

BeagleBone AI AM57x

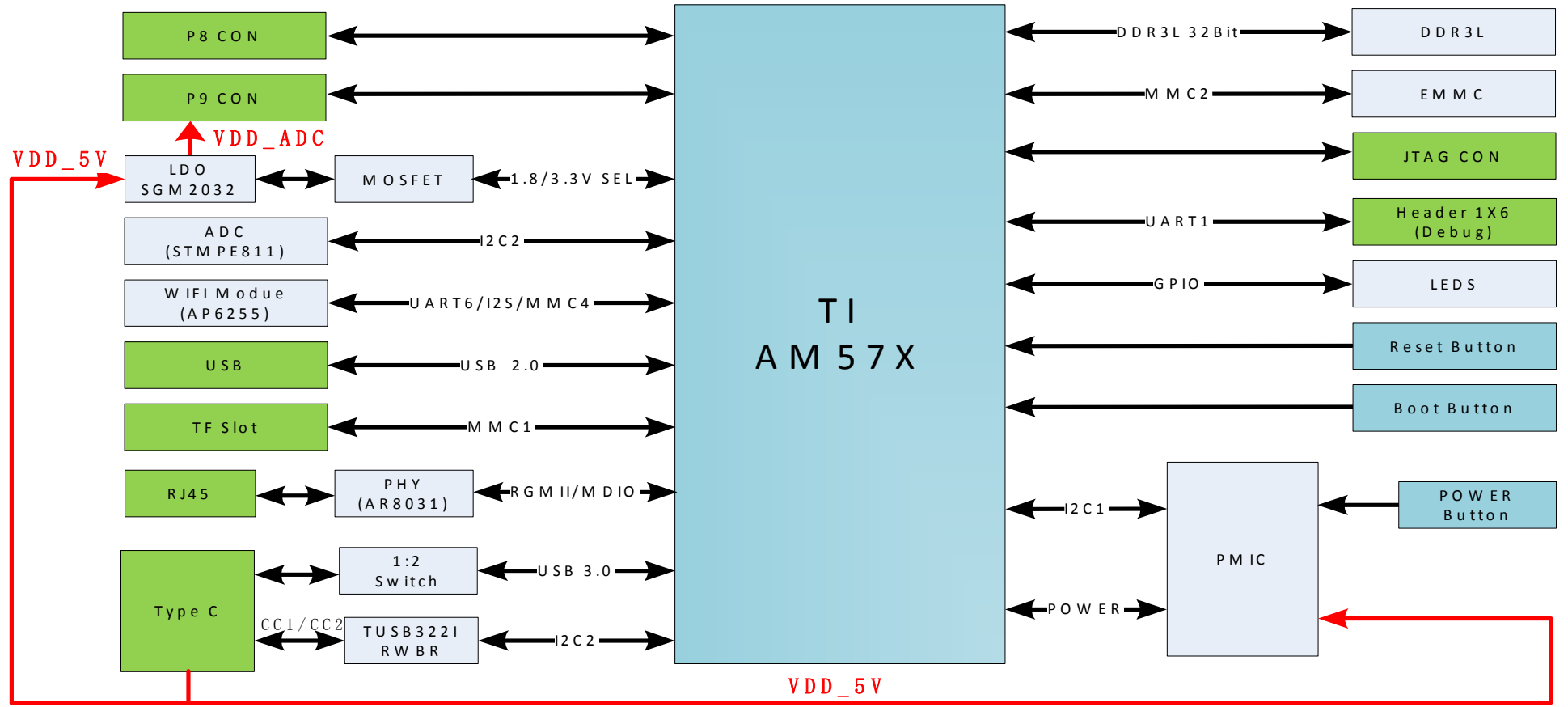
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REVISION HISTORY

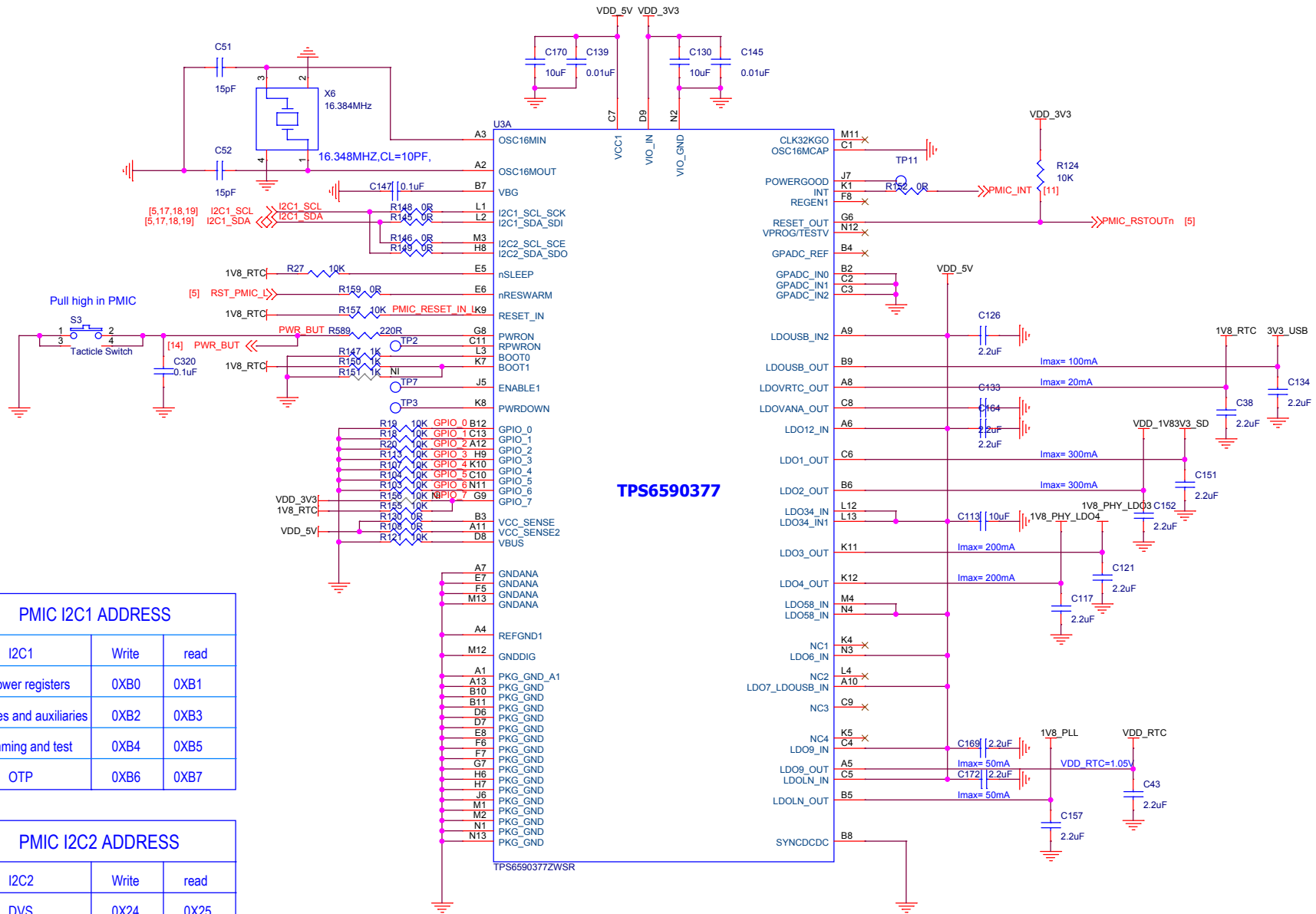
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2018/5/19	REV 00	Initail Create
2018/6/12	REV 01	Modify
2018/7/23	REV 02	Modify
2018/8/9	REV 03	Modify
2018/12/24	REV 04	Modify

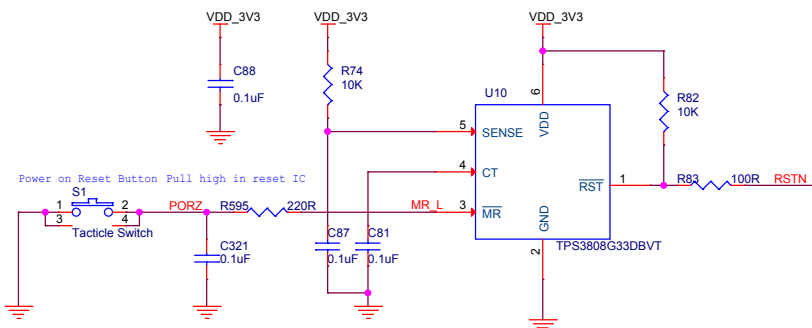
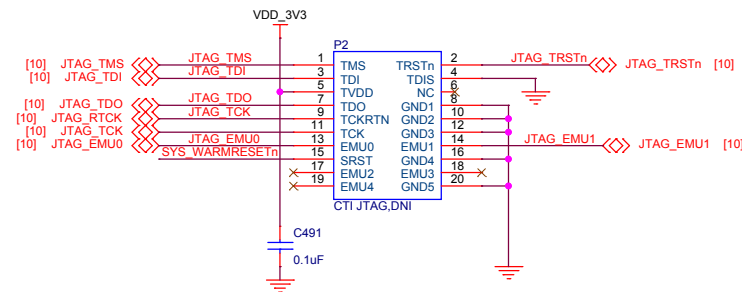
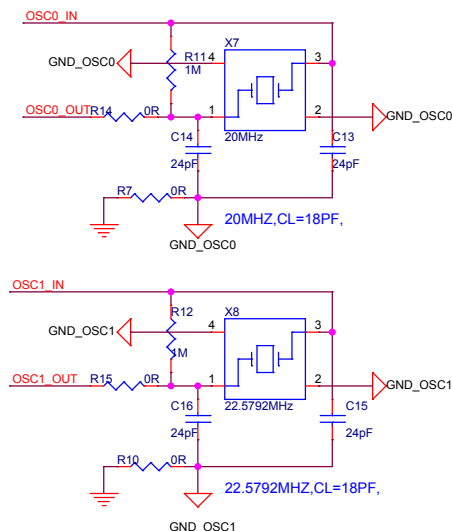
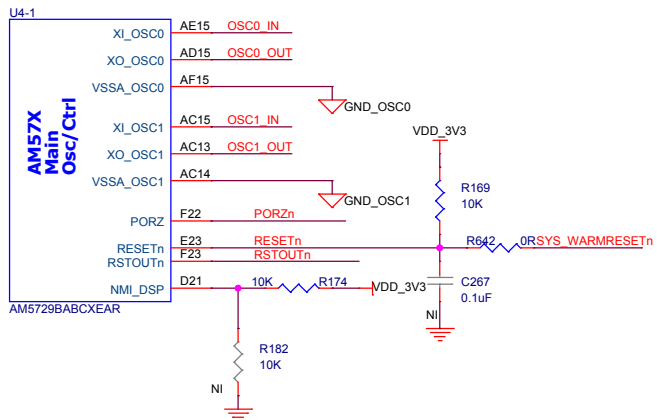
BeagleBone AI AM 57x BLOCK Diagram



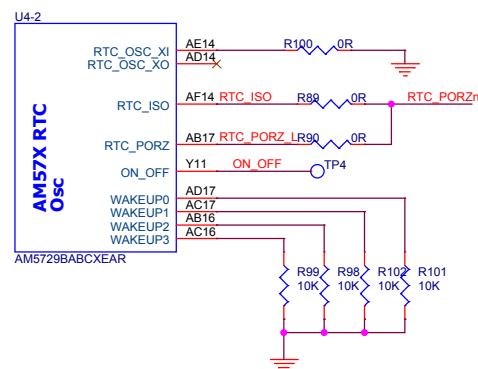
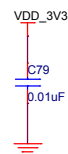
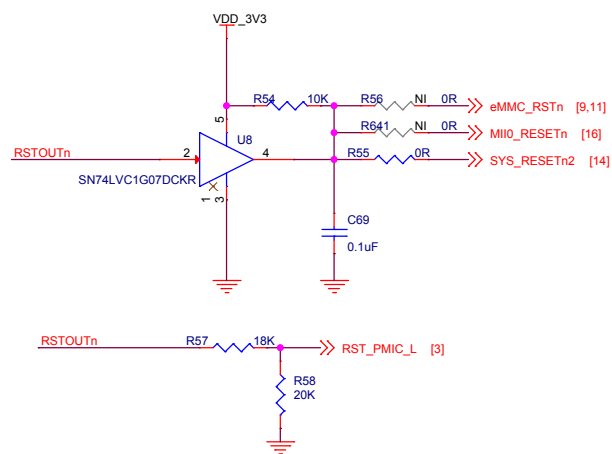
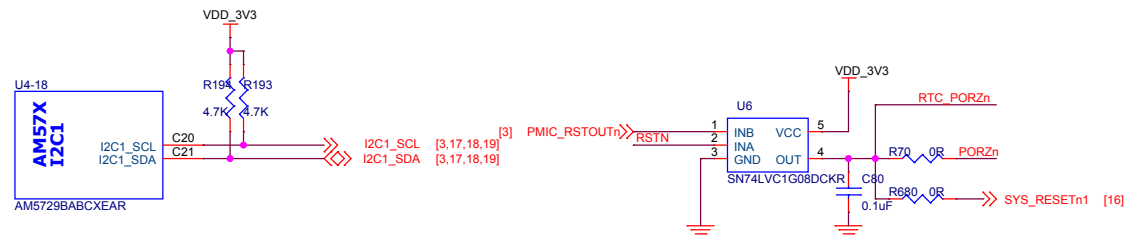
PMIC I2C1 ADDRESS		
I2C1	Write	read
Power registers	0XB0	0XB1
Interfaces and auxiliaries	0XB2	0XB3
Trimming and test	0XB4	0XB5
OTP	0XB6	0XB7

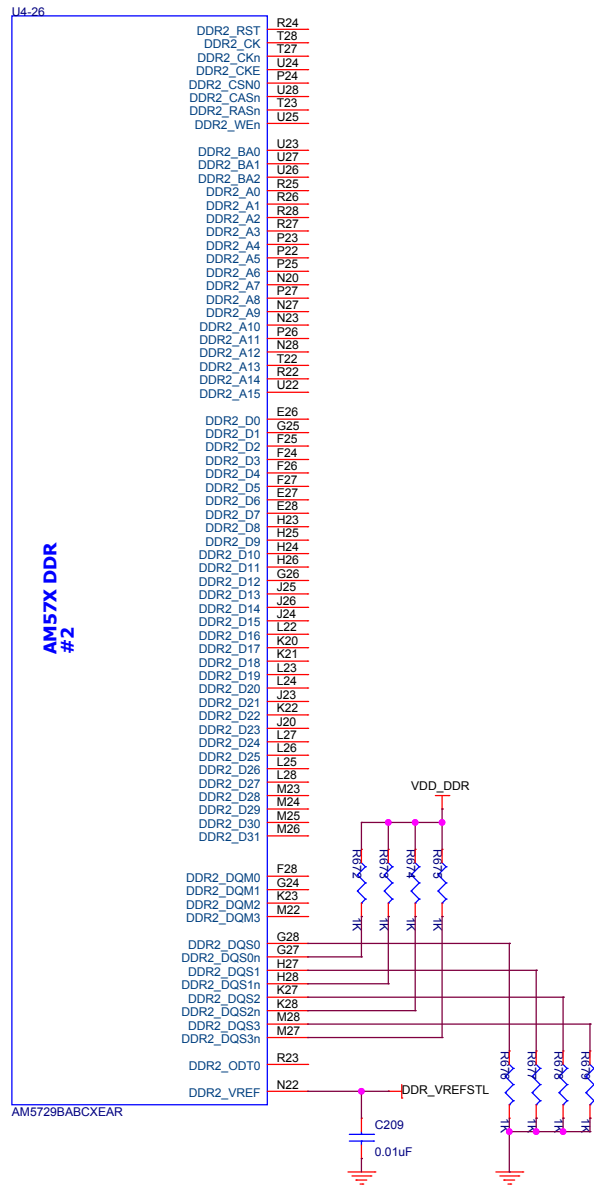
PMIC I2C2 ADDRESS		
I2C2	Write	read
DVS	0X24	0X25



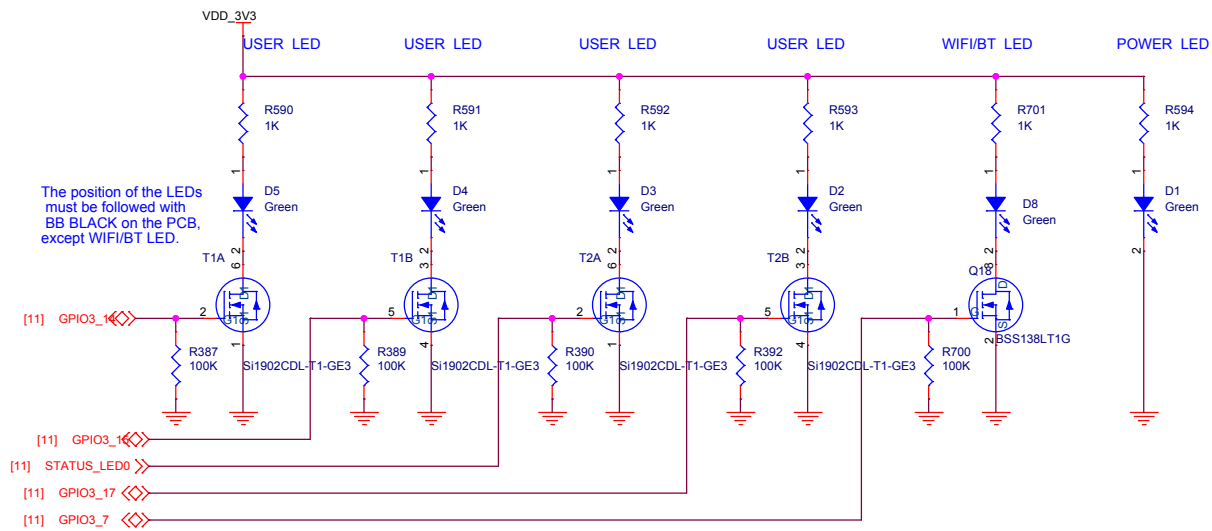


Delay (S) = CT (nF) /175+ 0.5 x 0.001 (s)=0.57S
VDD=1.7V~6.5V(-40°C < Tj < +125°)

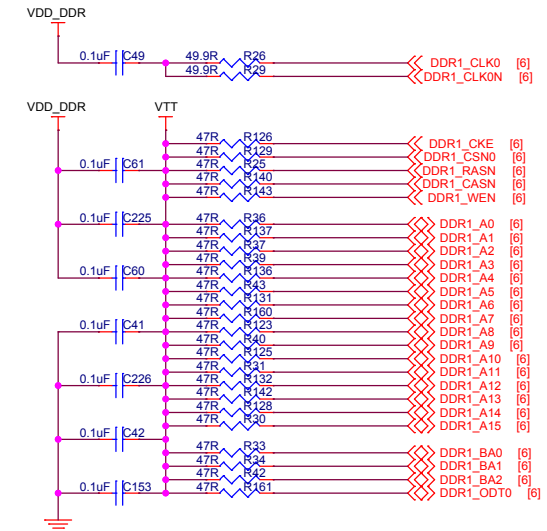




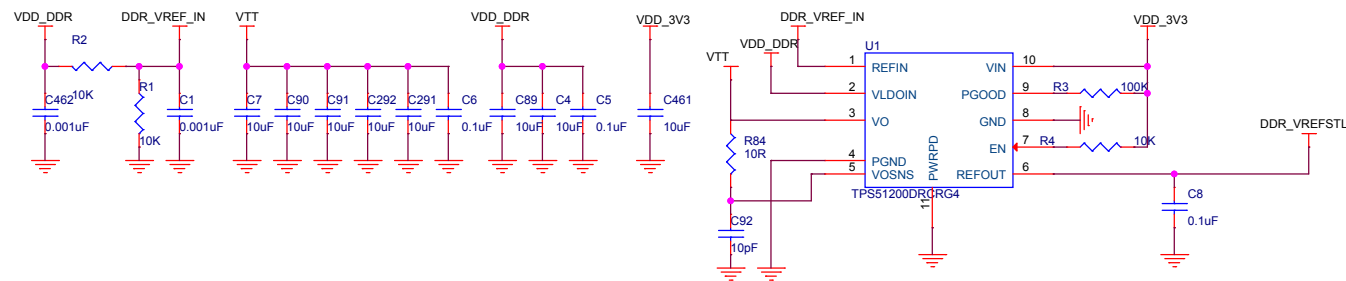
LED

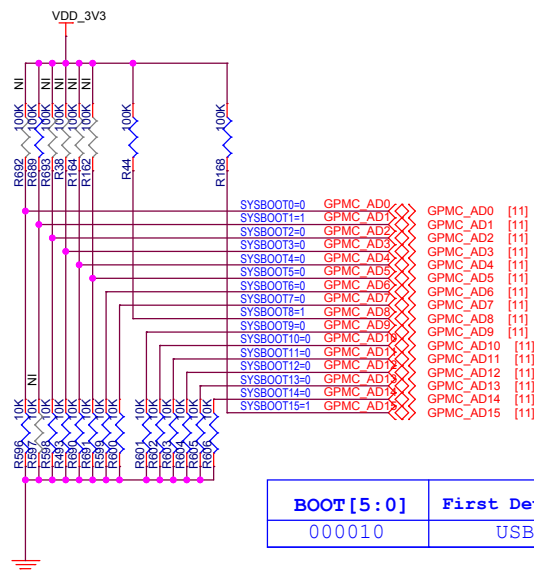
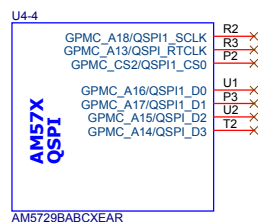
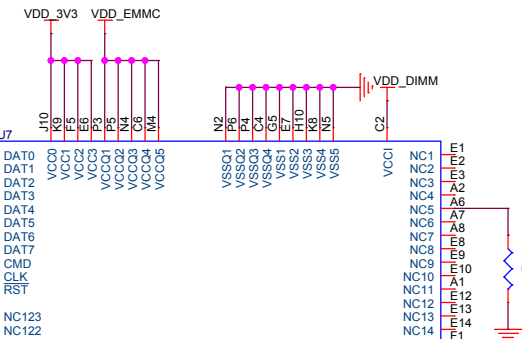
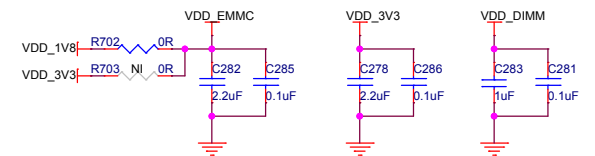
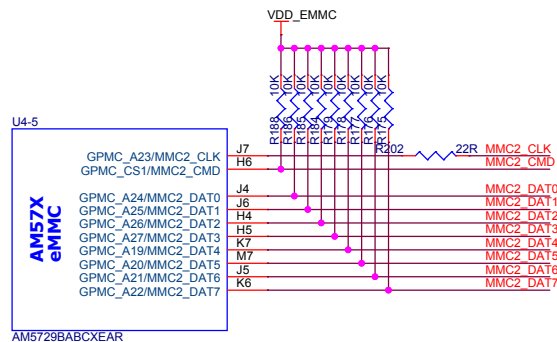


VTT

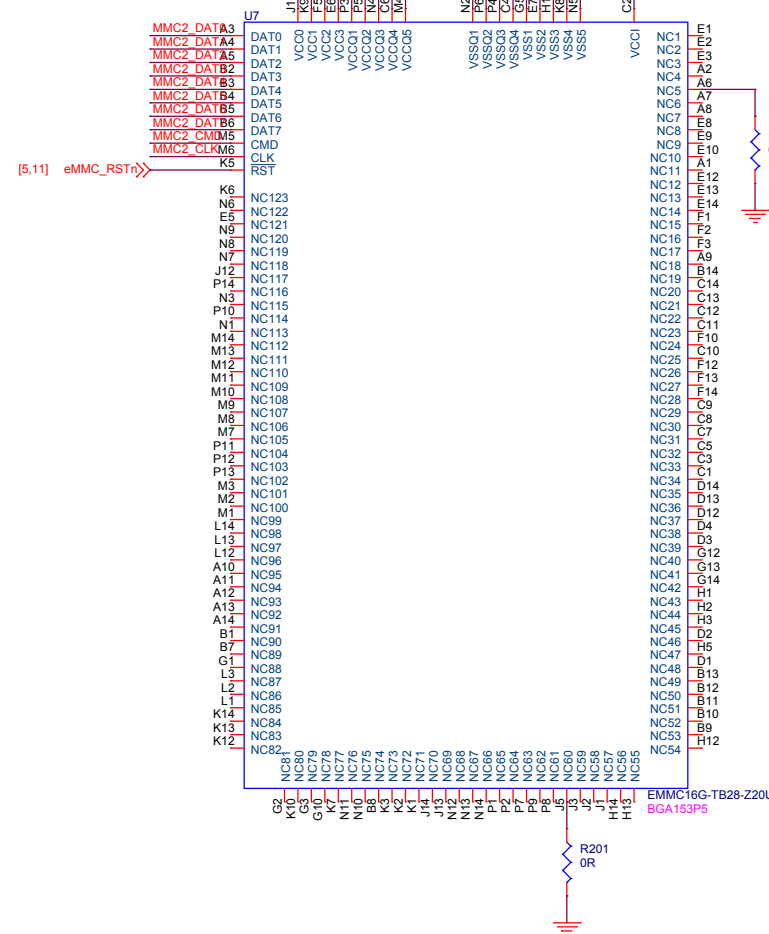


VTT SUPPLY

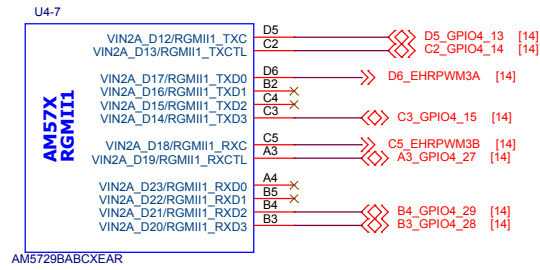




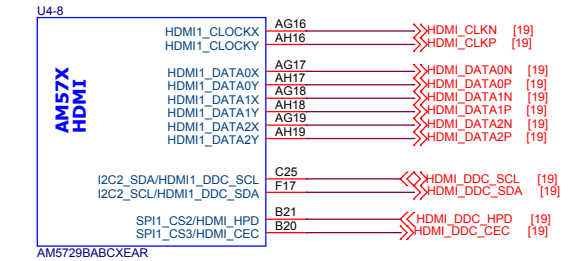
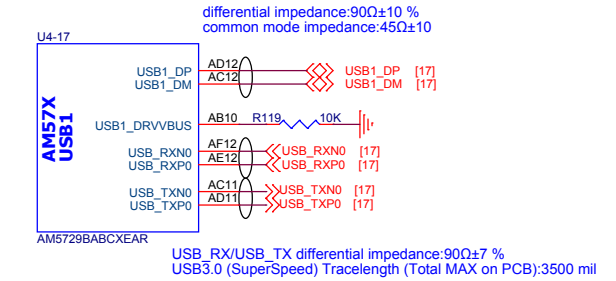
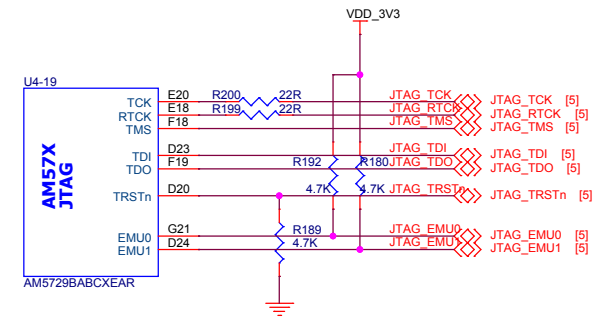
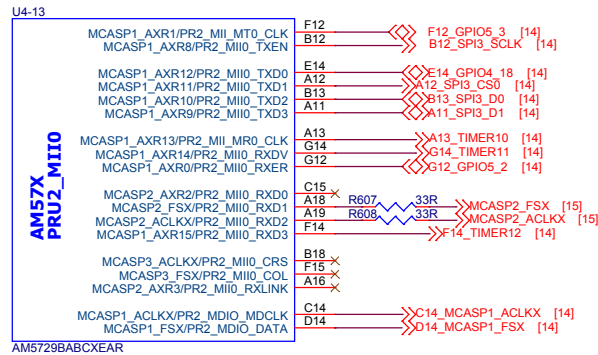
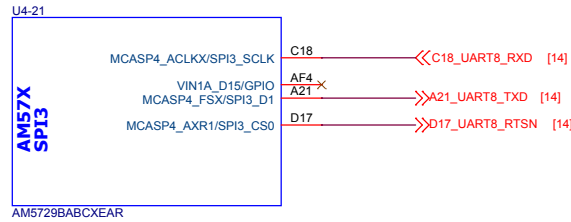
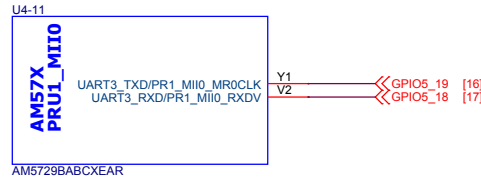
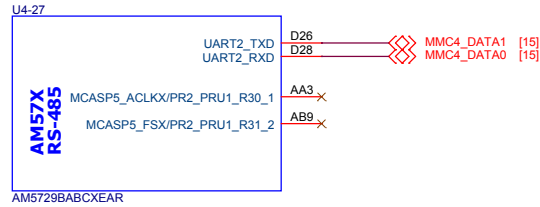
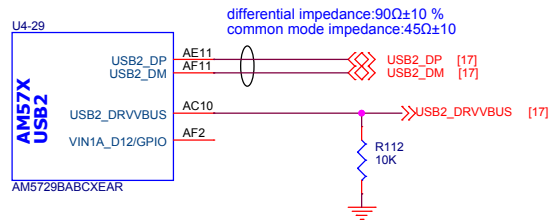
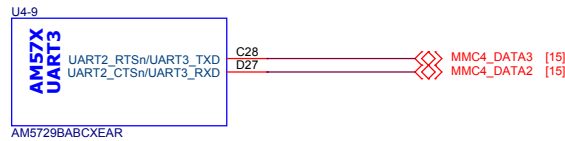
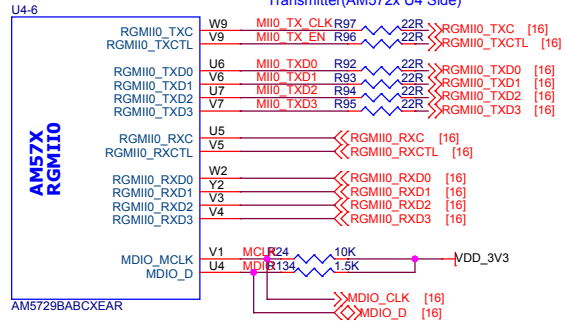
BOOT[5:0]	First Device	Second Device	Third Device
000010	USB	SD	eMMC

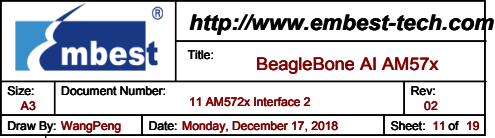


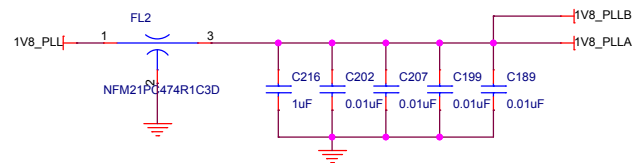
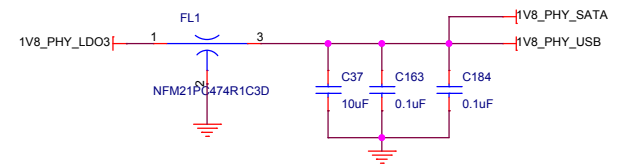
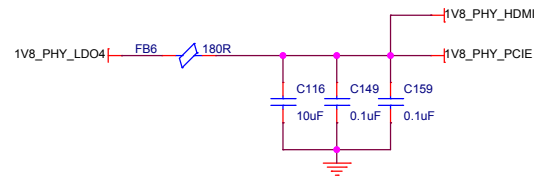
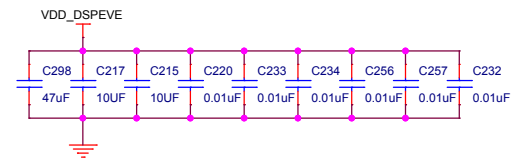
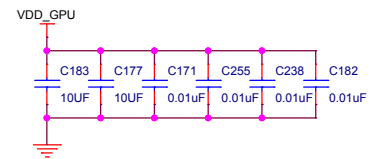
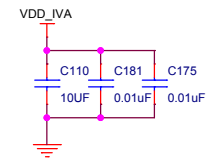
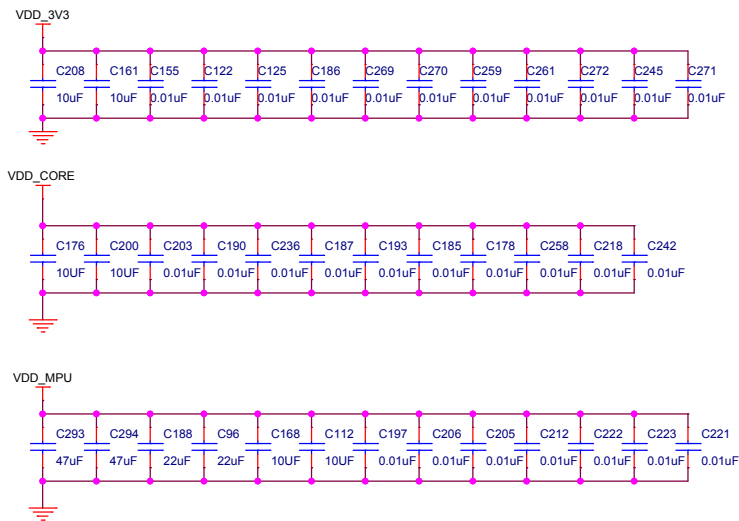
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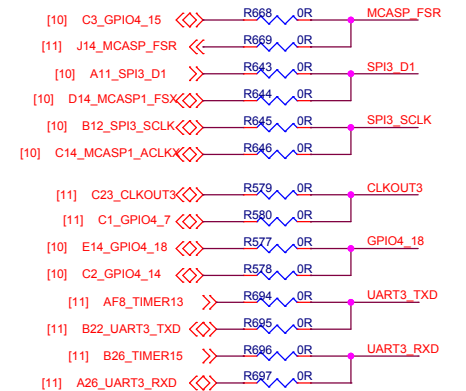
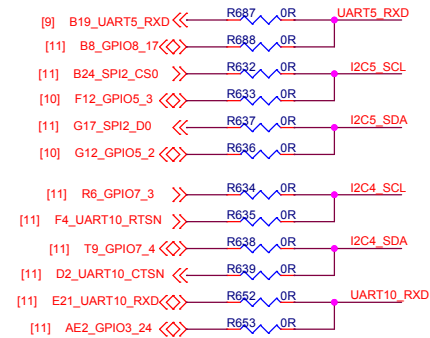
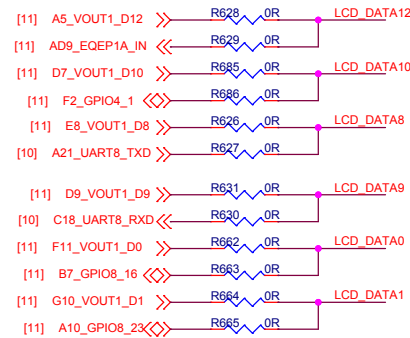
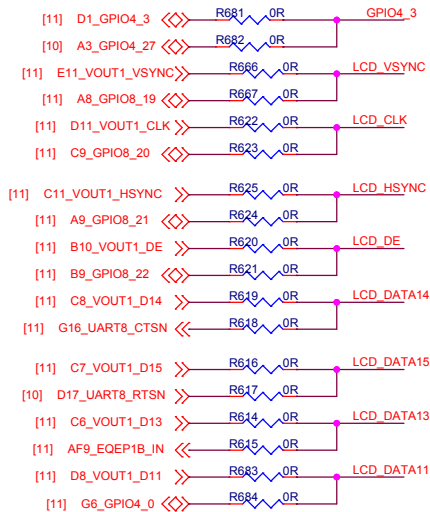
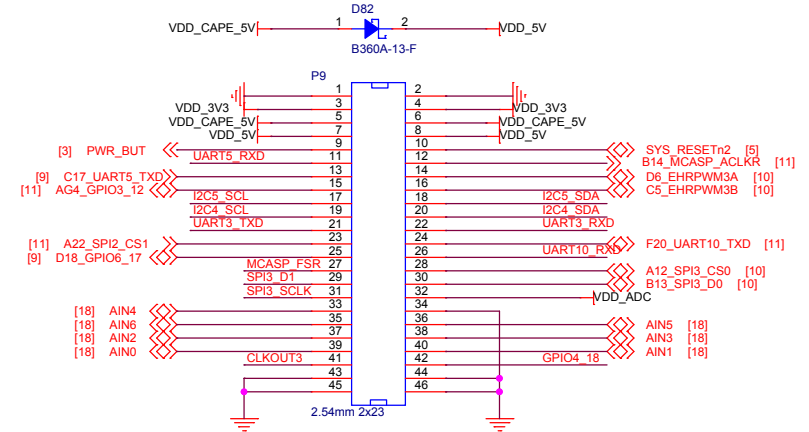
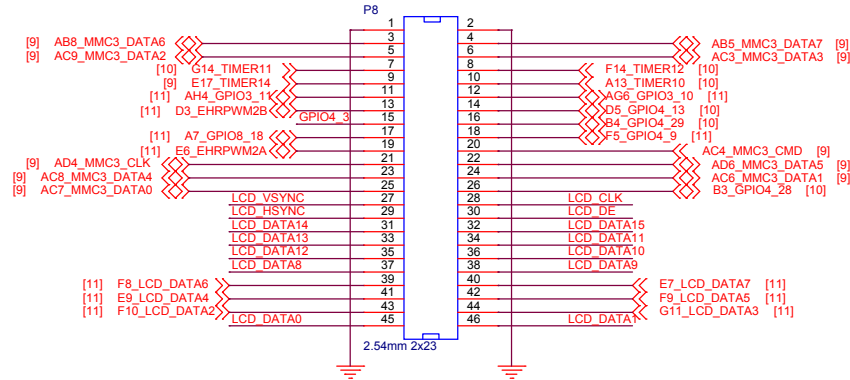
R97 R96 R92 R93 R94 R95 Should close to Transmitter(AM572x U4 Side)

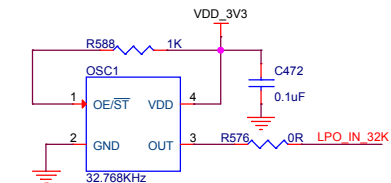
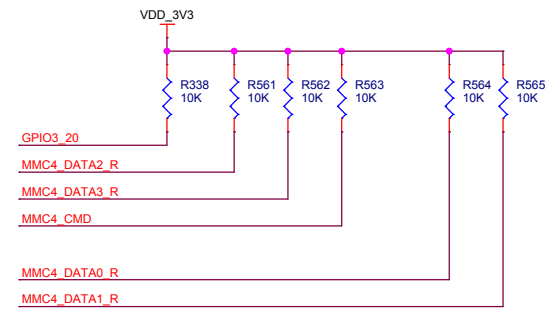
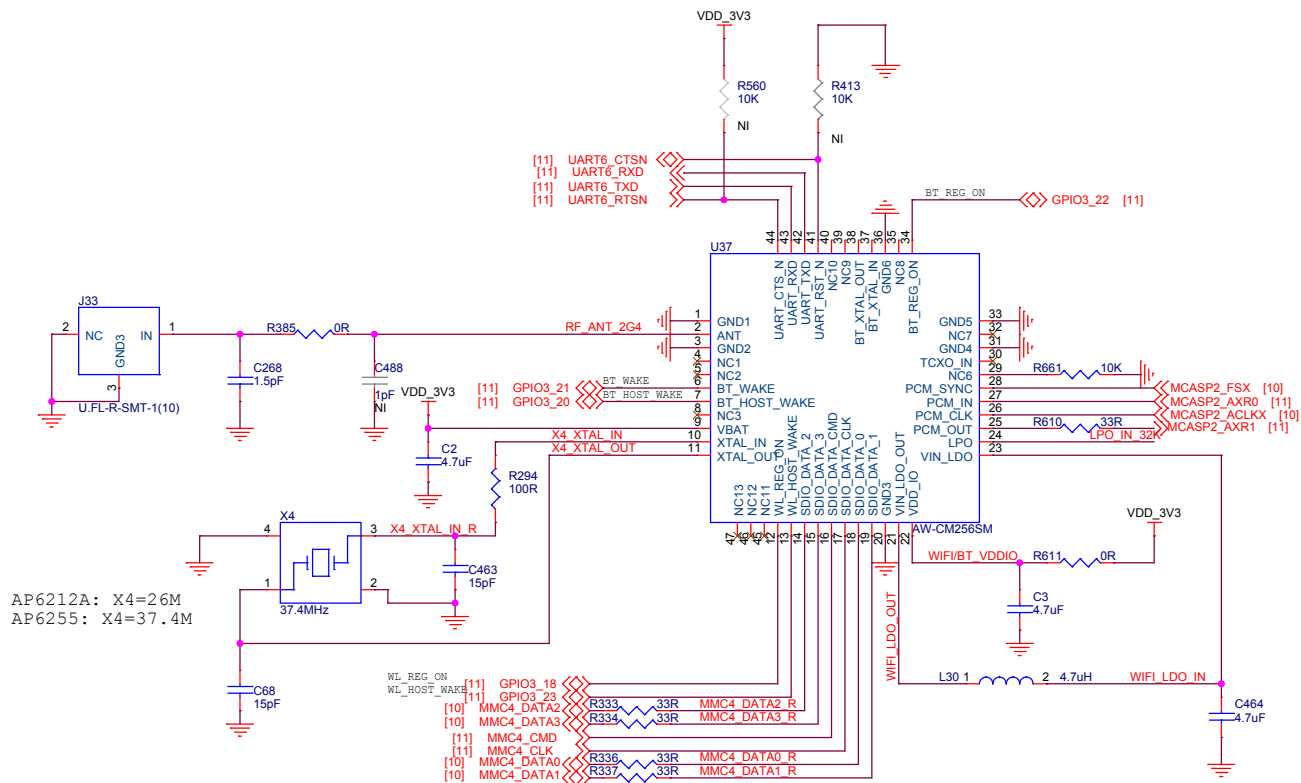






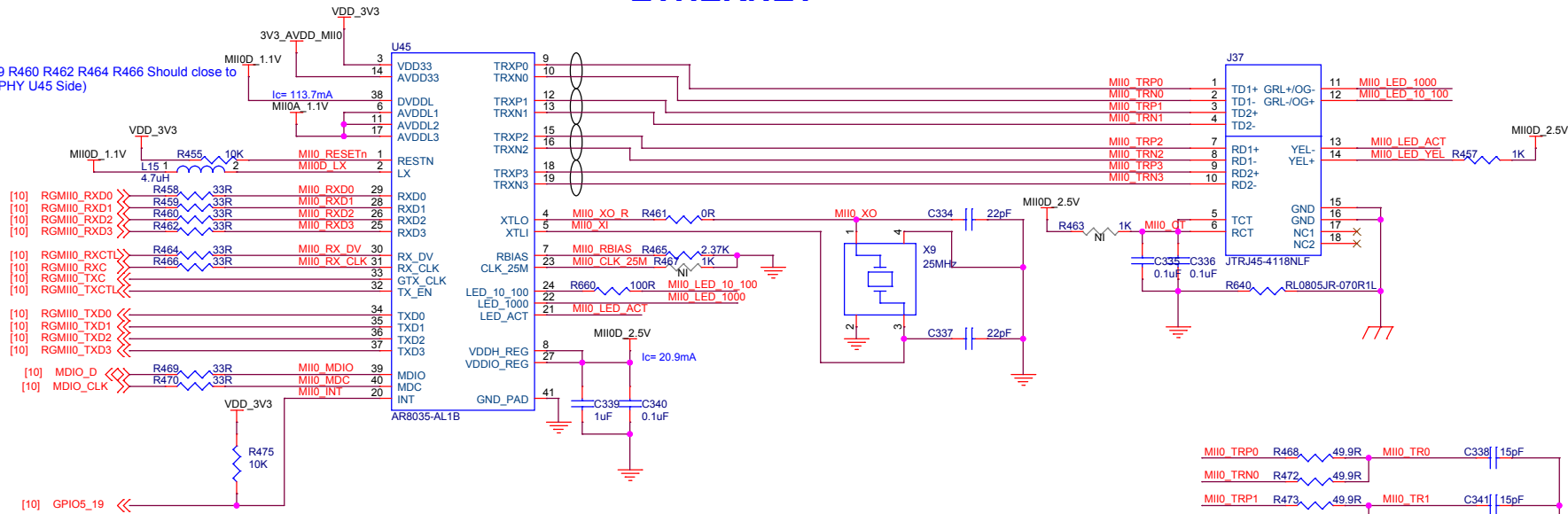
Exp Connect



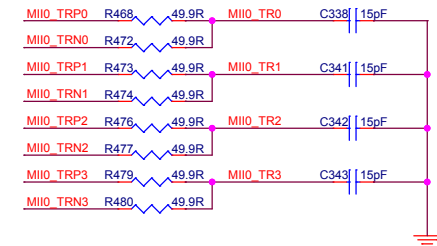
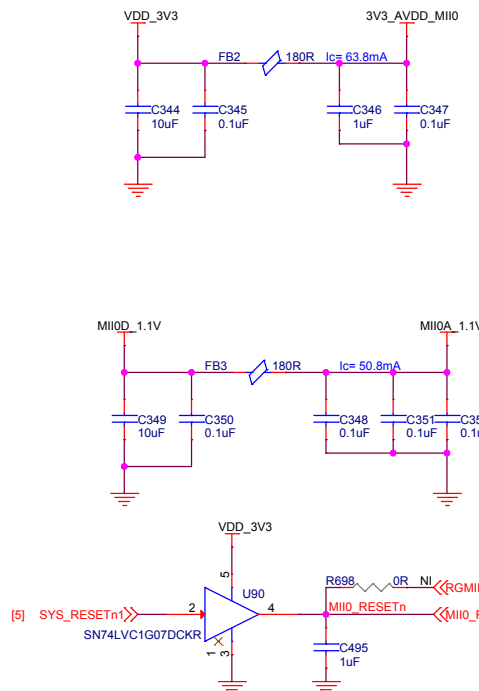
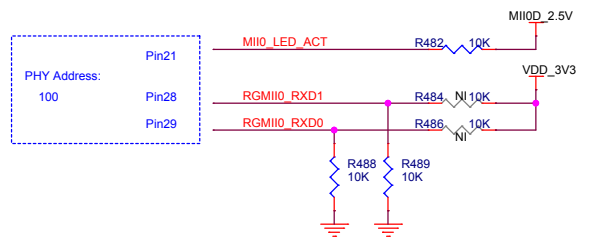
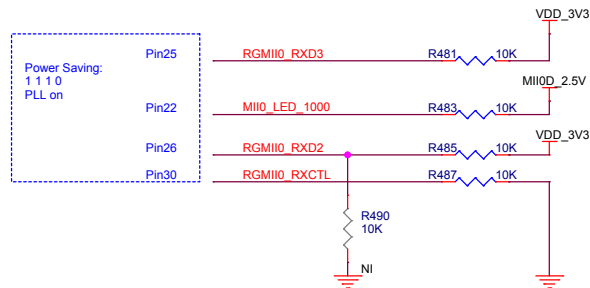


ETHERNET

R458 R459 R460 R462 R464 R466 Should close to Receiver.(PHY U45 Side)



Strapping Options:



3.6 Power Pin Consumption

Table 3-12. Power Pin Characteristic

Symbol	Voltage Range	Current
AVDDL	1.1V ±5%	50.8 mA
DVDDL	1.1V ±5%	113.7 mA
AVDD33	3.3V ±5%	63.8 mA
VDDIO_REG	Connect VDDH_REG 2.5V	20.9 mA

NOTE: Data for components selection and layout guide

PHY Pin	PHY Core Config Signal	Description	Default Internal Weak Pull-up/Pull-down
EXD0	PHYADDRESS0	LED_ACT: BSEDT0 sets the lower three bits of the physical address. The upper two bits of the physical address are set to the default '00'.	0
EXD1	PHYADDRESS1		0
LED_ACT	PHYADDRESS2		1
EXD2	MODE0	mode select bit 0	0
EXD3	MODE1	mode select bit 1	0
LED_1000	MODE2	mode select bit 2	1
EXD4	MODE3	mode select bit 3	0
EXD5	MODE4	Select the RGMII/RMII I/O voltage level: 1: 1.8V I/O, 0: 1.5V I/O, 0/1: 2.5V I/O.	0

NOTE: 0=Pull-down, 1=Pull-up

NOTE: Power on strapping pins are latched during power-up reset or warm hardware reset.

NOTE: Some MAC devices input pins may drive high/low during power-up or reset. So PHY power on strapping status may be affected by the MAC side. In this case an external 10KΩ pull-down or pull-up resistor is needed to ensure a stable expected status.

NOTE: When using 2.5V RGMII I/O voltage level, RX_CLK can be pull-up or pull-down.

USB TYPE C

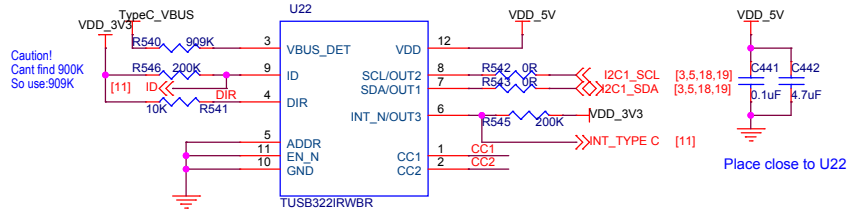
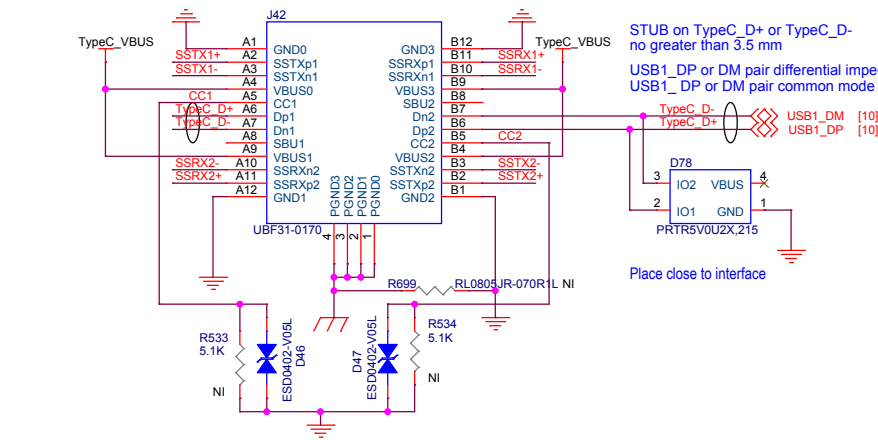
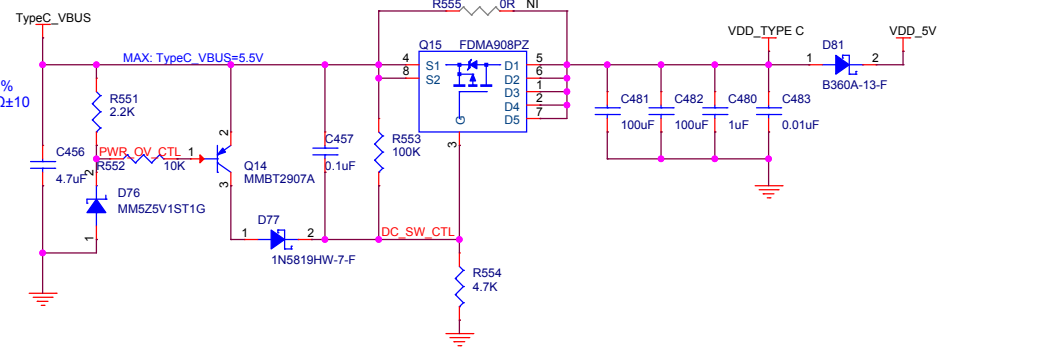
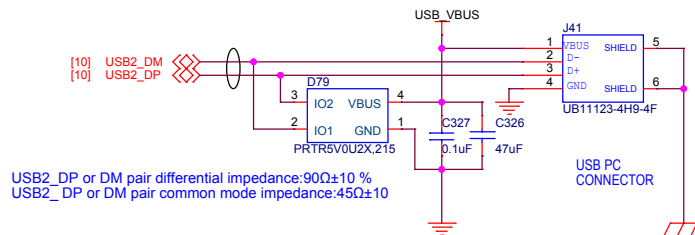


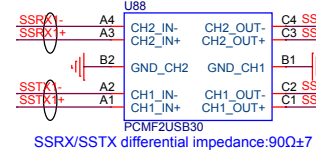
Table 5. TUSB322I I²C Addresses

		TUSB322I I ² C Target Address						
ADDR pin	Bit 7 (MSB)	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0 (W/R)
H	1	1	0	0	1	1	1	0/1
L	1	0	0	0	1	1	1	0/1

USB 2.0



All PCMF2USB30 place close to Interface



ADC

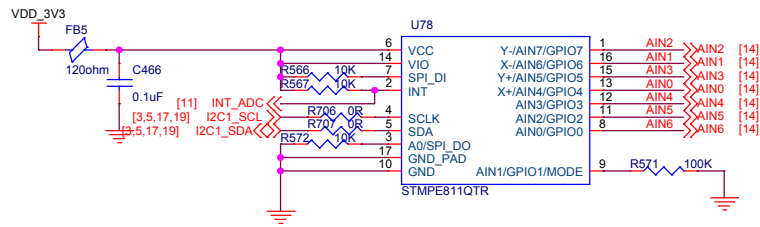
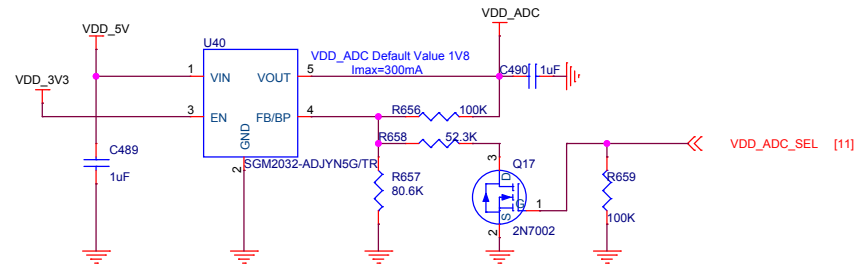
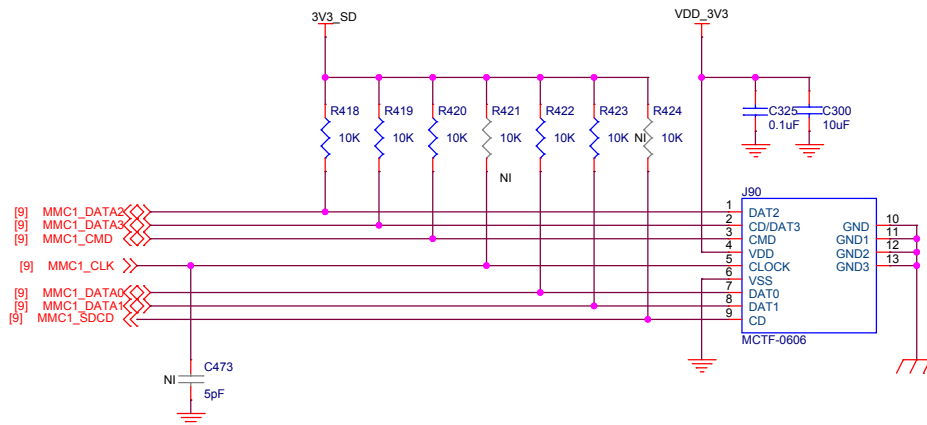


Table 6. I2C address

ADDR0	Address
0	0 x 82
1	0 x 88



MicroSD CARD



Debug

