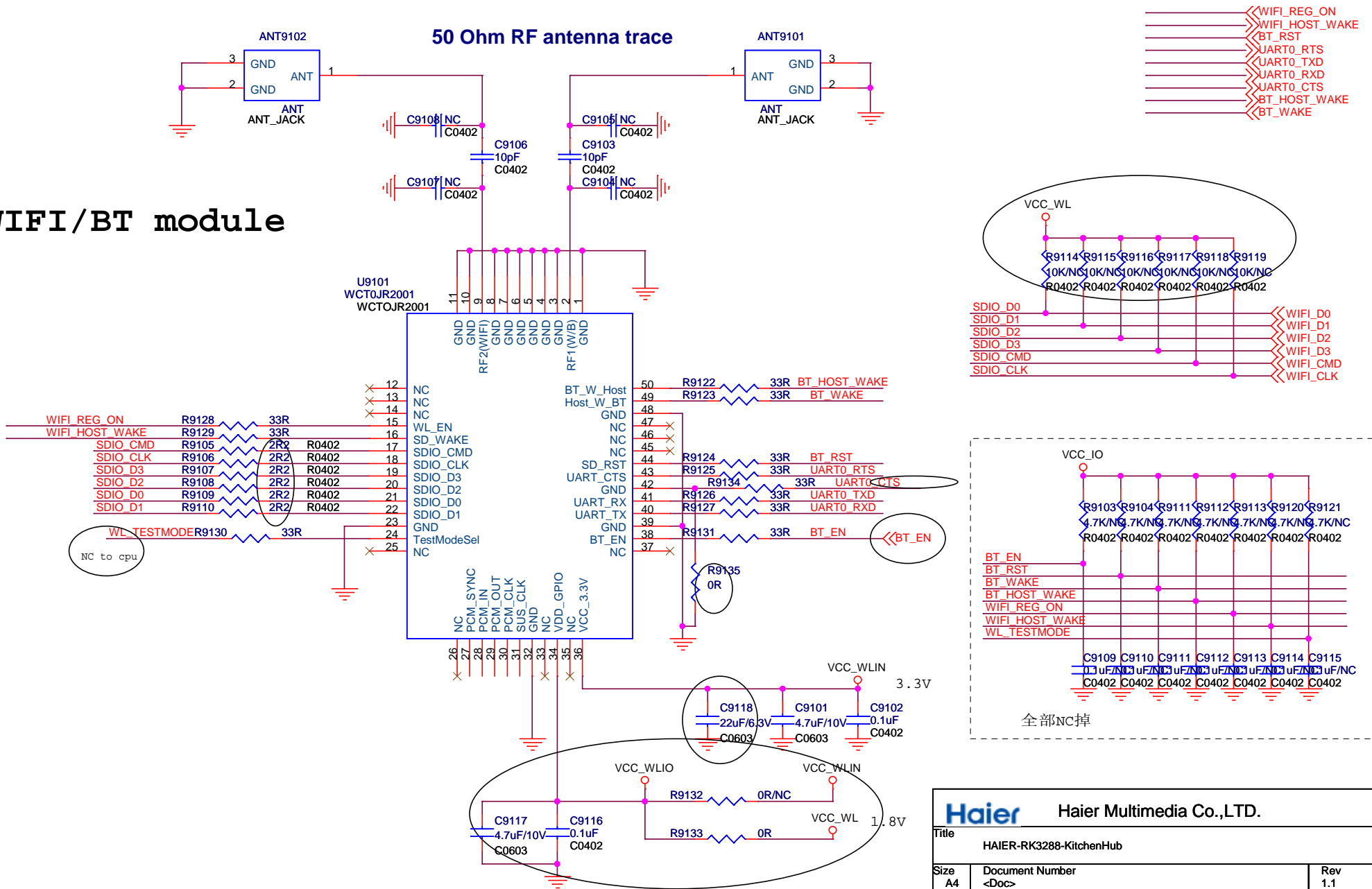
# Zwave module



# Zigbee module

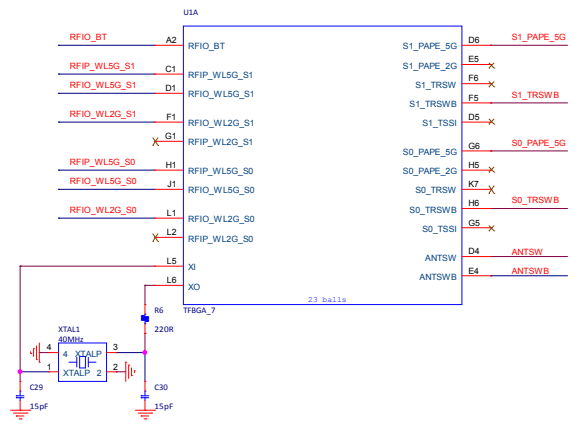
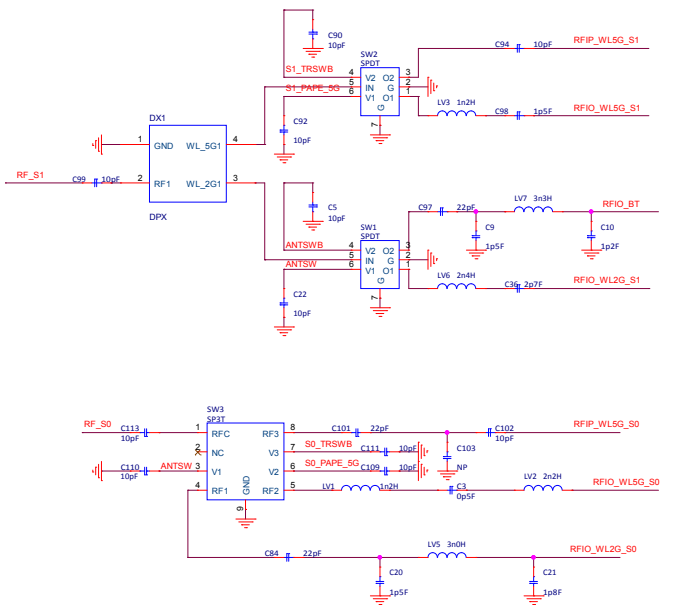


# WIFI/BT module

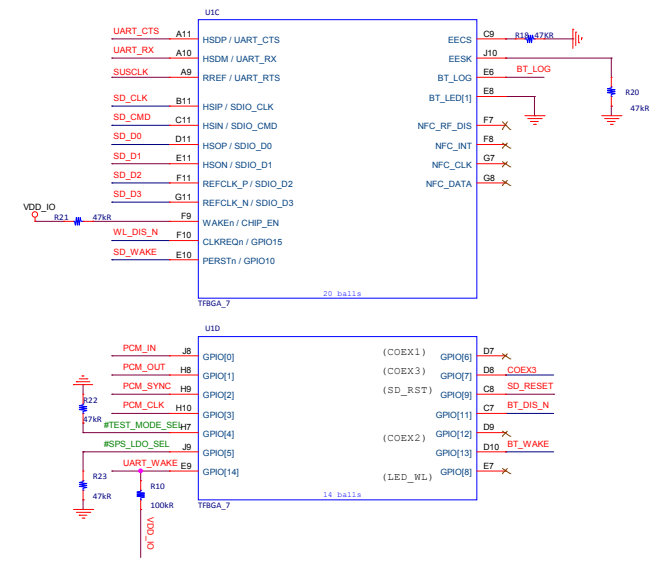


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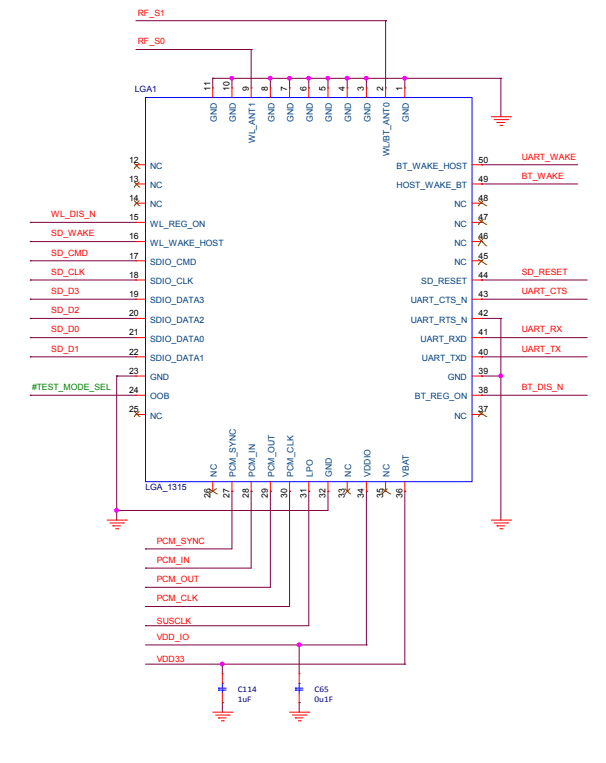
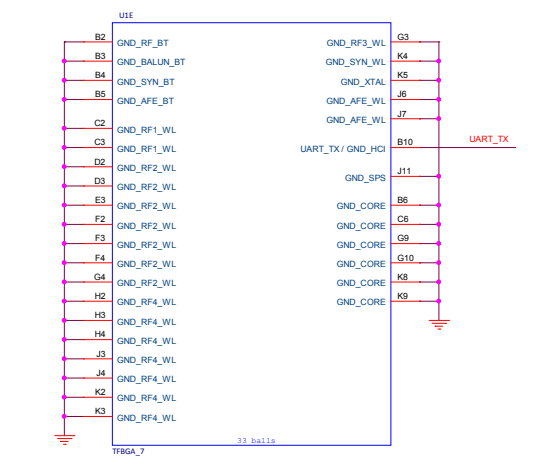
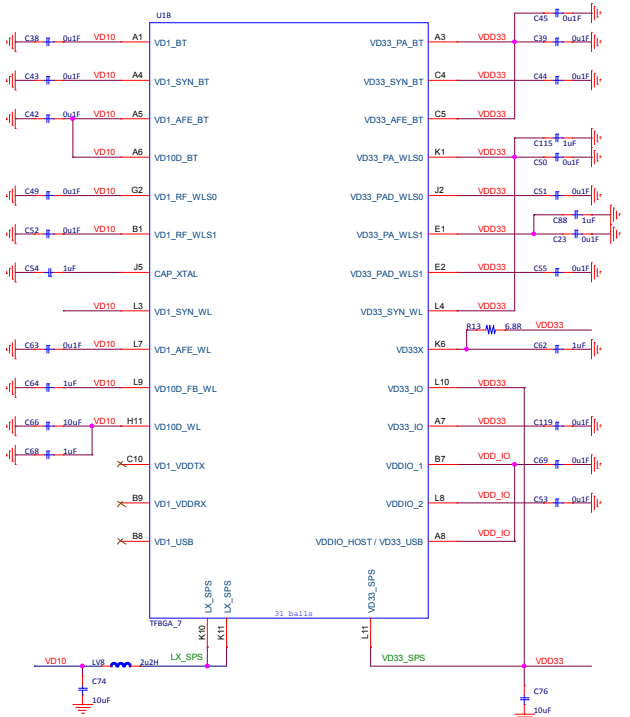
# RF



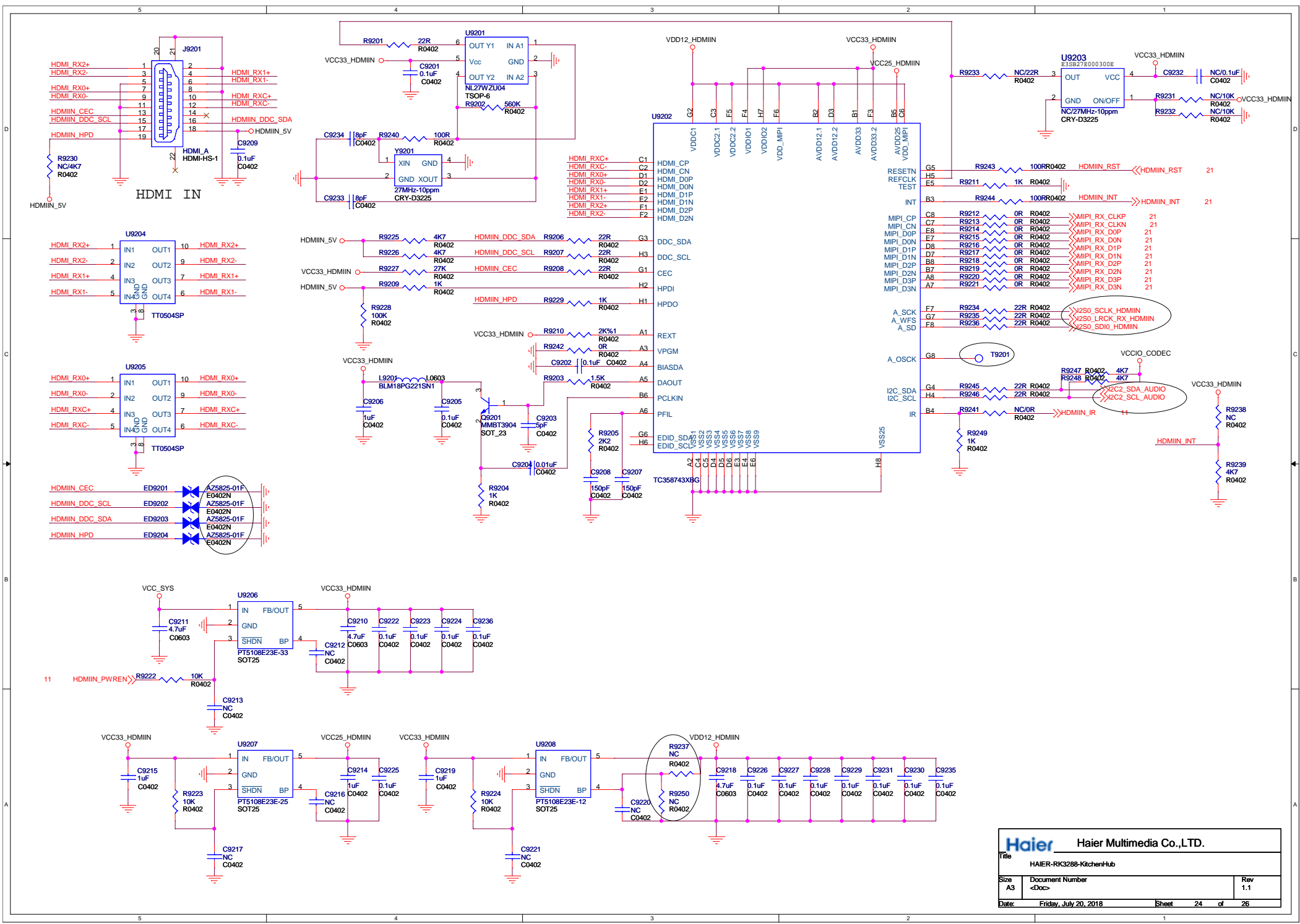
# Interface & GPIO



# Power & GND

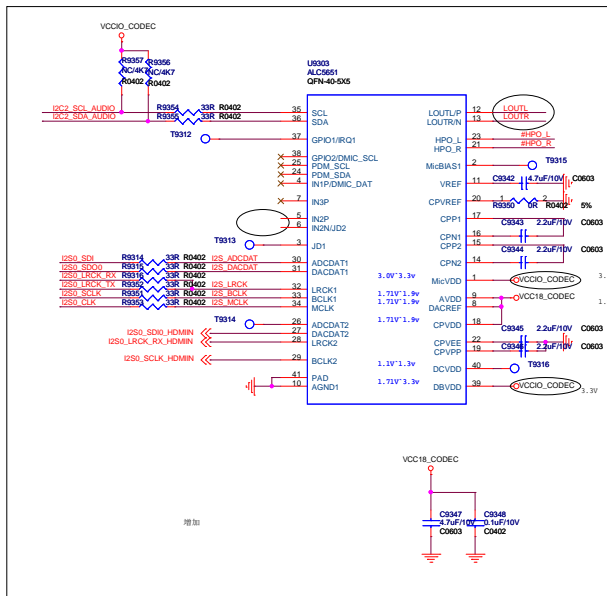
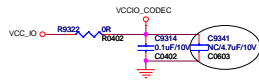






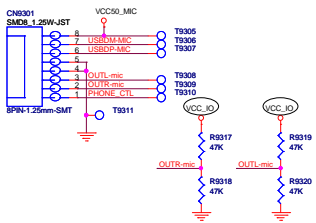
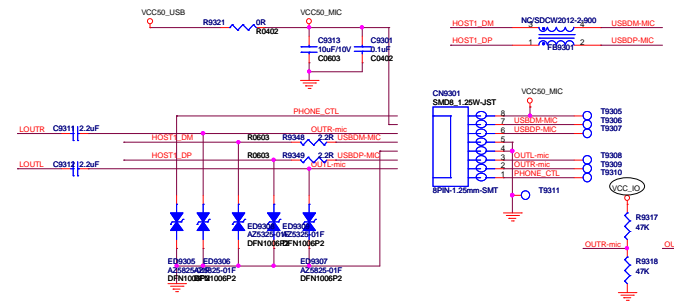
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Title HAIER-RK3288-KitchenHub	
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# CODEC

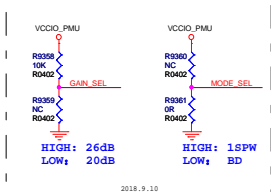
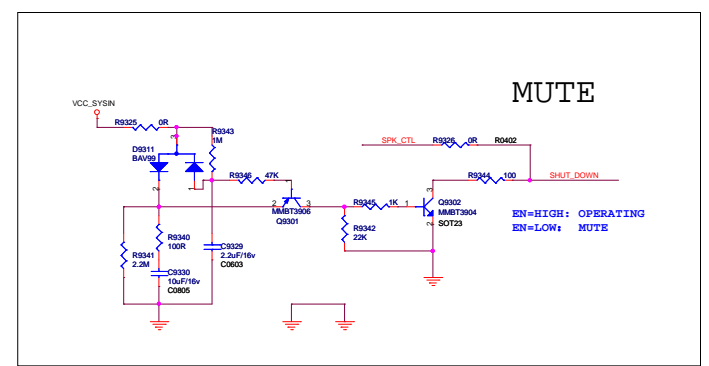
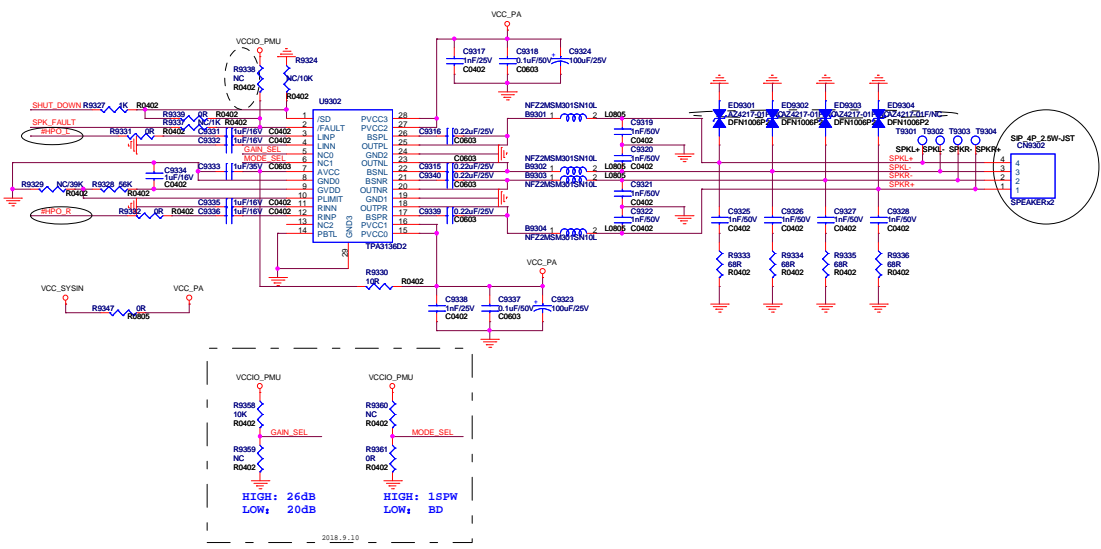


- USB\_CLK
- USB\_SCLK
- USB\_SDOV
- USB\_LCKK\_TX
- USB\_SD
- USB\_LCKK\_RX

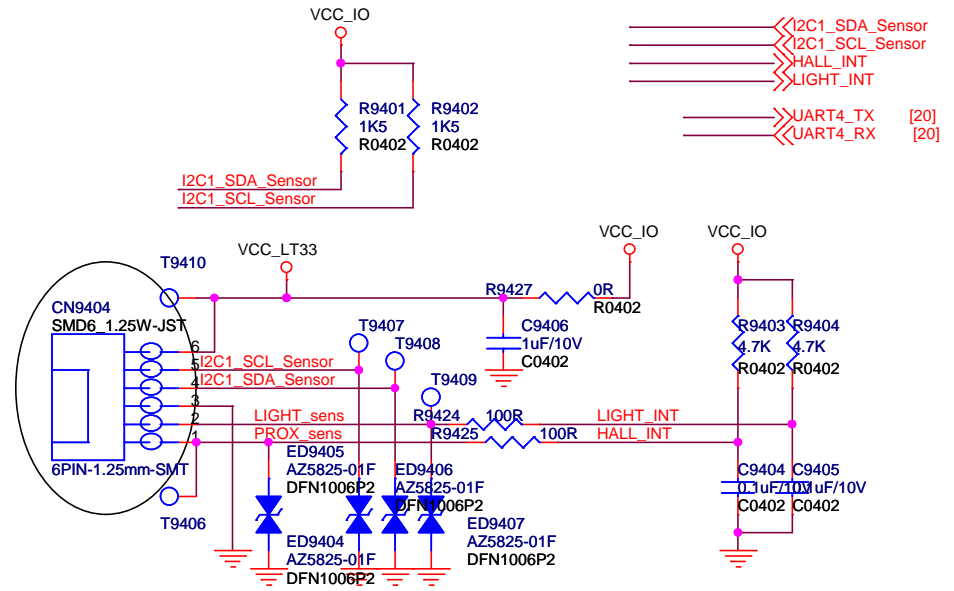
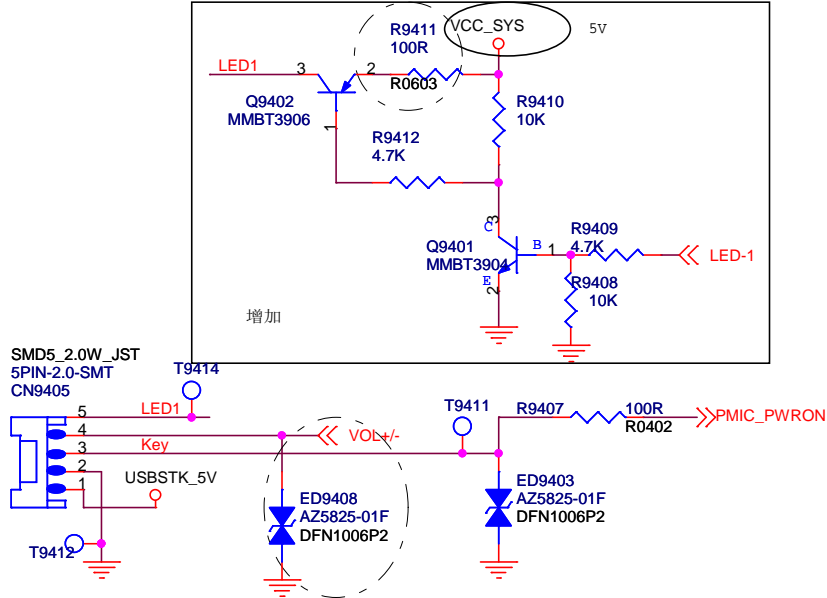
- SPK\_CTL
- PHONE\_CTL [23]
- HOST1\_DM [20]
- HOST1\_DP [20]
- VCC1\_SDA\_AUDIO
- DC2\_SCL\_AUDIO



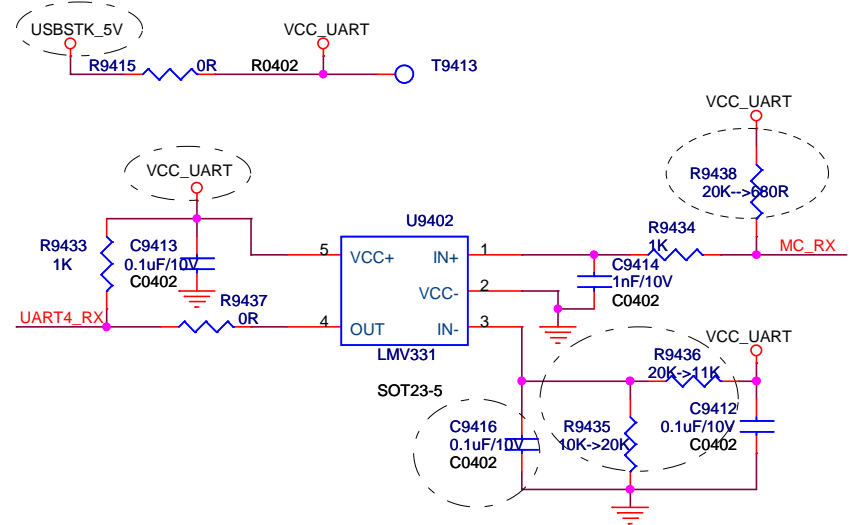
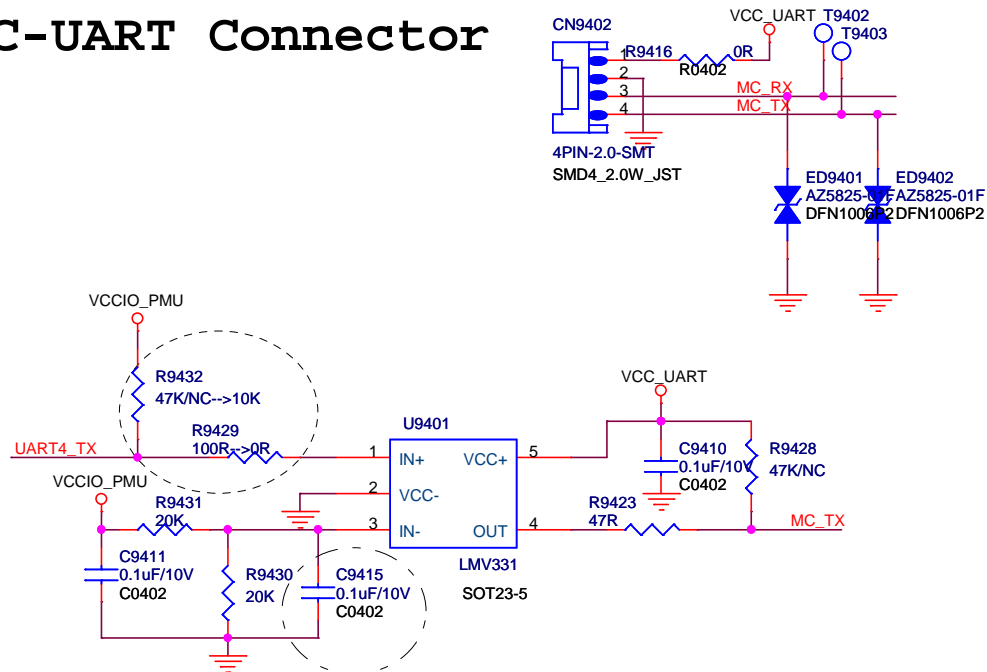
# SPEAKER



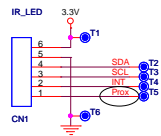
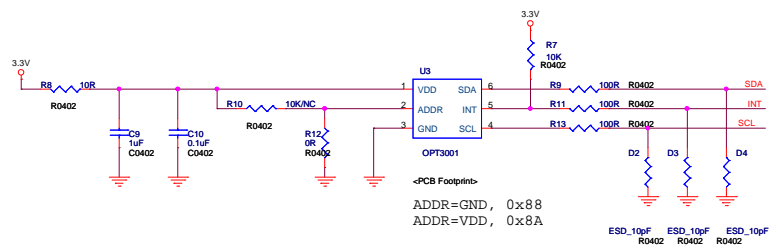
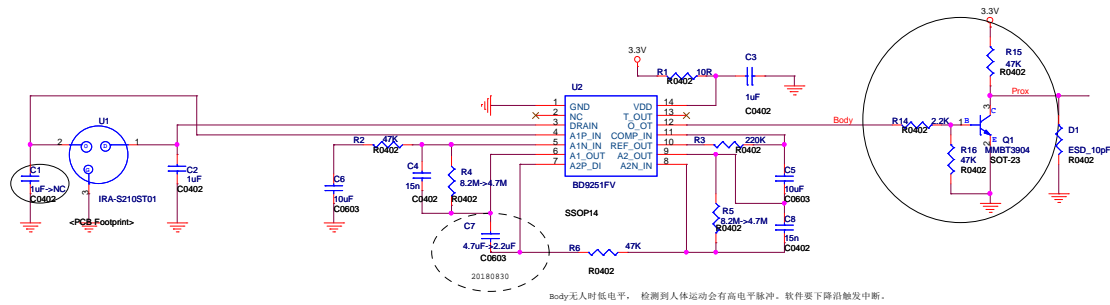
# Sensors & MC-UART Connectors



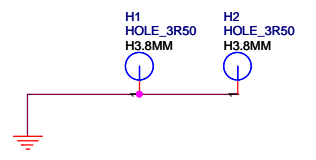
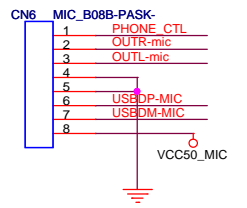
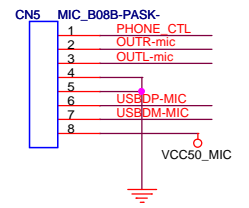
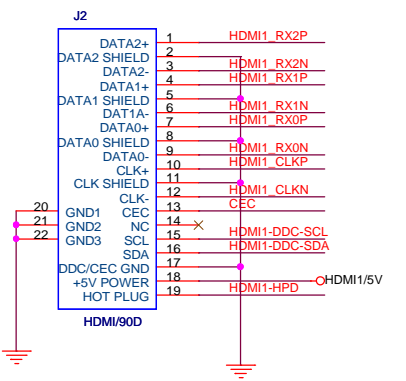
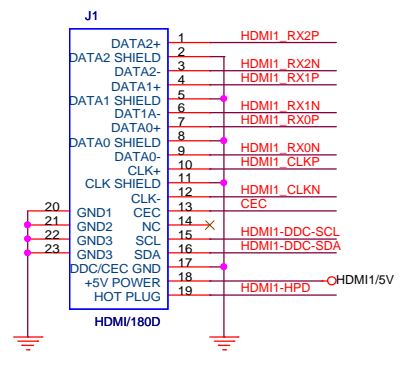
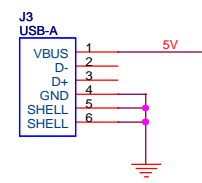
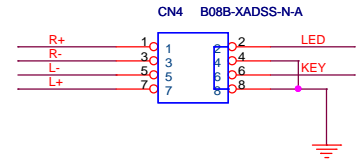
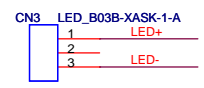
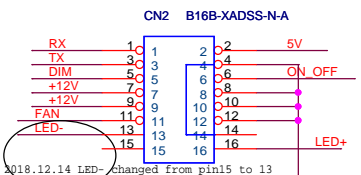
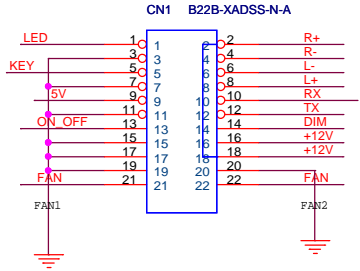
# MC-UART Connector



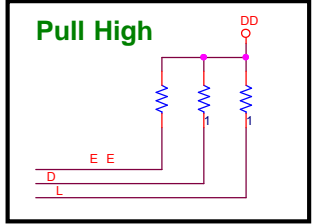
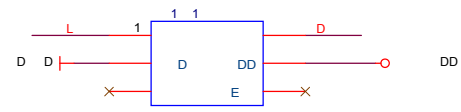
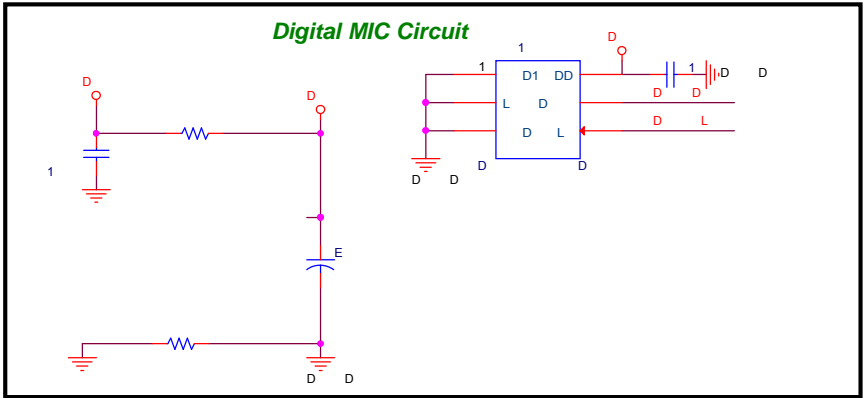
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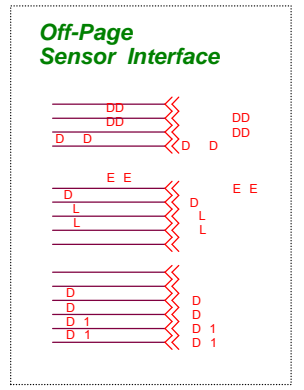
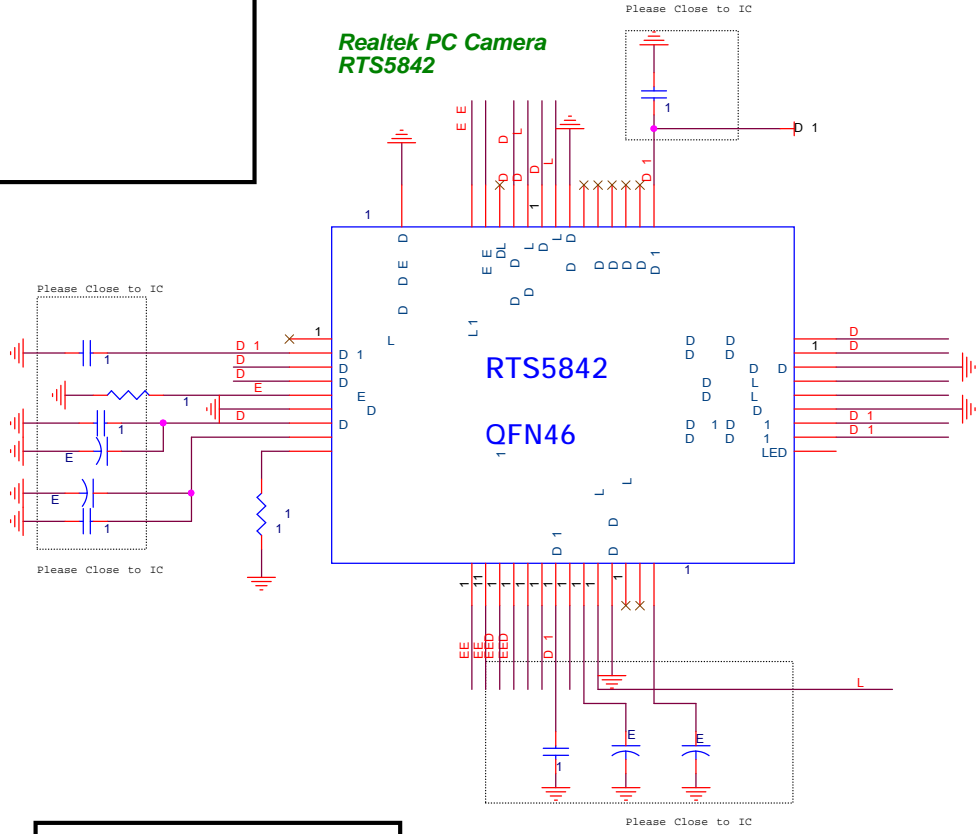
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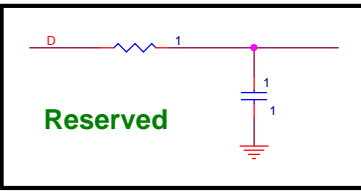
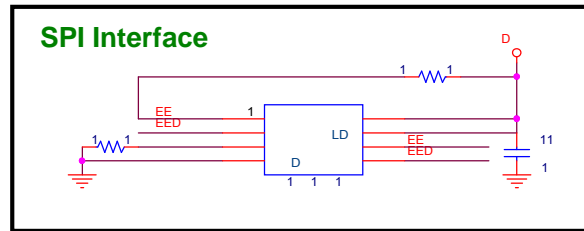
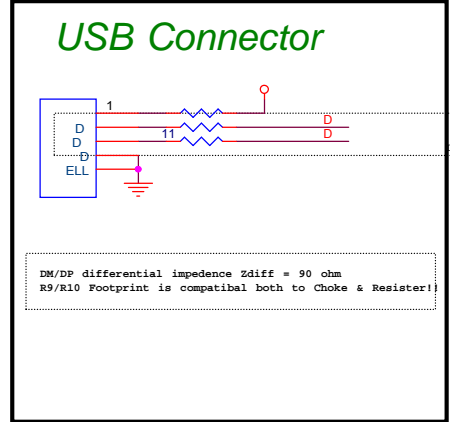
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### Realtek PC Camera RTS5842

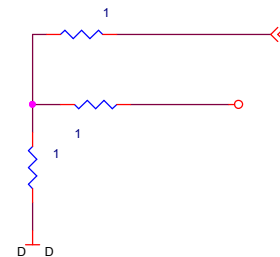
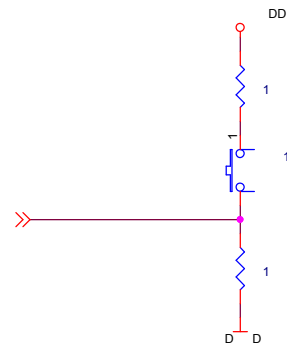
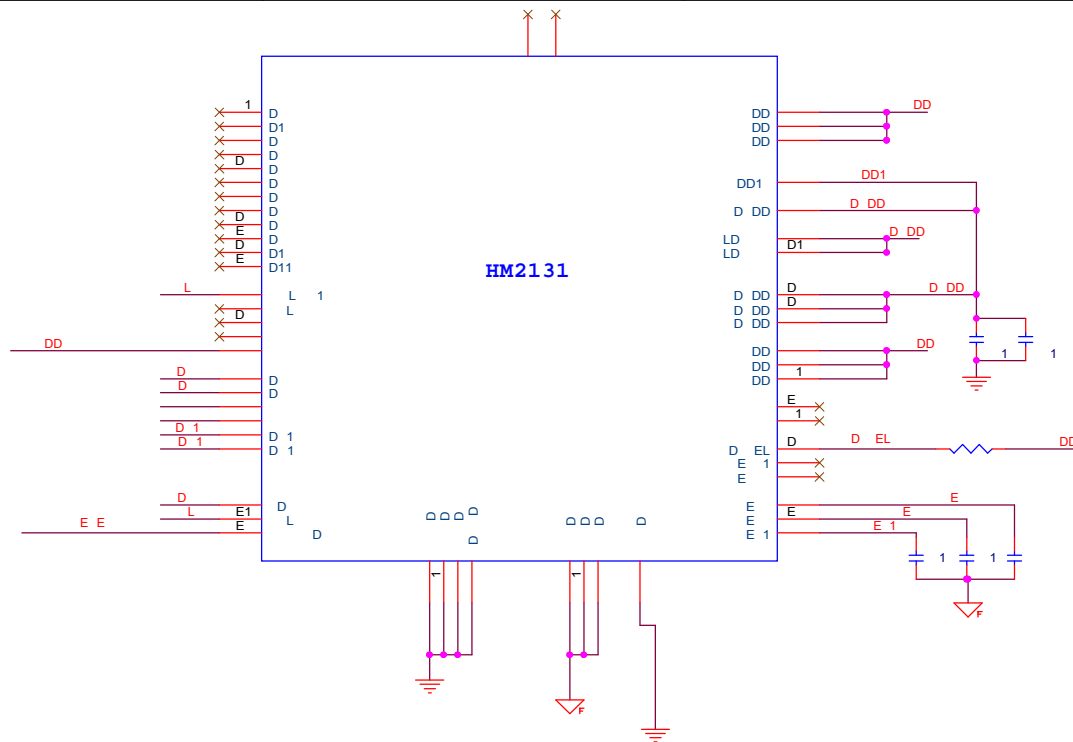
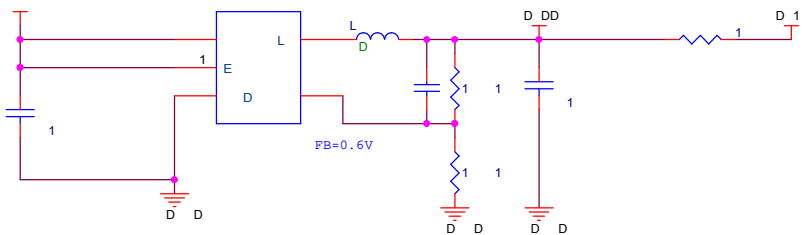
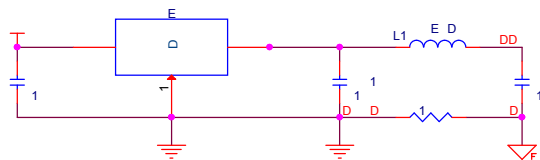
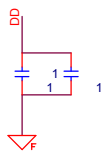
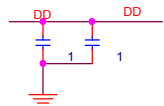
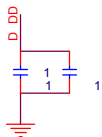
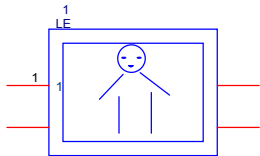
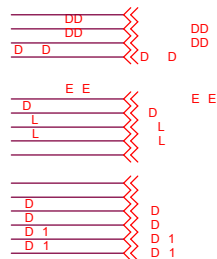


GPIO Function  
GPIO0: SF WP control  
GPIO\_AL[1]: Sensor Reset control



REALTEK Semiconductor Corp.		E	E	E
D				1
D1	1	1	1	1

### Off-Page Sensor Interface



1 1	E
D	E L E
D1	1 1

The Circuit is applied to RTS5842\_QFN46

Version	Date	Description
V1.0		Initial Version



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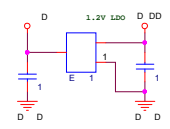
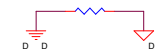
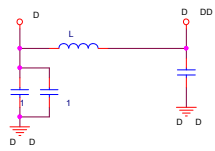
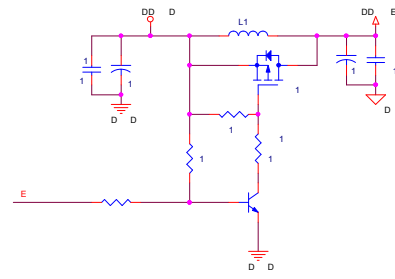
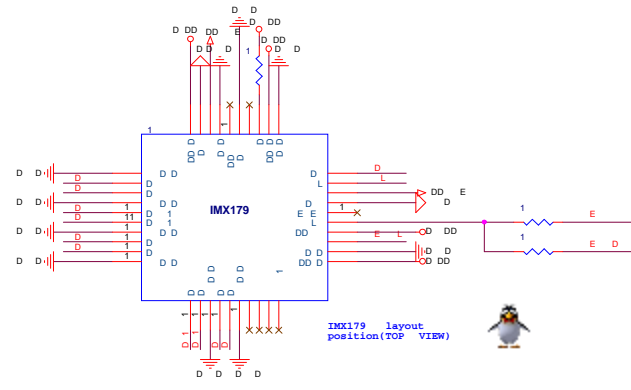
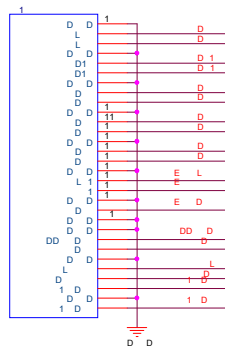
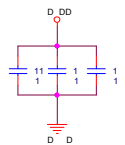
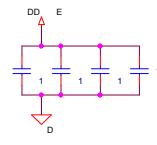
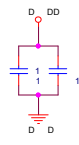
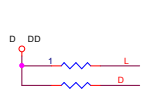
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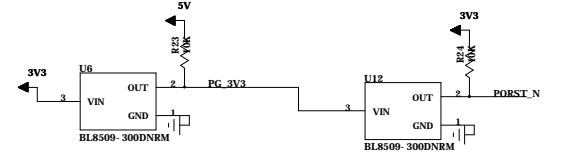
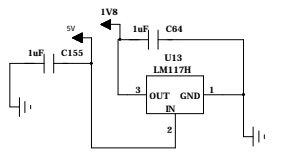
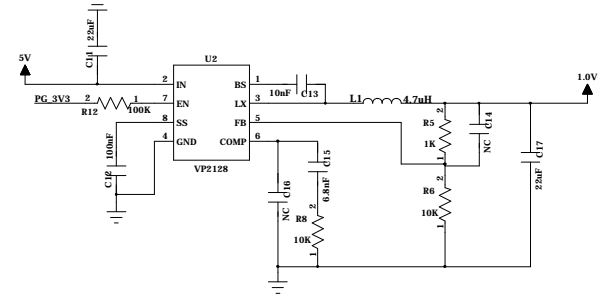
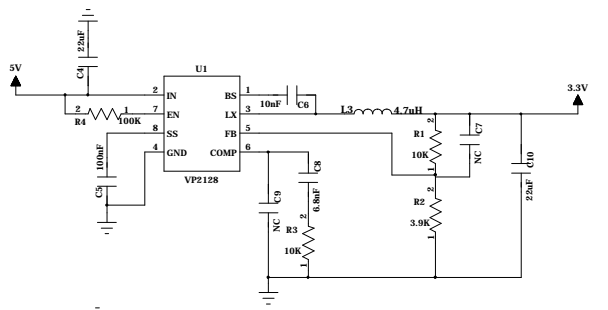
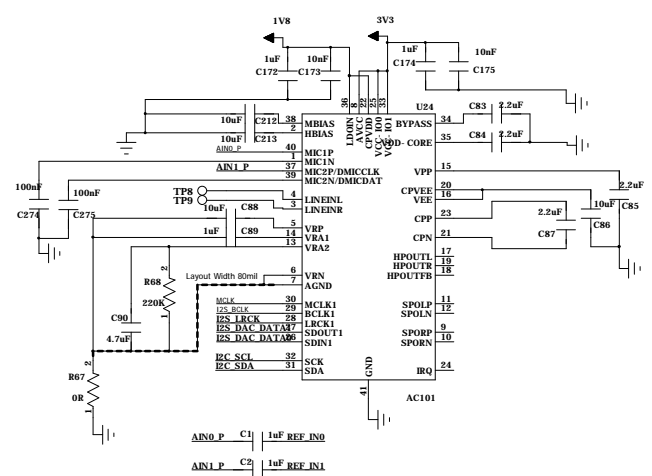
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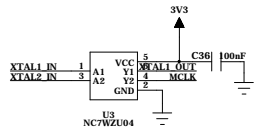
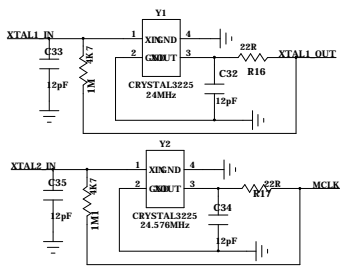
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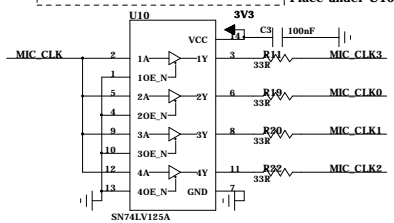
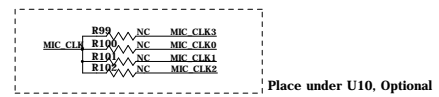
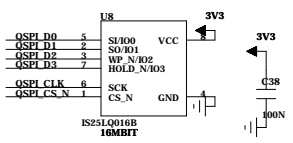
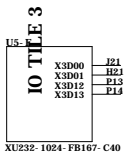
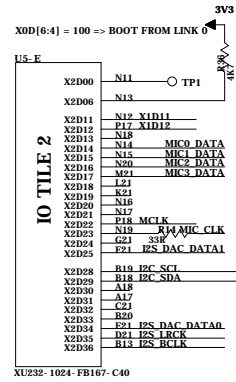
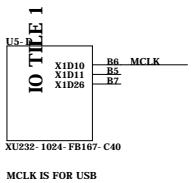
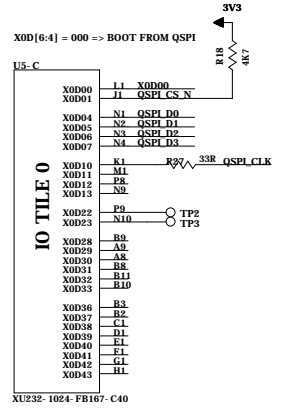
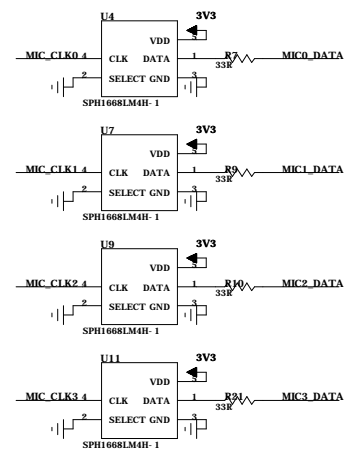
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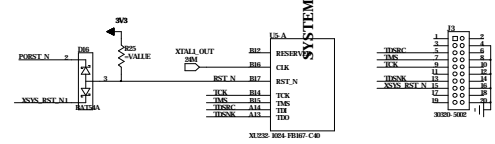
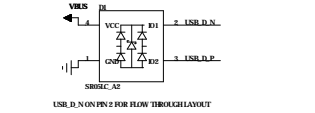
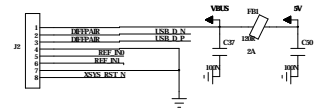
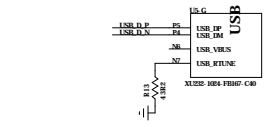
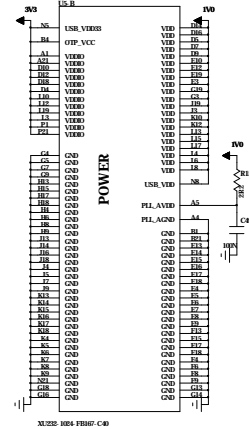
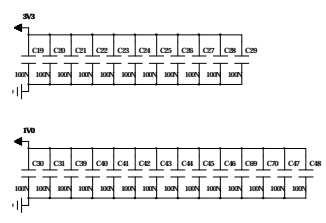
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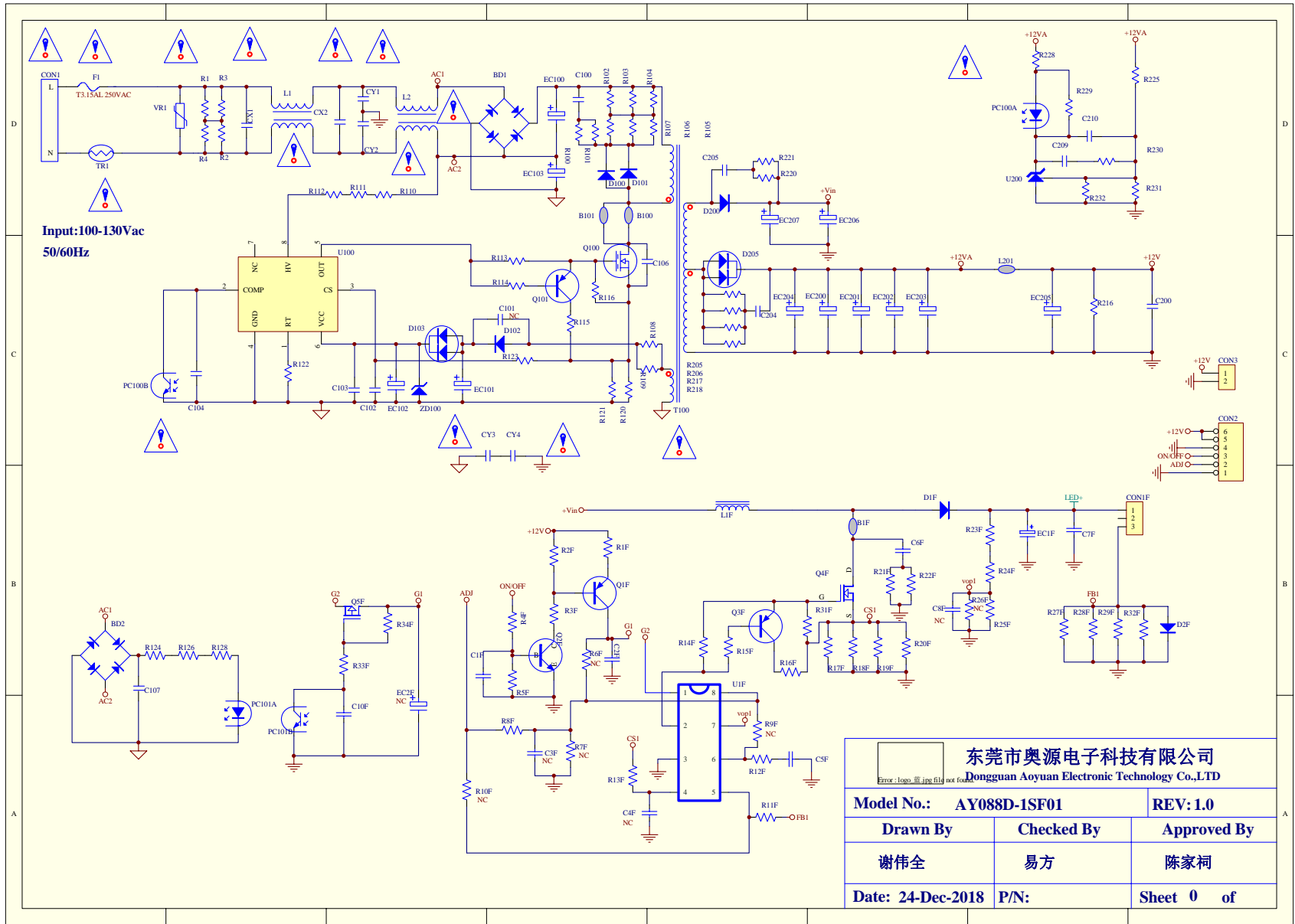
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
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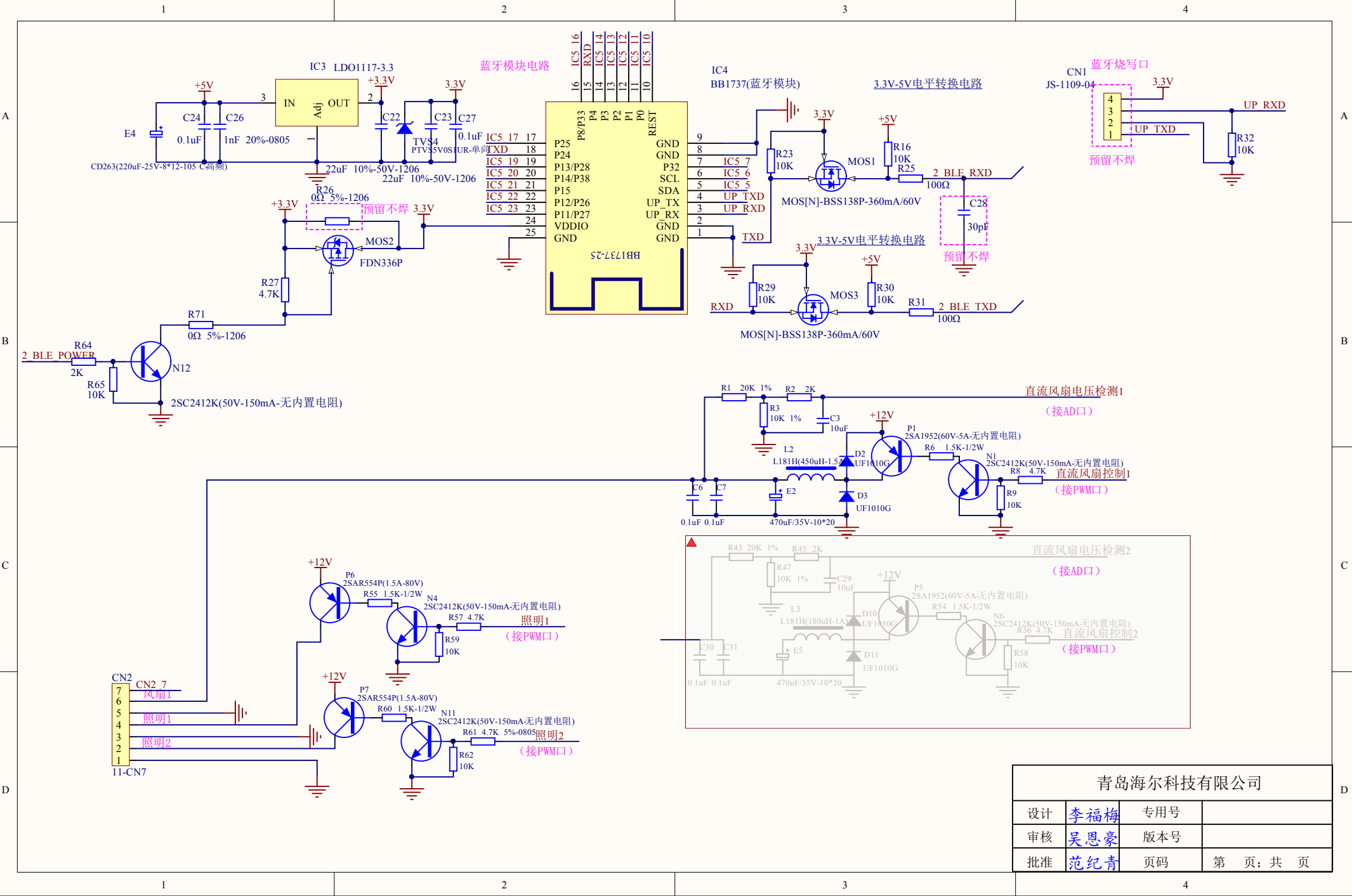
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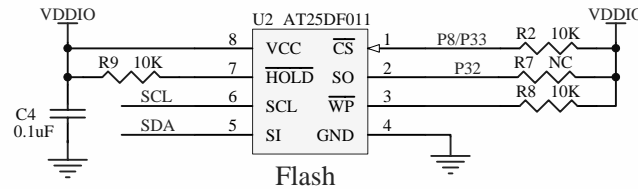
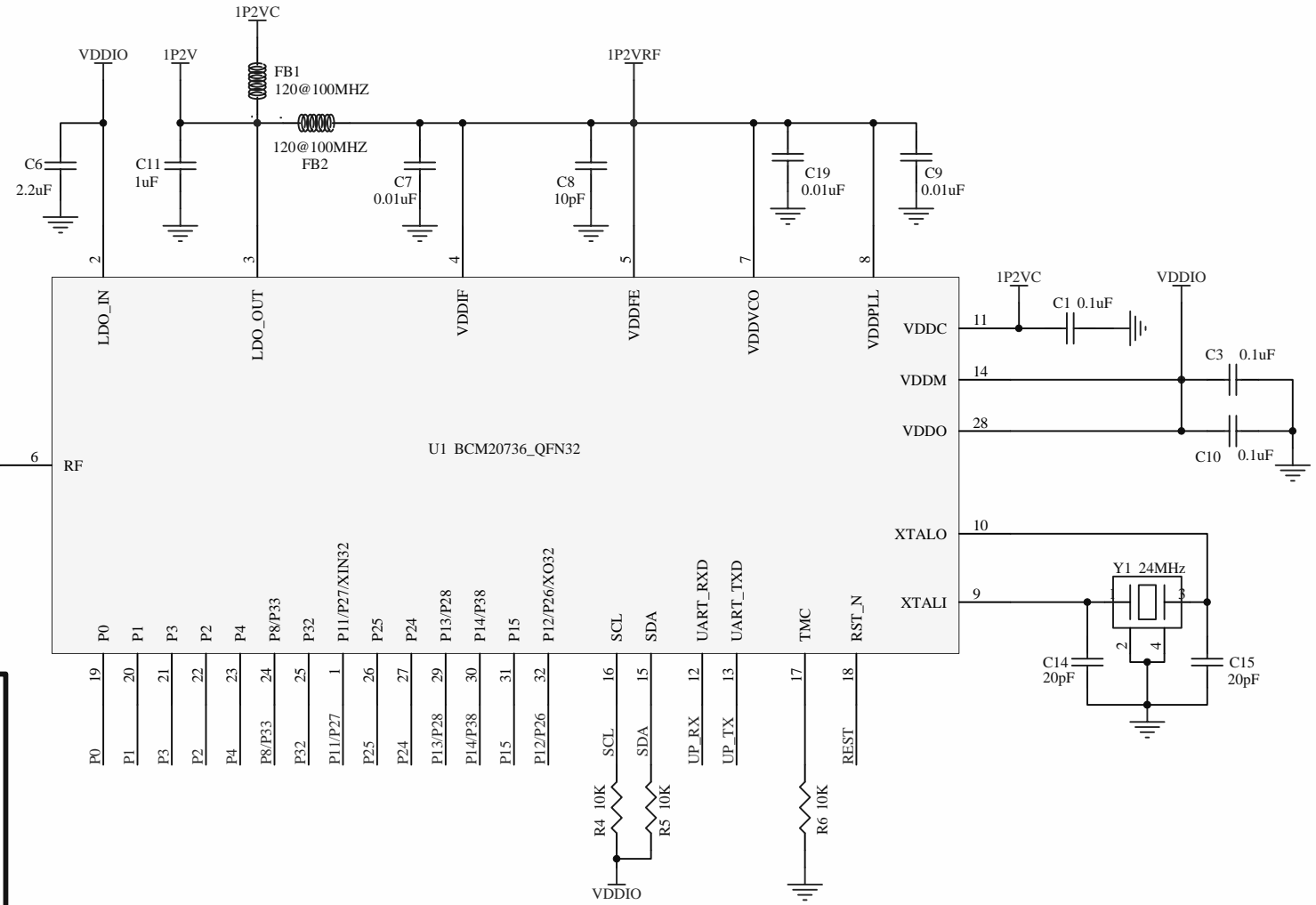
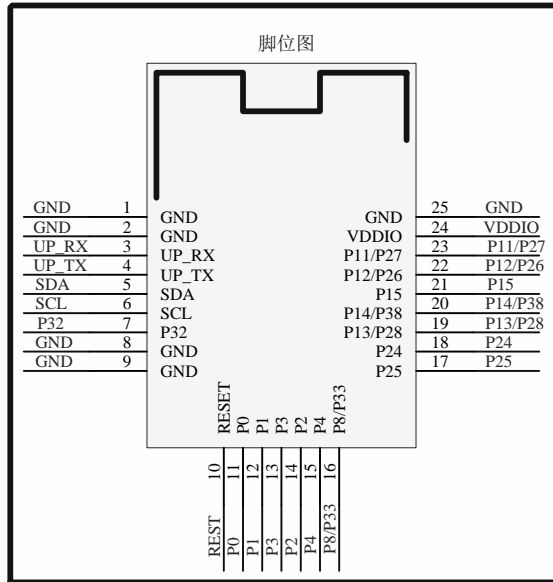
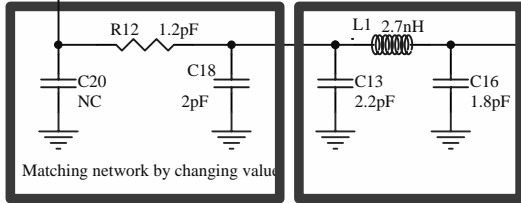
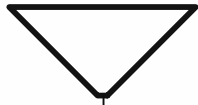


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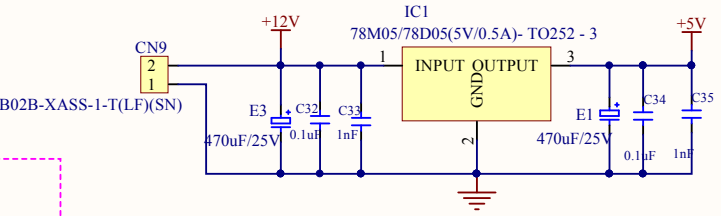
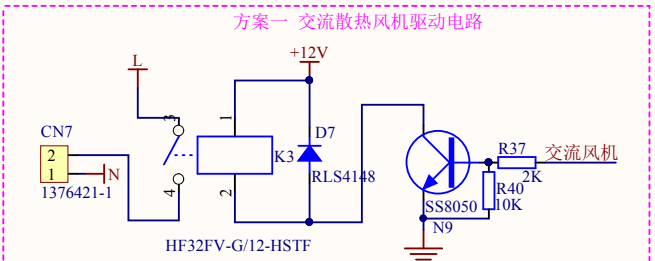
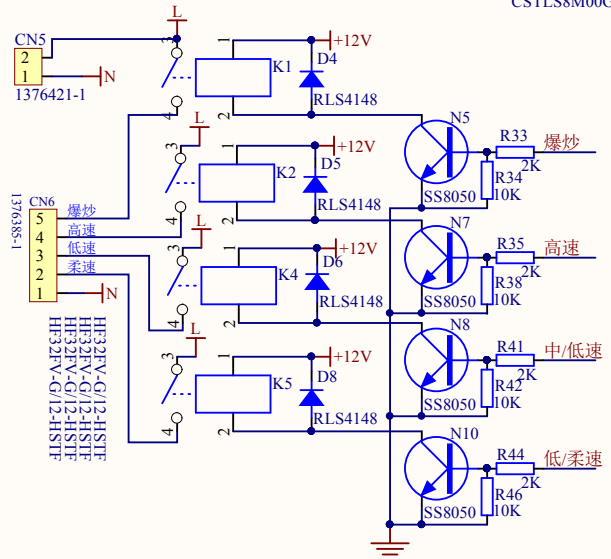
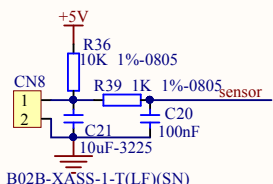
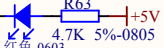
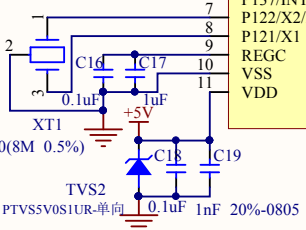
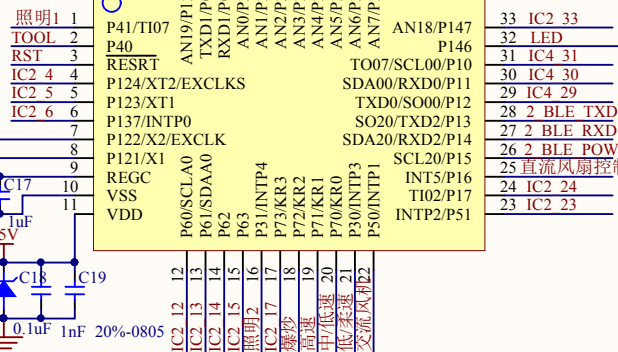
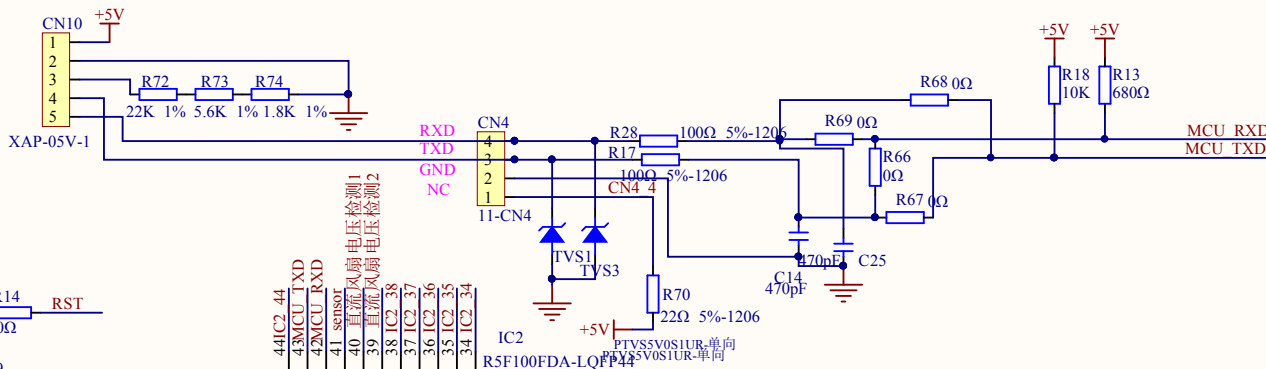
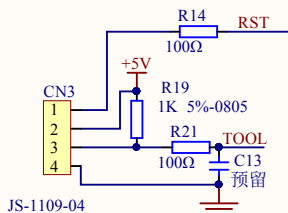
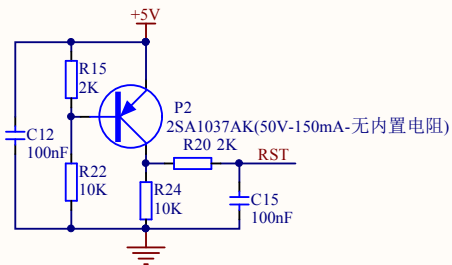

**东莞市奥源电子科技有限公司**  
**Dongguan Aoyuan Electronic Technology Co.,LTD**





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Product Name					
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复位-三极管-5V-4V2-2SA1037AK



青岛海尔科技有限公司			
设计	李福梅	专用号	GE油烟机项目
审核	吴恩豪	版本号	V1.0
批准	范纪青	页码	第 1 页; 共 1 页



