

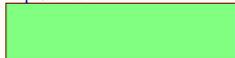
NUCLEO-H5E5ZJ

MB2129 - H5E5ZJ

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U_Top
Top.SchDoc



HW1

STICKER PRODUCT

Sticker product

HW2

PCB

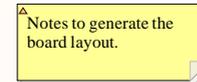
MB2129

Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.



Open Platform License Agreement

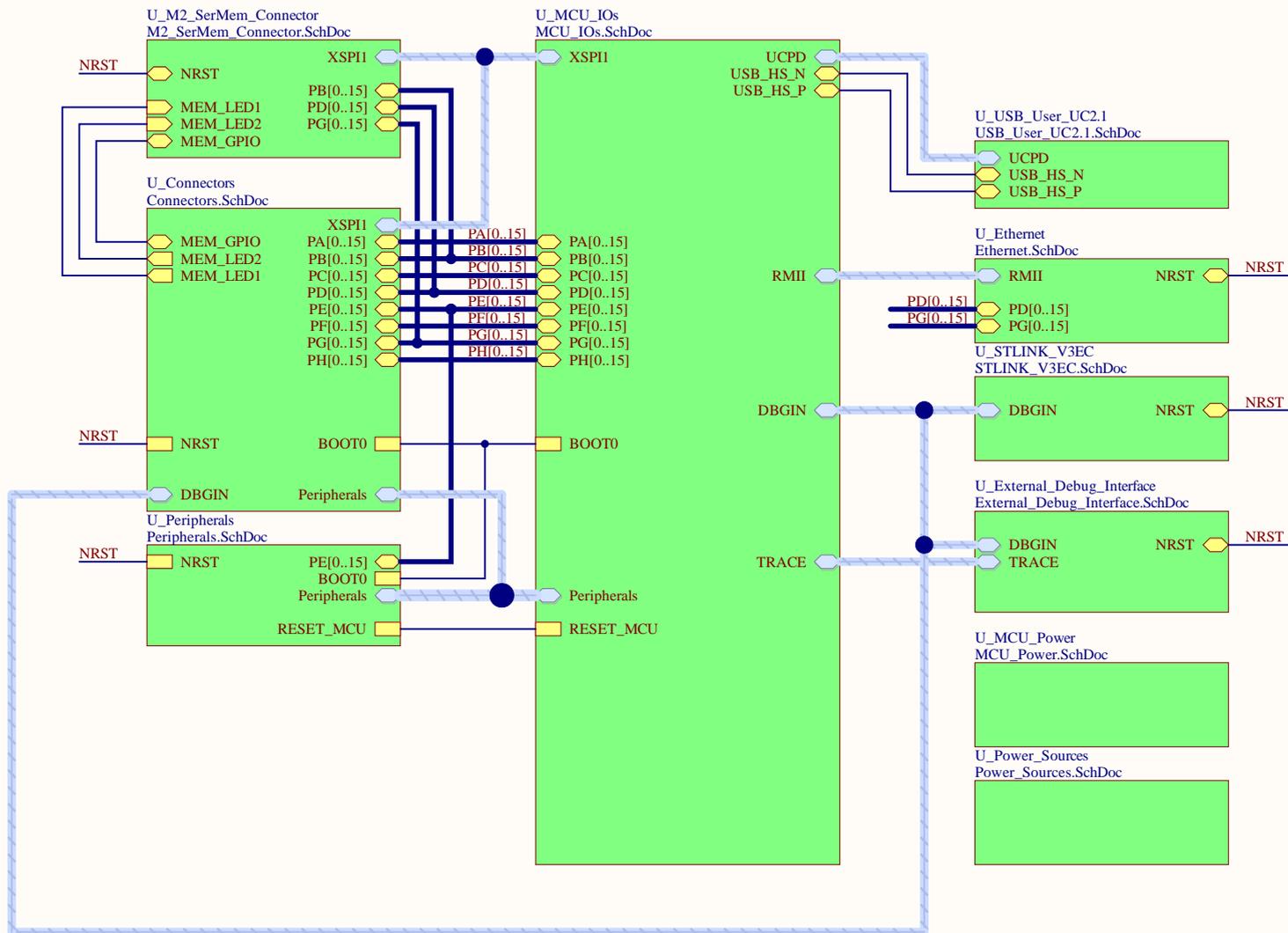
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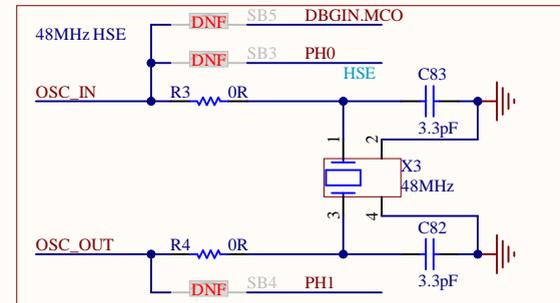
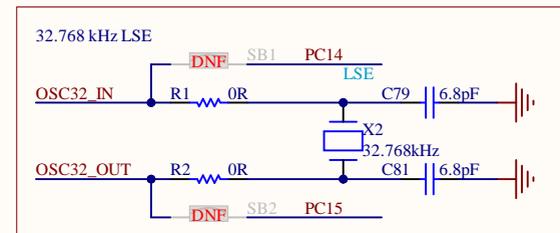
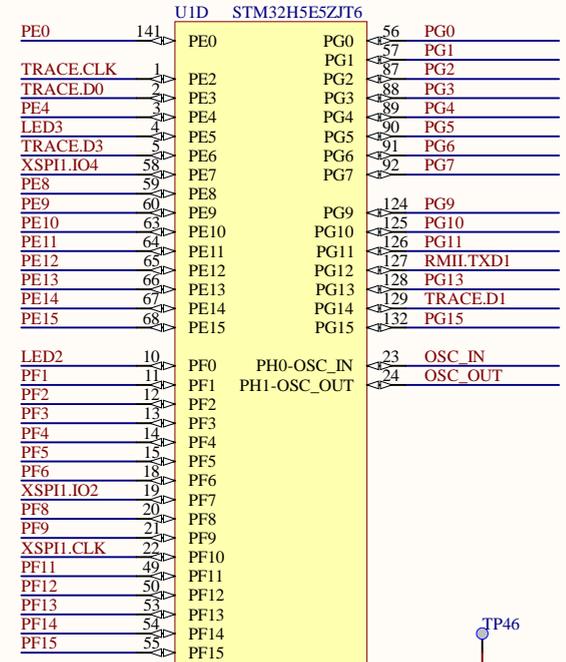
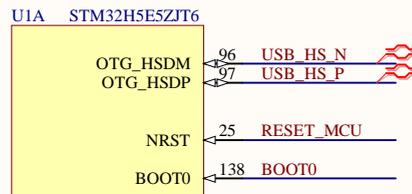
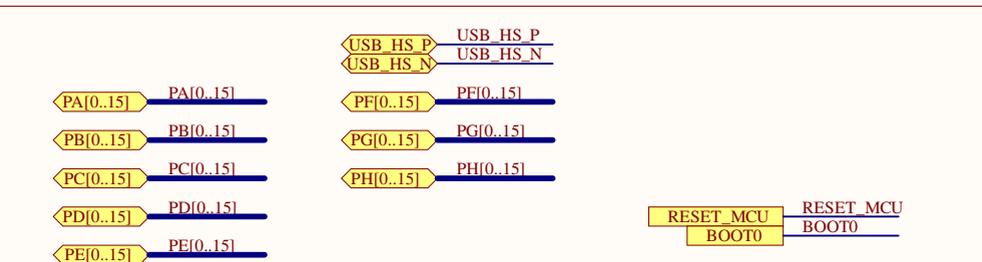
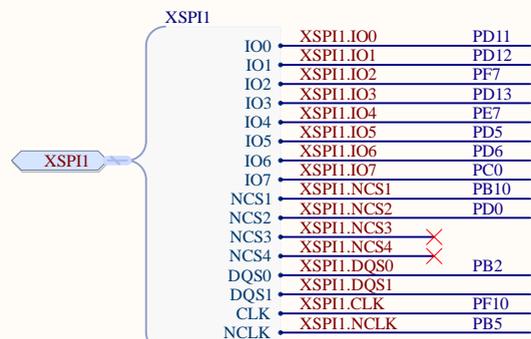
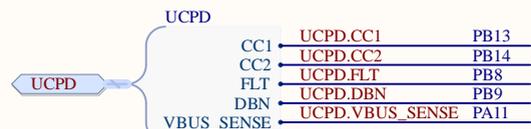
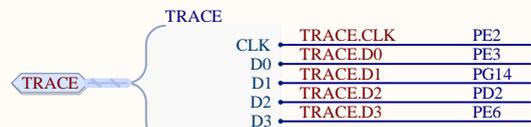
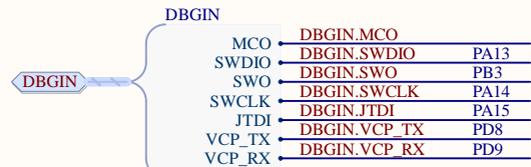
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Project: NUCLEO-H5E5ZJ	
Variant: H5E5ZJ	
Revision: D-01	Reference: MB2129
Size: A4	Date: 01 October 2025
Sheet: 1 of 14	



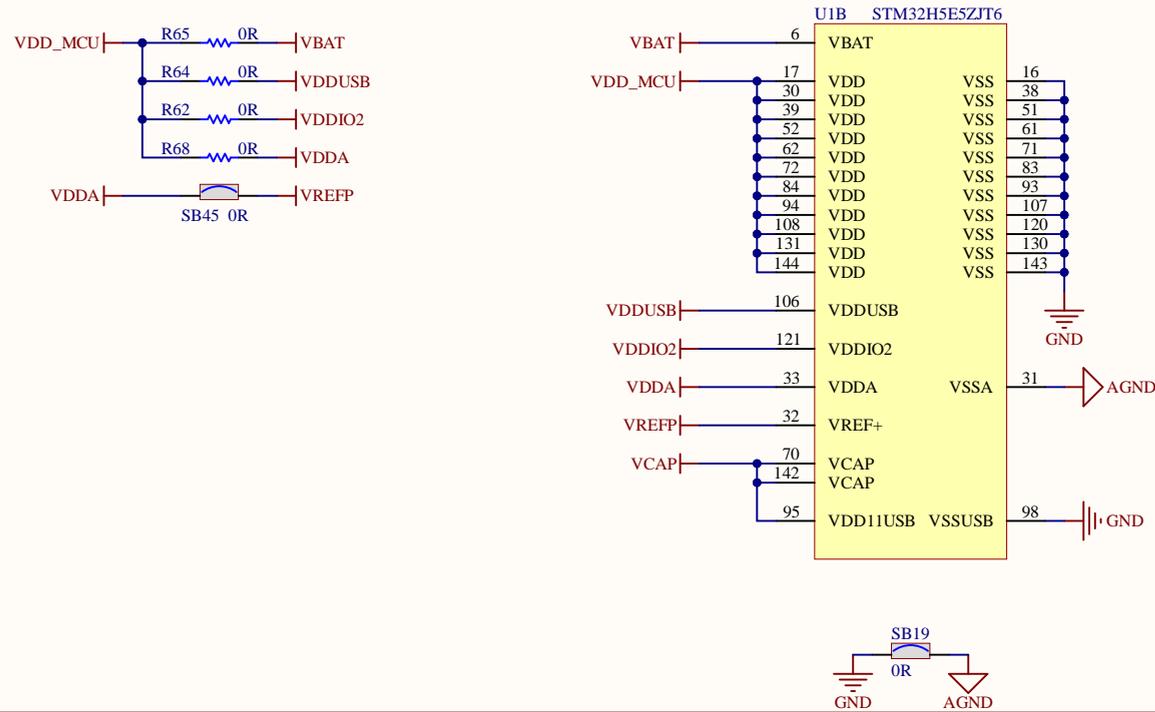


HARNESS

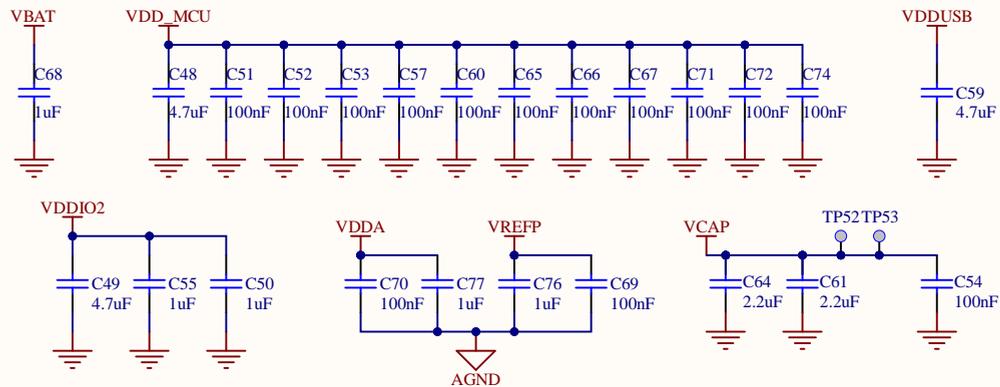
MCU IOs



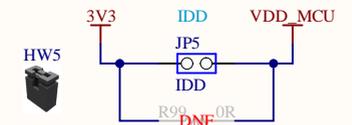
MCU POWER SUPPLY



MCU DECOUPLING



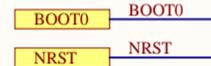
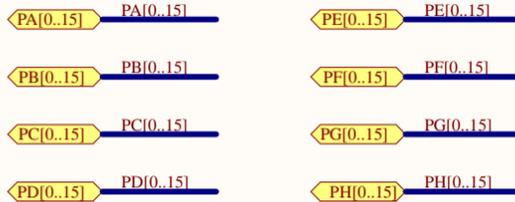
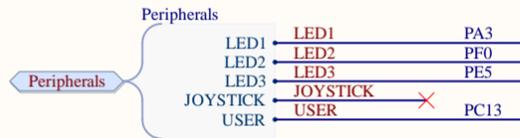
IDD MEASUREMENT



Title: MCU Power	
Project: NUCLEO-H5E5ZJ	
Variant: H5E5ZJ	
Revision: D-01	Reference: MB2129
Size: A4	Date: 01 October 2025
Sheet: 4 of 14	



CONNECTORS



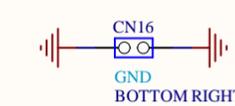
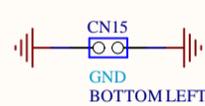
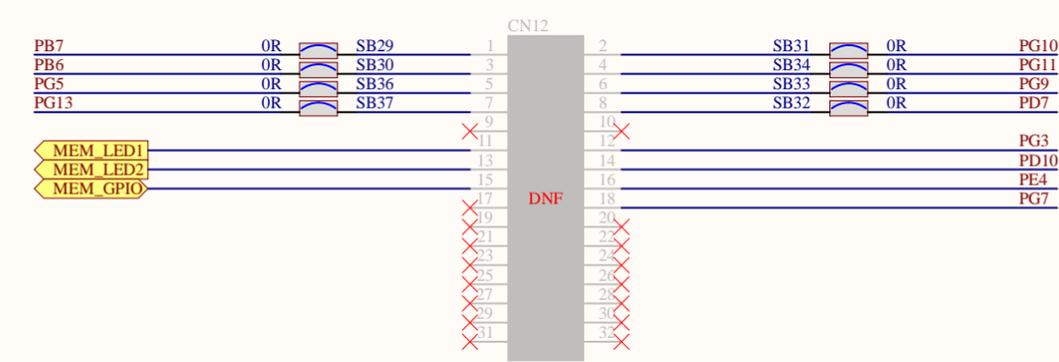
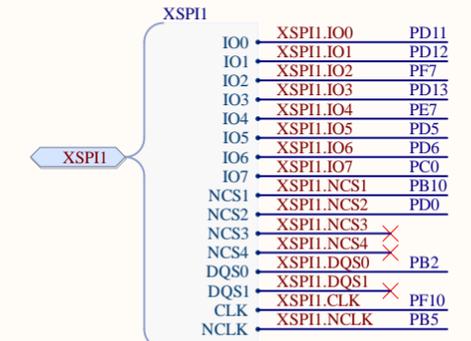
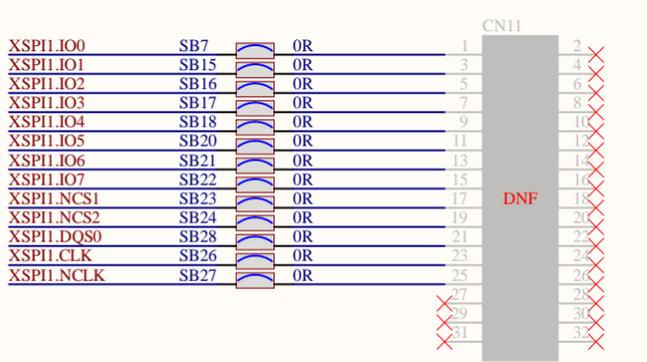
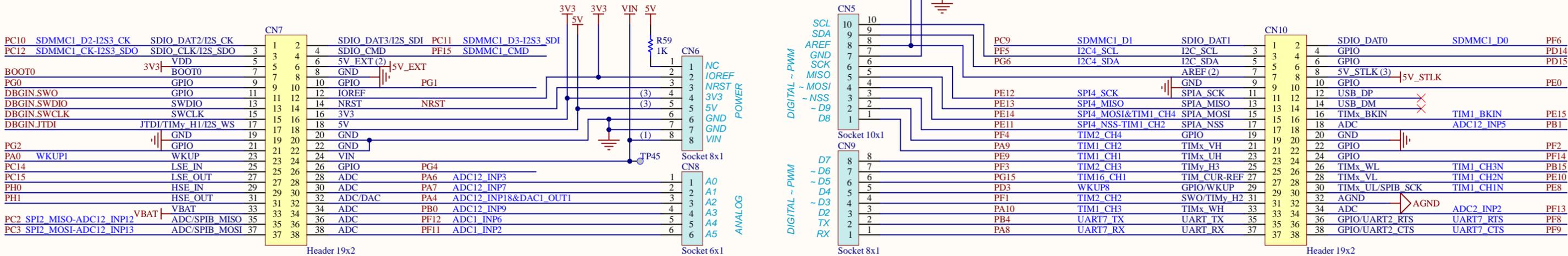
COLOR LEGEND
MORPHO SPECIFICATION
ARDUINO SPECIFICATION
STM32 ALTERNATE FUNCTION
STM32 IO PORT
FUNCTION NOT AVAILABLE

ST MORPHO CONNECTOR LEFT SIDE

ARDUINO V3

Operating range: 3V < VCC < 3.6V

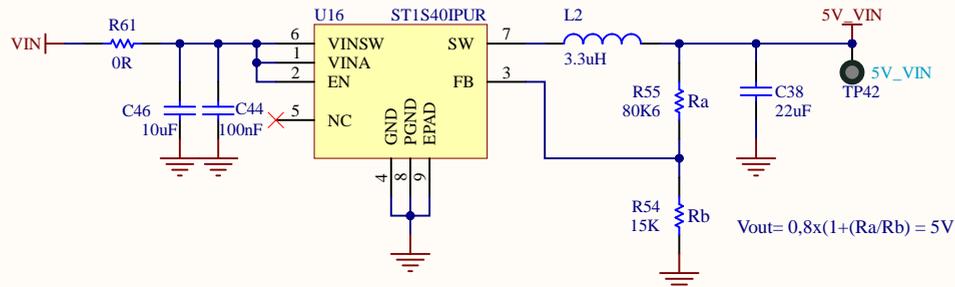
ST MORPHO CONNECTOR RIGHT SIDE



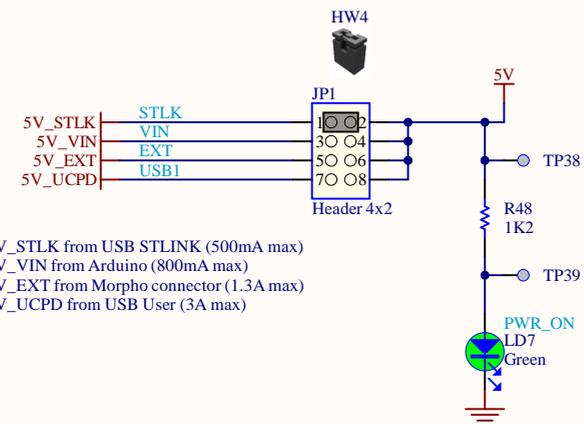
(1): VIN (NUCLEO INPUT) WARNING voltage applied to 7V < VIN < 12V
(2): 5V_EXT, AREF (NUCLEO INPUT)
(3): 5V, 3V3, IOREF, 5V_STLK (NUCLEO OUTPUT, SHIELD INPUT)

VIN / 5V PWR / 800mA

Operating range: $7V < V_{IN} < 12V$



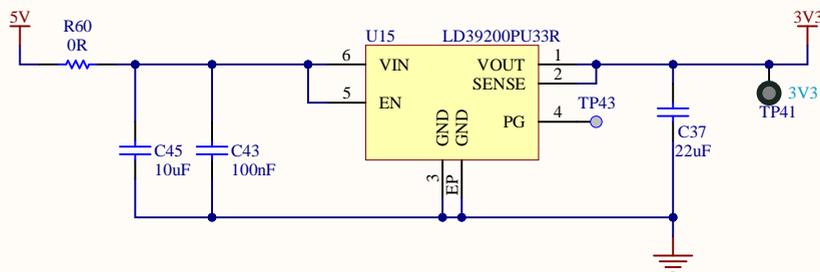
5V PWR SELECTION



5V_STLK from USB STLINK (500mA max)
 5V_VIN from Arduino (800mA max)
 5V_EXT from Morpho connector (1.3A max)
 5V_UCPD from USB User (3A max)

3V3 PWR / 2A

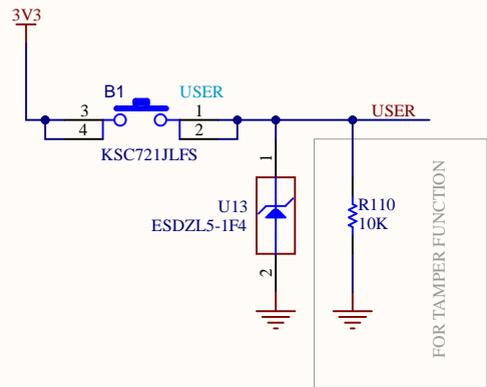
Operating range: $4.5V < V_I < 5.5V$



GND HEADERS

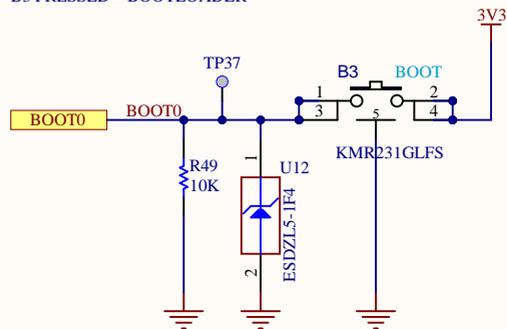


USER BUTTON

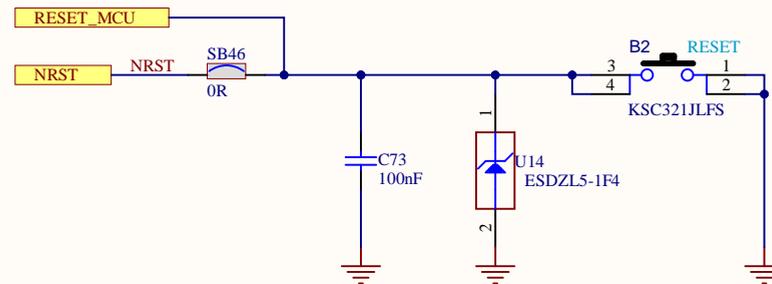


BOOT SELECT

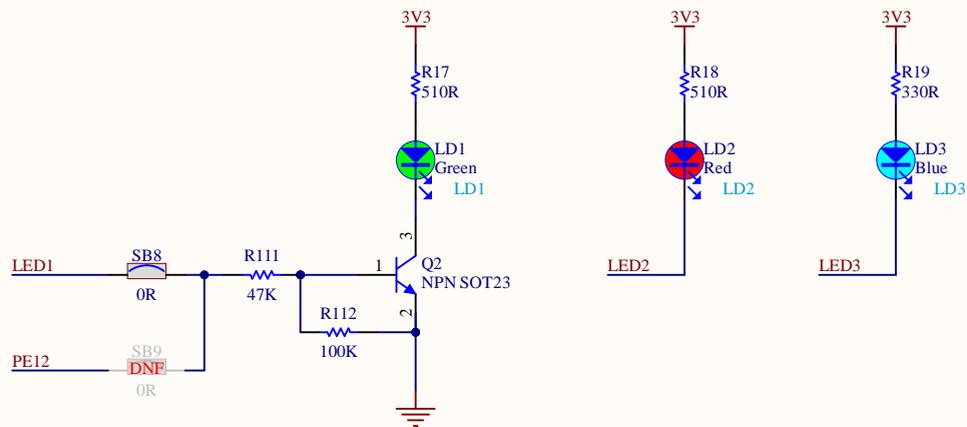
DEFAULT = INTERNAL FLASH
B3 PRESSED = BOOTLOADER



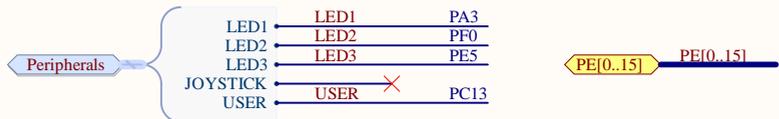
RESET



LEDs



Peripherals

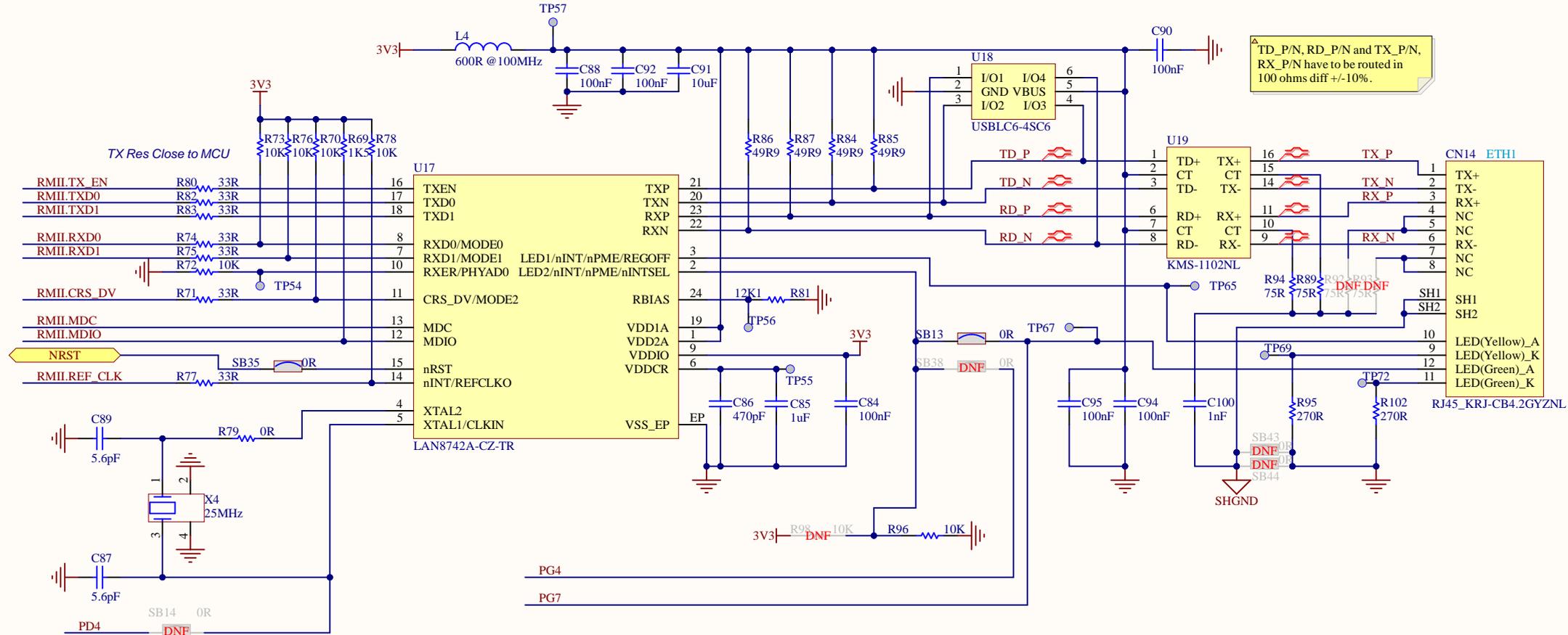


Ethernet

Operating range: 3V < VDDxA < 3V6
 Operating range: 1V62 < VDDIO < 3V6

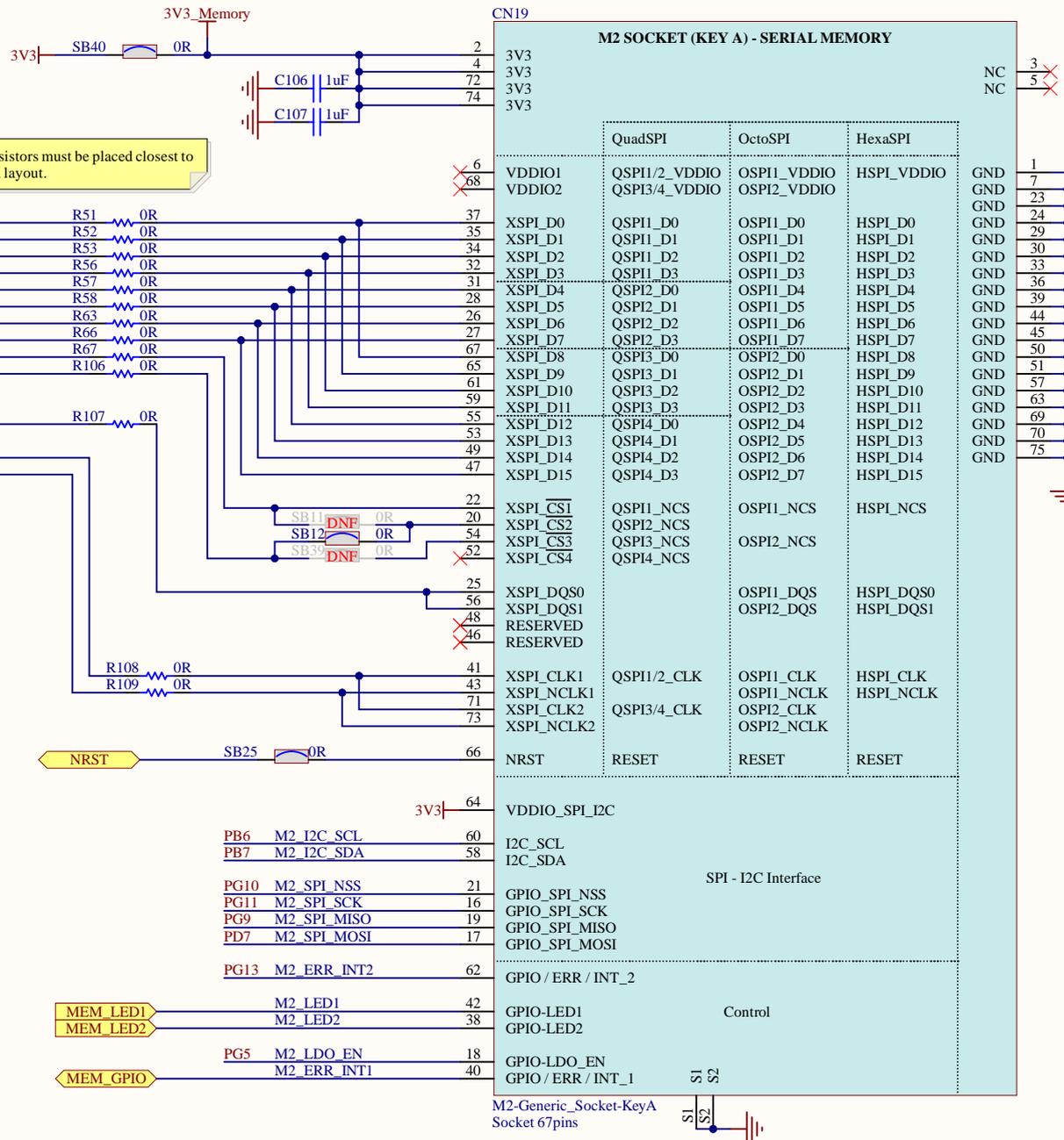
RMII		
TX_EN	RMII.TX_EN	PA5
TXD0	RMII.TXD0	PB12
TXD1	RMII.TXD1	PG12
RXD0	RMII.RXD0	PC4
RXD1	RMII.RXD1	PC5
CRS_DV	RMII.CRS_DV	PD1
MDC	RMII.MDC	PC1
MDIO	RMII.MDIO	PA2
REF_CLK	RMII.REF_CLK	PA1

PD[0..15]	PG[0..15]
PG[0..15]	PD[0..15]

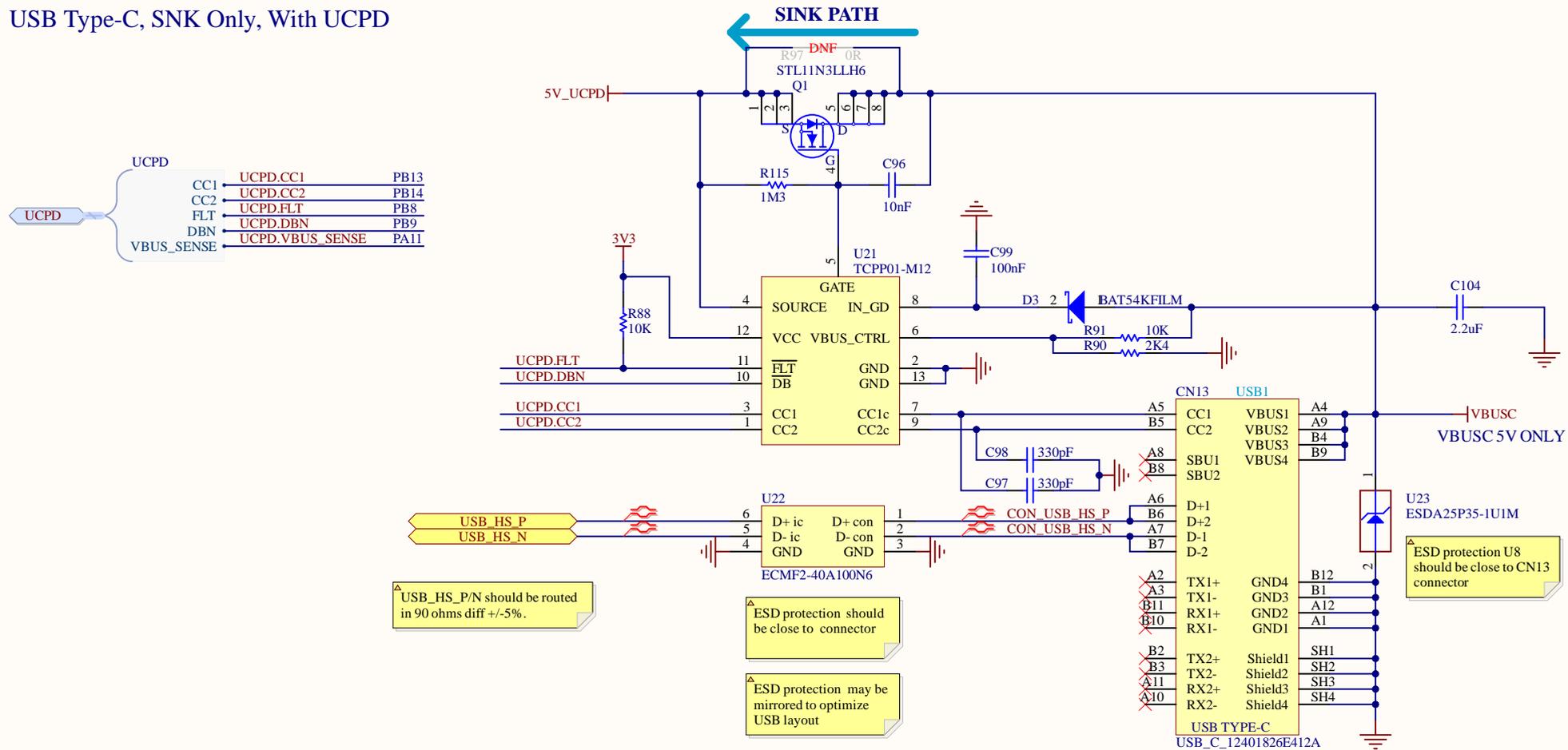


M2_SERIAL-MEMORY_CONNECTOR

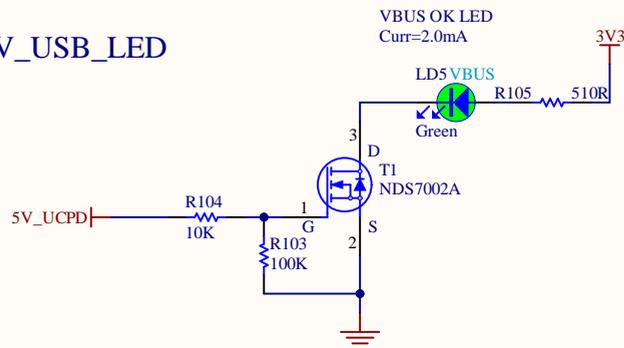
3V3 / Max current budget 500mA



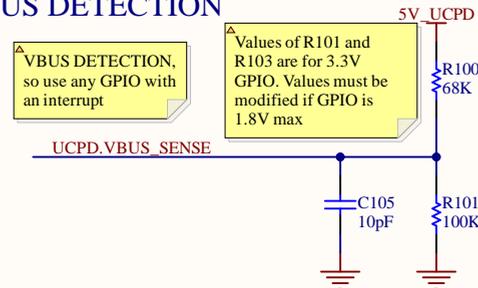
USB Type-C, SNK Only, With UCPD

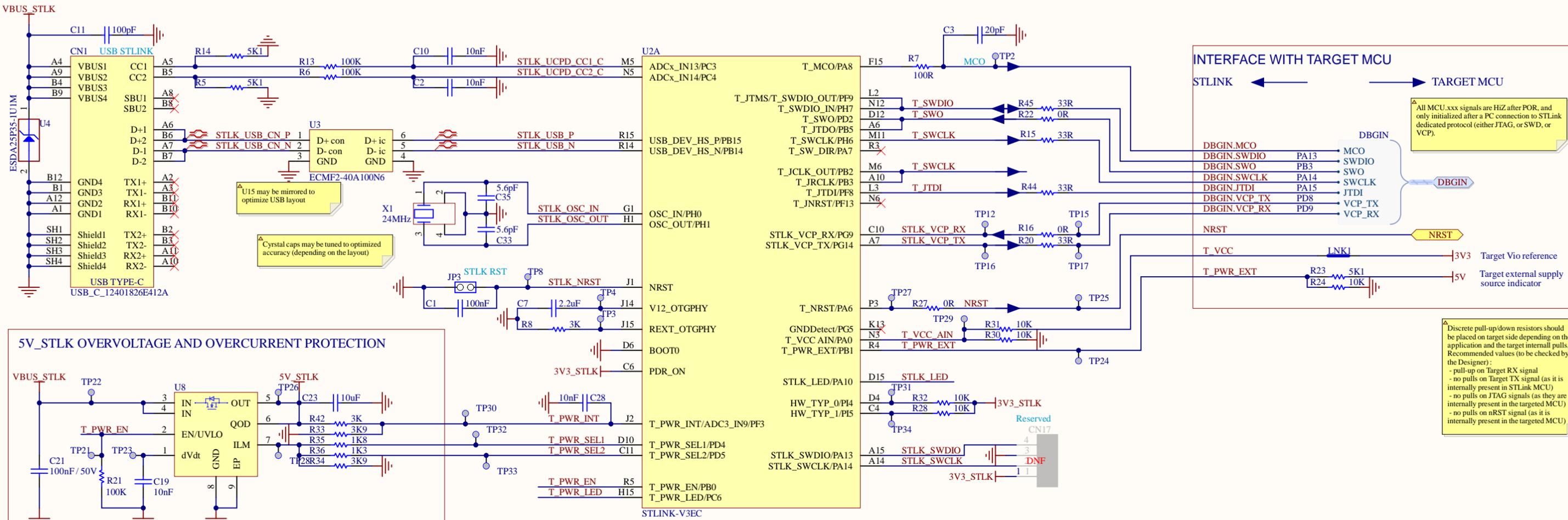


5V_USB_LED

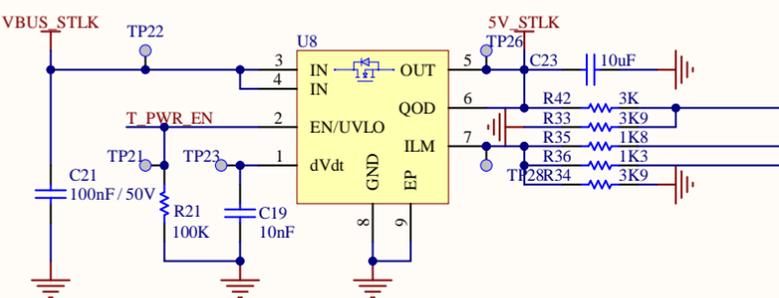


VBUS DETECTION





5V_STLK OVERVOLTAGE AND OVERCURRENT PROTECTION

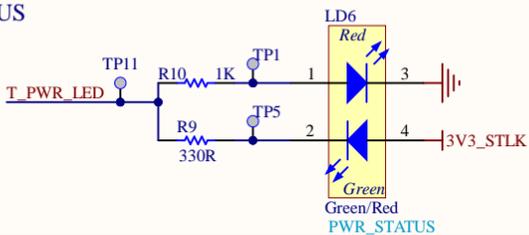


5V_STLK OVERCURRENT PROTECTION MANAGEMENT

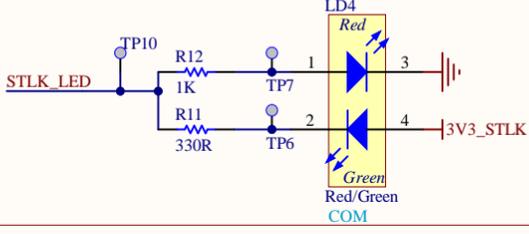
	T_PWR_SEL2/PD5	T_PWR_SEL1/PD4
PowerDefault.SNK (current limit: 550mA)	Hi-Z	Hi-Z
Power1.5.SNK (current limit: 1.66A)	Hi-Z	0
Power3.0.SNK (current limit: 3.2A)	0	0

Hi-Z = IO set in high impedance

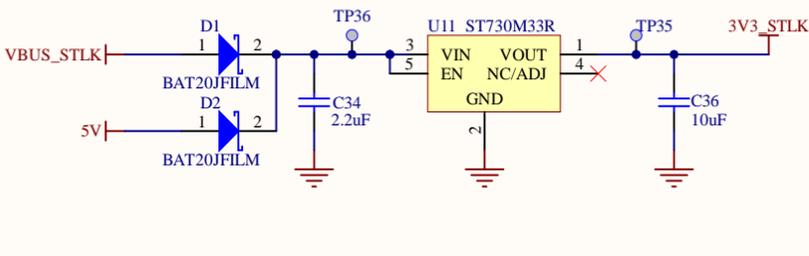
LED POWER STATUS



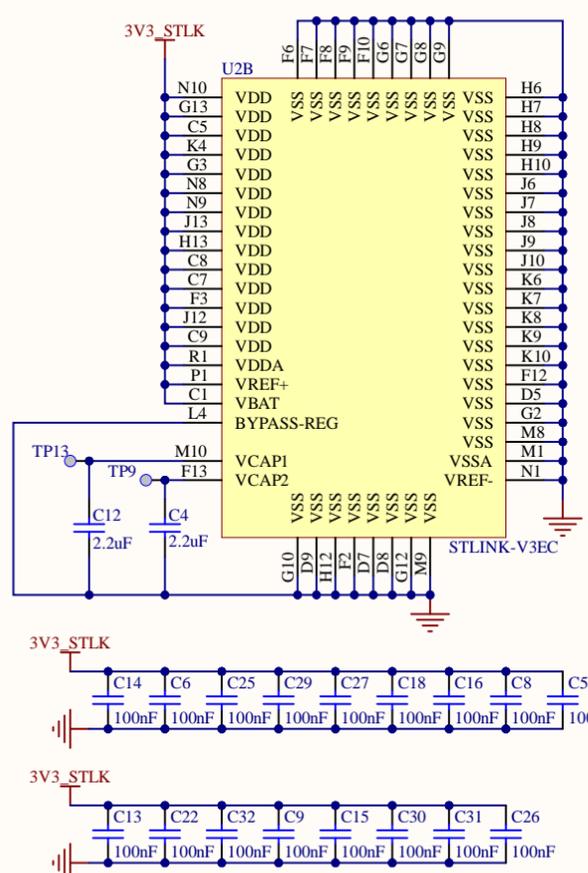
LED STLINK



ST-LINK POWER (3V3/300mA)



STLINK MCU POWER

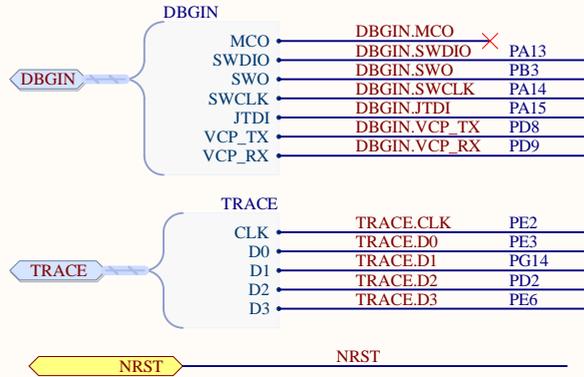


UNUSED PINS

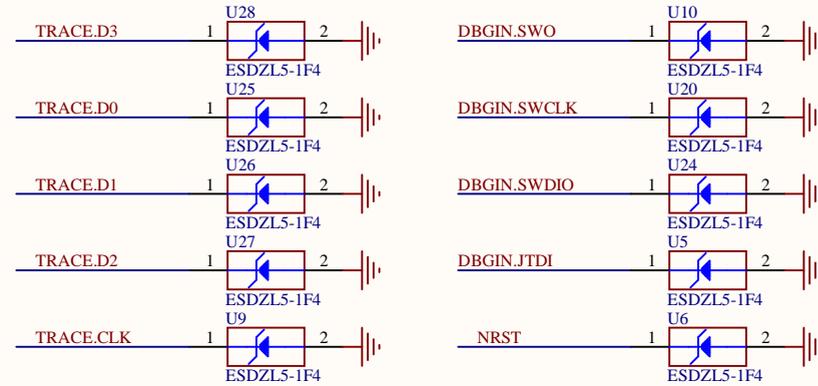
Pin	Function	Pin	Function
A9	SPL_NSS/PB4	A2	GPIO0/PE2
M3	SPL_MOSI/PC1	B1	GPIO1/PE4
M4	SPL_MISO/PC2	B2	GPIO2/PE5
E15	SPL_SCK/PA9	B3	GPIO3/PE6
A5	I2C_SCL/PB8	N13	UART_RTS/PD12
B4	I2C_SDA/PB9	R13	UART_RX/PB11
C15	CAN_RX/PA11	B14	UART_TX/PC10
B15	CAN_TX/PA12	N14	UART_CTS/PD11



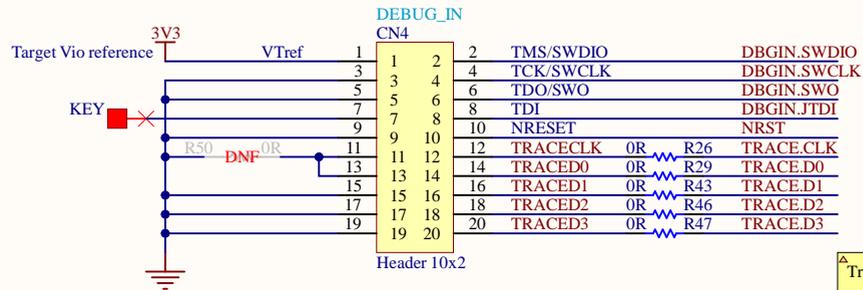
External Debug Interface



ESD PROTECTIONS



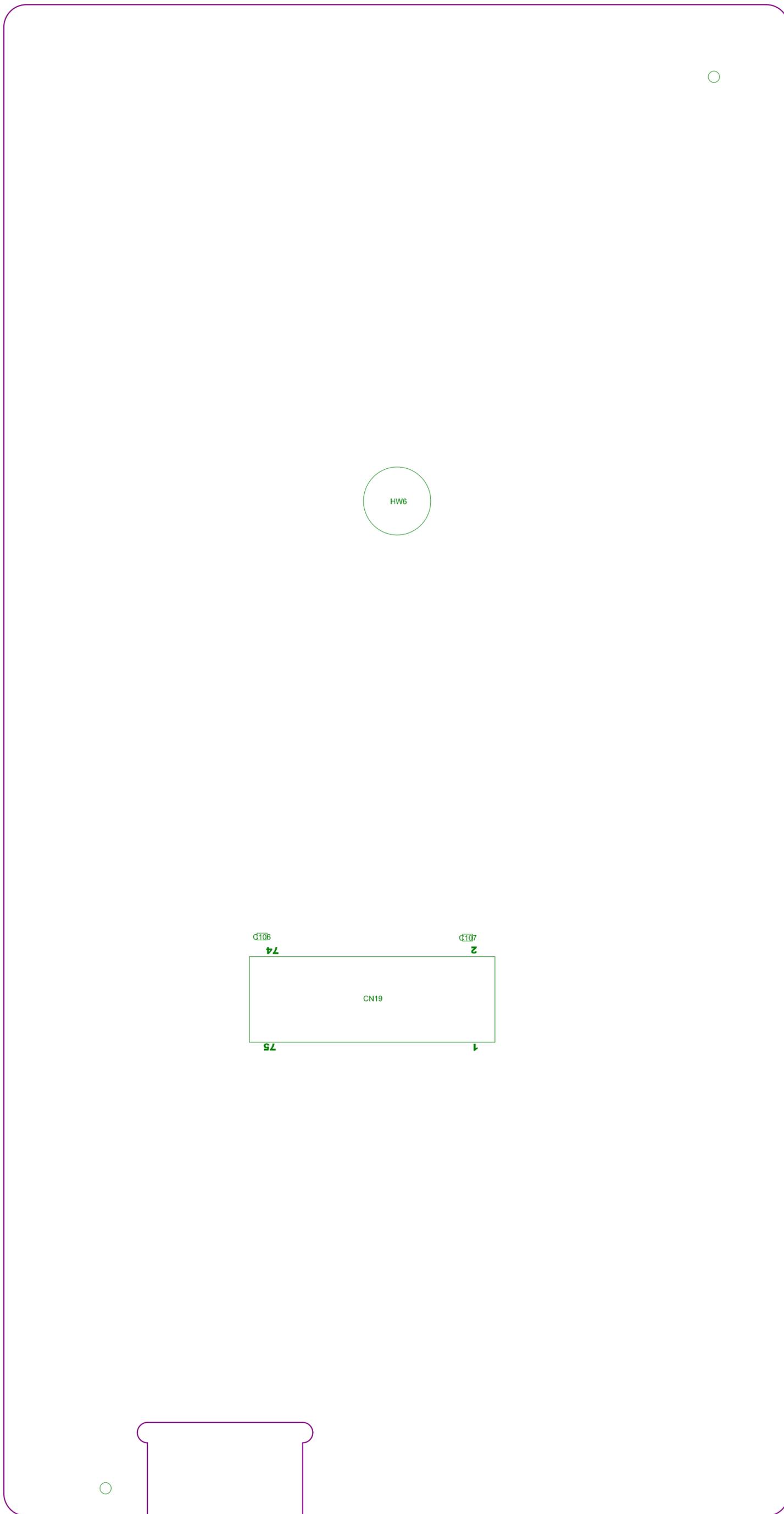
MIPI-20 CONNECTOR



^A Trace signals: 50Ω +/-10%

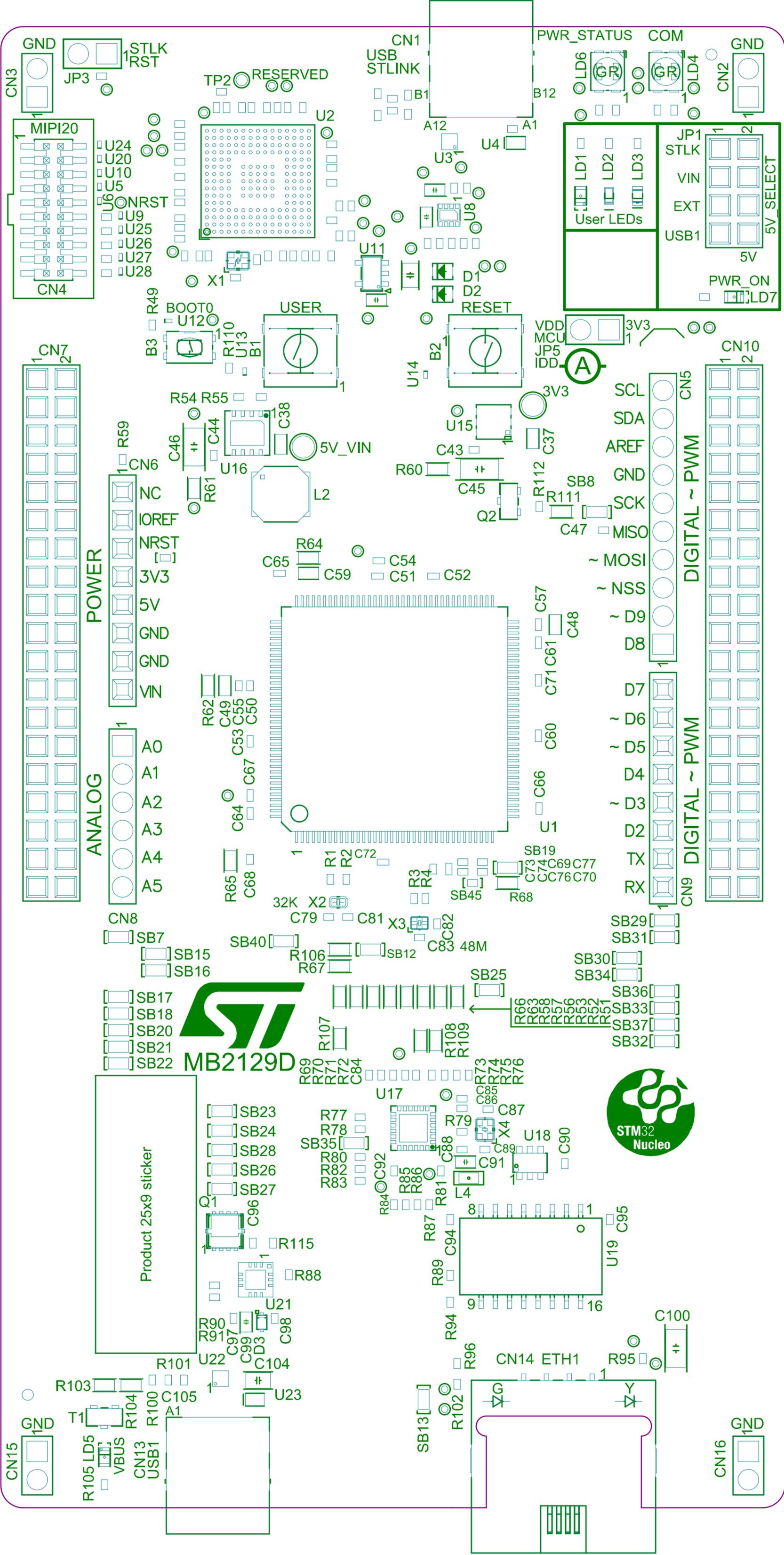
^A Specific constraints for DBGIN.SWDIO and DBGIN.SWCLK (must be same length and must be Shielded).





Project: NUCLEO-H5E5ZJ	
Layer: M15-Bottom Assembly	Gerber:.GM15
Variant: H5E5ZJ	MB2129
Date: 01 October 2025	Rev: D





MB2129D



