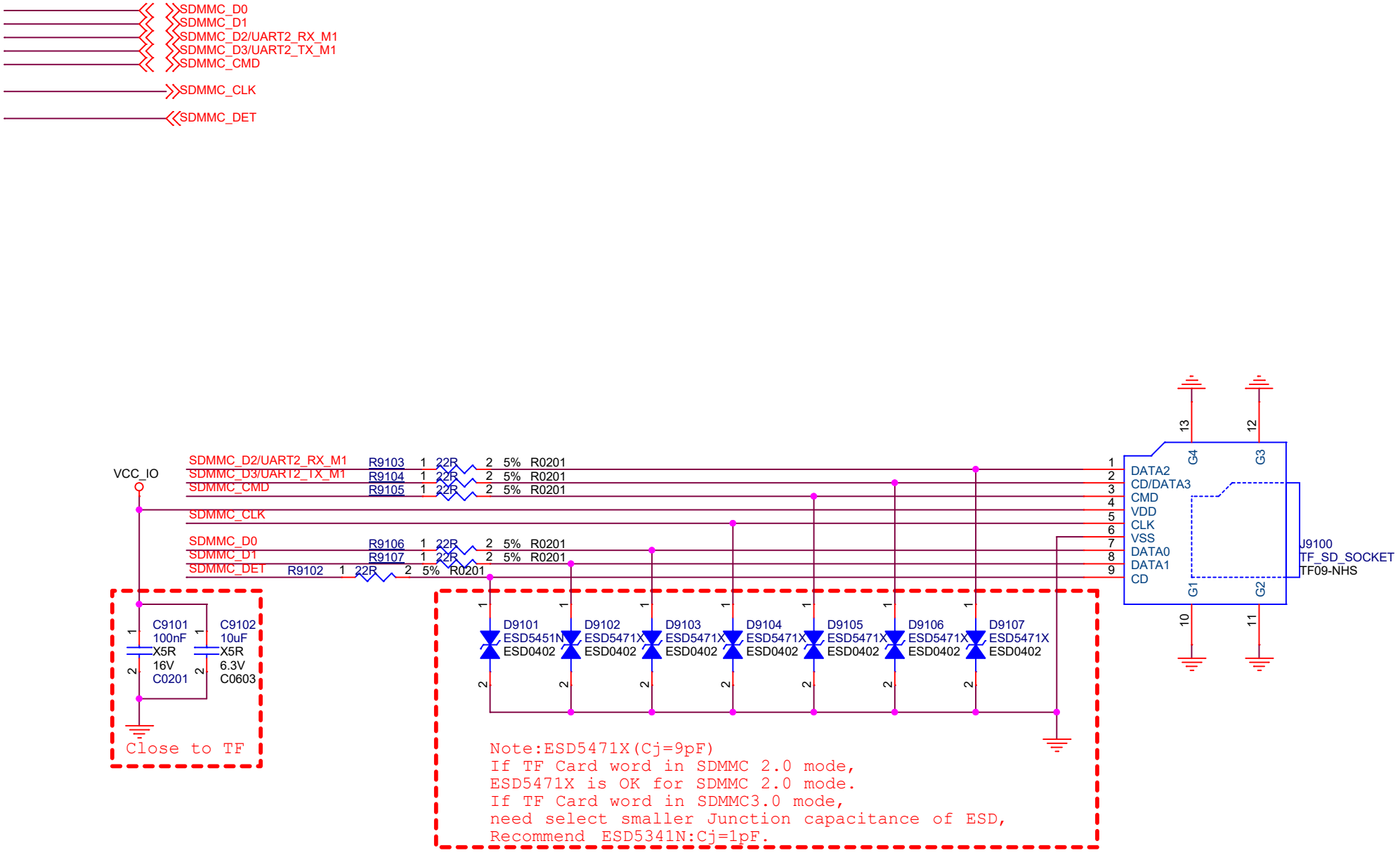
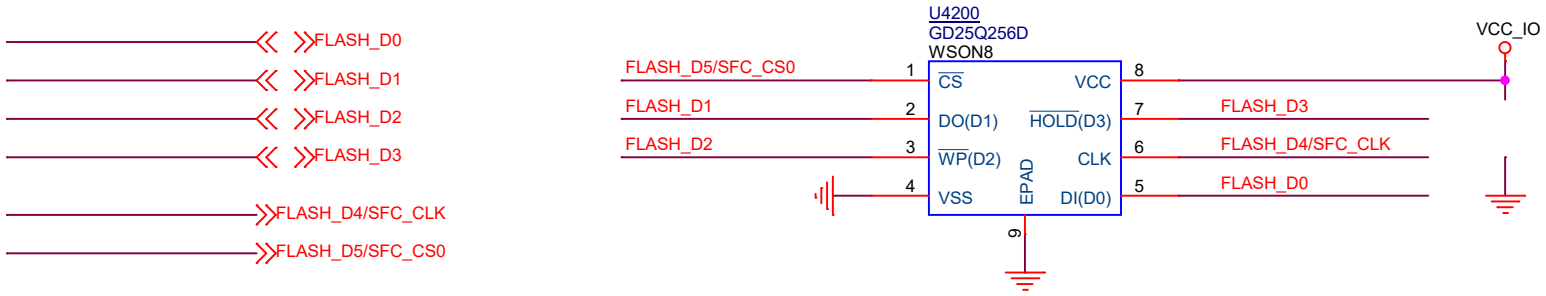
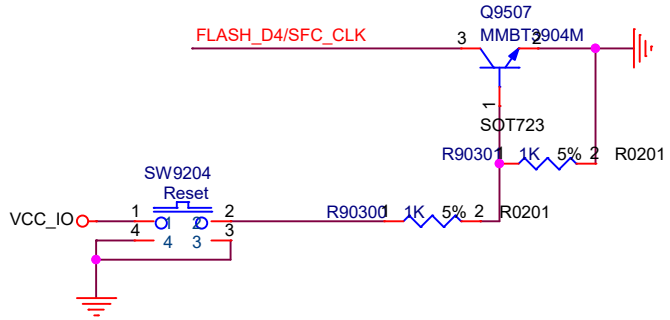
TF Card


SDMMC_D0
SDMMC_D1
SDMMC_D2/UART2_RX_M1
SDMMC_D3/UART2_TX_M1
SDMMC_CMD
SDMMC_CLK
SDMMC_DET
VCC_IO
R9103 1 22R 2 5% R0201
R9104 1 22R 2 5% R0201
R9105 1 22R 2 5% R0201
R9106 1 22R 2 5% R0201
R9107 1 22R 2 5% R0201
R9102 1 22R 2 5% R0201
C9101 100nF X5R 16V C0201
C9102 10uF X5R 6.3V C0603
Close to TF
D9101 ESD5451N ESD0402
D9102 ESD5471X ESD0402
D9103 ESD5471X ESD0402
D9104 ESD5471X ESD0402
D9105 ESD5471X ESD0402
D9106 ESD5471X ESD0402
D9107 ESD5471X ESD0402
DATA2
CD/DATA3
CMD
VDD
CLK
VSS
DATA0
DATA1
CD
J9100
TF_SD_SOCKET
TF09-NHS
Note:ESD5471X(Cj=9pF)
If TF Card word in SDMMC 2.0 mode,
ESD5471X is OK for SDMMC 2.0 mode.
If TF Card word in SDMMC3.0 mode,
need select smaller Junction capacitance of ESD,
Recommend ESD5341N:Cj=1pF.

SPI Flash

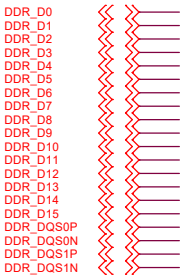
Remind: Refer to the latest AVL for parts selection.

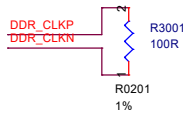


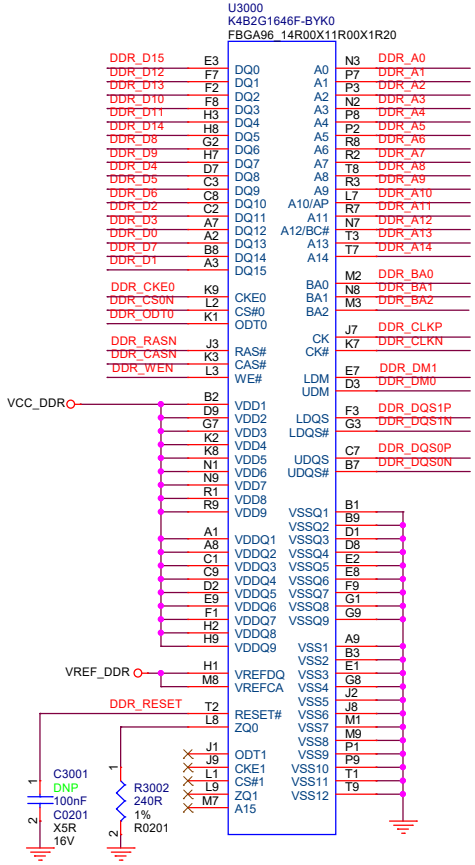


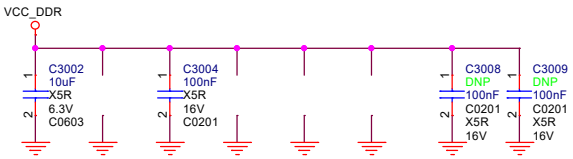
DDR3 1x16bit

Remind: Refer to the latest AVL for parts selection.

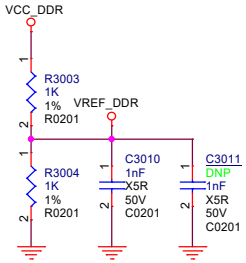




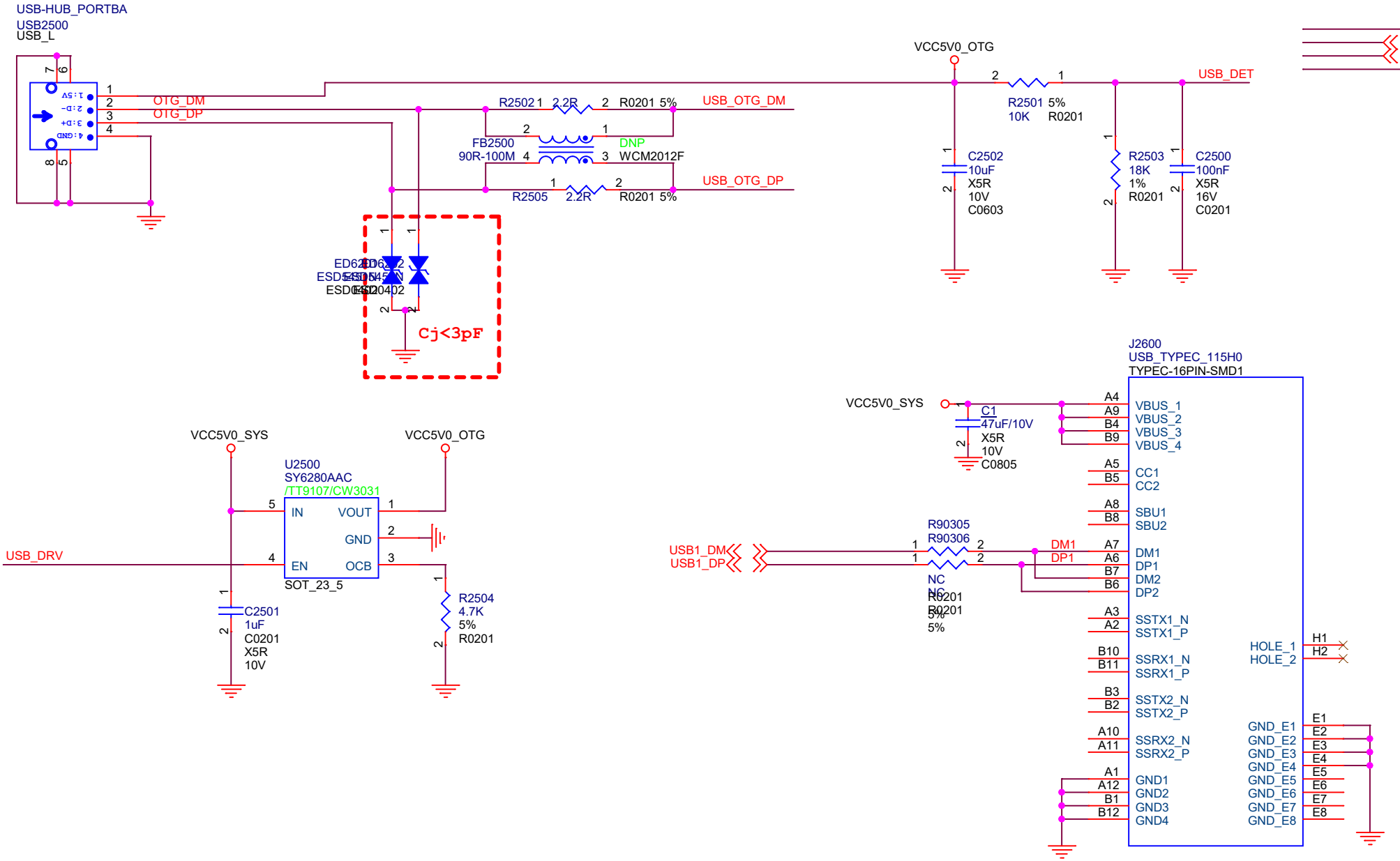


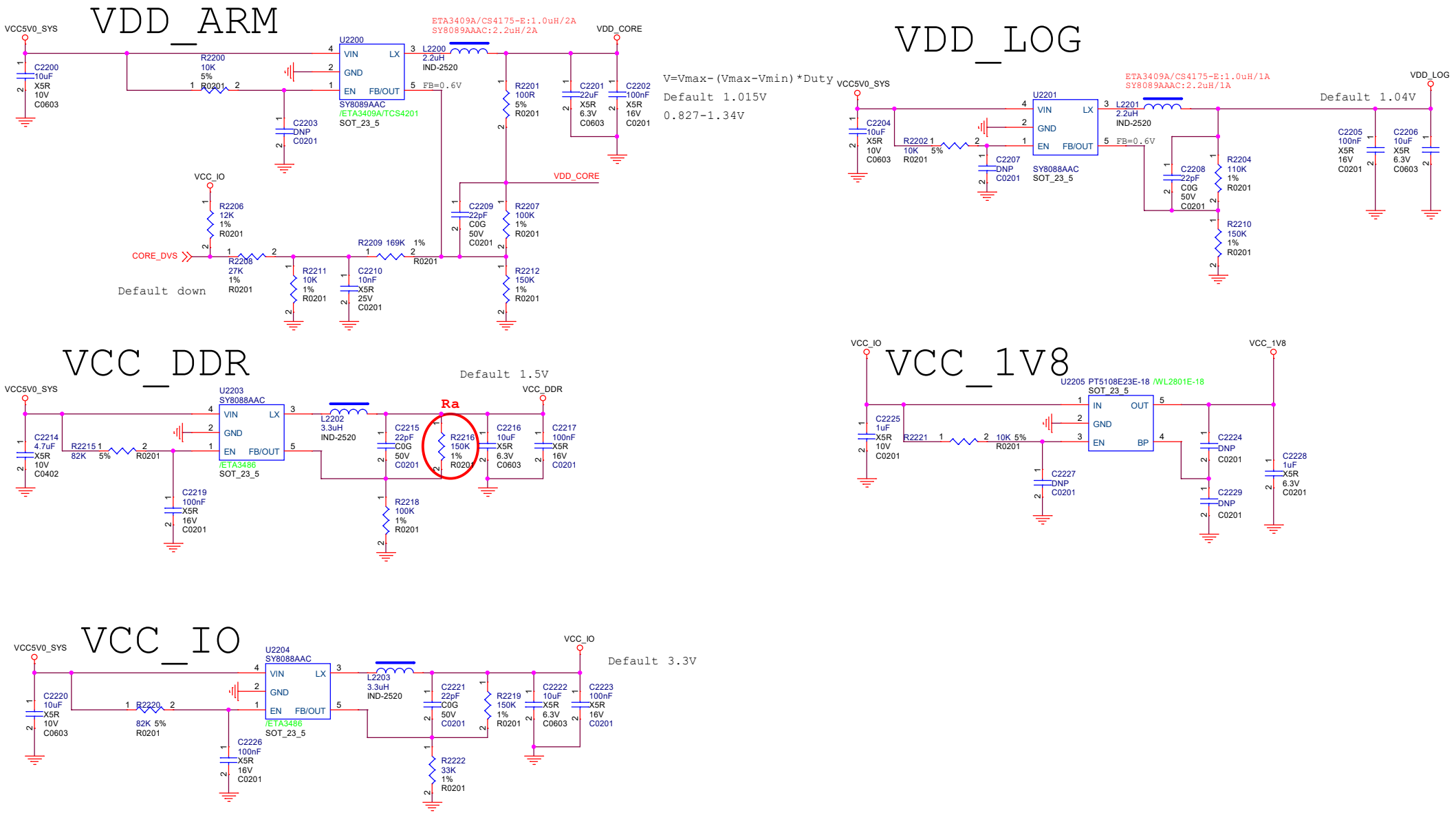


Note:All the Power filter capacitors should be placed close to the power pins of DDR3

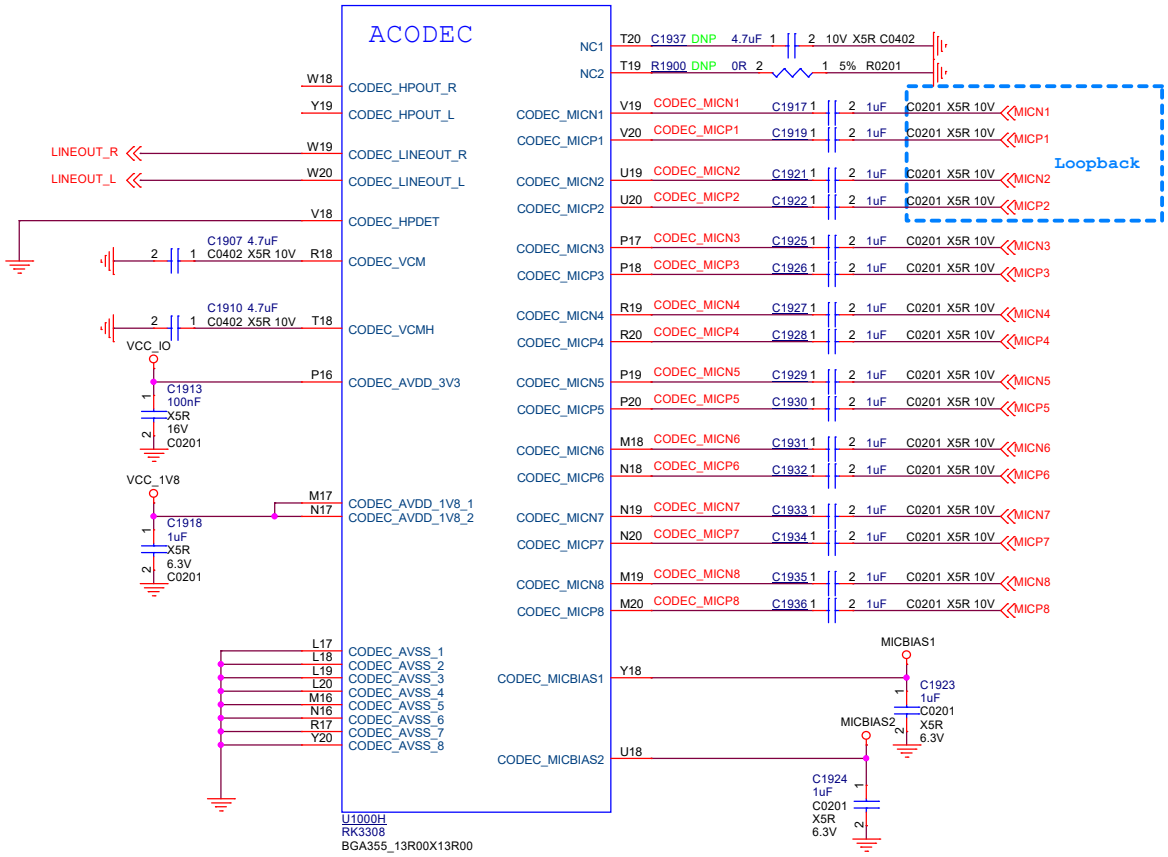


USB OTG


USB-HUB_PORTBA
USB2500
USB_L
OTG_DM
OTG_DP
R2502 2.2R R0201 5%
USB_OTG_DM
FB2500
90R-100M
DNP
WCM2012F
R2505 2.2R R0201 5%
USB_OTG_DP
Cj<3pF
VCC5V0_OTG
R2501 10K 5% R0201
USB_DET
C2502 10uF X5R 10V C0603
R2503 18K 1% R0201
C2500 100nF X5R 16V C0201
USB_DET
USB_OTG_DM
USB_OTG_DP
USB_DRV
VCC5V0_SYS
VCC5V0_OTG
U2500
SY6280AAC
/TT9107/CW3031
IN
VOUT
GND
EN
OCB
SOT_23_5
USB_DRV
C2501 1uF C0201 X5R 10V
R2504 4.7K 5% R0201
J2600
USB_TYPEC_115H0
TYPEC-16PIN-SMD1
VCC5V0_SYS
C1 47uF/10V X5R 10V C0805
VBUS_1
VBUS_2
VBUS_3
VBUS_4
CC1
CC2
SBU1
SBU2
USB1_DM
USB1_DP
R90305
R90306
NC
R0201 5%
DM1
DP1
DM2
DP2
SSTX1_N
SSTX1_P
SSRX1_N
SSRX1_P
SSTX2_N
SSTX2_P
SSRX2_N
SSRX2_P
GND1
GND2
GND3
GND4
HOLE_1
HOLE_2
GND_E1
GND_E2
GND_E3
GND_E4
GND_E5
GND_E6
GND_E7
GND_E8

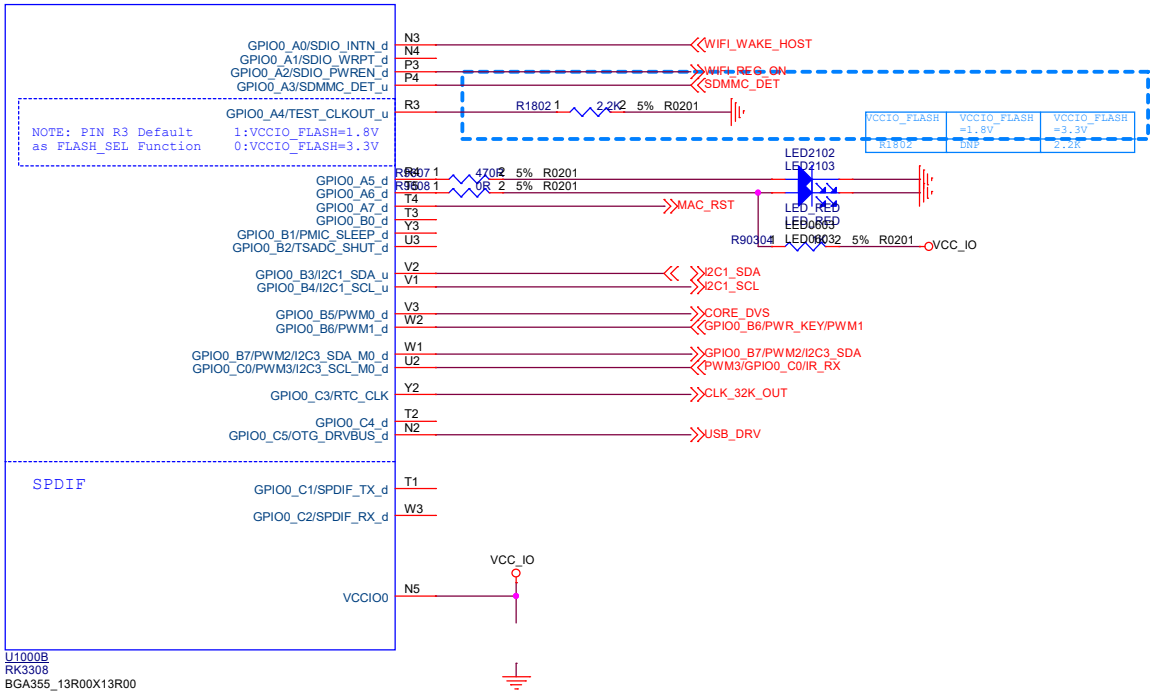

VDD_ARM
VCC5V0_SYS
C2200 10uF X5R 10V C0603
R2200 10K 5% R0201
U2200
VIN LX
GND
EN FB/OUT
SY8089AAC
/ETA3409A/TCS4201
SOT_23_5
ETA3409A/CS4175-E:1.0uH/2A
SY8089AAC:2.2uH/2A
L2200 2.2uH IND-2520
FB=0.6V
VDD_CORE
C2203 DNP C0201
R2201 100R 5% R0201
C2201 22uF X5R 6.3V C0603
C2202 100nF X5R 16V C0201
V=Vmax-(Vmax-Vmin)*Duty
Default 1.015V
0.827-1.34V
VCC_IO
R2206 12K 1% R0201
CORE_DVS
R2208 27K 1% R0201
Default down
R2211 10K 1% R0201
C2210 10nF X5R 25V C0201
R2209 169K 1% R0201
C2209 22pF C0G 50V C0201
R2207 100K 1% R0201
R2212 150K 1% R0201
VDD_LOG
VCC5V0_SYS
U2201
SY8088AAC
SOT_23_5
ETA3409A/CS4175-E:1.0uH/1A
SY8089AAC:2.2uH/1A
L2201 2.2uH IND-2520
Default 1.04V
C2204 10uF X5R 10V C0603
R2202 10K 5% R0201
C2207 DNP C0201
C2208 22pF C0G 50V C0201
R2204 110K 1% R0201
R2210 150K 1% R0201
C2205 100nF X5R 16V C0201
C2206 10uF X5R 6.3V C0603
VCC_DDR
VCC5V0_SYS
U2203
SY8088AAC
SOT_23_5
/ETA3486
L2202 3.3uH IND-2520
Default 1.5V
Ra
C2214 4.7uF X5R 10V C0402
R2215 82K 5% R0201
C2219 100nF X5R 16V C0201
C2215 22pF C0G 50V C0201
R2216 150K 1% R0201
R2218 100K 1% R0201
C2216 10uF X5R 6.3V C0603
C2217 100nF X5R 16V C0201
VCC_1V8
VCC_IO
U2205 PT5108E23E-18 /WL2801E-18
SOT_23_5
IN OUT
GND
EN BP
C2225 1uF X5R 10V C0201
R2221 10K 5% R0201
C2227 DNP C0201
C2224 DNP C0201
C2229 DNP C0201
C2228 1uF X5R 6.3V C0201
VCC_IO
VCC5V0_SYS
U2204
SY8088AAC
SOT_23_5
/ETA3486
L2203 3.3uH IND-2520
Default 3.3V
C2220 10uF X5R 10V C0603
R2220 82K 5% R0201
C2226 100nF X5R 16V C0201
C2221 22pF C0G 50V C0201
R2222 33K 1% R0201
R2219 150K 1% R0201
C2222 10uF X5R 6.3V C0603
C2223 100nF X5R 16V C0201

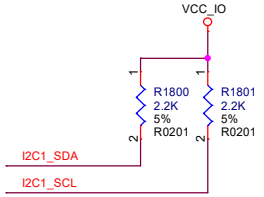
RK3308 Part-H



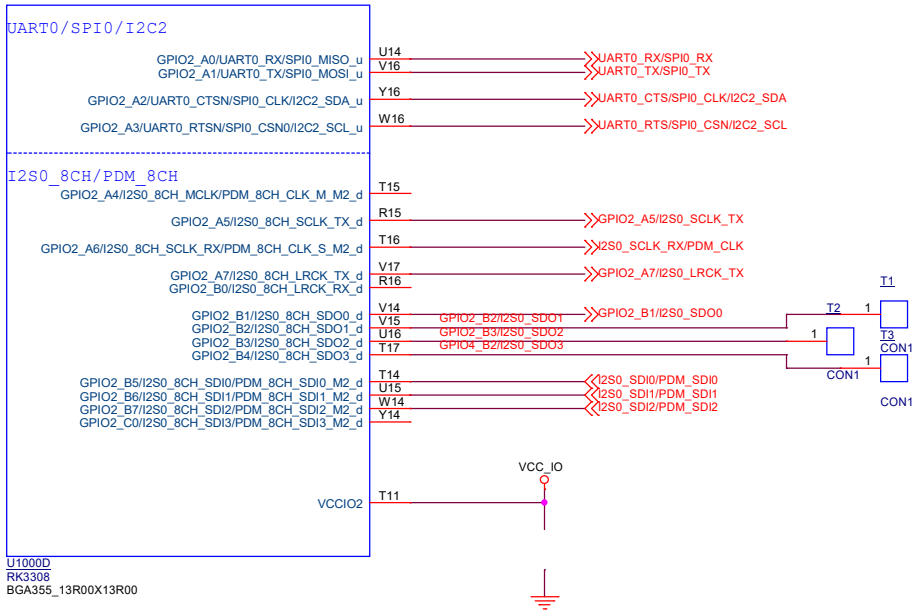
Application scene	MIC IN Channel	Loopback Channel
6MIC IN+ 2Speaker OUT	MIC3~MIC8	MIC1~MIC2
6MIC IN+ 1Speaker OUT	MIC3~MIC8	
5MIC IN+ 2Speaker OUT	MIC4~MIC8	
5MIC IN+ 1Speaker OUT	MIC4~MIC8	
4MIC IN+ 2Speaker OUT	MIC5~MIC8	
4MIC IN+ 1Speaker OUT	MIC5~MIC8	
3MIC IN+ 1Speaker OUT	MIC6~MIC8	
2MIC IN+ 1Speaker OUT	MIC7~MIC8	

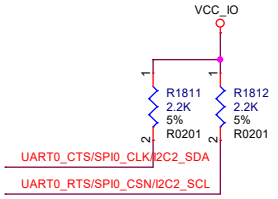
RK3308 Part-B



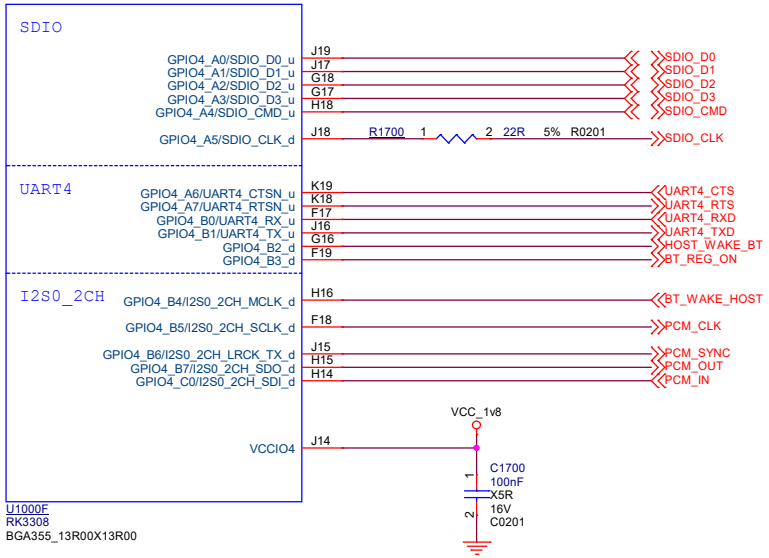


RK3308 Part-D

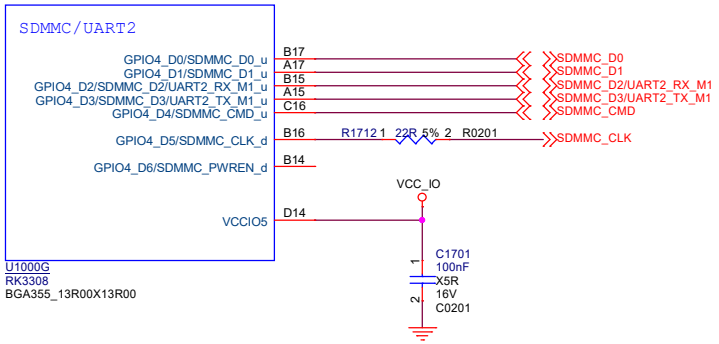




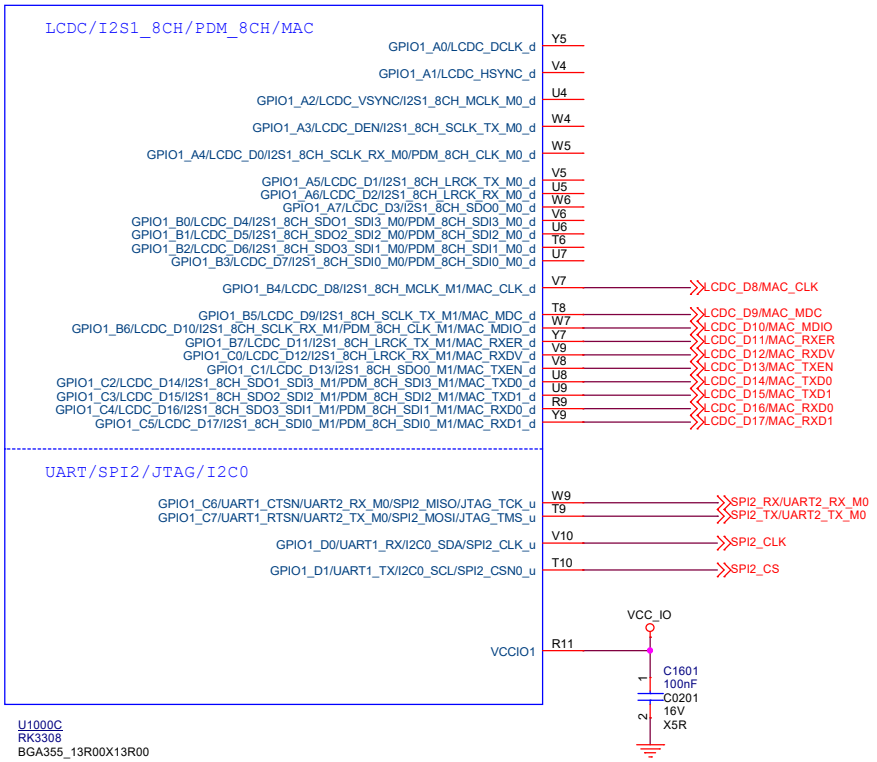
RK3308 Part-F



RK3308 Part-G

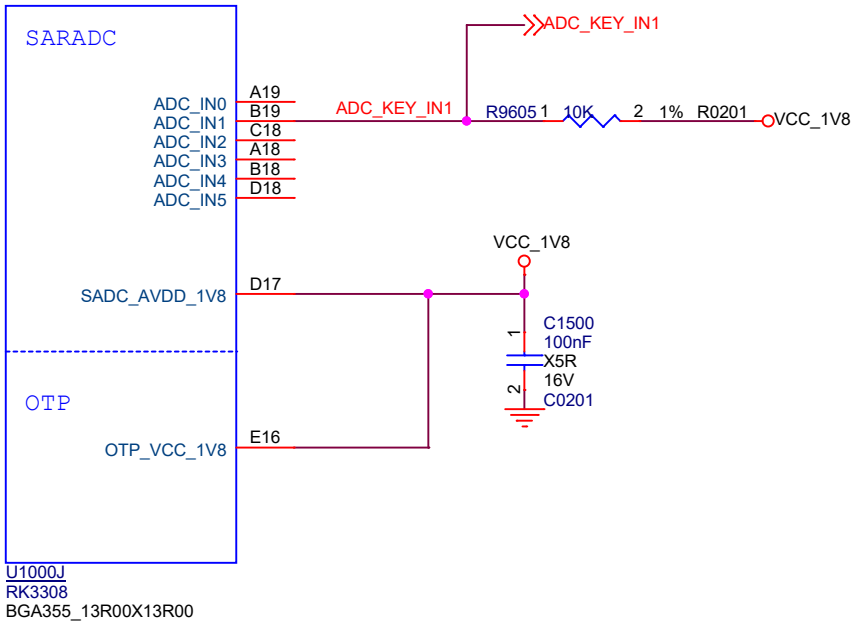


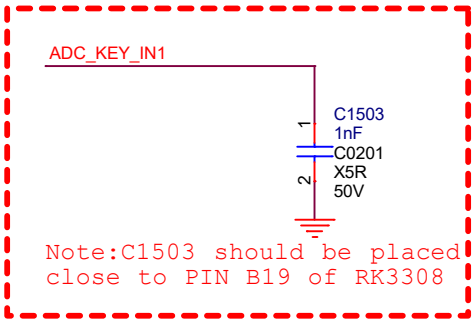
RK3308 Part-C



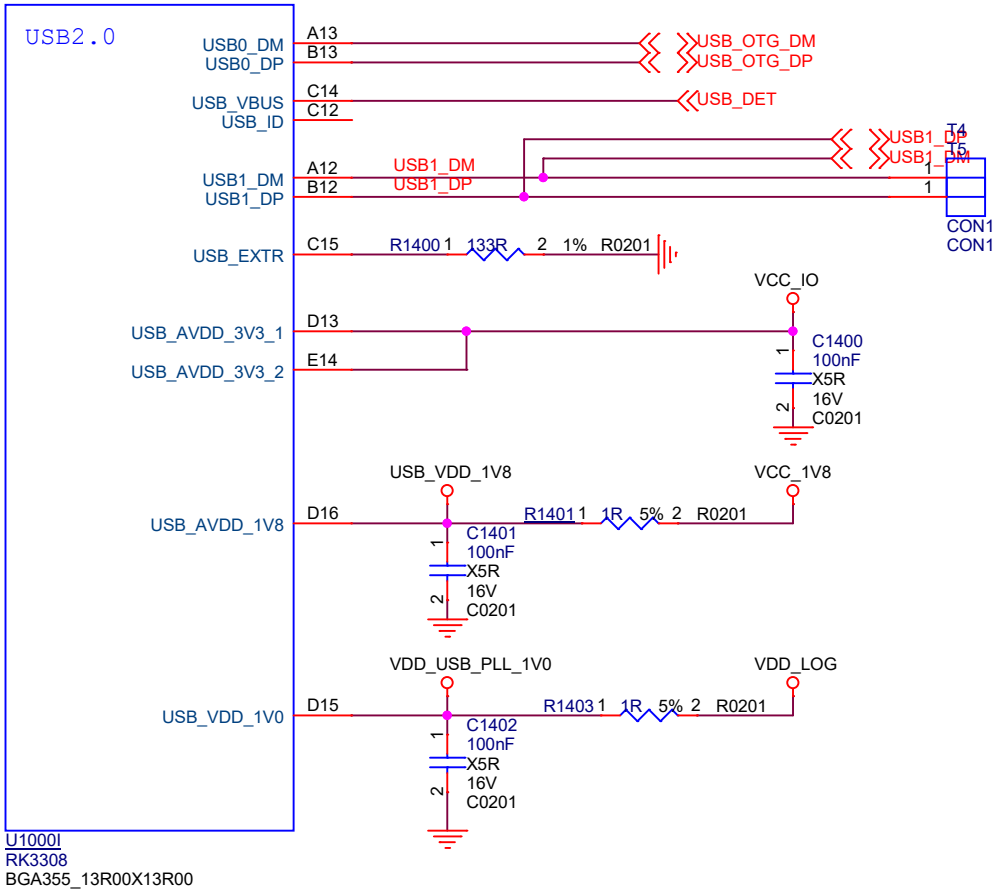
Correspondence between LCDC DATA and RGB/MCU				
LCDC	**18bit RGB Panel**	**24bit RGB Panel**	**16bit MCU Panel**	**8bit MCU Panel**
LCDC_D0	B0	B2	DB0	DB0
LCDC_D1	B1	B3	DB1	DB1
LCDC_D2	B2	B4	DB2	DB2
LCDC_D3	B3	B5	DB3	DB3
LCDC_D4	B4	B6	DB4	DB4
LCDC_D5	B5	B7	DB5	DB5
LCDC_D6	G0	G2	DB6	DB6
LCDC_D7	G1	G3	DB7	DB7
LCDC_D8	G2	G4	DB8	
LCDC_D9	G3	G5	DB9	
LCDC_D10	G4	G6	DB10	
LCDC_D11	G5	G7	DB11	
LCDC_D12	R0	R2	DB12	
LCDC_D13	R1	R3	DB13	
LCDC_D14	R2	R4	DB14	
LCDC_D15	R3	R5	DB15	
LCDC_D16	R4	R6		
LCDC_D17	R5	R7		
LCDC_CLK	LCDC_CLK	LCDC_CLK	MCU_CMD (Command)	MCU_CMD (Command)
LCDC_HSYNC	LCDC_HSYNC	LCDC_HSYNC	MCU_WR (write signal)	MCU_WR (write signal)
LCDC_VSYNC	LCDC_VSYNC	LCDC_VSYNC	MCU_CS (Chip select)	MCU_CS (Chip select)
LCDC_DEN	LCDC_DEN	LCDC_DEN	MCU_RD (Read signal)	MCU_RD (Read signal)

RK3308 Part-J

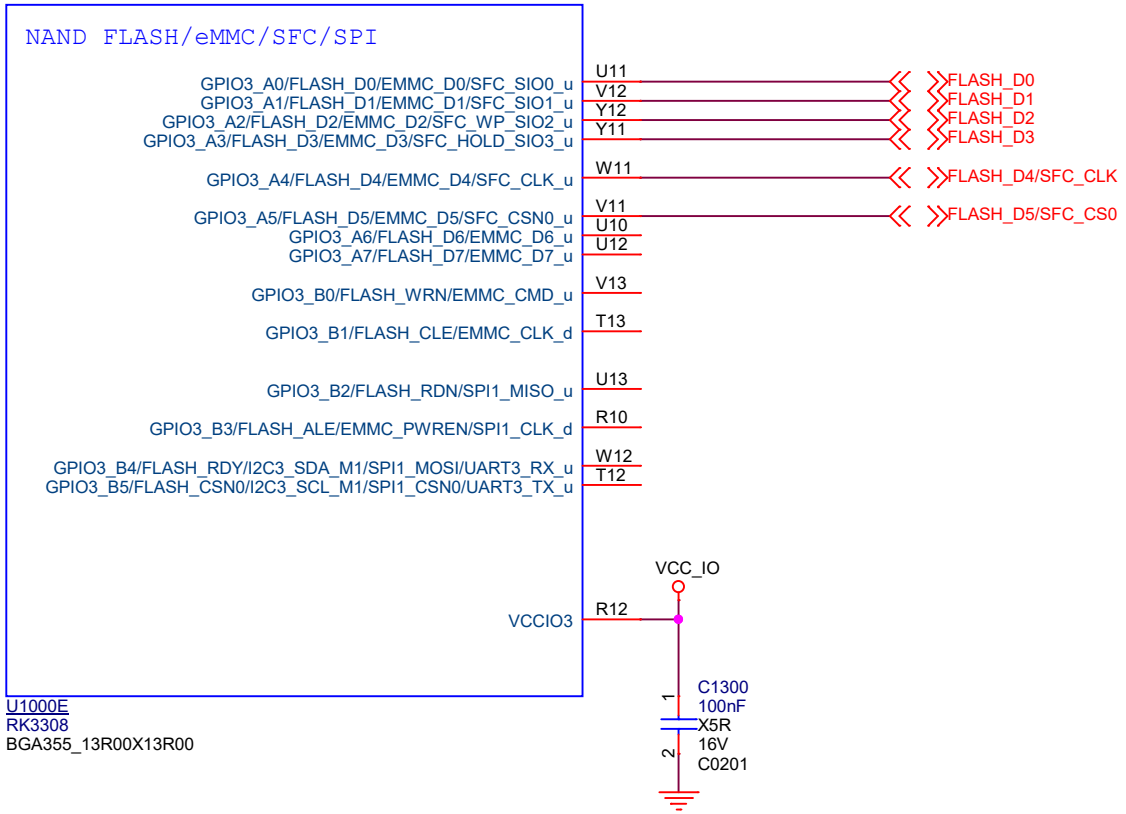




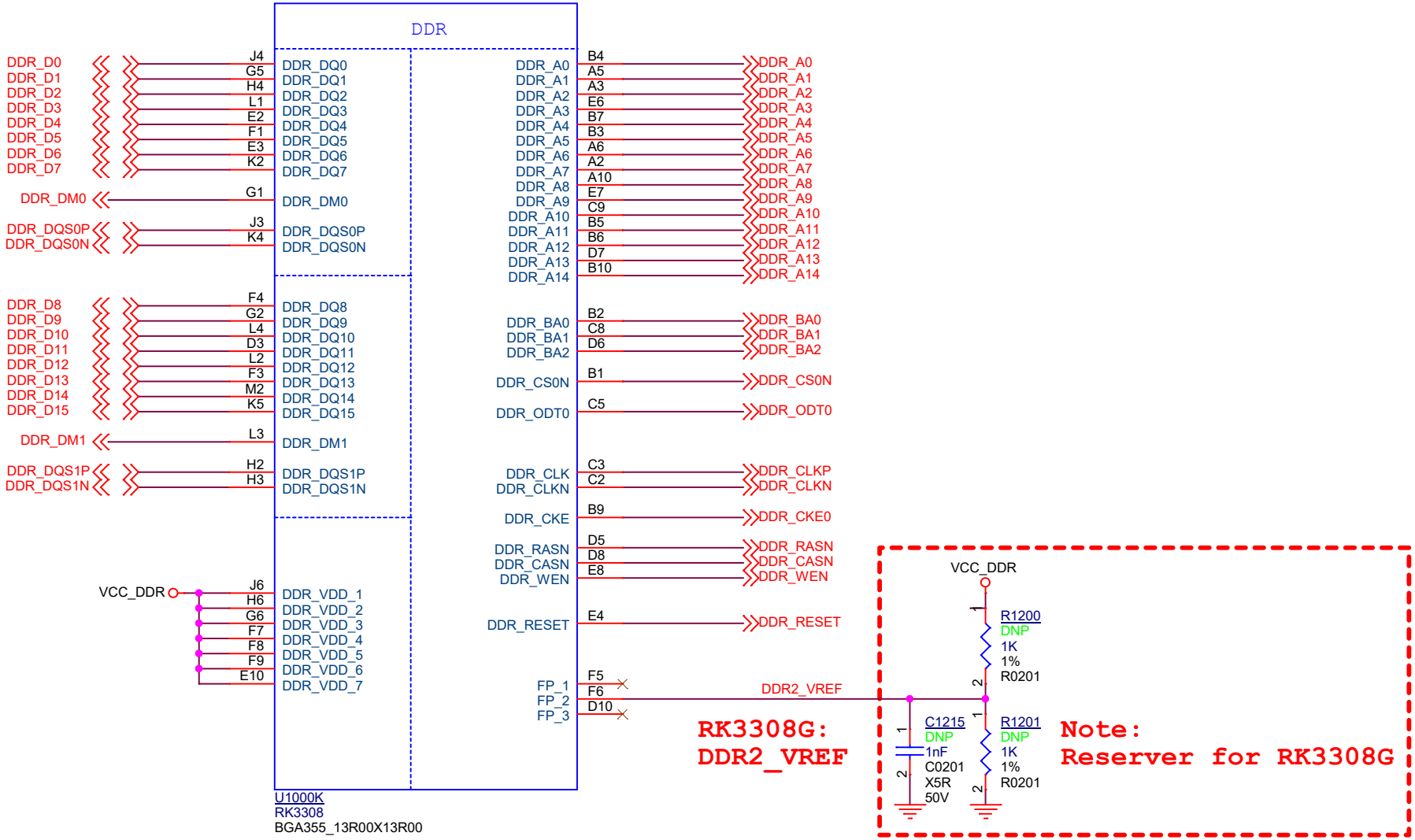
RK3308 Part-I



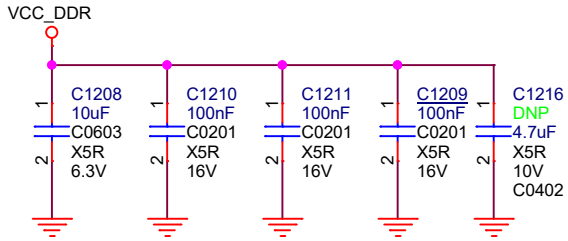
RK3308 Part-E



RK3308 Part-K

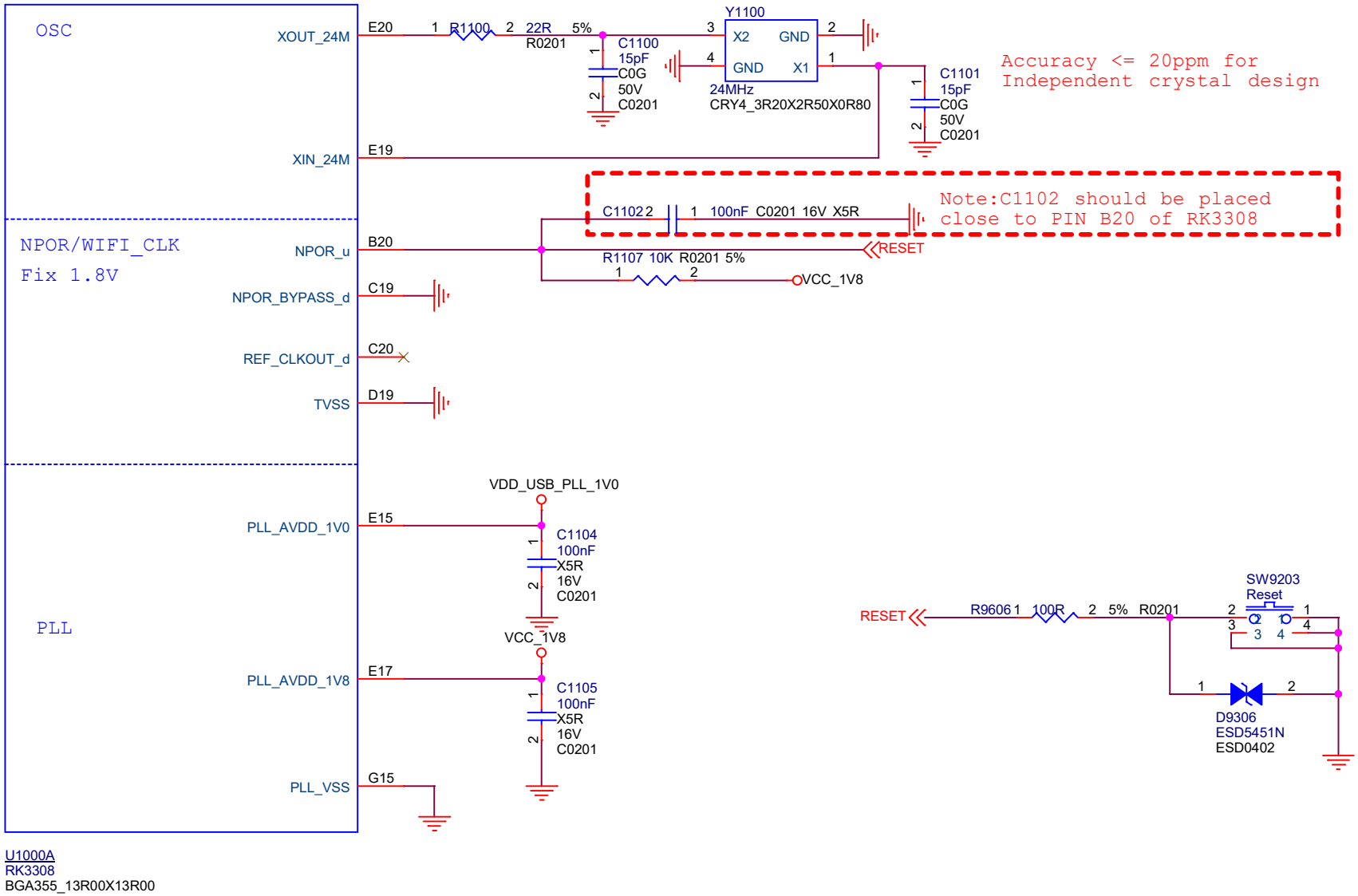


Power Filter

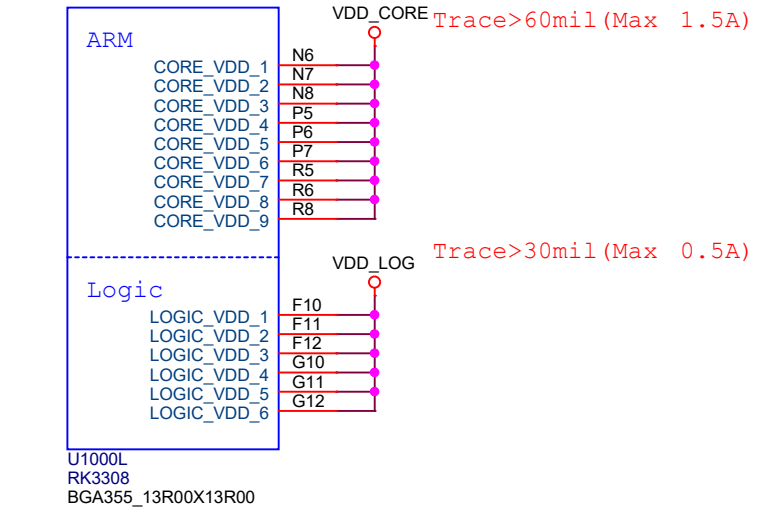


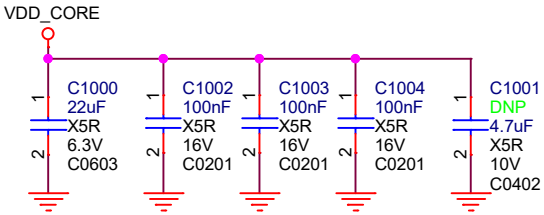
Note:All the Power filter capacitors should be placed close to the power pins of RK3308

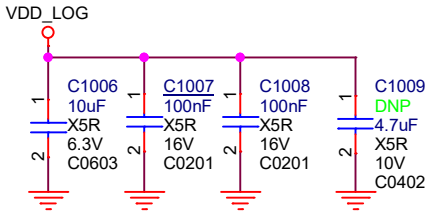
RK3308 Part-A



RK3308 Part-L

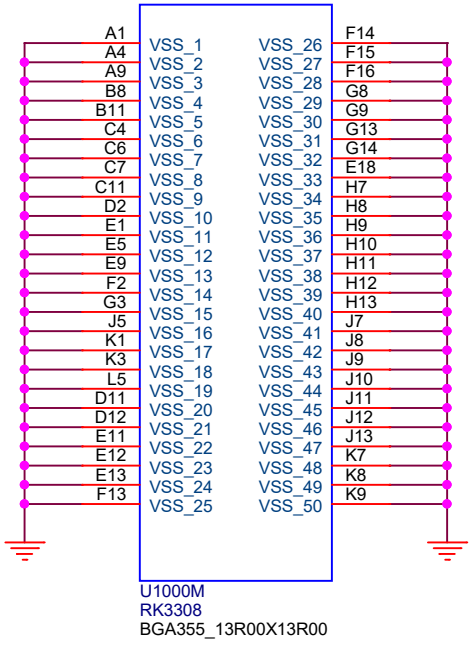


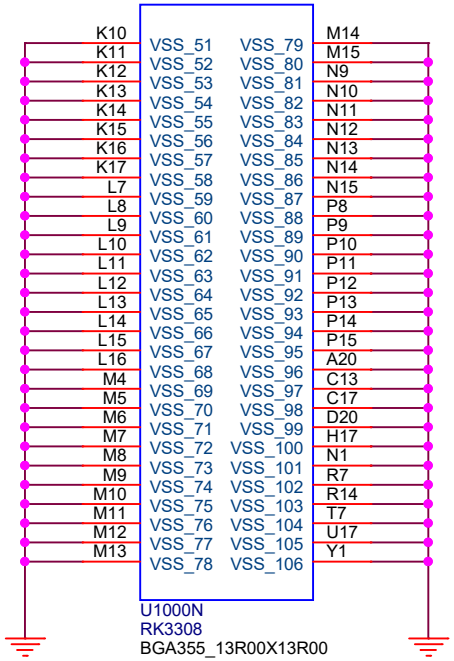




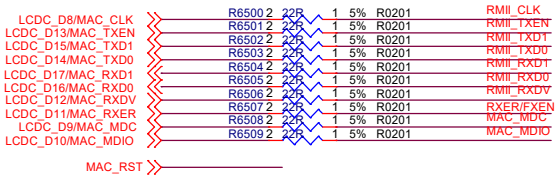
Note:All the Power filter capacitors should be placed close to the power pins of RK3308

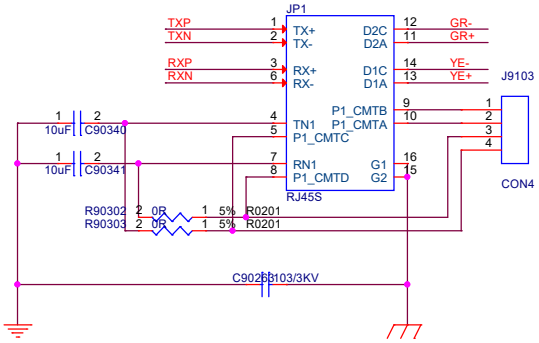
RK3308 Part-N
RK3308 Part-M

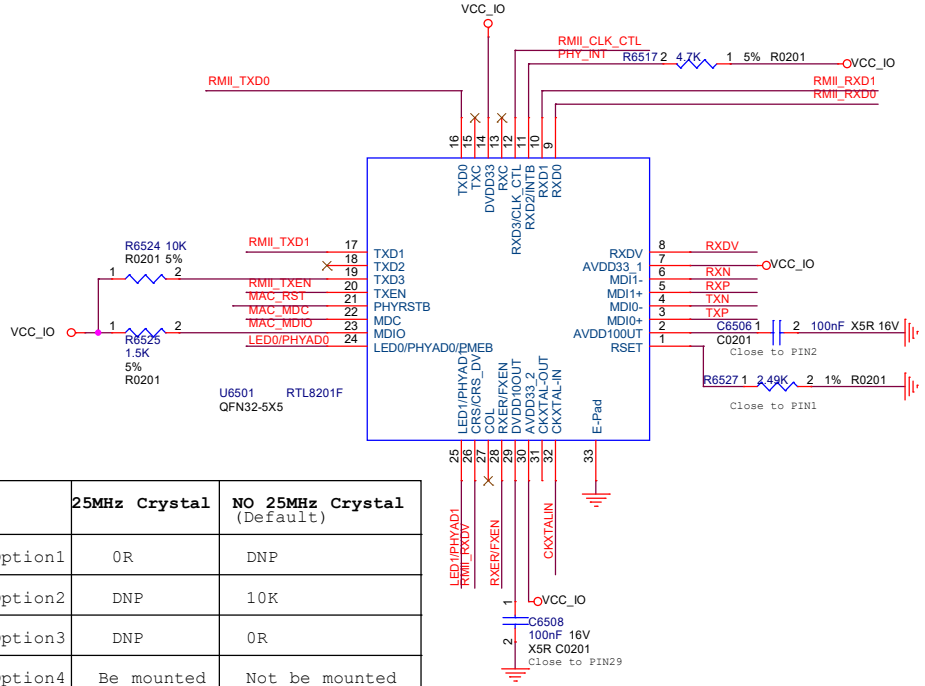




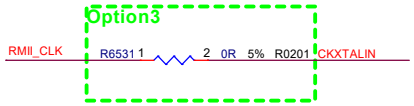
10/100M PHY-RTL8201F



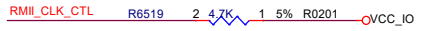




	25MHz Crystal	NO 25MHz Crystal (Default)
Option1	0R	DNP
Option2	DNP	10K
Option3	DNP	0R
Option4	Be mounted	Not be mounted
Option5	R6518=4.7K R6519=DNP	R6518=DNP R6519=4.7K



RMII REF_CLK direction

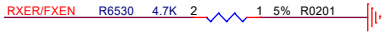


Pull Low for RMII REF_CLK Output mode
Pull High for RMII REF_CLK Input mode

MII/RMII Selection

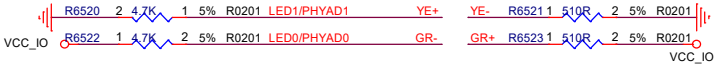
Pull High for RMII mode(default)

UTP / Fiber Selection



Pull Low for UTP Mode(default)
Pull High for Fiber Mode

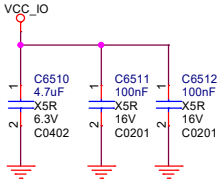
PHY Address/LED

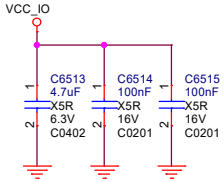


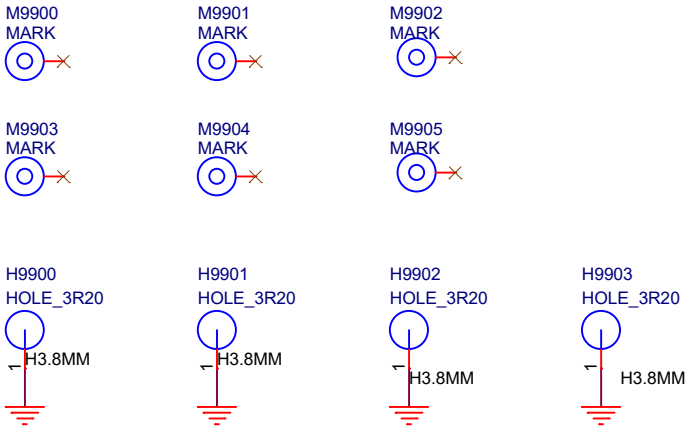
WOL/LED0 Selection

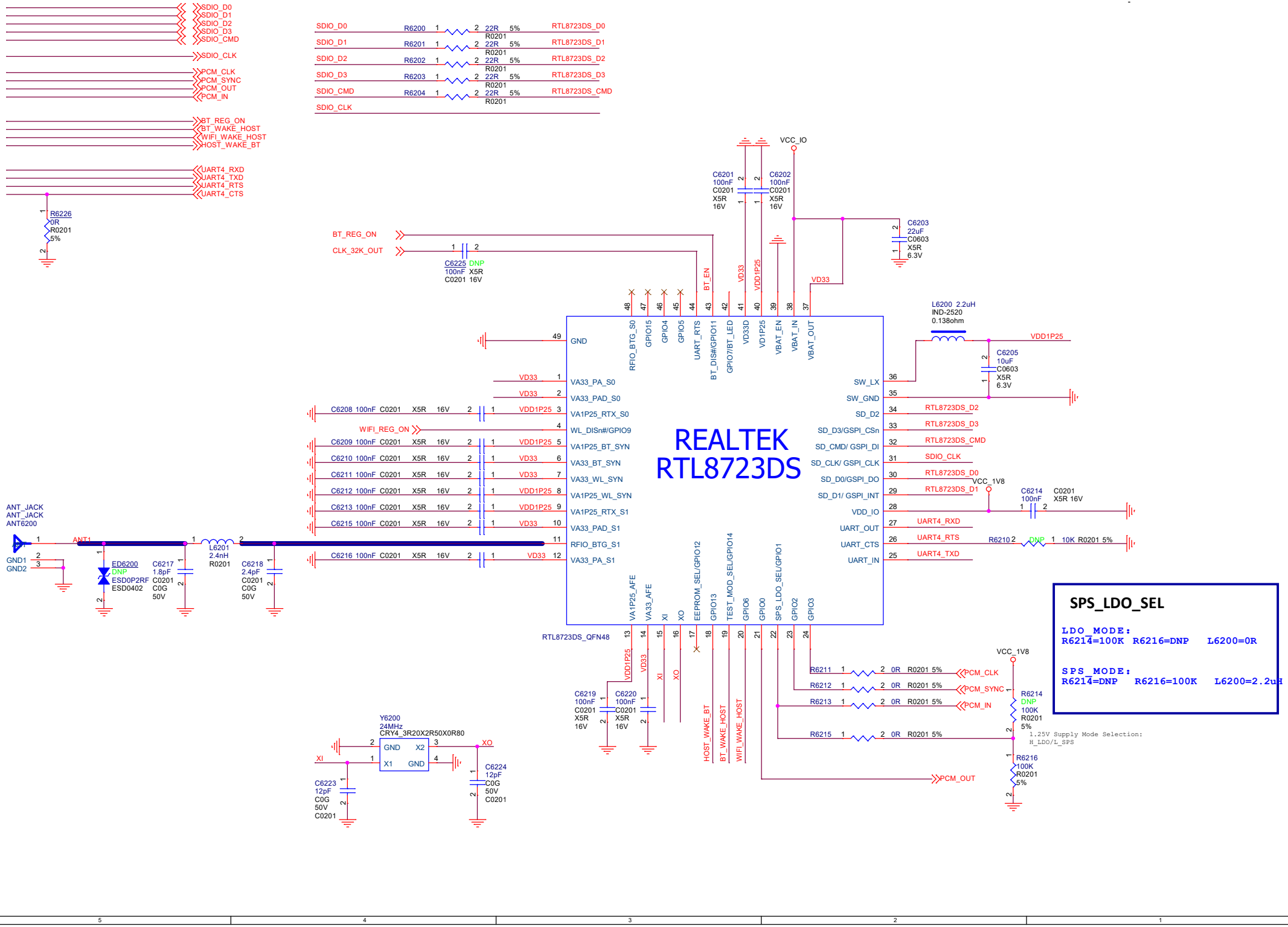
Pull Low for LED0 Mode(default)
Pull High for WOL Mode
WOL:Wake-on-LAN

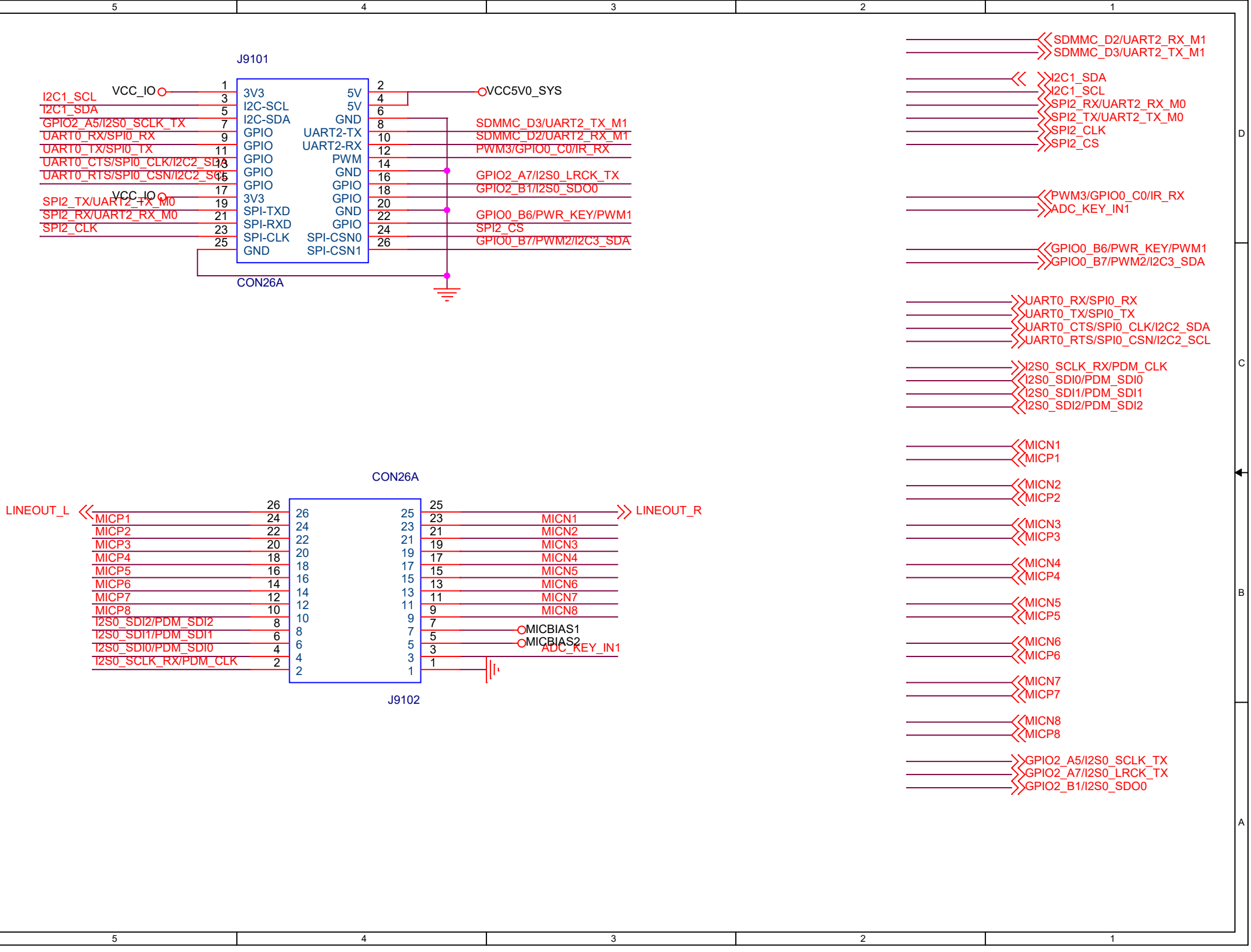
POWER






M9900
MARK
M9901
MARK
M9902
MARK
M9903
MARK
M9904
MARK
M9905
MARK
H9900
HOLE_3R20
1
H3.8MM
H9901
HOLE_3R20
1
H3.8MM
H9902
HOLE_3R20
1
H3.8MM
H9903
HOLE_3R20
1
H3.8MM


SDIO_D0
SDIO_D1
SDIO_D2
SDIO_D3
SDIO_CMD
SDIO_CLK
PCM_CLK
PCM_SYNC
PCM_OUT
PCM_IN
BT_REG_ON
BT_WAKE_HOST
WIFI_WAKE_HOST
HOST_WAKE_BT
UART4_RXD
UART4_TXD
UART4_RTS
UART4_CTS
R6226 0R R0201 5%
R6200 22R R0201 5% RTL8723DS_D0
R6201 22R R0201 5% RTL8723DS_D1
R6202 22R R0201 5% RTL8723DS_D2
R6203 22R R0201 5% RTL8723DS_D3
R6204 22R R0201 5% RTL8723DS_CMD
CLK_32K_OUT
C6225 DNP 100nF X5R C0201 16V
VCC_IO
C6201 100nF C0201 X5R 16V
C6202 100nF C0201 X5R 16V
C6203 22uF C0603 X5R 6.3V
VD33
VDD1P25
L6200 2.2uH IND-2520 0.138ohm
C6205 10uF C0603 X5R 6.3V
REALTEK
RTL8723DS
RTL8723DS_QFN48
GND
VA33_PA_S0
VA33_PAD_S0
VA1P25_RTX_S0
WL_DISn#/GPIO9
VA1P25_BT_SYN
VA33_BT_SYN
VA33_WL_SYN
VA1P25_WL_SYN
VA1P25_RTX_S1
VA33_PAD_S1
RFIO_BTG_S1
VA33_PA_S1
RFIO_BTG_S0
GPIO15
GPIO4
GPIO5
UART_RTS
BT_DIS#/GPIO11
GPIO7/BT_LED
VD33D
VD1P25
VBAT_EN
VBAT_IN
VBAT_OUT
SW_LX
SW_GND
SD_D2
SD_D3/GSPI_CSn
SD_CMD/ GSPI_DI
SD_CLK/ GSPI_CLK
SD_D0/GSPI_DO
SD_D1/ GSPI_INT
VDD_IO
UART_OUT
UART_CTS
UART_IN
VA1P25_AFE
VA33_AFE
XI
XO
EEPROM_SEL/GPIO12
GPIO13
TEST_MOD_SEL/GPIO14
GPIO6
GPIO0
SPS_LDO_SEL/GPIO1
GPIO2
GPIO3
C6208 100nF C0201 X5R 16V VDD1P25
C6209 100nF C0201 X5R 16V VDD1P25
C6210 100nF C0201 X5R 16V VDD33
C6211 100nF C0201 X5R 16V VDD33
C6212 100nF C0201 X5R 16V VDD1P25
C6213 100nF C0201 X5R 16V VDD1P25
C6215 100nF C0201 X5R 16V VDD33
C6216 100nF C0201 X5R 16V VDD33
WIFI_REG_ON
ANT_JACK
ANT_JACK
ANT6200
GND1
GND2
ANT1
ED6200 DNP ESD0P2RF ESD0402
C6217 1.8pF C0201 C0G 50V
L6201 2.4nH R0201
C6218 2.4pF C0201 C0G 50V
Y6200 24MHz CRY4_3R20X2R50X0R80
C6223 12pF C0G 50V C0201
C6224 12pF C0G 50V C0201
C6219 100nF C0201 X5R 16V
C6220 100nF C0201 X5R 16V
VCC_1V8
C6214 100nF C0201 X5R 16V
R6210 DNP 10K R0201 5%
UART4_RXD
UART4_RTS
UART4_TXD
R6211 0R R0201 5% PCM_CLK
R6212 0R R0201 5% PCM_SYNC
R6213 0R R0201 5% PCM_IN
R6215 0R R0201 5%
PCM_OUT
R6214 DNP 100K R0201 5%
R6216 100K R0201 5%
1.25V Supply Mode Selection:
H_LDO/L_SPS
SPS_LDO_SEL
LDO_MODE:
R6214=100K R6216=DNP L6200=0R
SPS_MODE:
R6214=DNP R6216=100K L6200=2.2uH


J9101
VCC_IO
I2C1_SCL
I2C1_SDA
GPIO2_A5/I2S0_SCLK_TX
UART0_RX/SPI0_RX
UART0_TX/SPI0_TX
UART0_CTS/SPI0_CLK/I2C2_SDA
UART0_RTS/SPI0_CSN/I2C2_SCL
VCC_IO
SPI2_TX/UART2_TX_M0
SPI2_RX/UART2_RX_M0
SPI2_CLK
1
3
5
7
9
11
13
15
17
19
21
23
25
3V3
I2C-SCL
I2C-SDA
GPIO
GPIO
GPIO
GPIO
GPIO
3V3
SPI-TXD
SPI-RXD
SPI-CLK
GND
5V
5V
GND
UART2-TX
UART2-RX
PWM
GND
GPIO
GPIO
GND
GPIO
GND
SPI-CSN0
SPI-CSN1
2
4
6
8
10
12
14
16
18
20
22
24
26
VCC5V0_SYS
SDMMC_D3/UART2_TX_M1
SDMMC_D2/UART2_RX_M1
PWM3/GPIO0_C0/IR_RX
GPIO2_A7/I2S0_LRCK_TX
GPIO2_B1/I2S0_SDO0
GPIO0_B6/PWR_KEY/PWM1
SPI2_CS
GPIO0_B7/PWM2/I2C3_SDA
CON26A
SDMMC_D2/UART2_RX_M1
SDMMC_D3/UART2_TX_M1
I2C1_SDA
I2C1_SCL
SPI2_RX/UART2_RX_M0
SPI2_TX/UART2_TX_M0
SPI2_CLK
SPI2_CS
PWM3/GPIO0_C0/IR_RX
ADC_KEY_IN1
GPIO0_B6/PWR_KEY/PWM1
GPIO0_B7/PWM2/I2C3_SDA
UART0_RX/SPI0_RX
UART0_TX/SPI0_TX
UART0_CTS/SPI0_CLK/I2C2_SDA
UART0_RTS/SPI0_CSN/I2C2_SCL
I2S0_SCLK_RX/PDM_CLK
I2S0_SDI0/PDM_SDI0
I2S0_SDI1/PDM_SDI1
I2S0_SDI2/PDM_SDI2
CON26A
LINEOUT_L
MICP1
MICP2
MICP3
MICP4
MICP5
MICP6
MICP7
MICP8
I2S0_SDI2/PDM_SDI2
I2S0_SDI1/PDM_SDI1
I2S0_SDI0/PDM_SDI0
I2S0_SCLK_RX/PDM_CLK
26
24
22
20
18
16
14
12
10
8
6
4
2
25
23
21
19
17
15
13
11
9
7
5
3
1
MICN1
MICN2
MICN3
MICN4
MICN5
MICN6
MICN7
MICN8
MICBIAS1
MICBIAS2
ADC_KEY_IN1
LINEOUT_R
J9102
MICN1
MICP1
MICN2
MICP2
MICN3
MICP3
MICN4
MICP4
MICN5
MICP5
MICN6
MICP6
MICN7
MICP7
MICN8
MICP8
GPIO2_A5/I2S0_SCLK_TX
GPIO2_A7/I2S0_LRCK_TX
GPIO2_B1/I2S0_SDO0