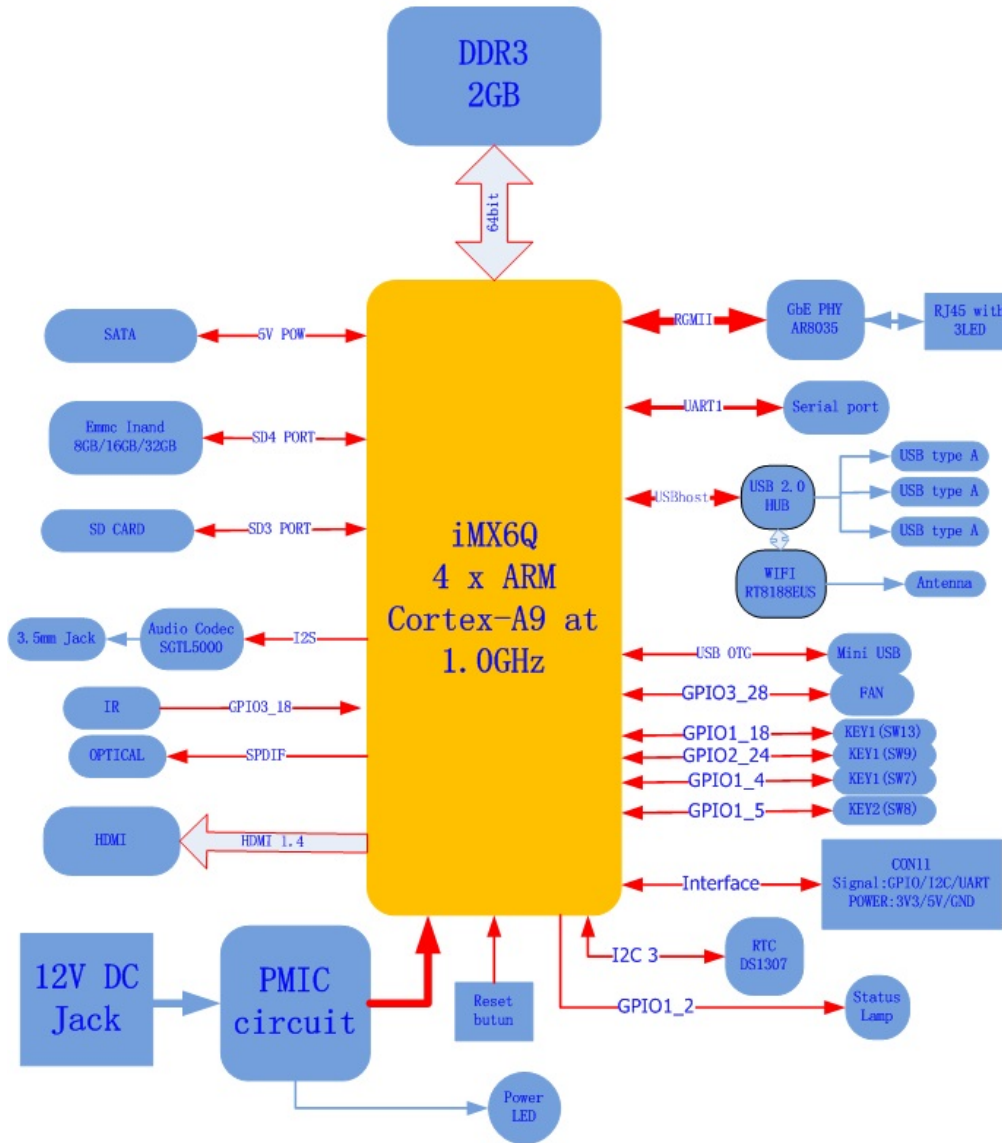
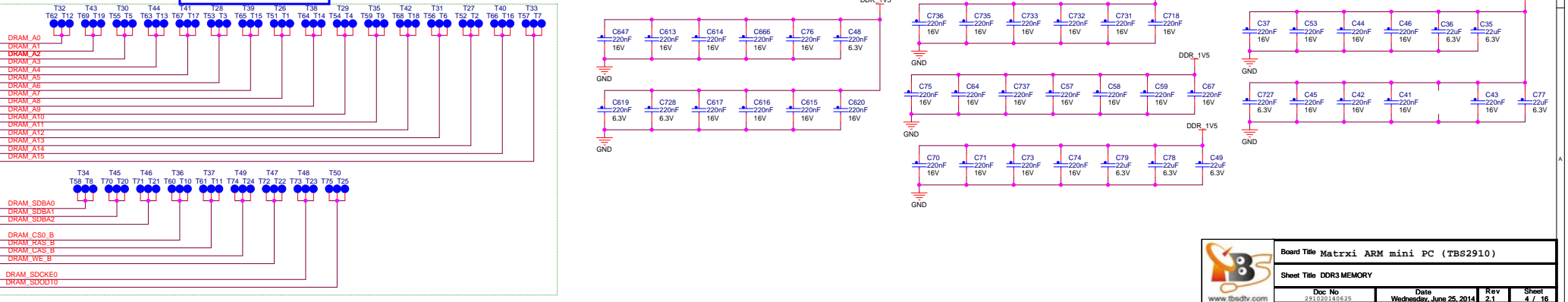
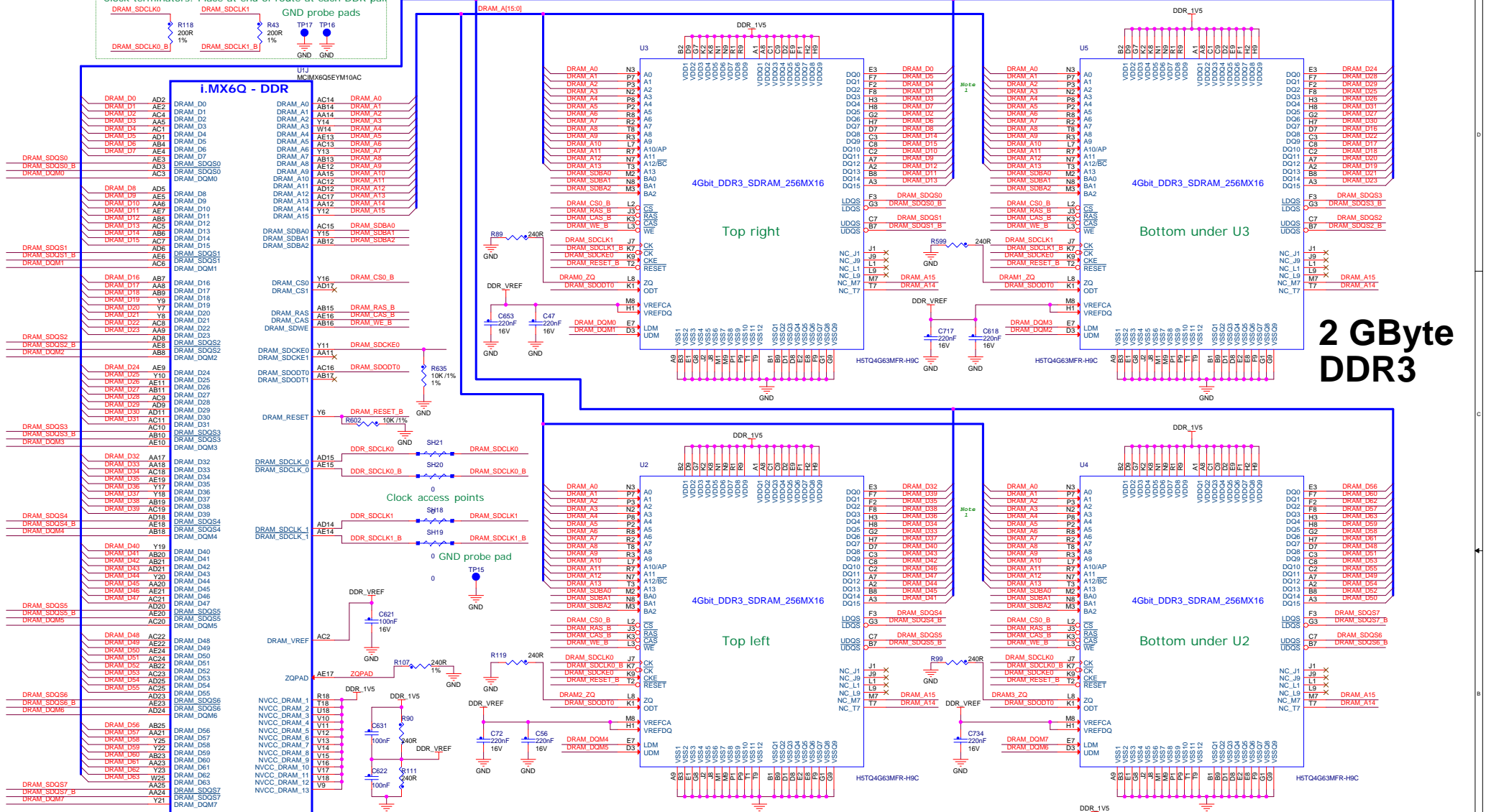
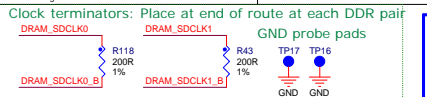


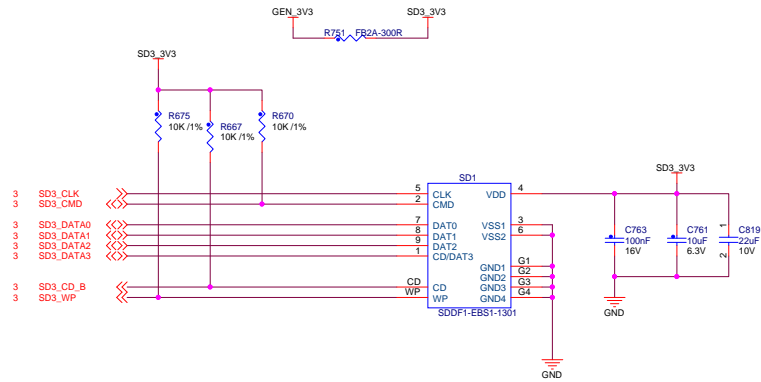
Matrxi ARM mini PC (TBS2910)



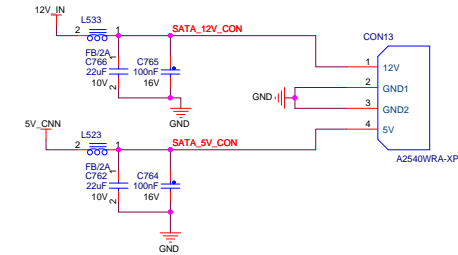
Board Title				Matrxi ARM mini PC (TBS2910)			
Sheet Title				Functional Block Diagram			
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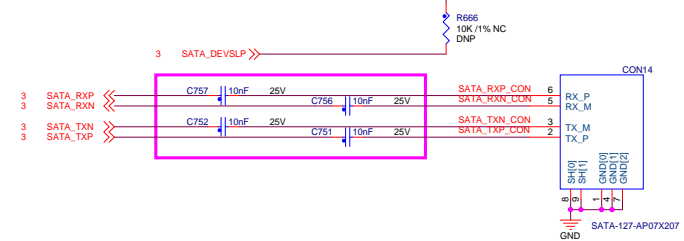
SD CARD SOCKET



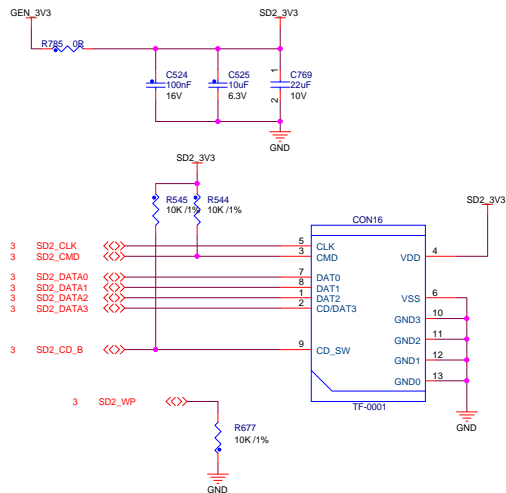
SATA POWER



SATA CONNECTOR

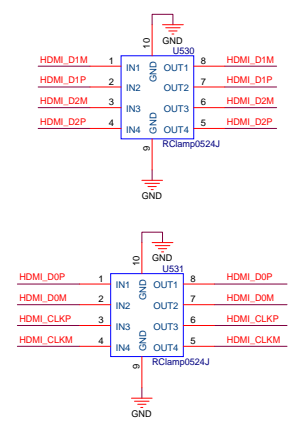
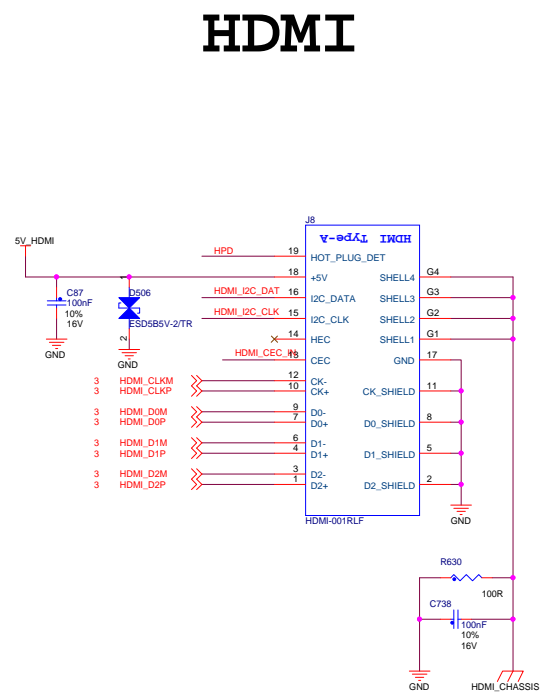
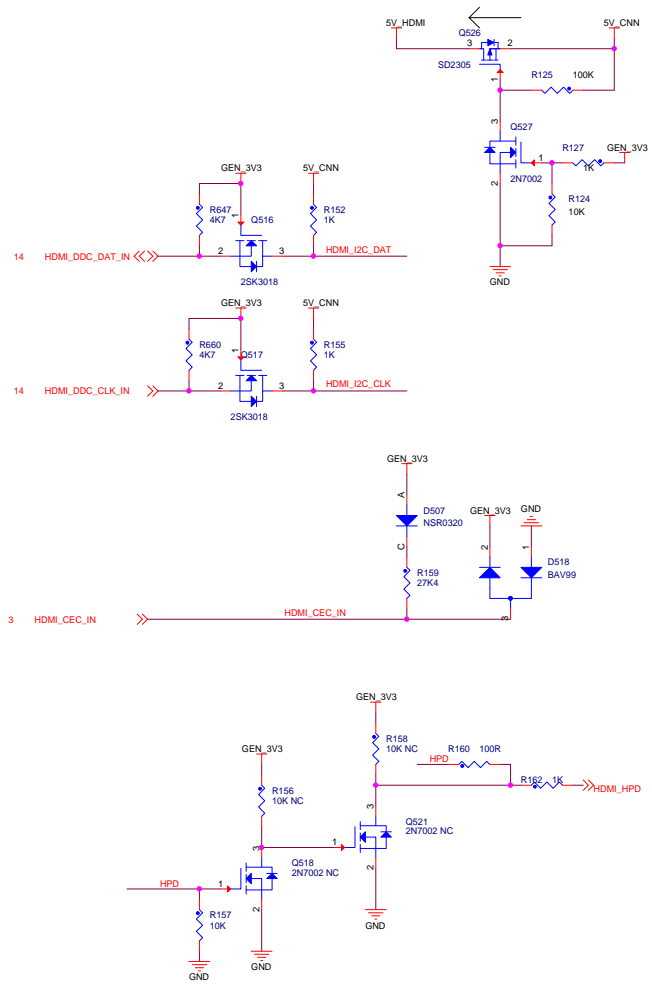


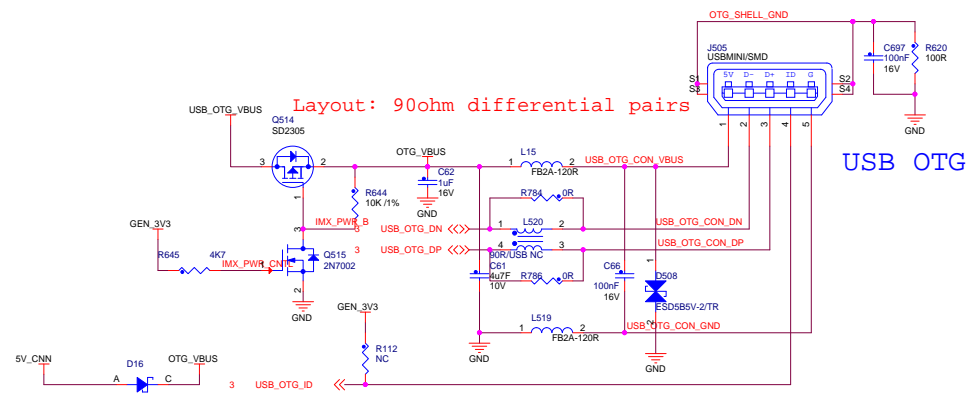
TF CARD SOCKET
Place on bottom layer.



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HDMI

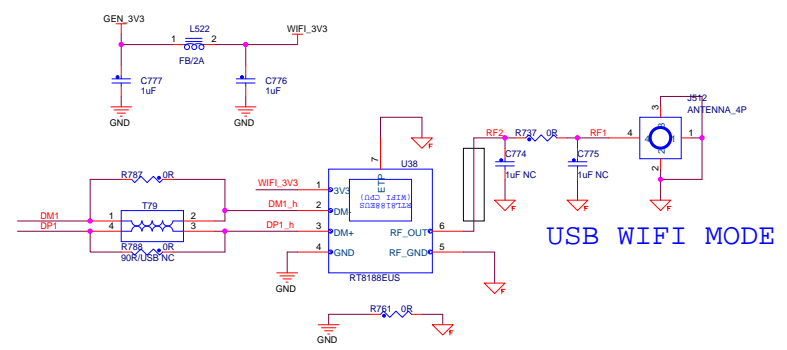




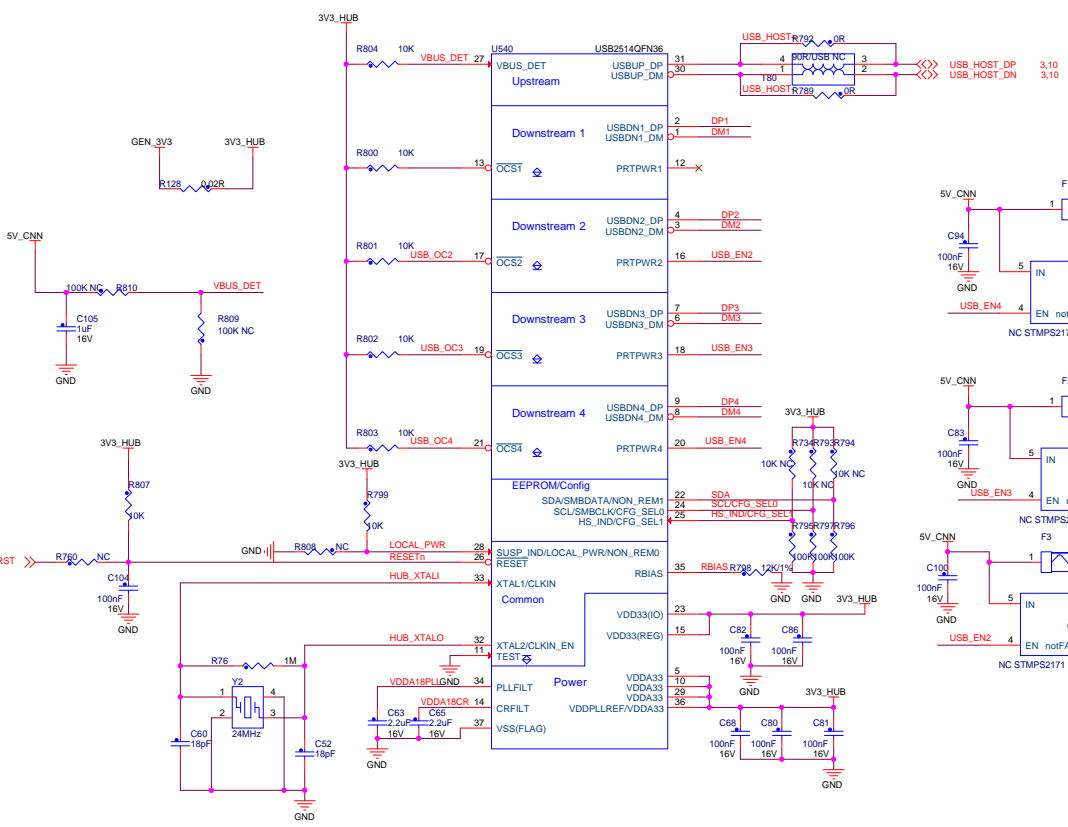
Layout: 90ohm differential pairs

USB OTG

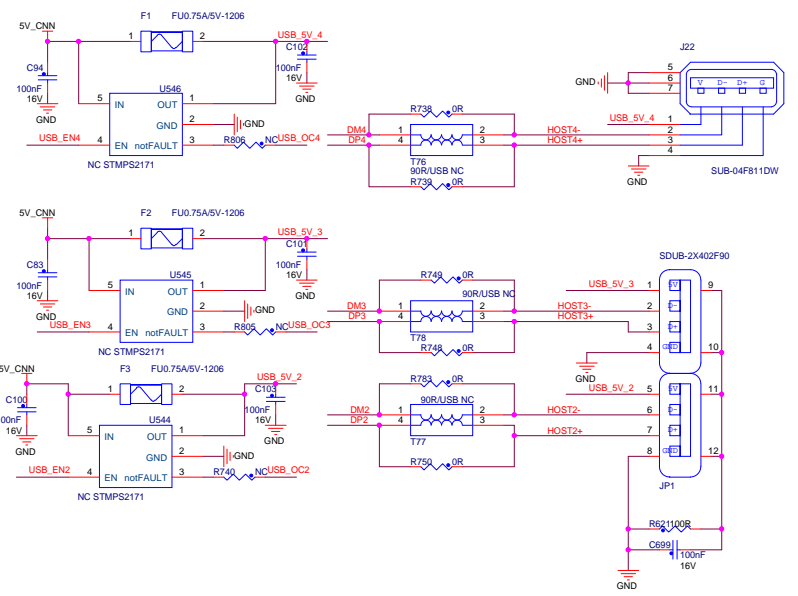
ID 信号在常态时为高；
插入 OTG 线强制拉低 CPU 此时为主模式



USB WIFI MODE



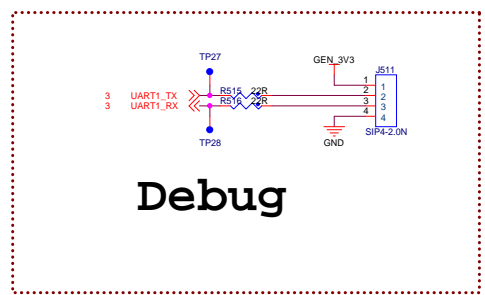
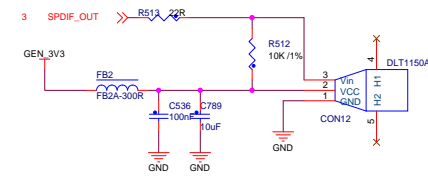
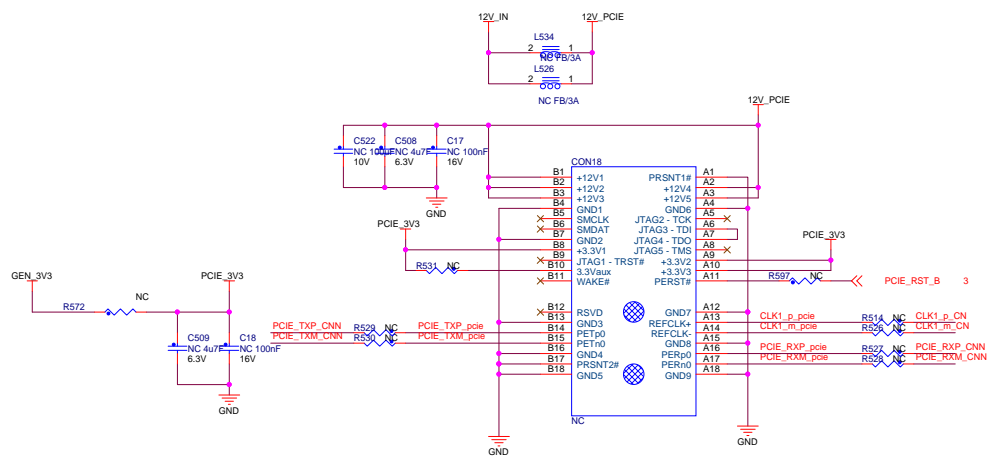
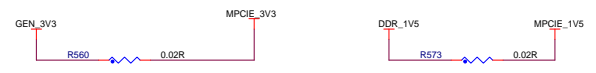
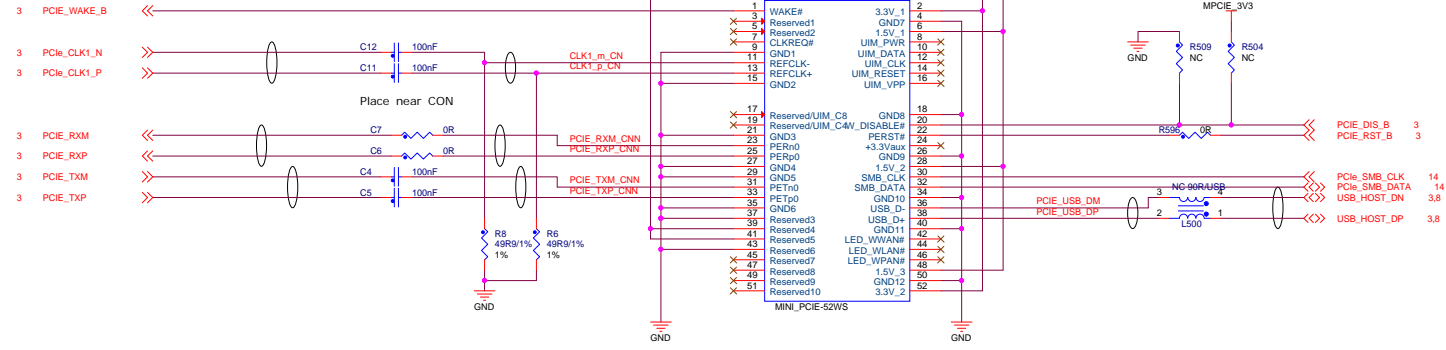
USB HUB



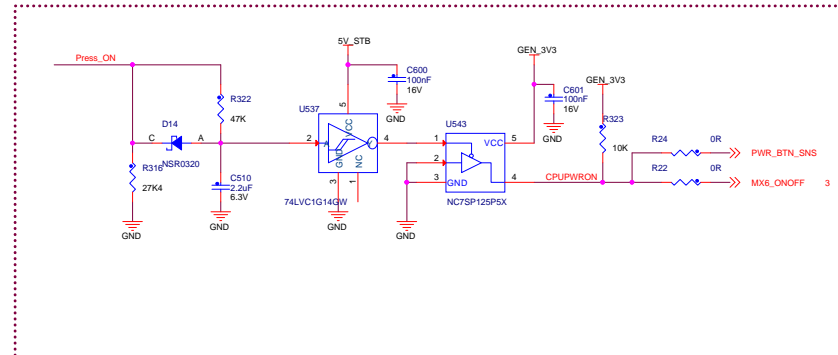
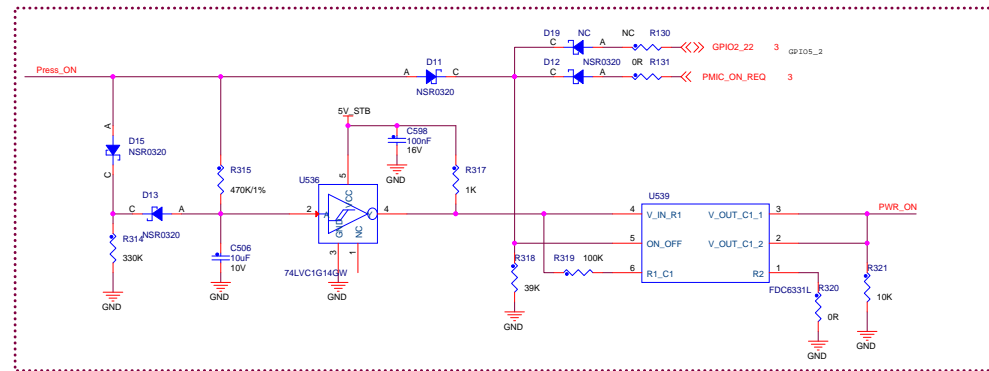
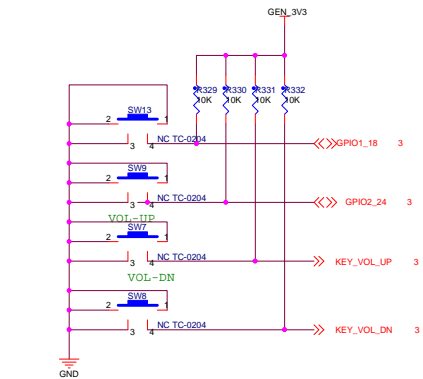
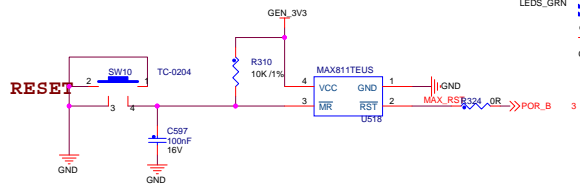
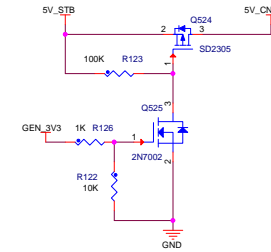
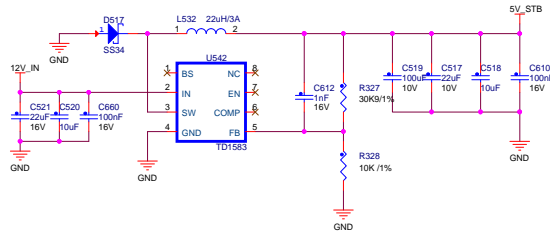
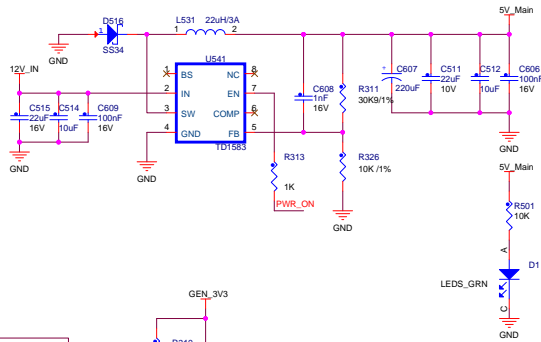
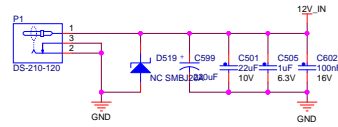
Board Title Matrxii ARM mini PC (TBS2910)				
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Mini-PCIE

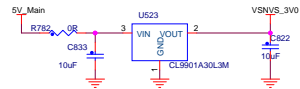
Layout: 100 ohm differential pairs



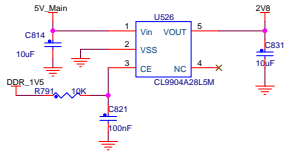
External Power 12 V DC



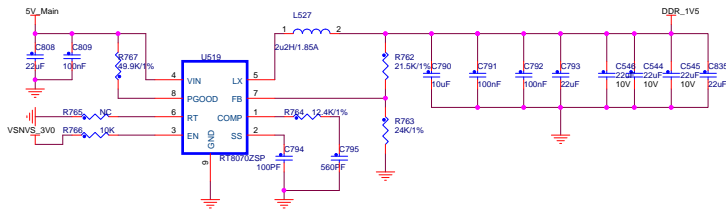
VDD_SNVS



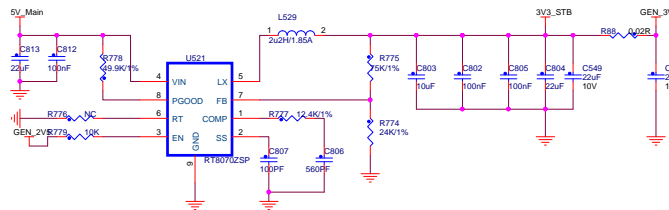
VDDHIGH_IN 2.8V



DDR POWER

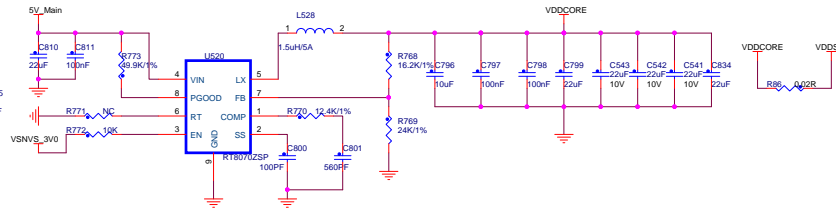


GEN_3V3

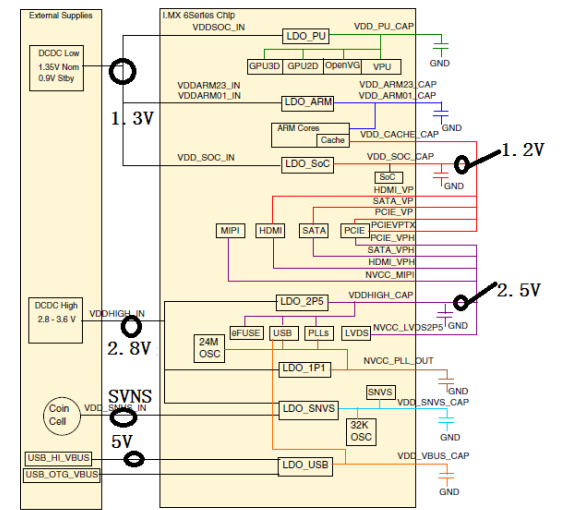
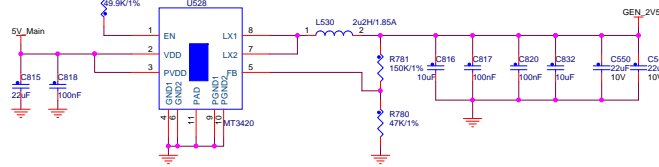


电源/启动阶段	实测电流 (mA)					分立电源初步方案	
	uboot	挂文件 系统	加载 tuner	root 运行	tuner 播放电		最高电流
VDDARM_IN	190	600	210	140	160	2155	一颗3-4A的电源芯片
VDDSOC_IN	340	370	380	360	390	1590	一颗2.5A的电源芯片 CPU由输出, 预留一组 由RT8059(同2900)输出 1.5A的电源
GEN_2V5						1000	一颗2.5A的电源芯片
GEN_3V3	50	190	200	190	190	1500	一颗2.5A的电源芯片
DDR_1V5	340	390	120	120	160	1500	一颗2.5A的电源芯片
USEHOST						500	可用5V电源加 WSR0320二极管(1A压)
VDDHIGH_IN 2.8V (内部PLL等)	50	60	60	60	60	300	同一颗LDO
SNVS						50	
dc参考电源						10	使用电阻对dc电源分

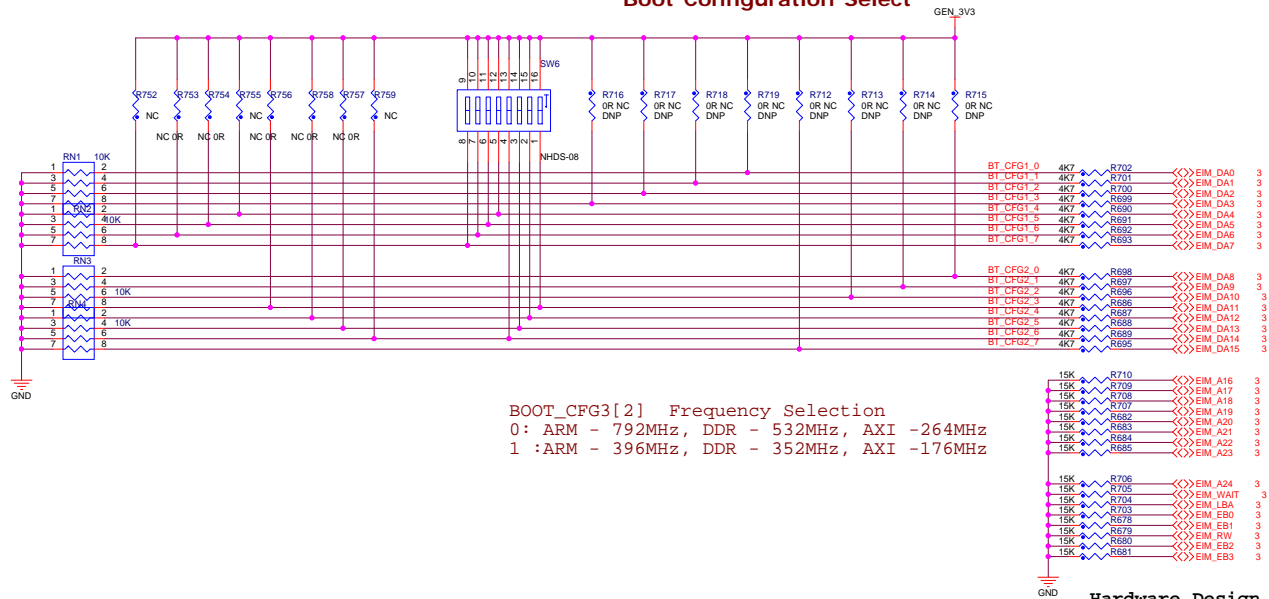
VCORE 1.2--1.3V



GEN_2V5



Boot Configuration Select



BOOT_CFG3[2] Frequency Selection
 0 : ARM - 792MHz, DDR - 532MHz, AXI -264MHz
 1 : ARM - 396MHz, DDR - 352MHz, AXI -176MHz

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resistors and/or switchers; see Figure 1-1. Each configured EIM boot signal sees either a 14.7 kΩ pulldown or a 4.7 kΩ pullup. For each switch-enabled pulled-up signal, the supply is presented with a 10 kΩ current load.

NOTE:
 Place series resistors so as to minimize EIM portion of trace length. Two layout possibilities include:
 1) As close to processor as possible.
 2) Close to other components using EIM signals.

Boot Select Table

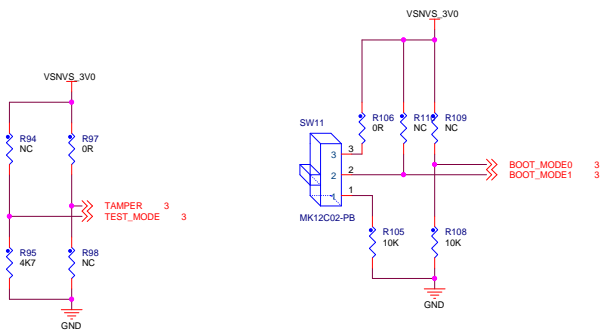
8	7	6	5	4	3	2	1
BT_CFG1_7	BT_CFG1_6	BT_CFG1_5	BT_CFG1_4	BT_CFG2_6	BT_CFG2_5	BT_CFG2_4	BT_CFG2_3
011X = MMC/eMMC Boot				X0 = 1-bit X1 = 4-bit 10 = 8-bit		01 = SD2 Boot 10 = SD3 Boot 11 = SD4 Boot	
010X = SD/eSD Boot				X0 = 1-bit X1 = 4-bit		01 = SD2 Boot 10 = SD3 Boot 11 = SD4 Boot	
0010 = SATA Boot				X	X	X	0

7 Bootup from MMC/SD

i.MX 6Quad and i.MX 6DualLite SABRE SD board boot from eMMC.

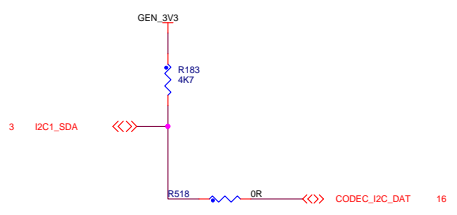
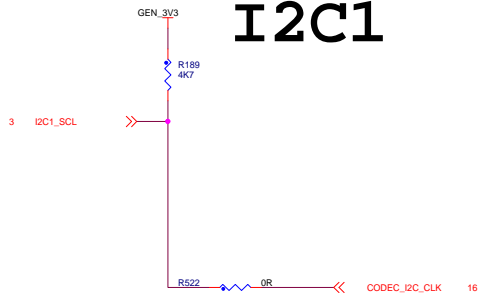
Boot Switch:

download Mode(MFGTool mode)	(SW6) 00001100 (from 1-8 bit)
eMMC(MMC3) boot	(SW6) 11100110 (from 1-8 bit)
MMC4 (SD2) boot	(SW6) 10000010 (from 1-8 bit)
MMC2 (SD3) boot	(SW6) 01000010 (from 1-8 bit)

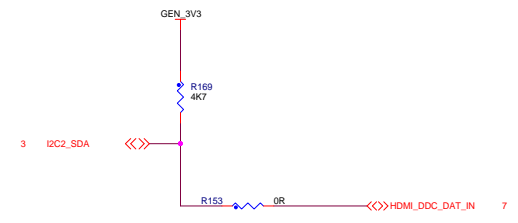
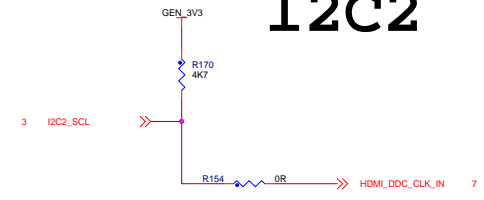


[1:0]
 BOOT MODES:
 00 Boot from fuses
 01 Serial downloader
 10 Boot from board settings
 11 Reserved

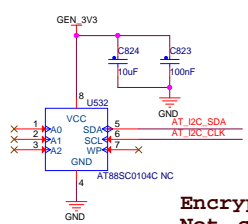
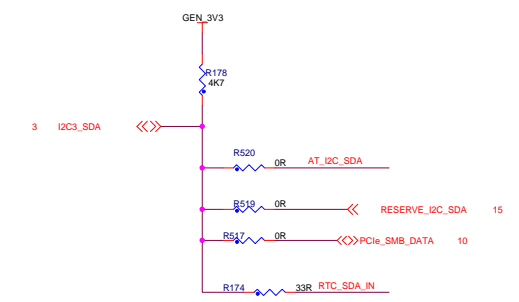
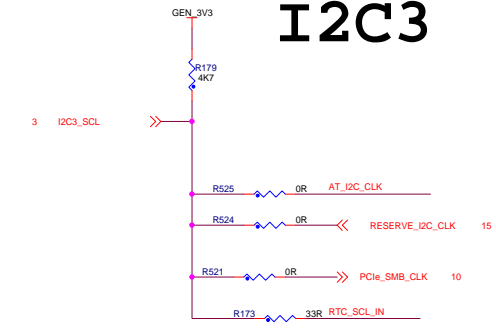
I2C1



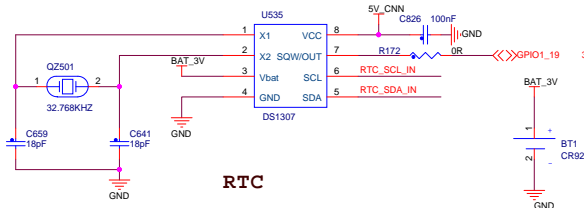
I2C2



I2C3



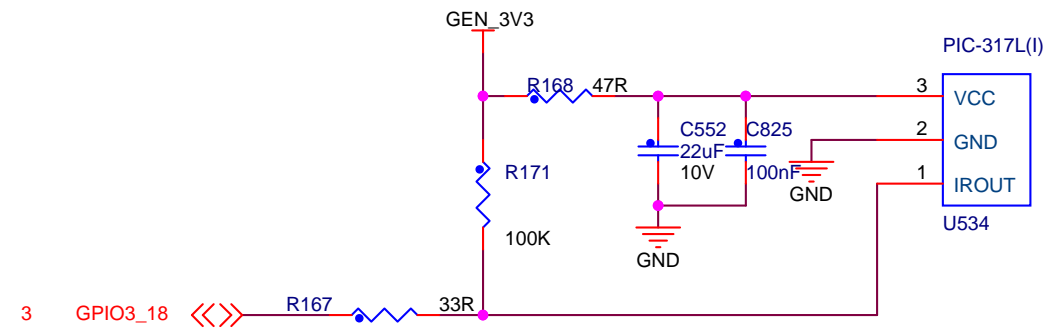
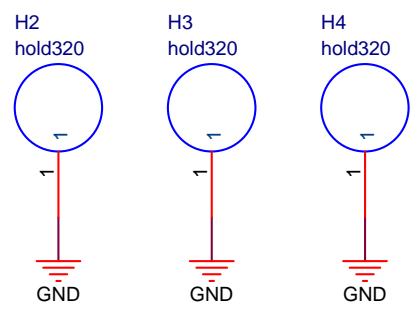
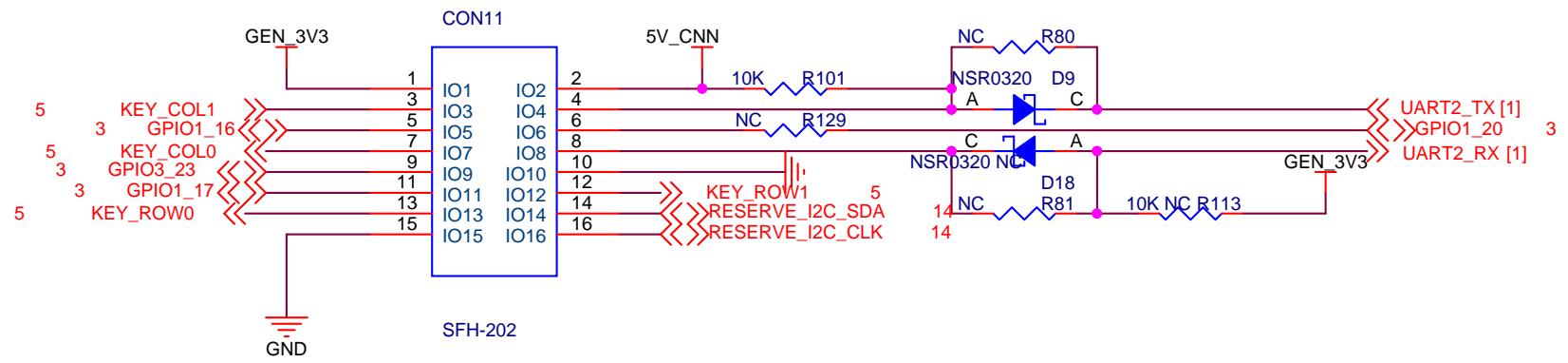
**Encryption chip.
Not connected.**



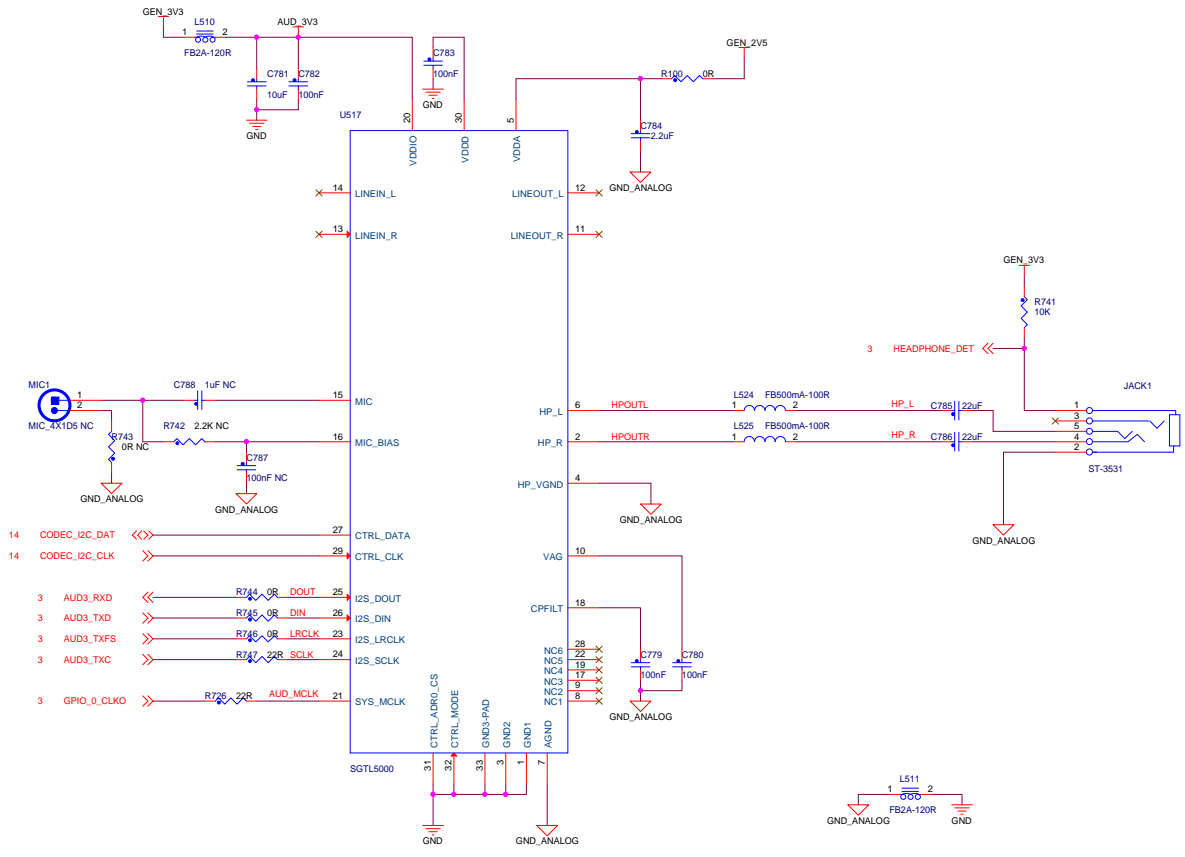
RTC



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	Sheet Title I/O Reserved			
Doc No	Date	Rev	Sheet	
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Board Title		Matrx-i ARM mini PC (TBS2910)			
Sheet Title		AUDIO			
Doc No	Date	Rev	Sheet		
291020140625	Wednesday, June 25, 2014	21	16 / 16		