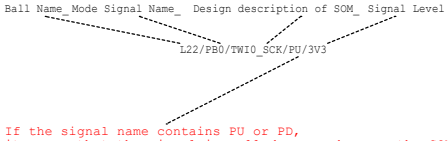
TLT113-MiniEVM

Revision History

Revision No	Description of Change	Author(s)	Date
A1.1-001	Modify the pin definition of the expansion port.	ZYH	2025/04/21
A1.1-001	1.Add DNP meaning description.	Quincy	2024/10/11
A1.1-001	1.Change C40 to DNP_100nF. 2.Change R33 to 10K.	ZRH	2024/03/13
A1.1-000	1.Delete J1 and D2(B5819W-SL), add J4. 2.Add D3(B5819WS-SL) and R31(0R), DNP U11.	Quincy	2023/05/17
A1.0-000	Designed the Basic Circuit Function Base on Requirement of MiniEVM.	Quincy	2023/03/06

Naming Rules	
	If the component value contains DNP, it means Do Not Place.
	The blue dot frame with version number means that the circuit has been modified when the version has been upgraded.

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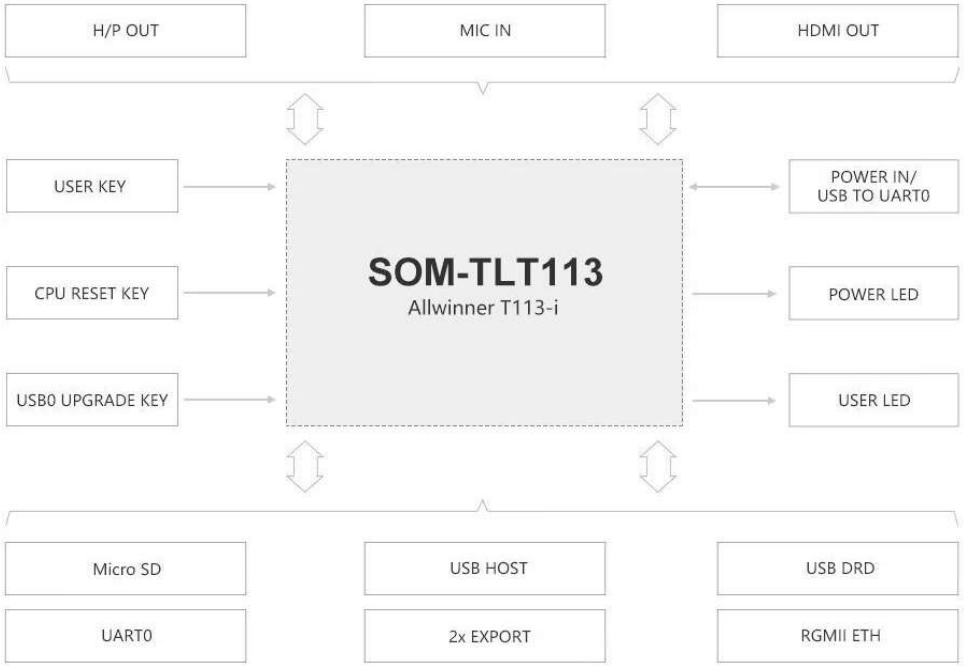
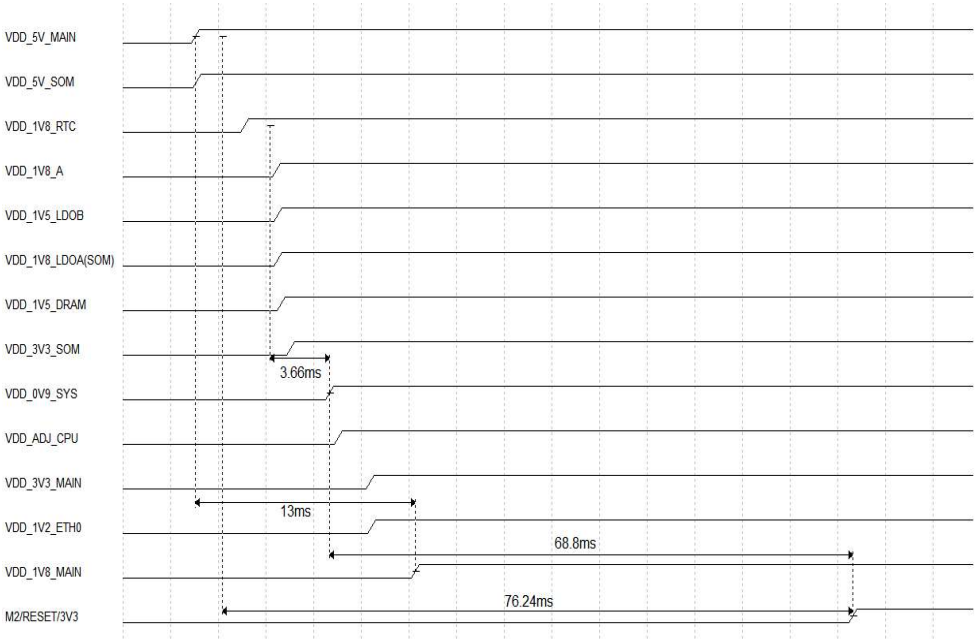
BLOCK DIAGRAM

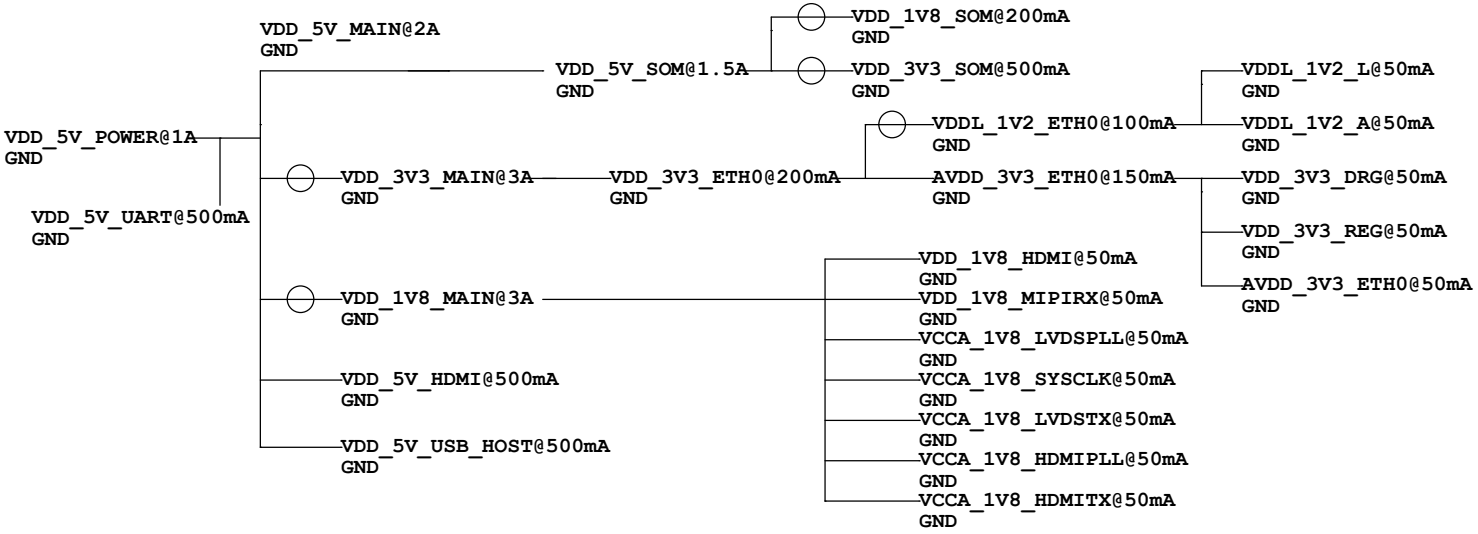


POWER SEQUENCE



Note:
The start signal of TLT113-MiniEVM power supply is VDD_ 3V3_ SOM.
The TLT113-MiniEVM REAETn needs to be pull up within 64ms after the Start signal starts.

POWER TREE



I2C ADDRESS

I2C2 ADDRESS	
WUSB3801Q-12/TR	ADDR:1100 000x (0x60)
LT8912B	ADDR:1001 000x (0x48)
	ADDR:1001 001x (0x49)
	ADDR:1001 010x (0x4A)

HDMI I2C	
HDMI	ADDR:1010 000x (0x50)

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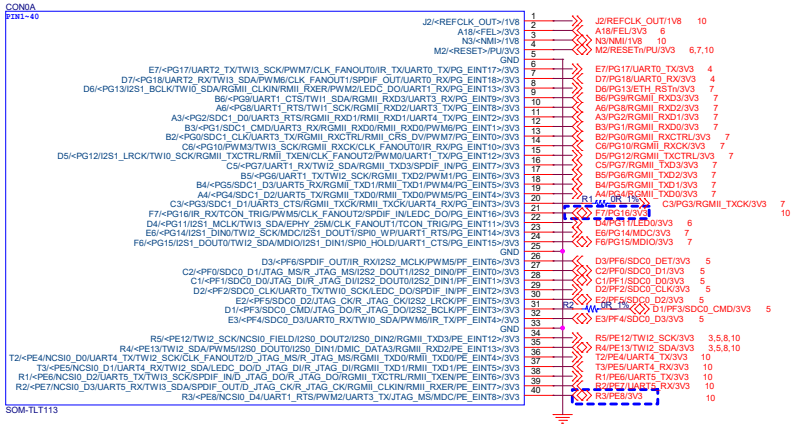
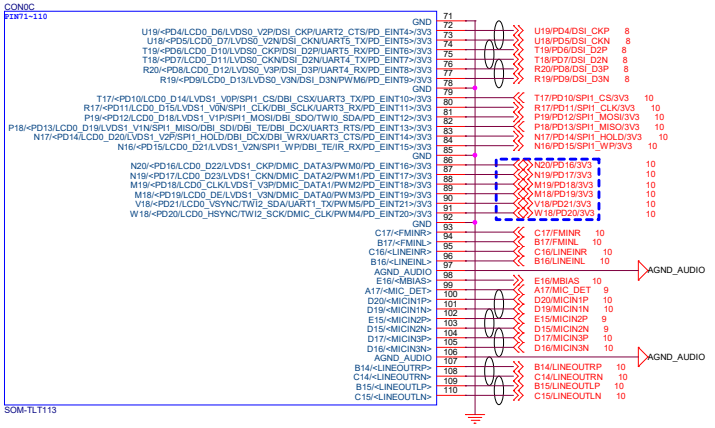
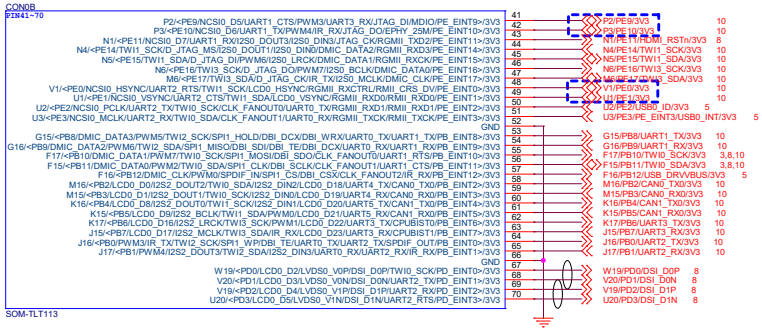
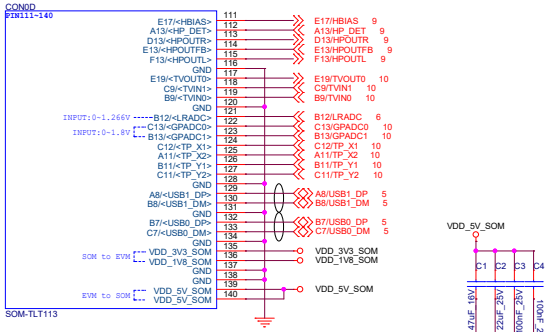
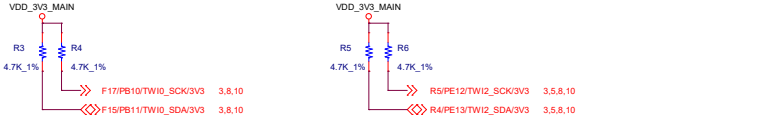
SOM CONNECTOR











NET	DIRECTION(For SOM)
VDD_5V_SOM	INPUT
VDD_3V3_SOM	OUTPUT
VDD_1V8_SOM	OUTPUT

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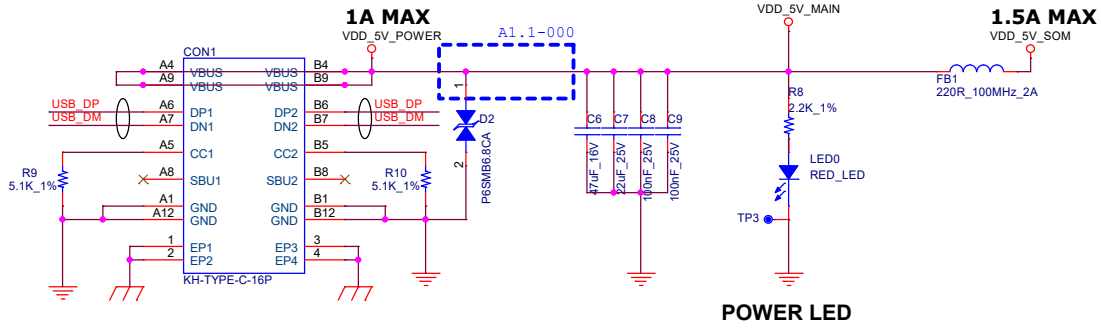
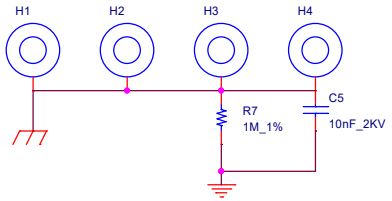
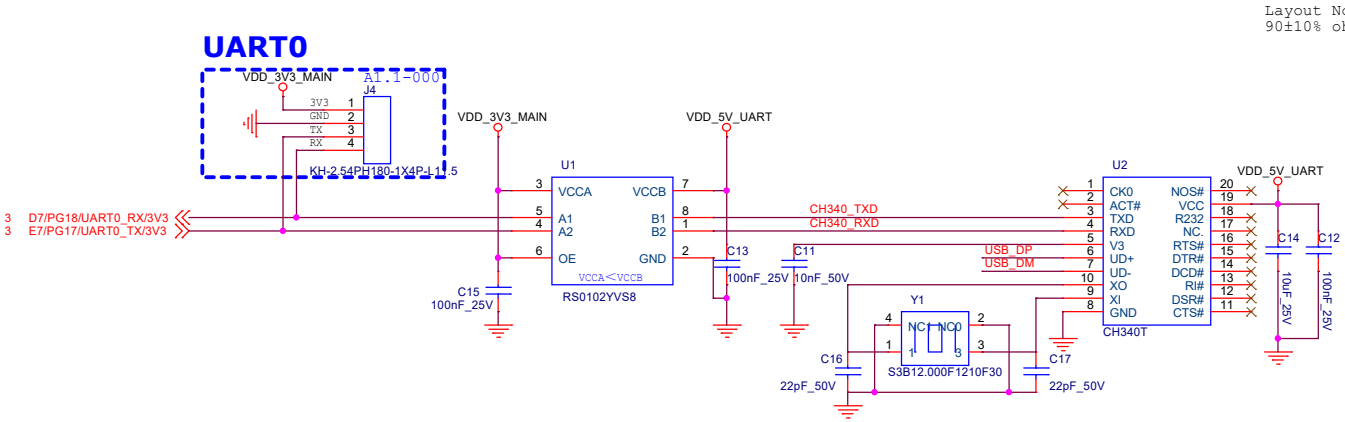
POWER IN/USB TO UART0



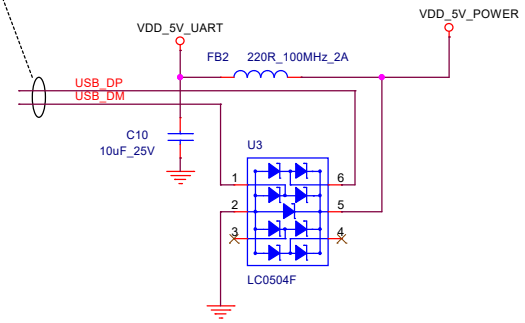
MOUNTING HOLE



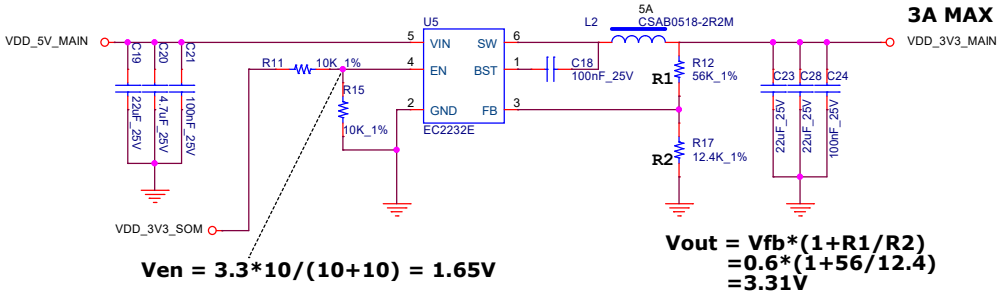
UART0



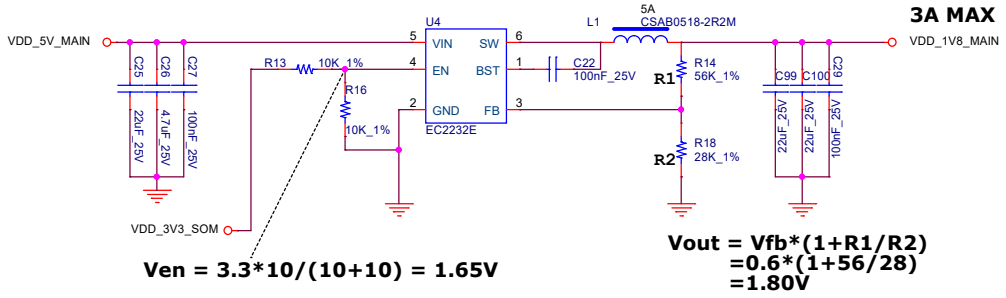
Layout Note:
90±10% ohm difference impedance



5V TO 3.3V



5V TO 1.8V



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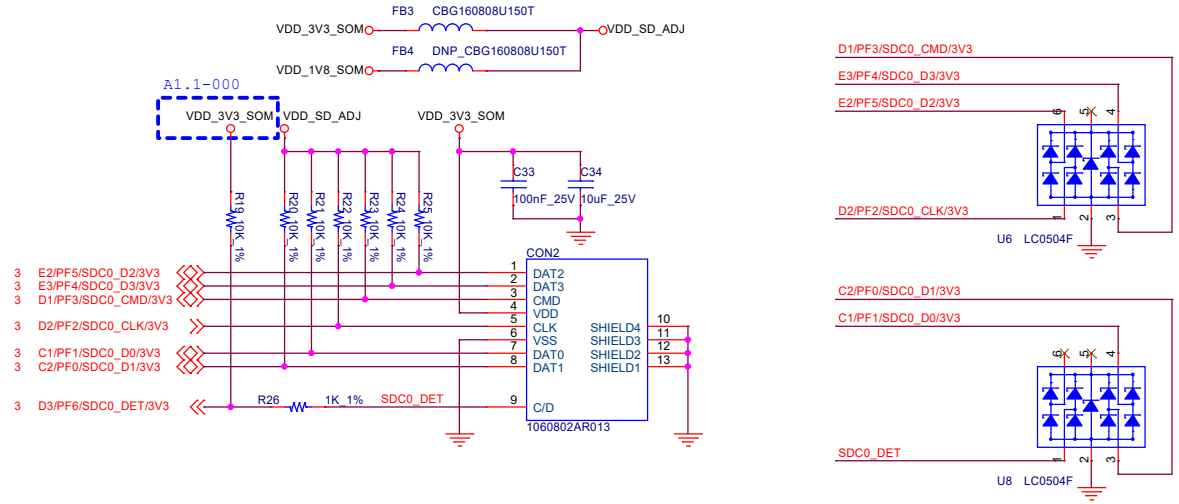
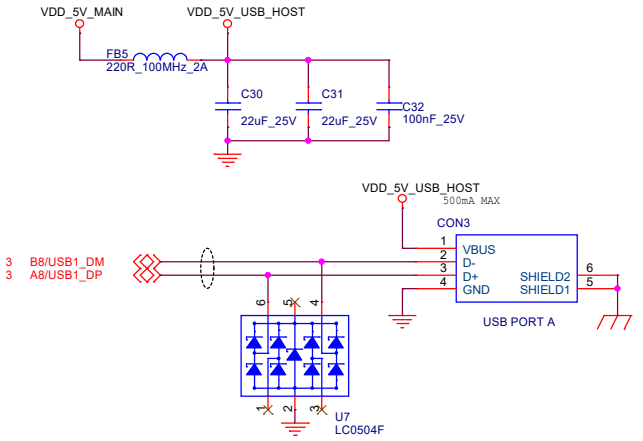
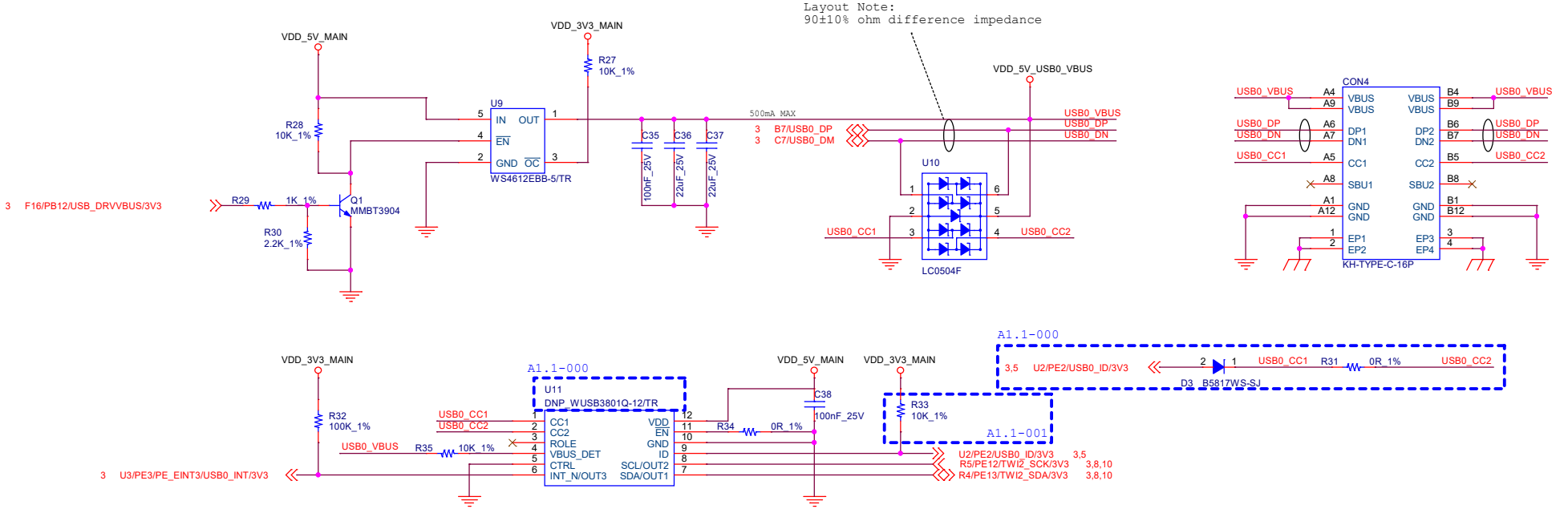
MICRO SD



USB1 HOST



USB0 DRD



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Title	MICRO SD/USB0 DRD/USB1 HOST
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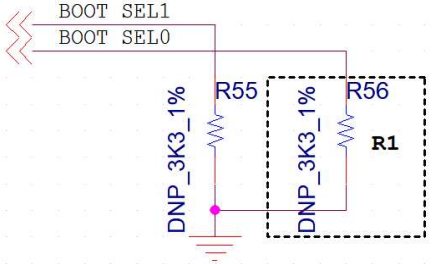
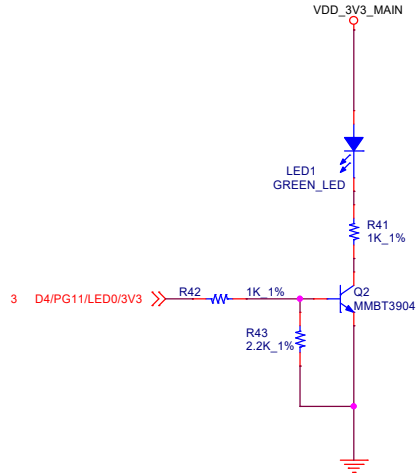
BOOT SET

BOOT SET has been configurated on SOM board;
BOOT MEDIA will auto adjust by the version of SOM board;
There is no need to make any setting on EVM board.

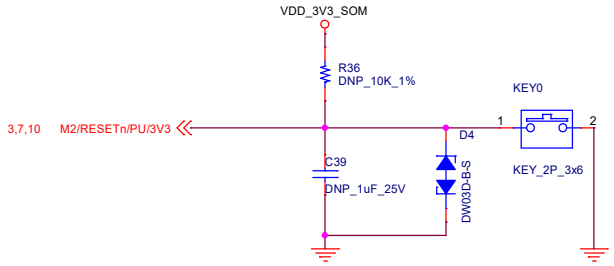


PC5~4(BOOT-SEL1~0)	BOOT MEDIA	R1
10	Micro SD-> SPI NAND	Mounted
11	Micro SD-> eMMC	DNP

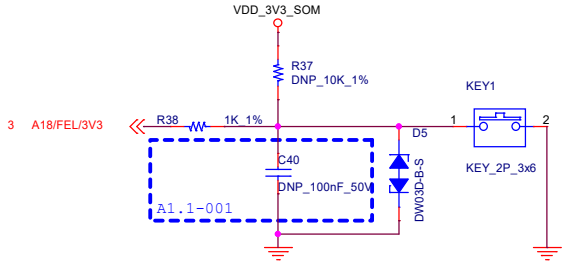
LED



KEY

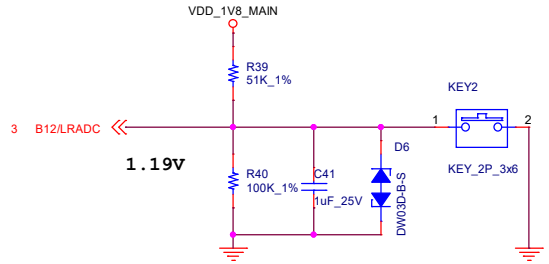


CPU RESET



USB0 UPGRADE

Press KEY1 to enter into the mandatory upgrade process



USER KEY

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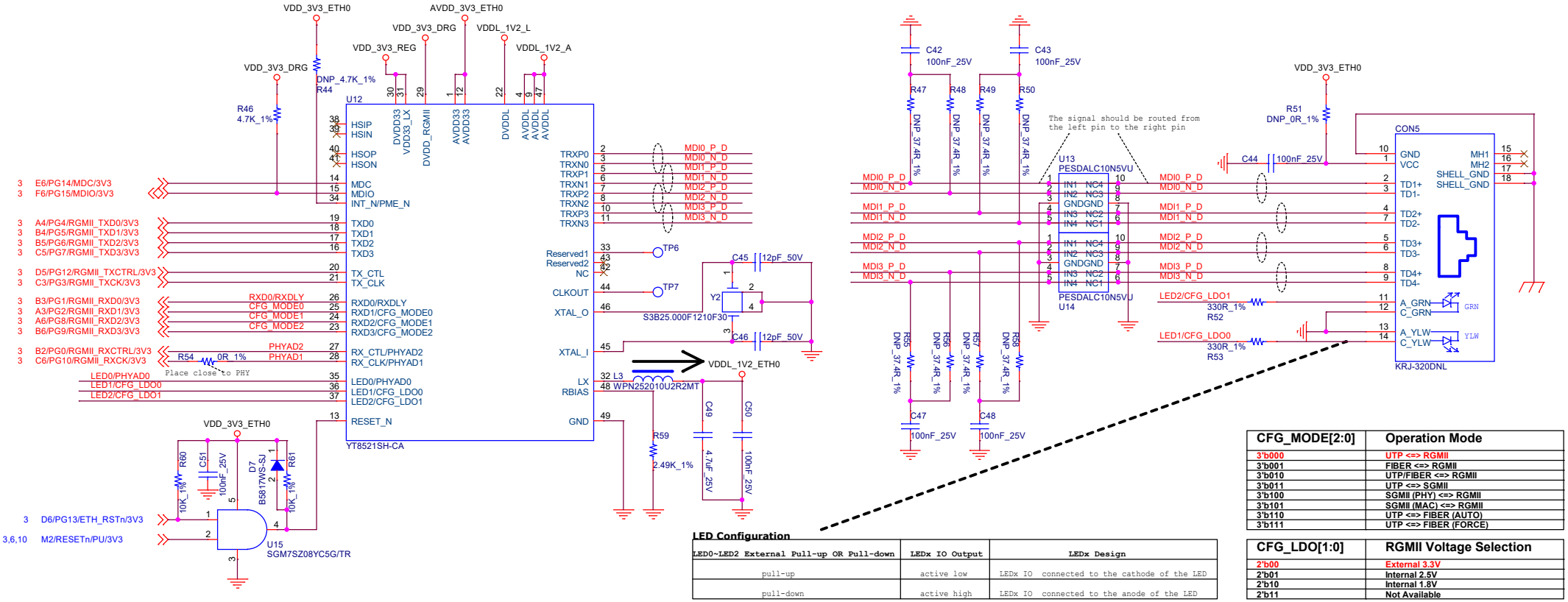
ETH0 (RGMII)

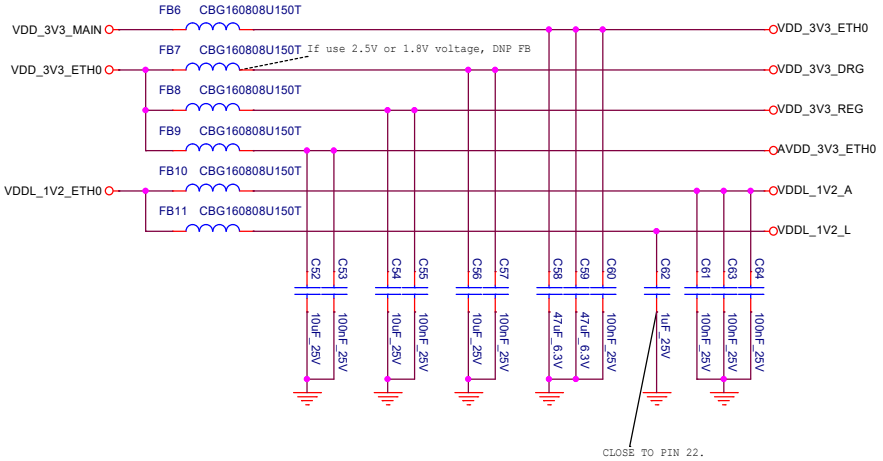


CFG_MODE[2:0]	Operation Mode
3'b000	UTP <=> RGMII
3'b001	FIBER <=> RGMII
3'b010	UTP/FIBER <=> RGMII
3'b011	UTP <=> SGMII
3'b100	SGMII (PHY) <=> RGMII
3'b101	SGMII (MAC) <=> RGMII
3'b110	UTP <=> FIBER (AUTO)
3'b111	UTP <=> FIBER (FORCE)

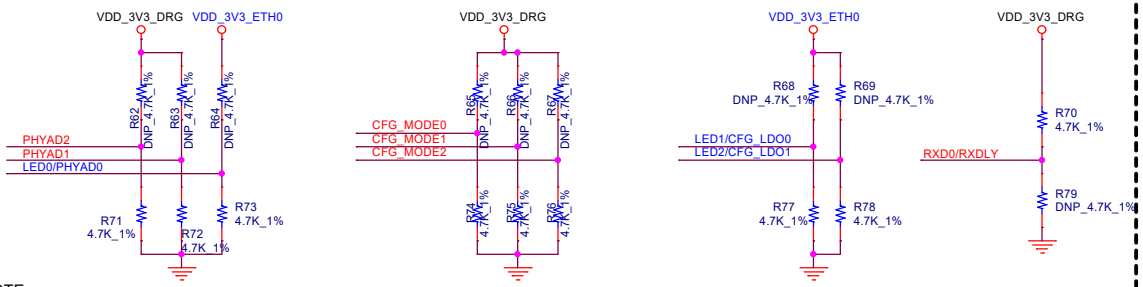
LED Configuration

LED0~LED2 External Pull-up OR Pull-down	LEDx IO Output	LEDx Design
pull-up	active low	LEDx IO connected to the cathode of the LED
pull-down	active high	LEDx IO connected to the anode of the LED

CFG_LDO[1:0]	RGMII Voltage Selection
2'b00	External 3.3V
2'b01	Internal 2.5V
2'b10	Internal 1.8V
2'b11	Not Available



RGMII PHY Address:00000



NOTE:

1. DVDD_RGMII（1.8V/2.5V/3.3V) Voltage Level: RGMII I/O（TXD3、TXD2、TXD1、TXD0、TX_CTL、TX_CLK、RXD3/CFG_MODE2、RXD2/CFG_MODE1、RXD1/CFG_MODE0、RXD0/RXDLY、RX_CTL/PHYAD2、RX_CLK/PHYAD1）,MDC、MDIO
2. 3.3V Voltage Level: LED0/PHYAD0、LED1/CFG_LDO0、LED2/CFG_LDO1、RESET_N

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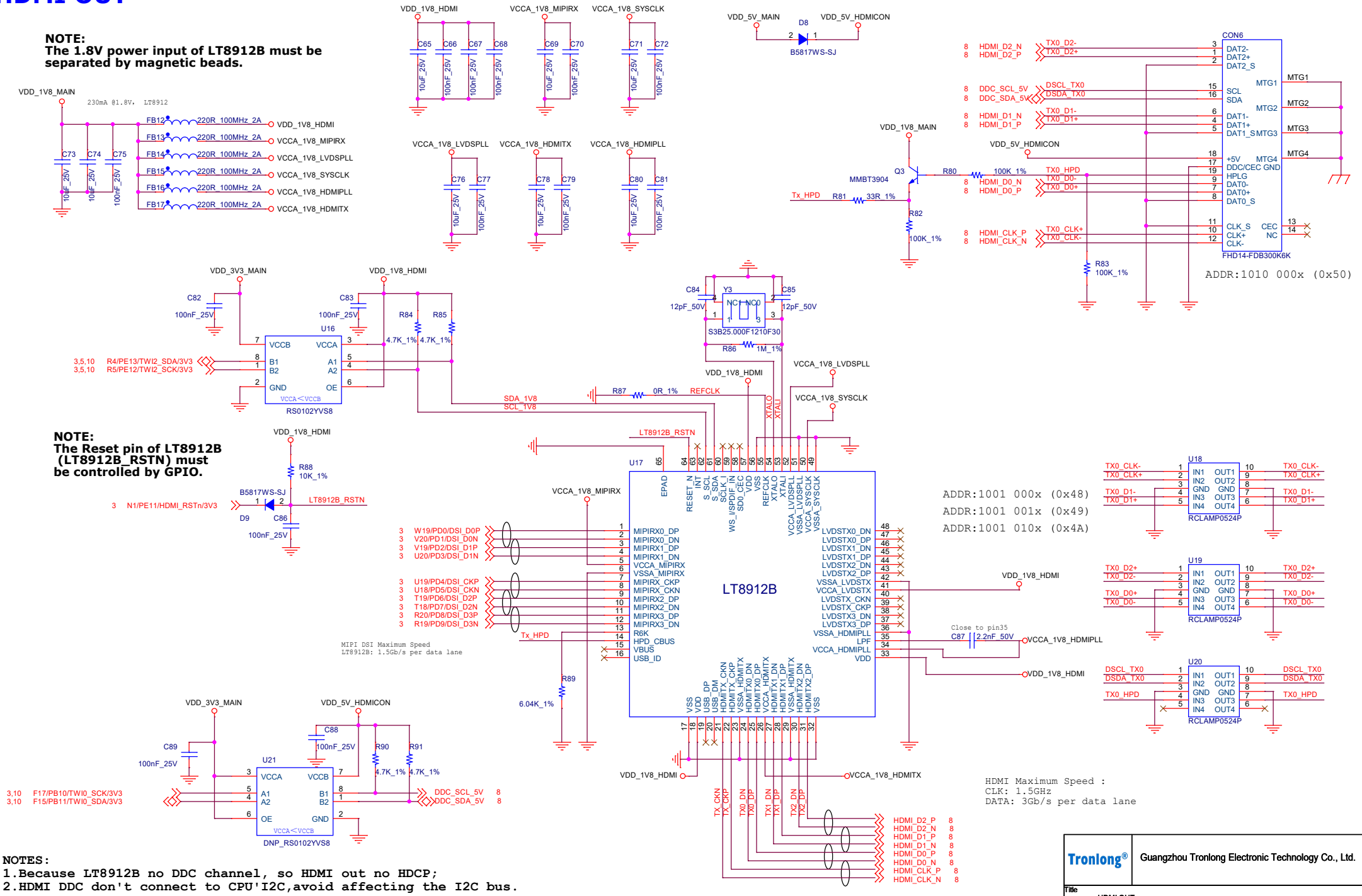
HDMI OUT

NOTE:
The 1.8V power input of LT8912B must be separated by magnetic beads.



NOTE:
The Reset pin of LT8912B (LT8912B_RSTN) must be controlled by GPIO.

NOTES:
1.Because LT8912B no DDC channel, so HDMI out no HDCP;
2.HDMI DDC don't connect to CPU'I2C,avoid affecting the I2C bus.

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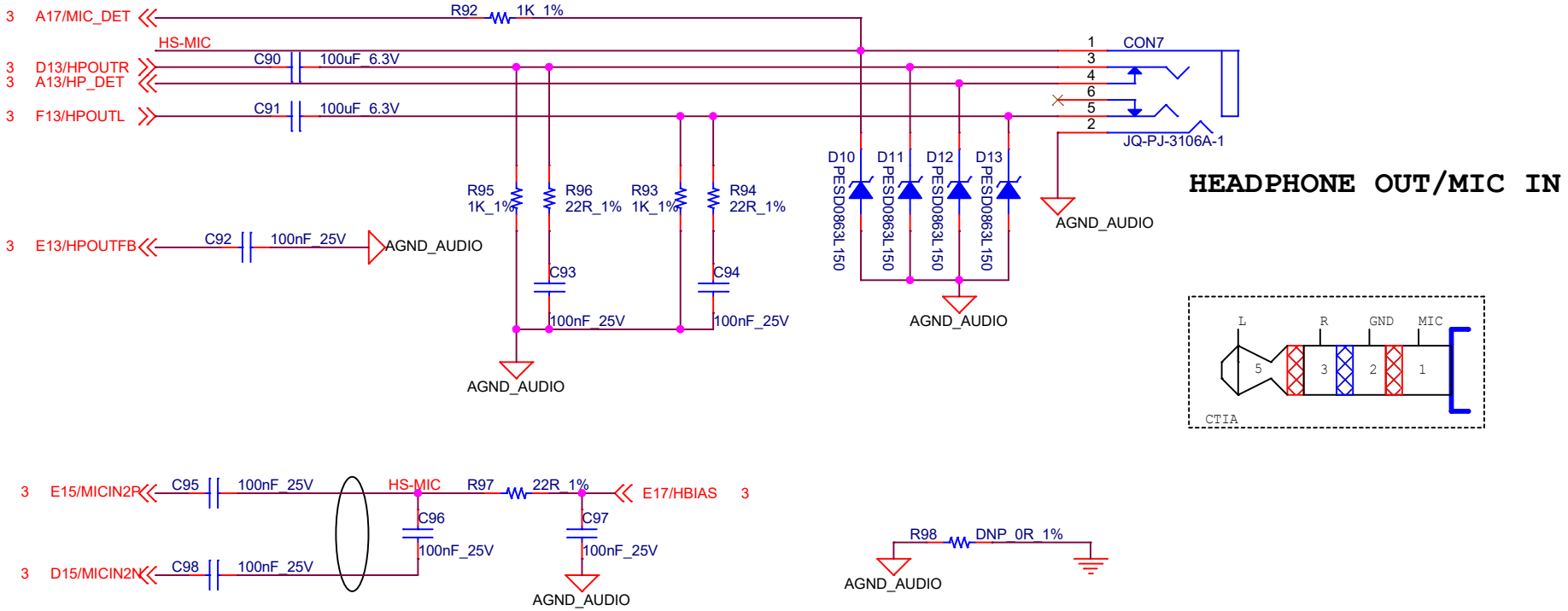
HP OUT/MIC IN



Tronlong®	Guangzhou Tronlong Electronic Technology Co., Ltd.
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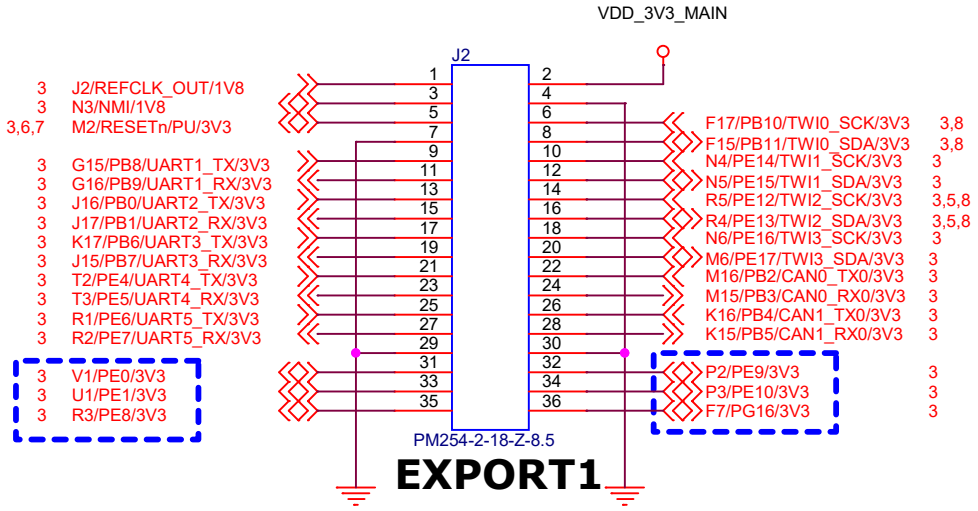
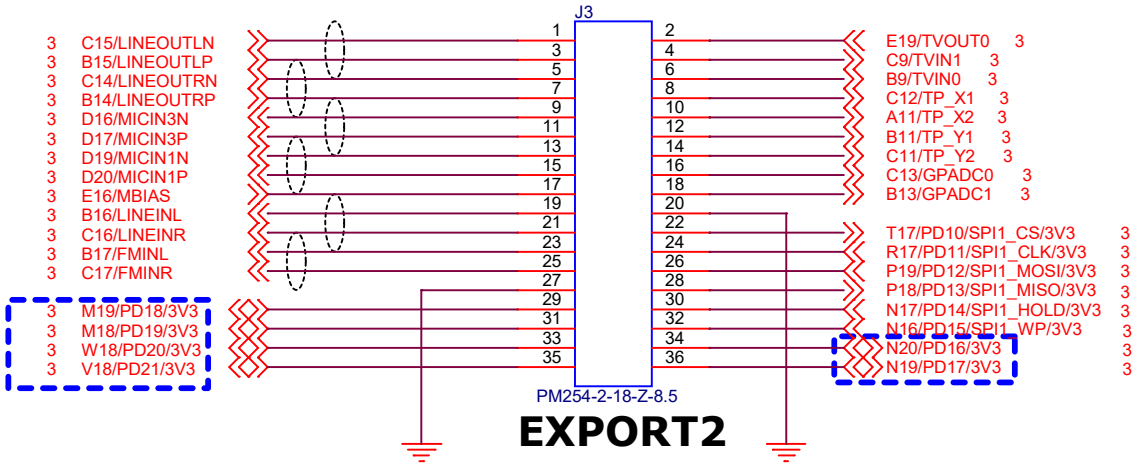
EXPORT





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