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Block Diagram

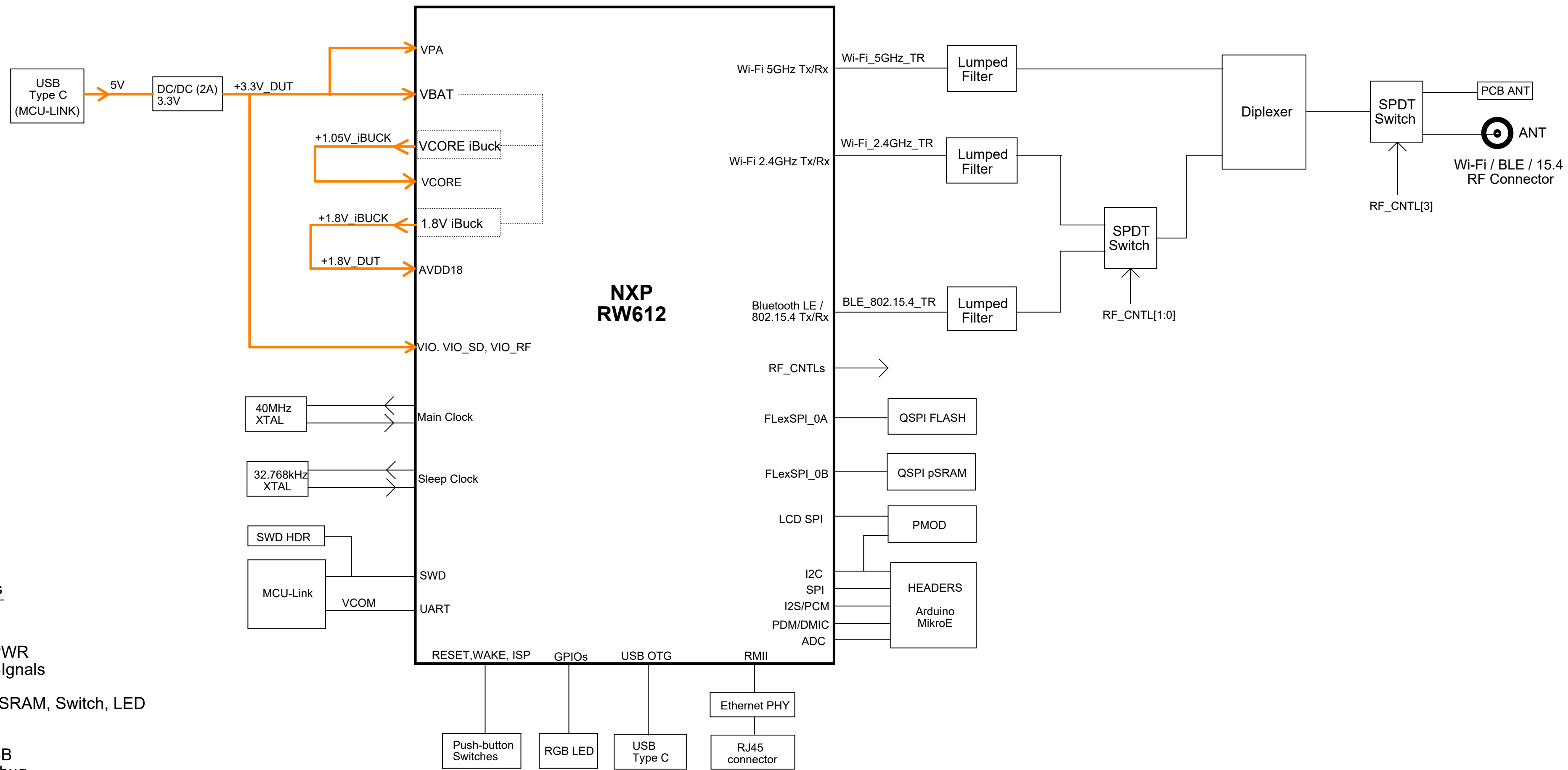


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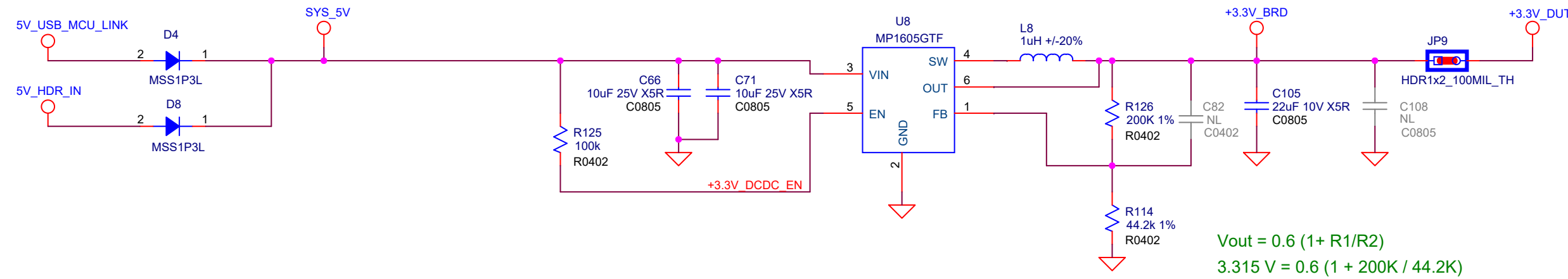
FRDM-RW612

Wireless MCU with Integrated Tri-radio Wi-Fi 6 +
Bluetooth Low Energy 5.4 / 802.15.4 (RW612)

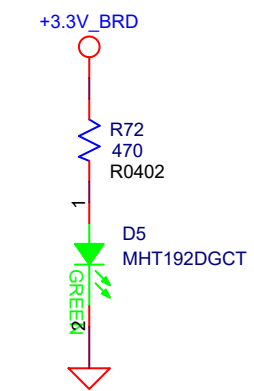
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POWER

3.3V DC-DC

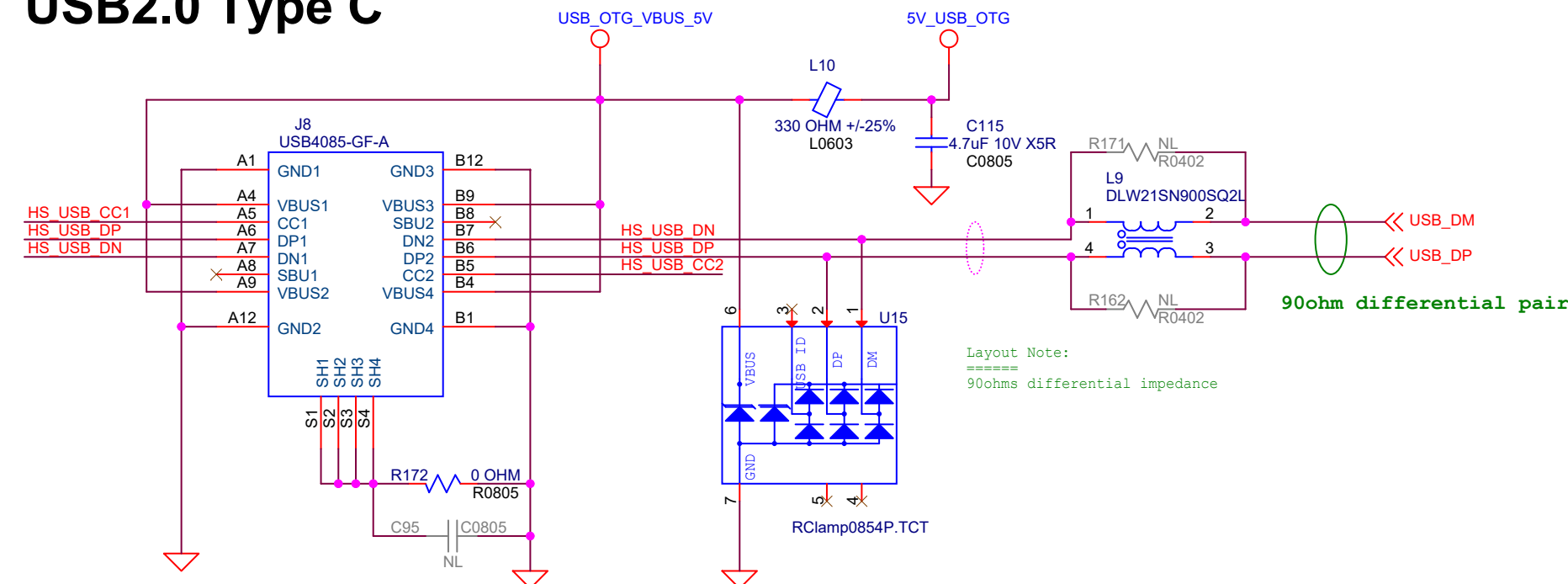


POWER LED

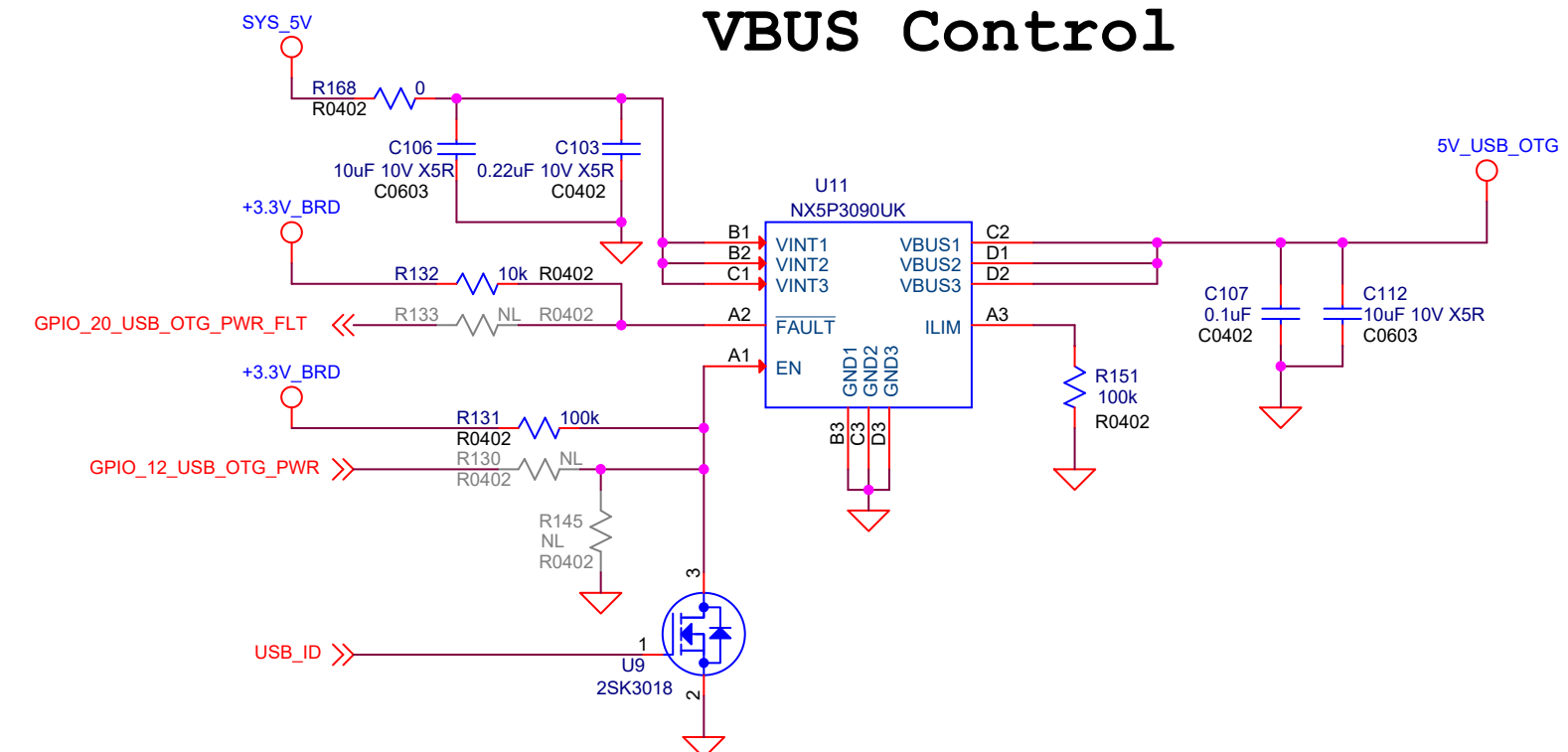


USB_OTG HIGH SPEED

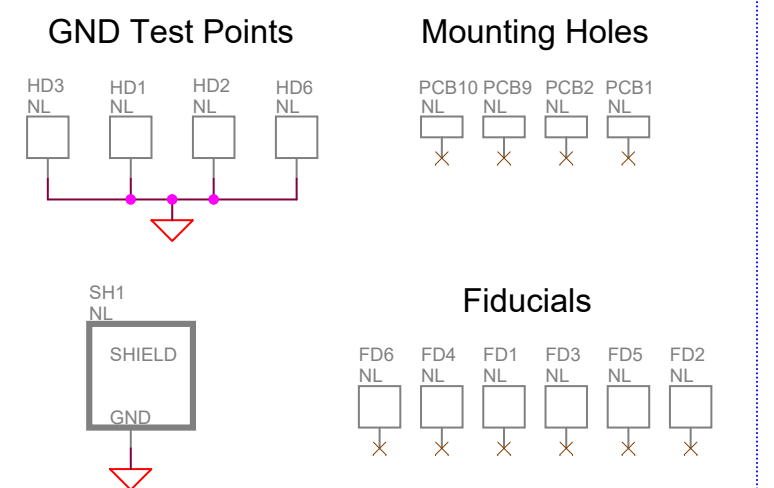
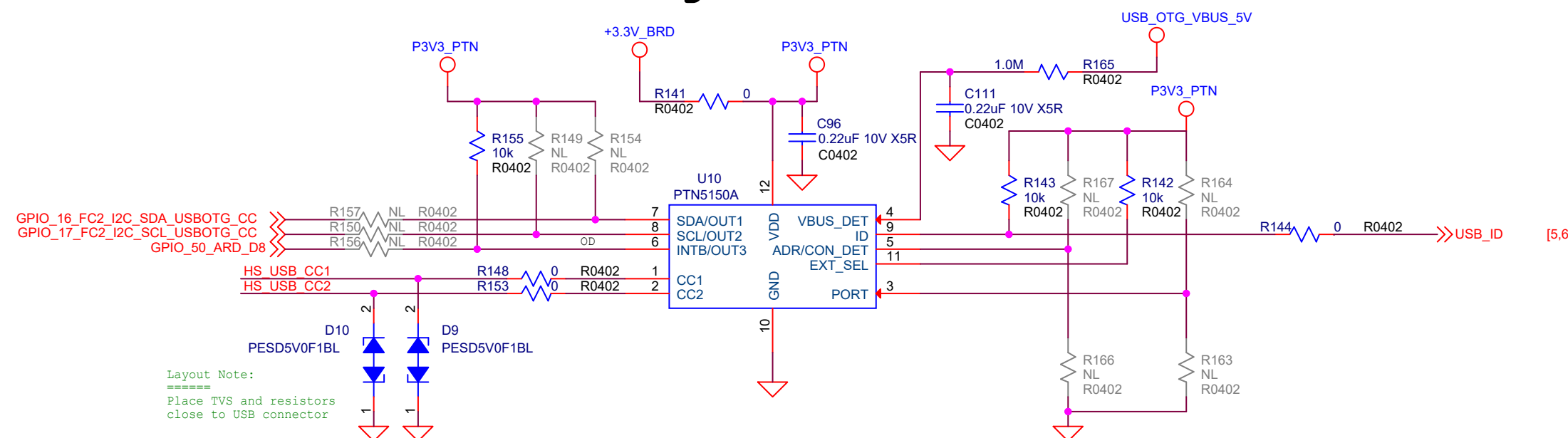
USB2.0 Type C



VBUS Control



CC Logic Control



ADR/CON_DET:
When Power-up, ADR(input) function:
ADR=1: I2C Address: 0x7A(ADR)
ADR=0: I2C Address: 0x3A(ADR)
ADR=MID/FLOATING(Pin 6/7/8) configured as OUT1/2/3 in non-I2C mode

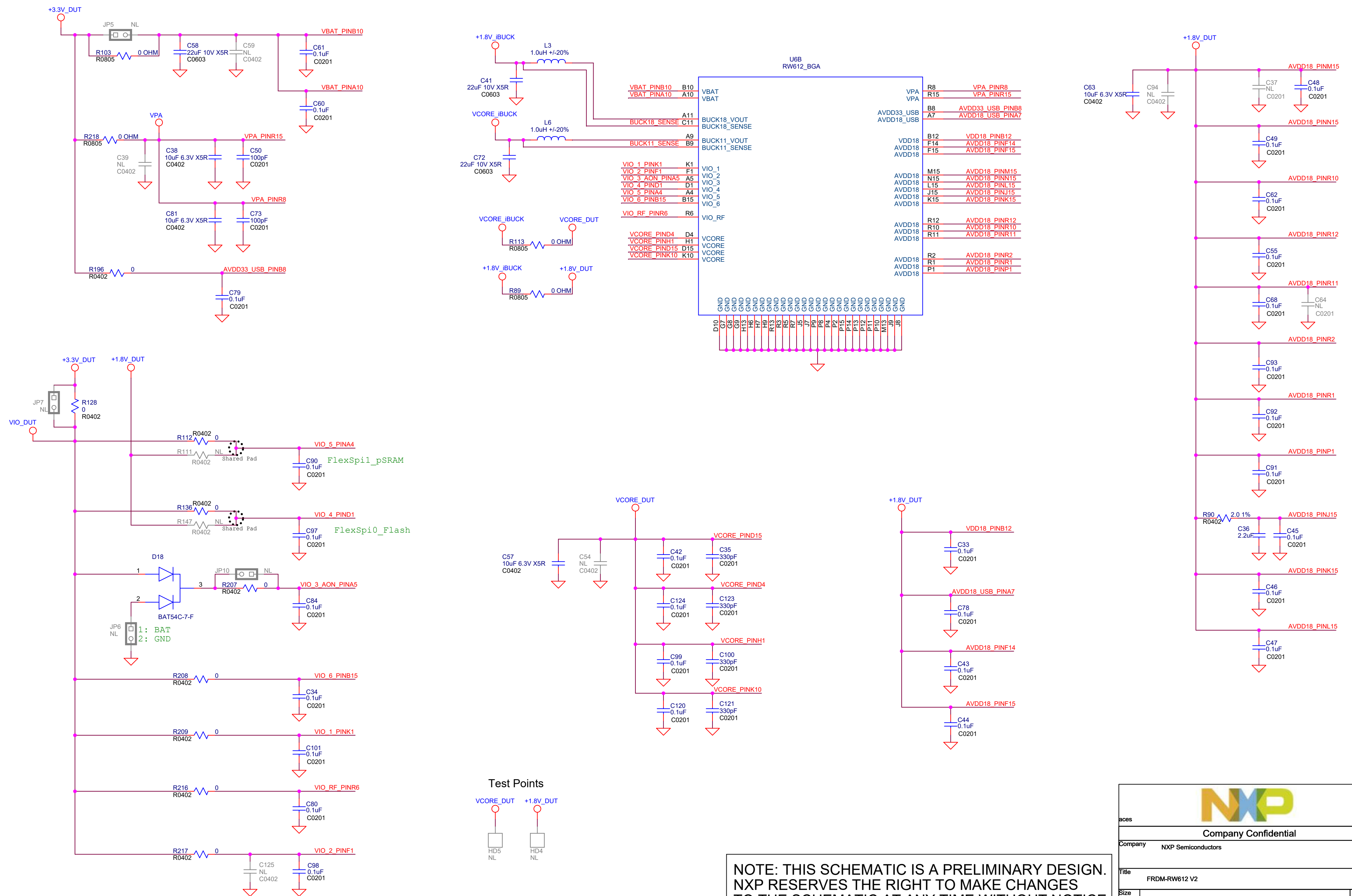
EXT_SEL: External selection
High = CC1 orientation or no valid CC1/CC2 detection
Low = CC2 orientation

After TINPUTLATCH, CON_DET(output) function:
CON_DET=1: Connection Detected
CON_DET=0: No Connection

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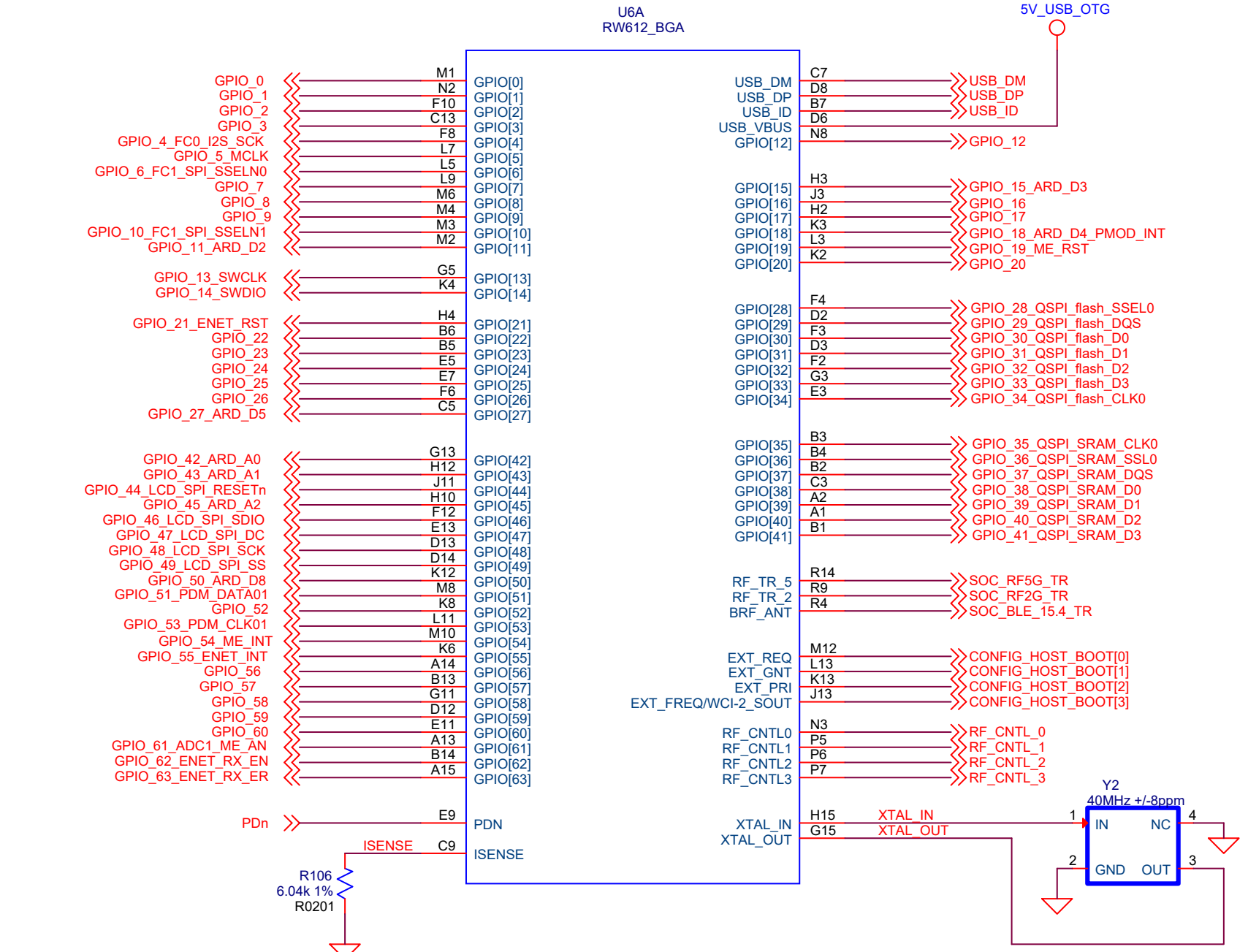
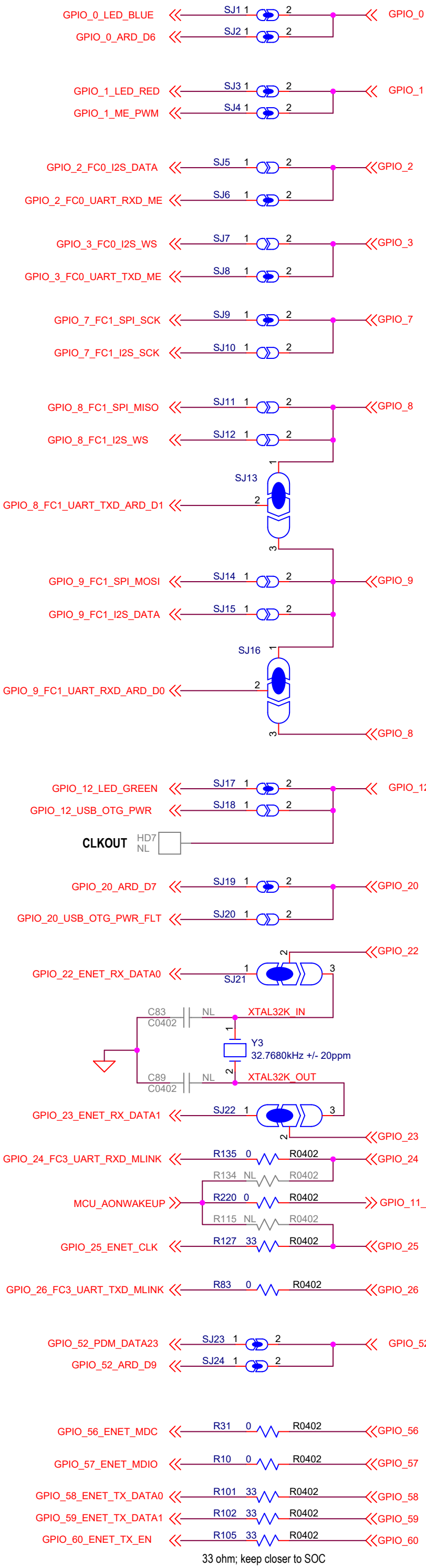
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RW612 SOC Power

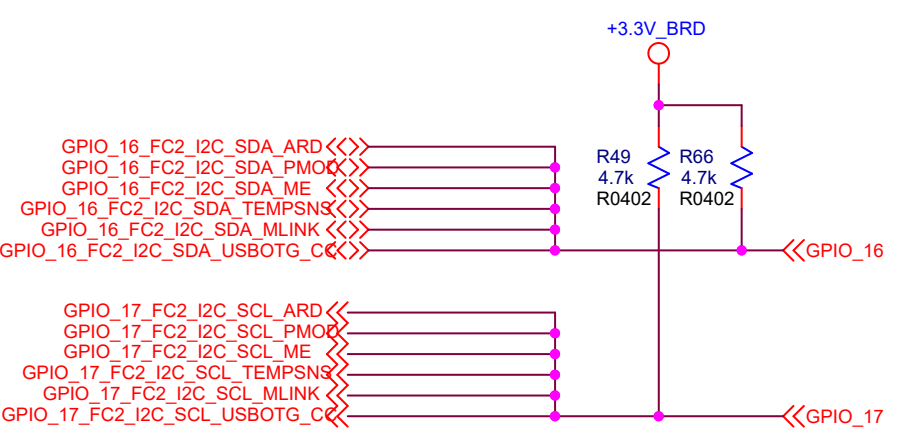


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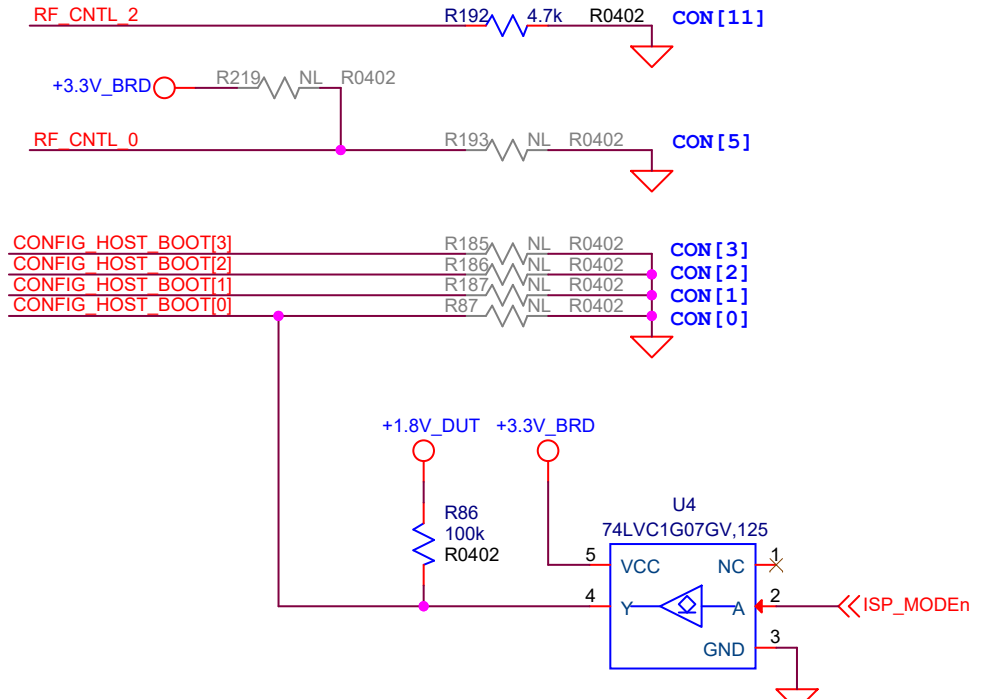
RW612 SOC Signals



Reference Clock
40MHz XTAL



STRAP CONFIG



STRAP/CONFIG TABLE

CON	FUNCTION
[11]	CONFIG_DAP_USE_JTAG : RF_CNTL2 1 : DAP uses JTAG (default) 0 : DAP uses SWD
[5]	CONFIG_XOSC_SEL: RF_CNTL0 1 : 40 MHz (Default) 0 : 38.4 MHz
[3:0]	CONFIG_HOST_BOOT[3:0] : EXT_FREQ, EXT_PRI, EXT_GNT, EXT_REQ
	CON[3:0]
	1111 Boot from QSPI Flash (Default)
	1110 ISP boot (UART/I2C/SPI/USB)
	1101 Serial boot (UART/I2C/SPI/USB)
	1100 ISP boot (SDIO)
	1011 Serial boot (SDIO)
	1010 Reserved

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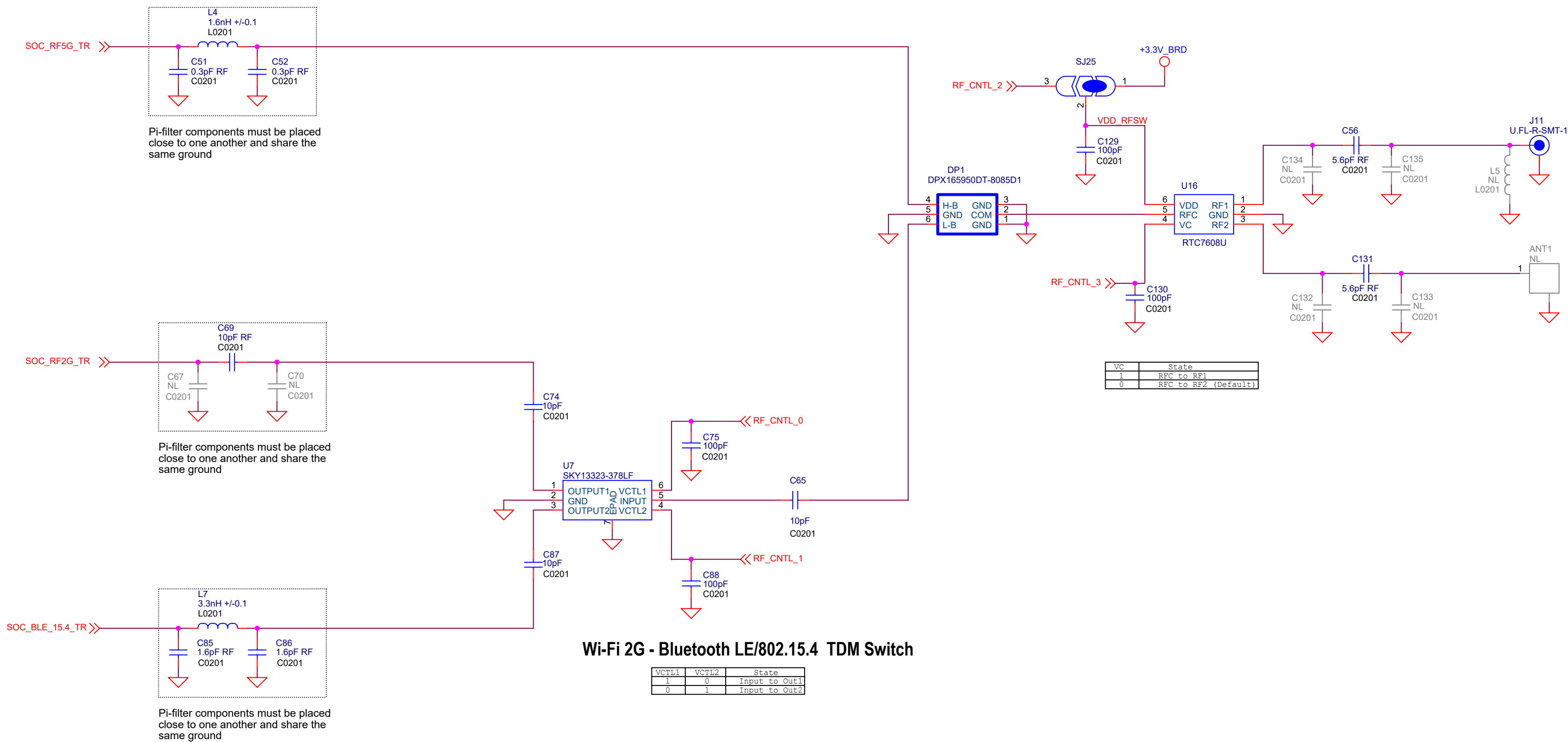
Size C

Date Sunday, August 25, 2024

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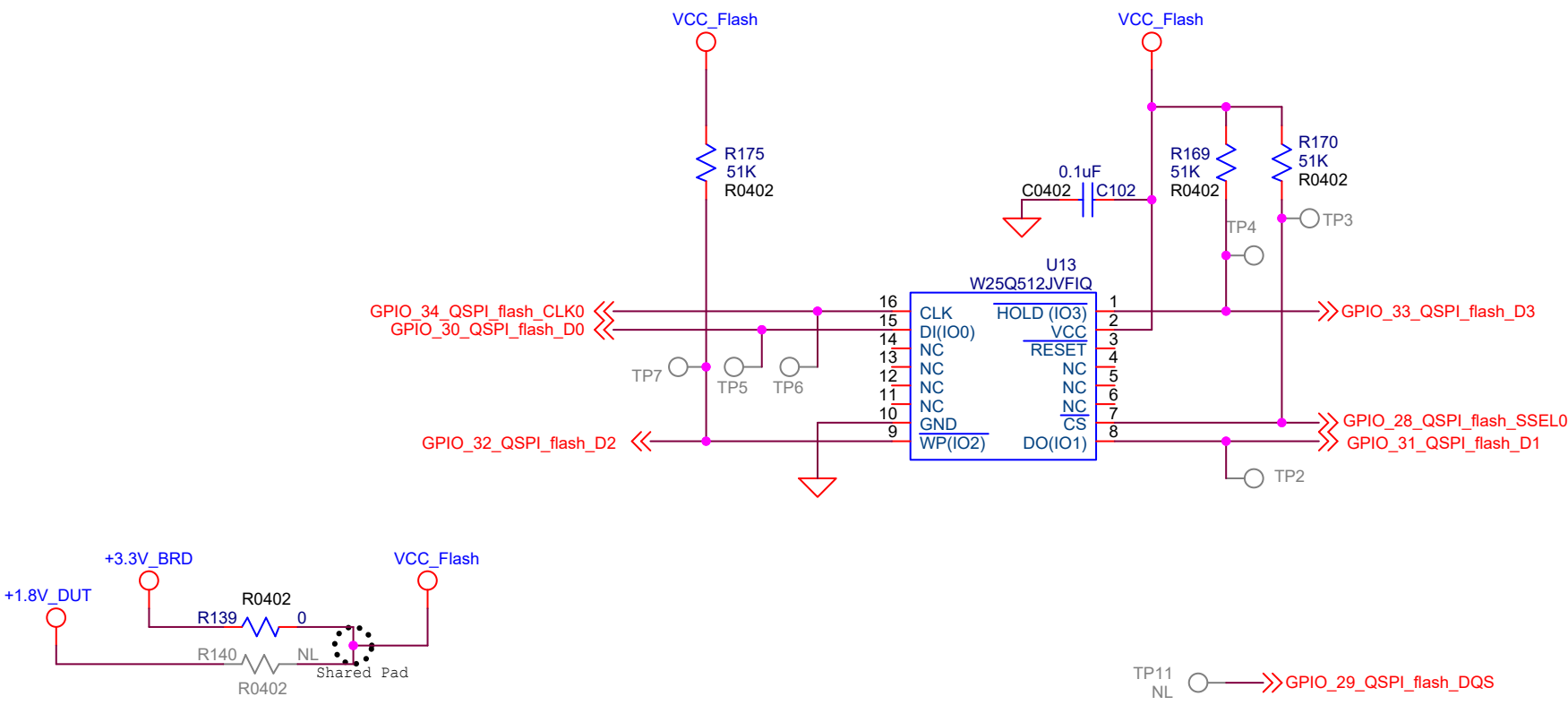
Rev 1

RF Front End

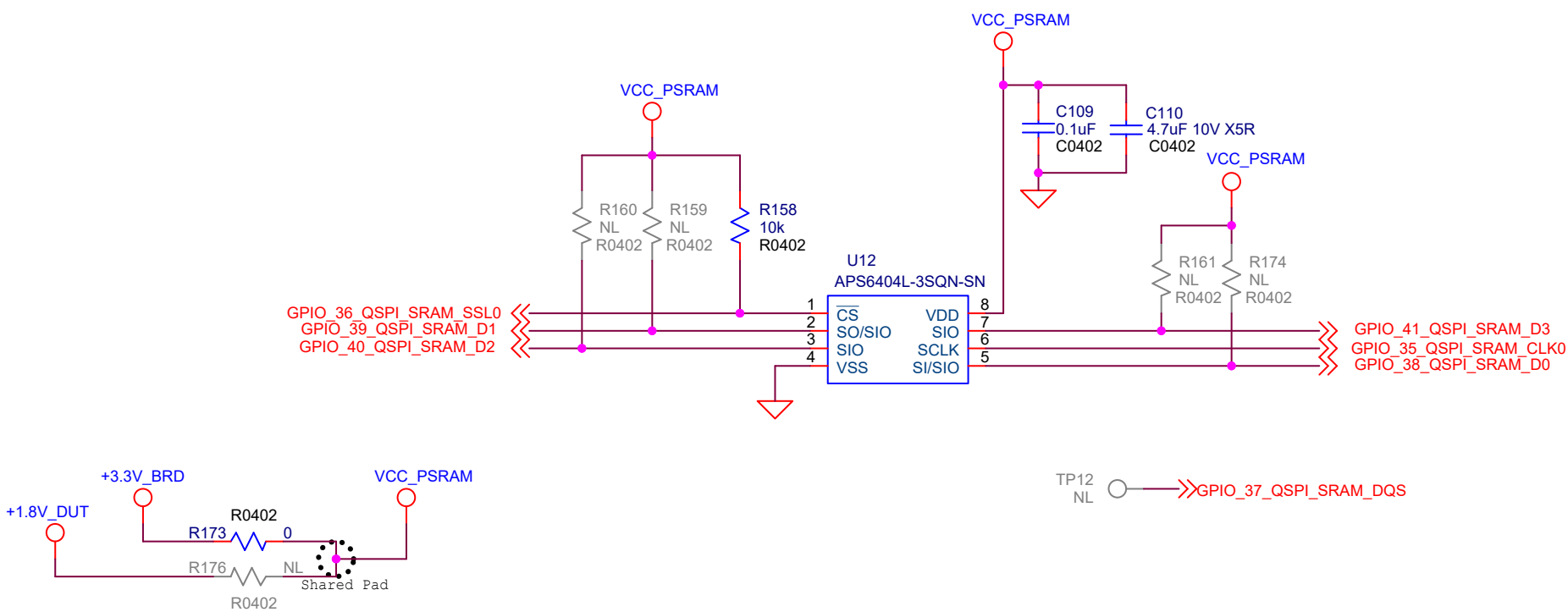


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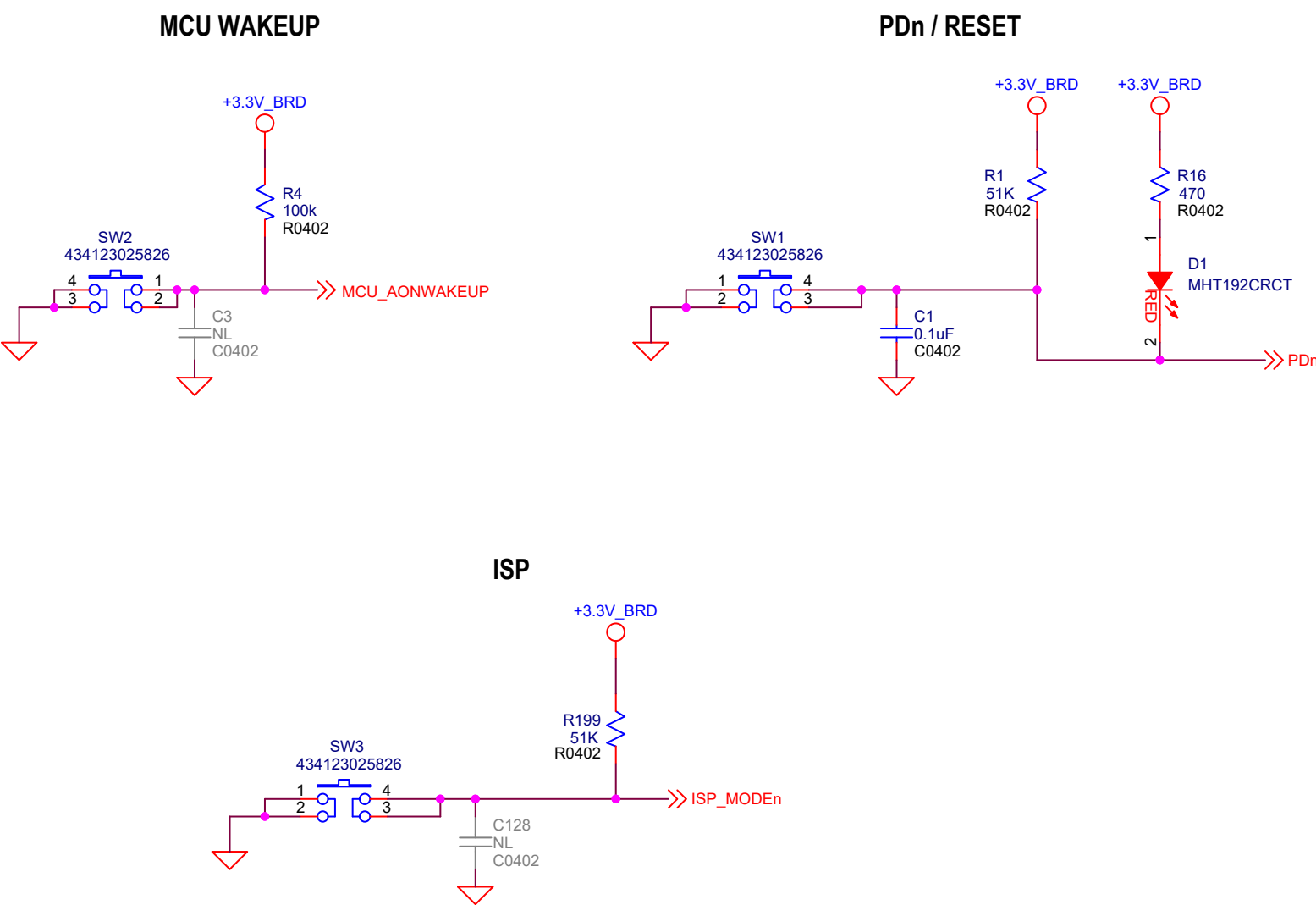
QSPI Flash



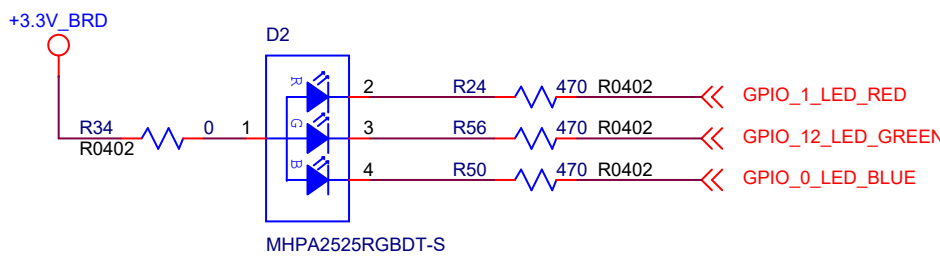
PSRAM



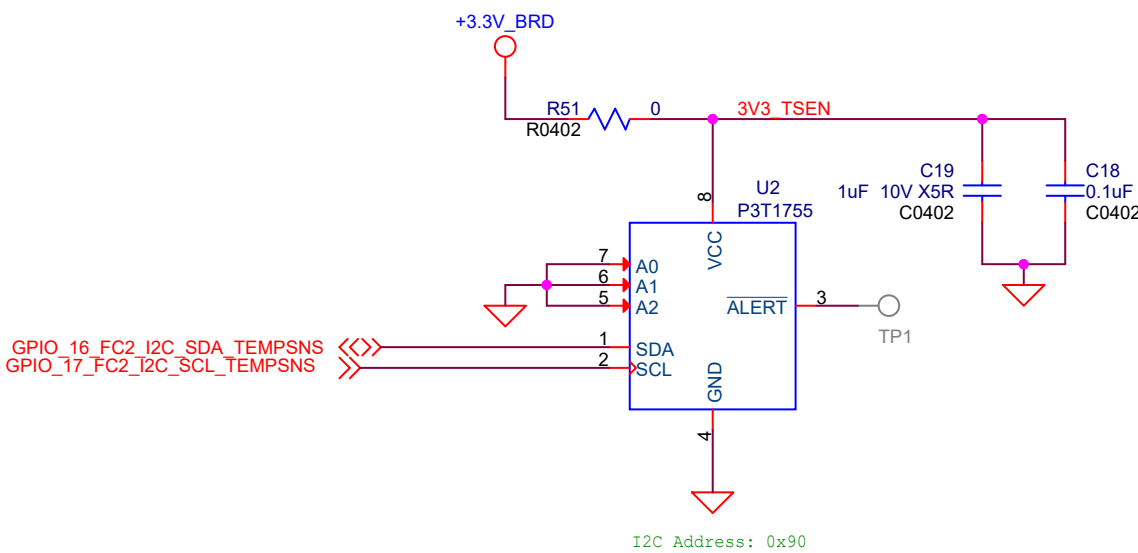
Push Buttons



RGB LED



TEMPERATURE SENSOR



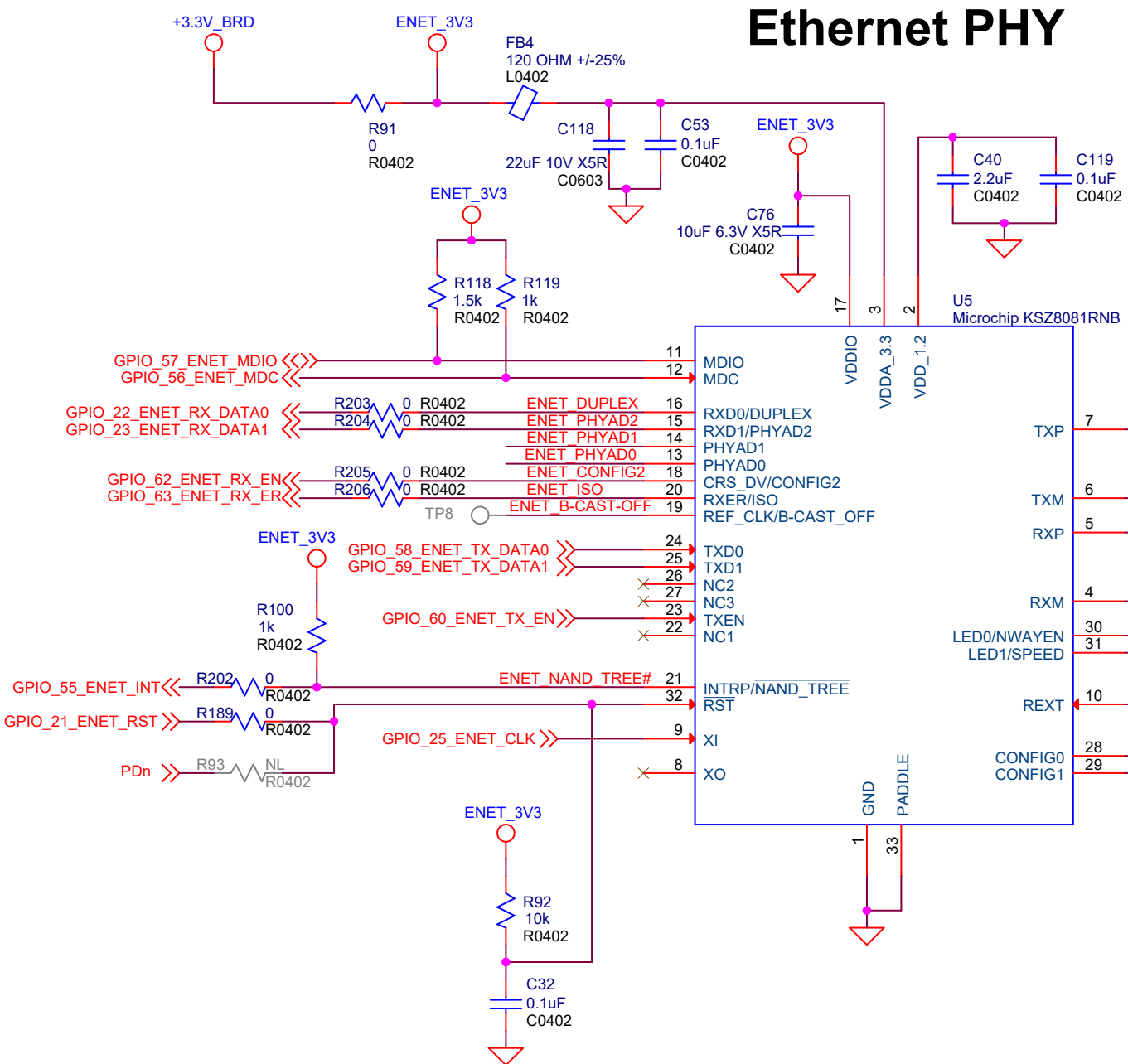
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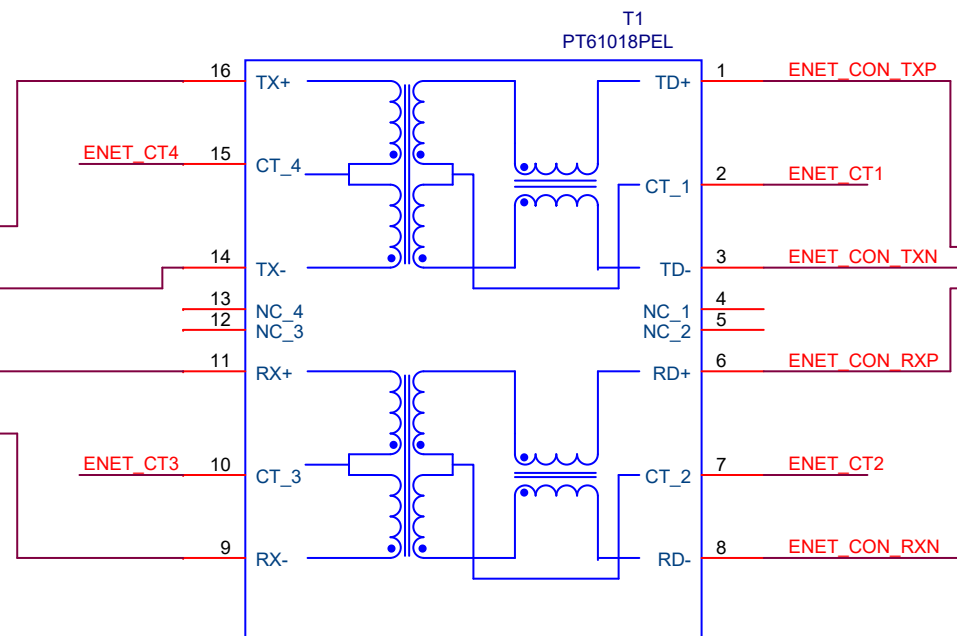
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10/100Mbps Ethernet

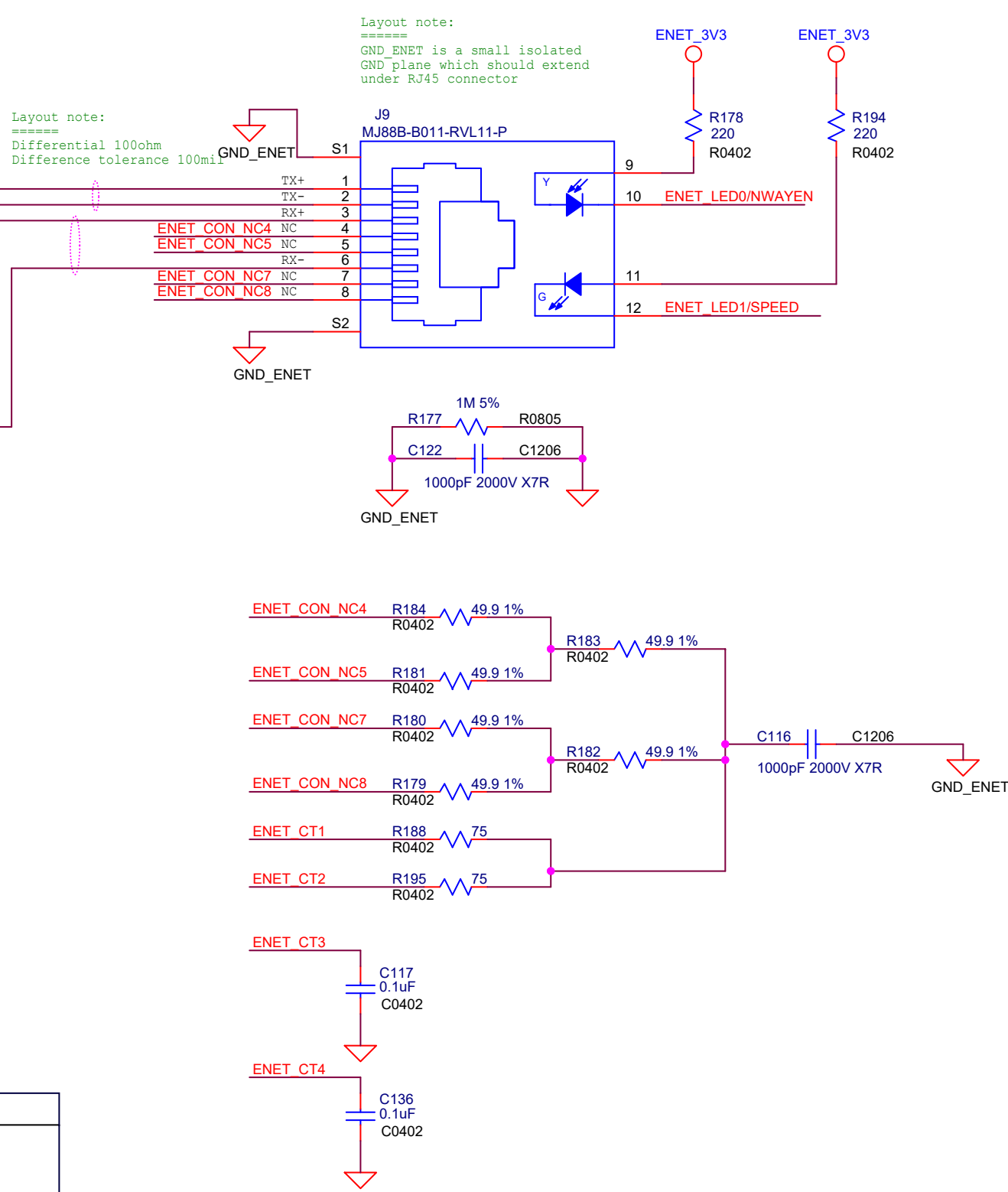
Ethernet PHY



Magnetics

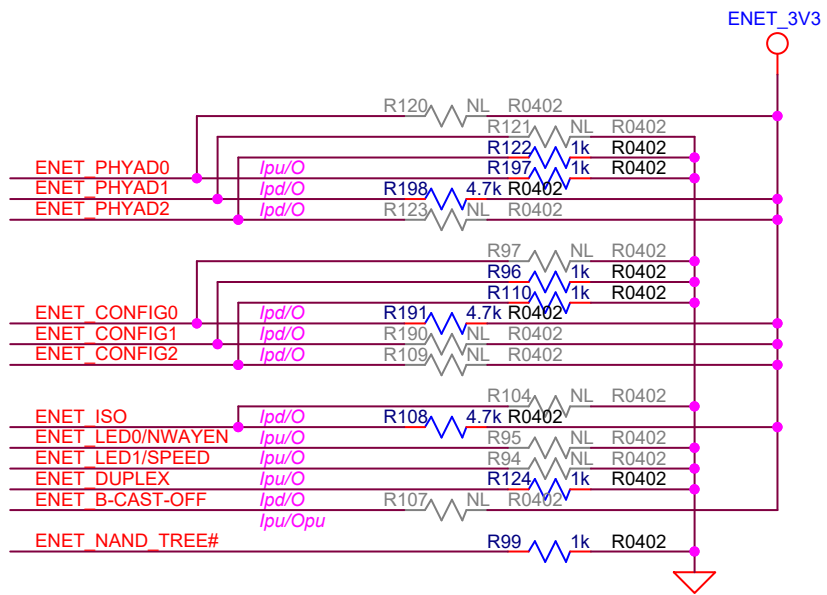


RJ45 Connector



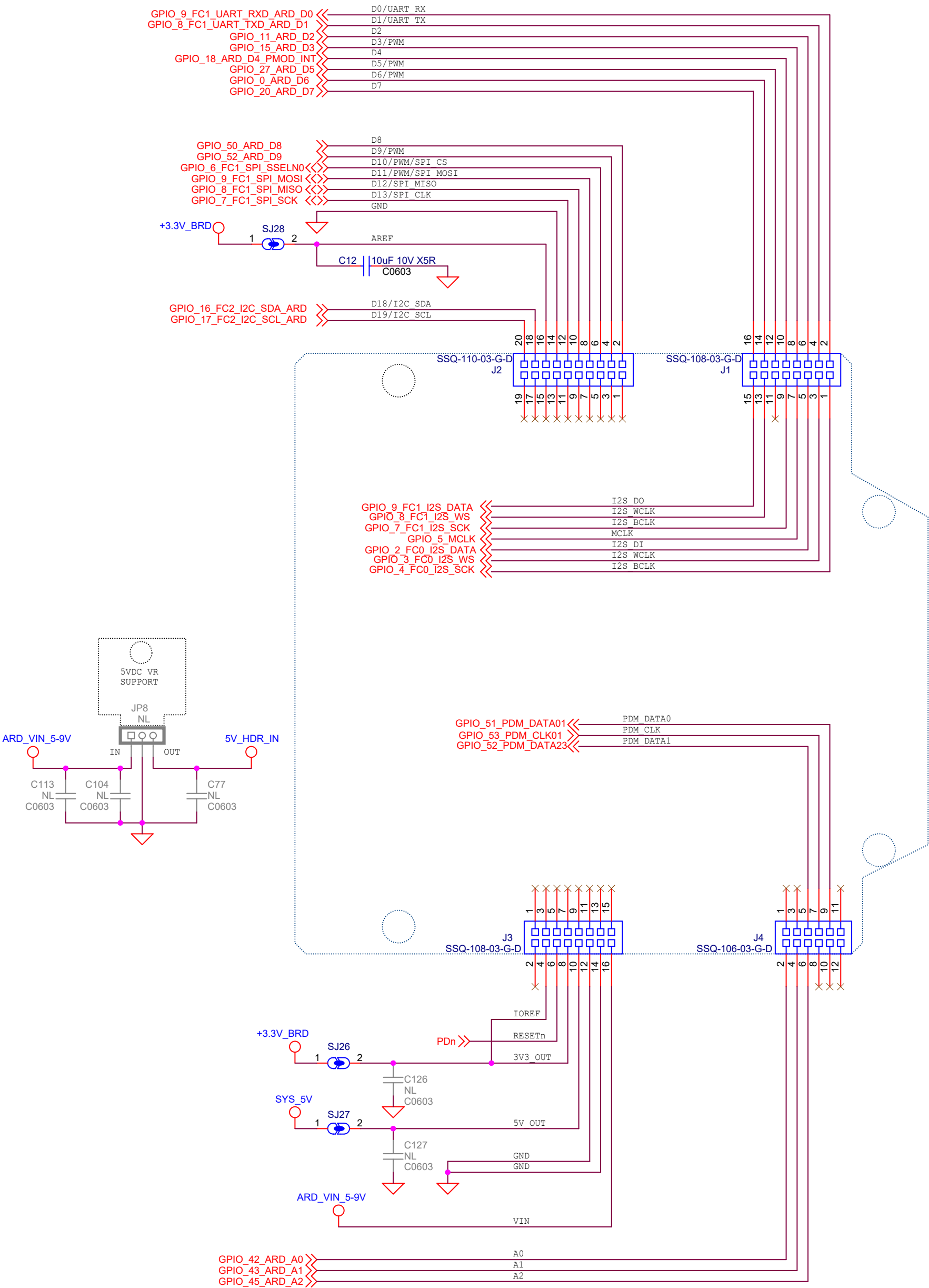
Config Settings

# CFG	Description	# CFG	Description
PHYAD[2:0]	PHY ADDR 00-XXX (00010 DEFAULT)	DUPLEX	DUPLEX mode Pull-up (default) = Half Duplex Pull-down = Full Duplex
CONFIG[2:0]	IF MODE 001 RMII 101 RMII Back-to-Back (not supported) xxx Reserved-not used	NWAYEN	Nway Auto-Negotiation Pull-up (default) = Enable Pull-down = Disable
ISO	ISOLATE mode Pull-up = Enable Pull-down (default) = Disable	B_CAST_OFF	Broadcast Off - for PHY Address 0 Pull-up = PHY Address 0 set as unique PHY addr Pull-down (default) = PHY Address 0 set as broadcast PHY addr
SPEED	SPEED mode Pull-up (default) = 100Mbps Pull-down = 10Mbps	NAND_TREE#	NAND Tree Mode Pull-up (default) = Disable Pull-down = Enable

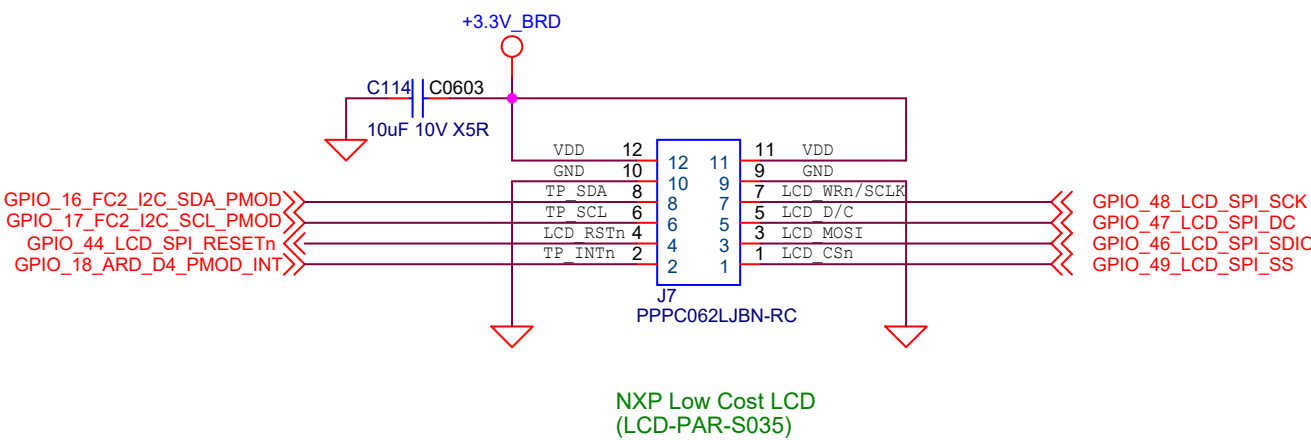


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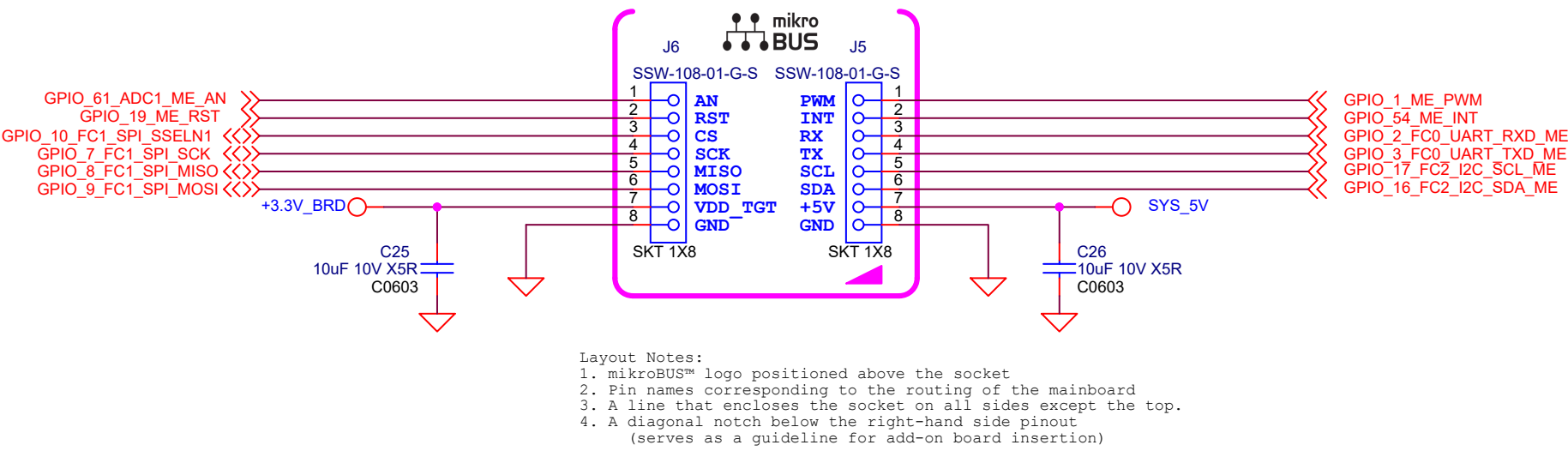
ARDUINO SHIELD COMPATIBLE HEADERS



PMOD



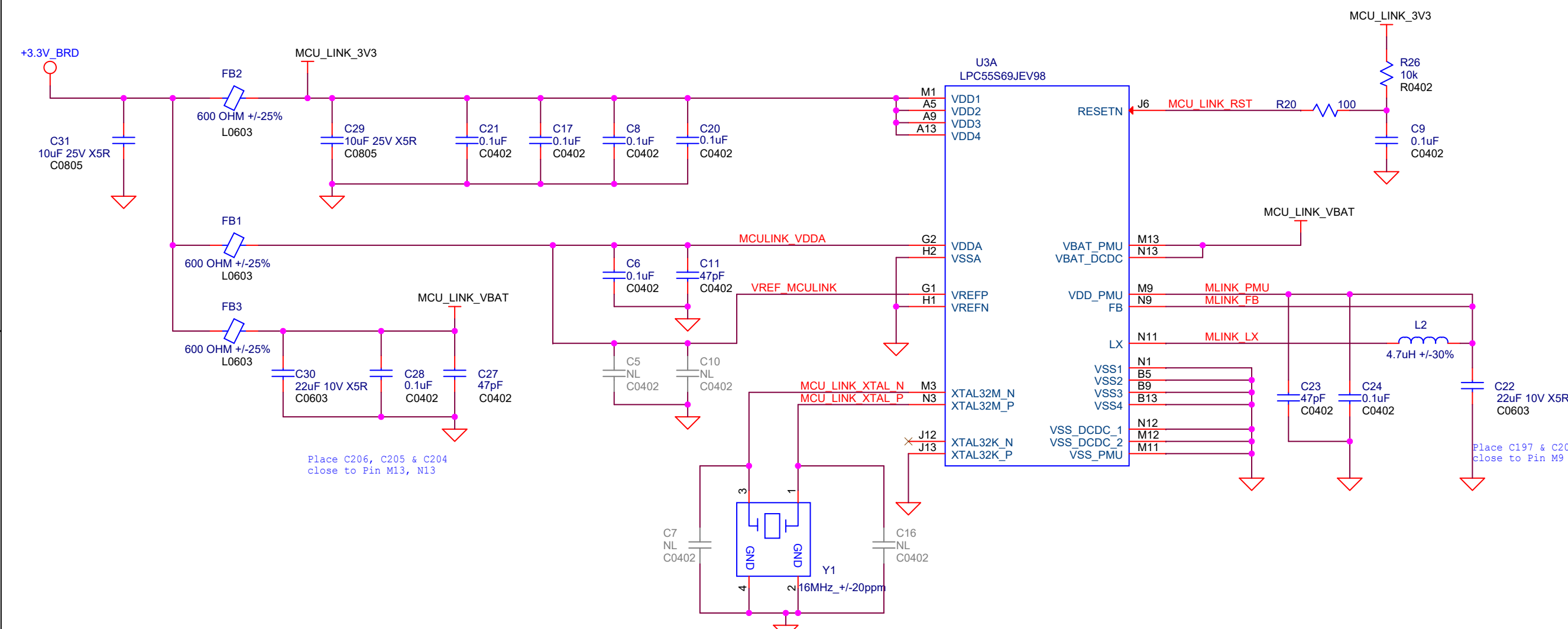
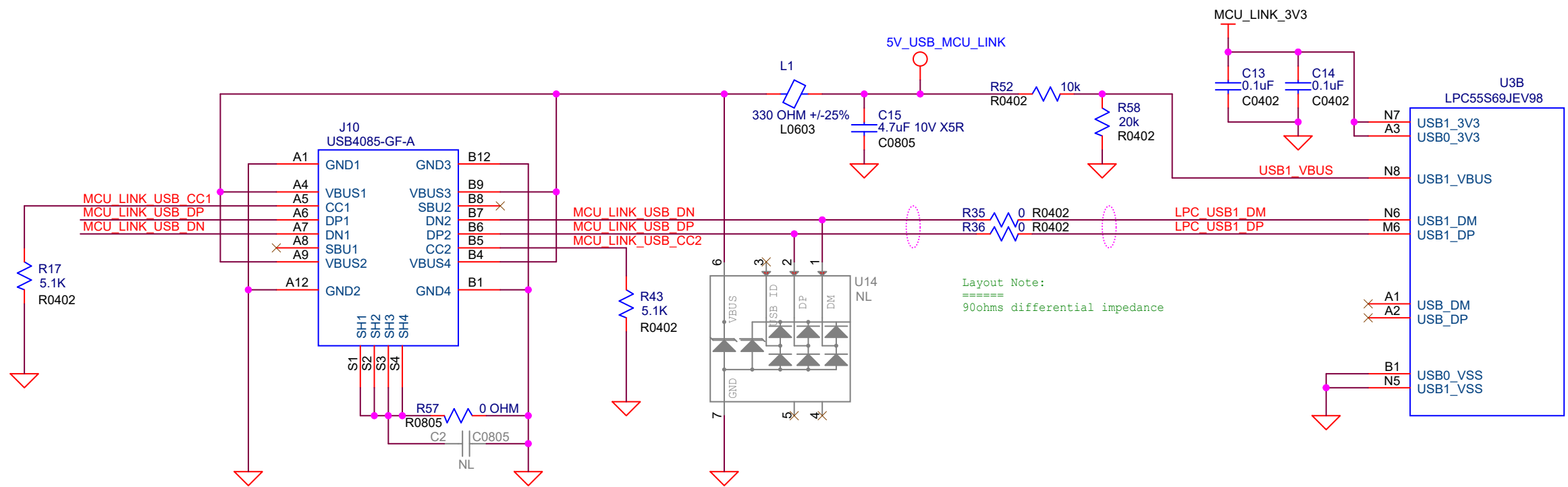
Mikro Bus



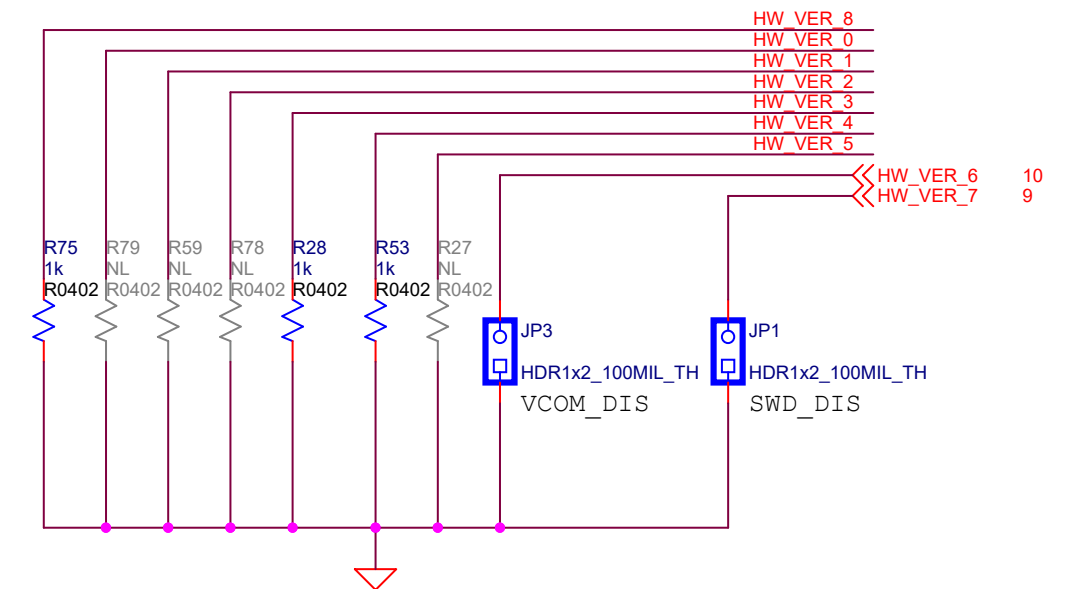
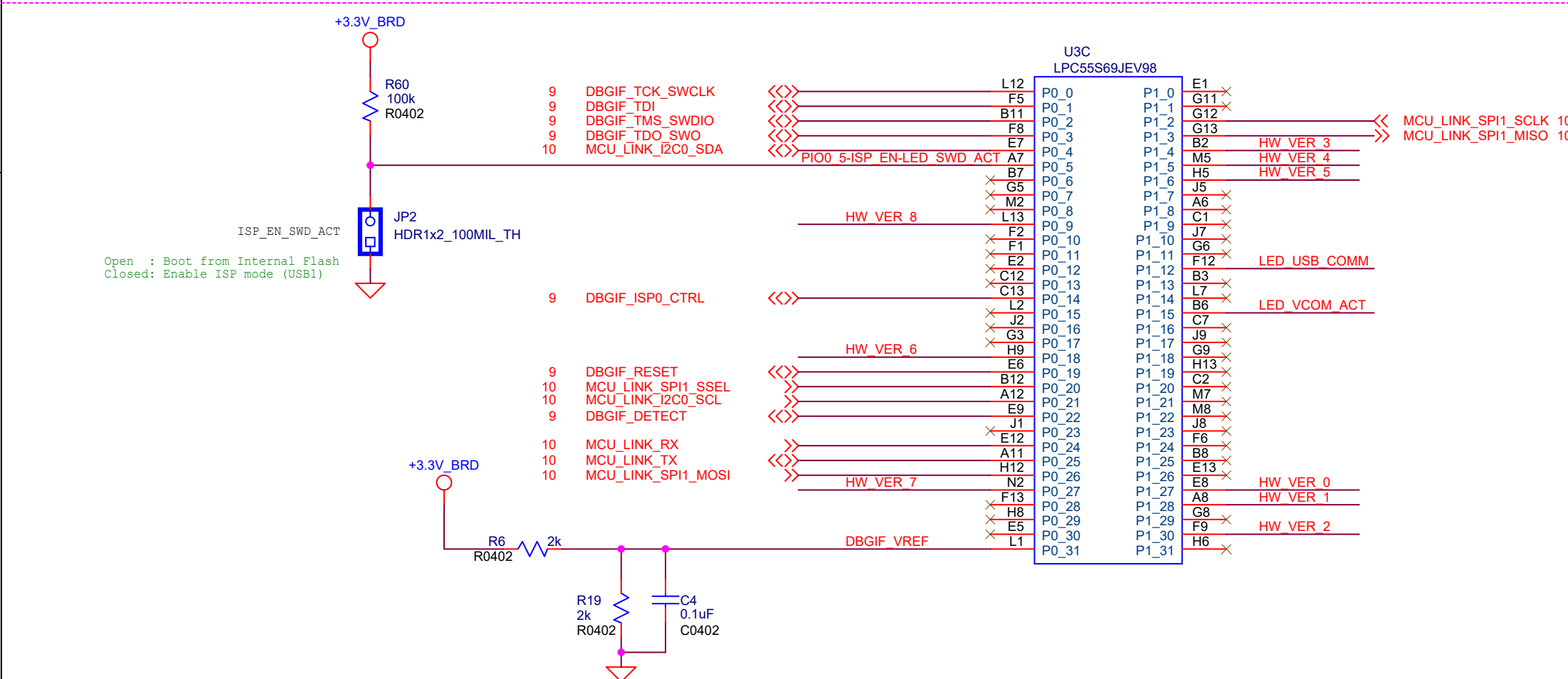
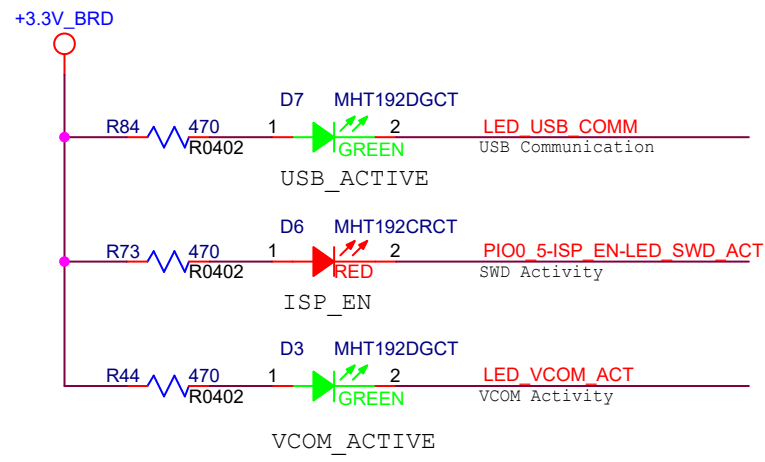
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MCU-Link

USB2.0 Type C



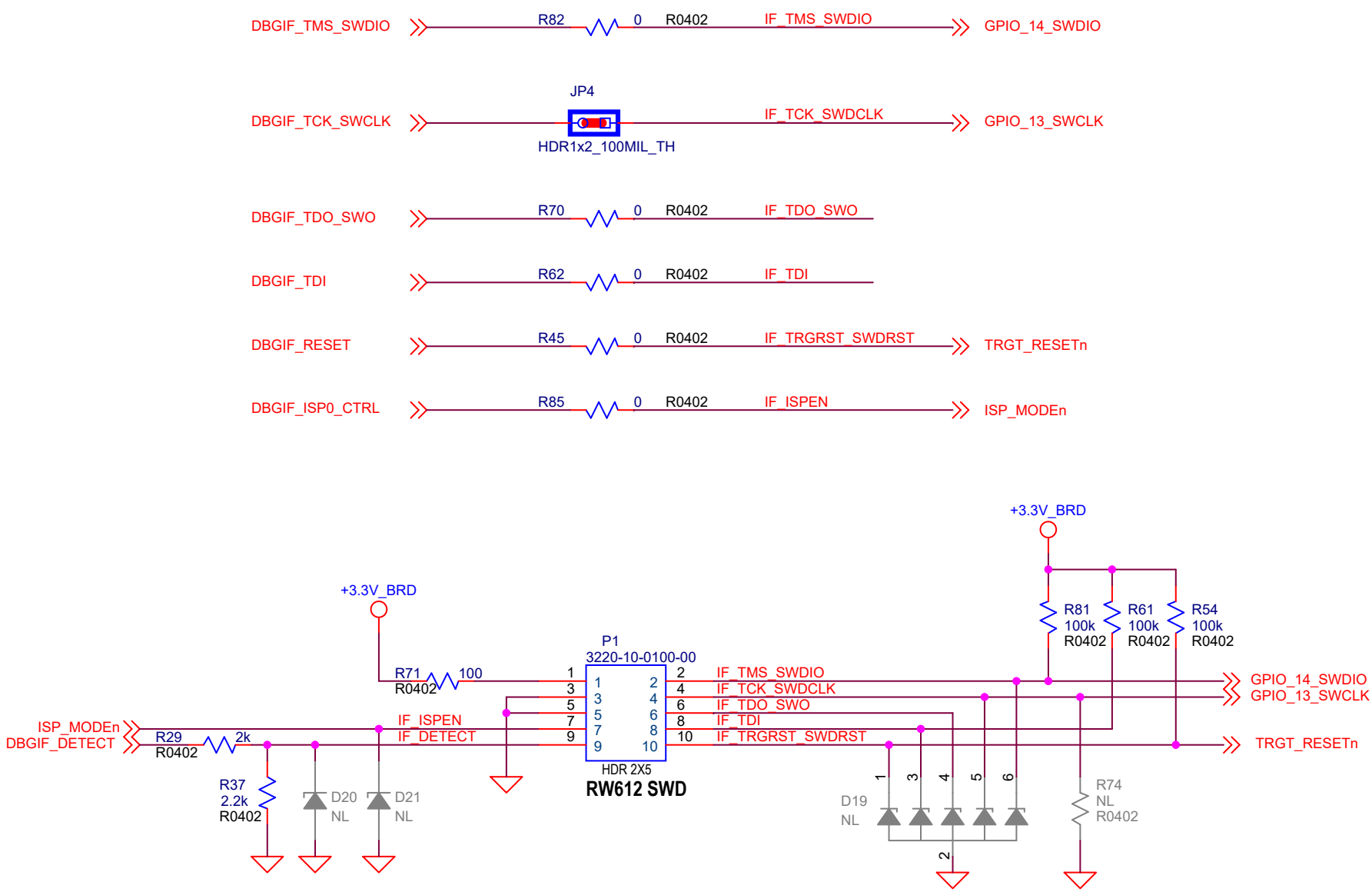
MCU-Link LEDs



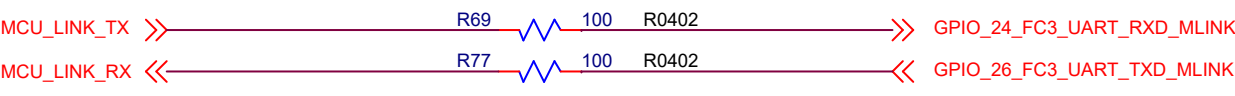
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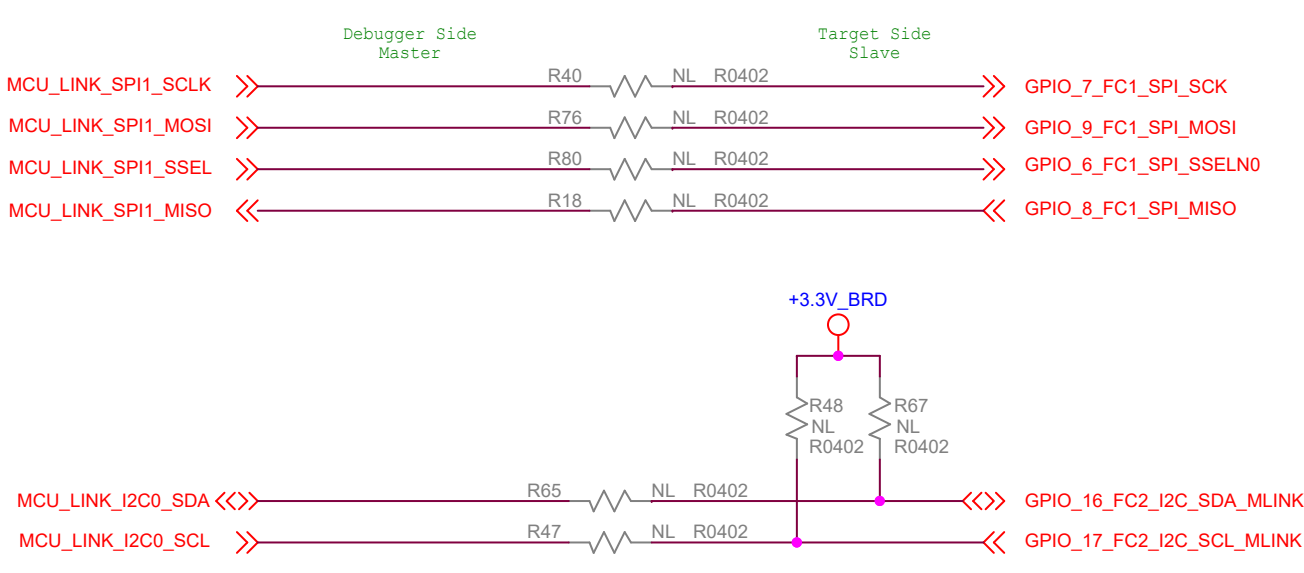
MCU-Link Debug Interface



MCU-Link UART



USB Bridge




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Revision History

Design Version	Document revision	Change list
V1.0	Rev. 1	Initial release
V2.0	Rev. 1	- Add R220 (0 ohm) to connect WAKE switch to GPIO11 - R134 changed to No-Load (NL)

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