

NUCLEO144_Q (int-SMPS)

MB1549

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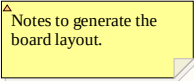
Sheet 8: ST-LINK/V3E

U_MB1549_Top
MB1549_Top.SchDoc



Legend

- General comment such as function title, configuration, ...
- Text to be added to silkscreen.
- Warning text.



OPEN PLATFORM LICENSE AGREEMENT

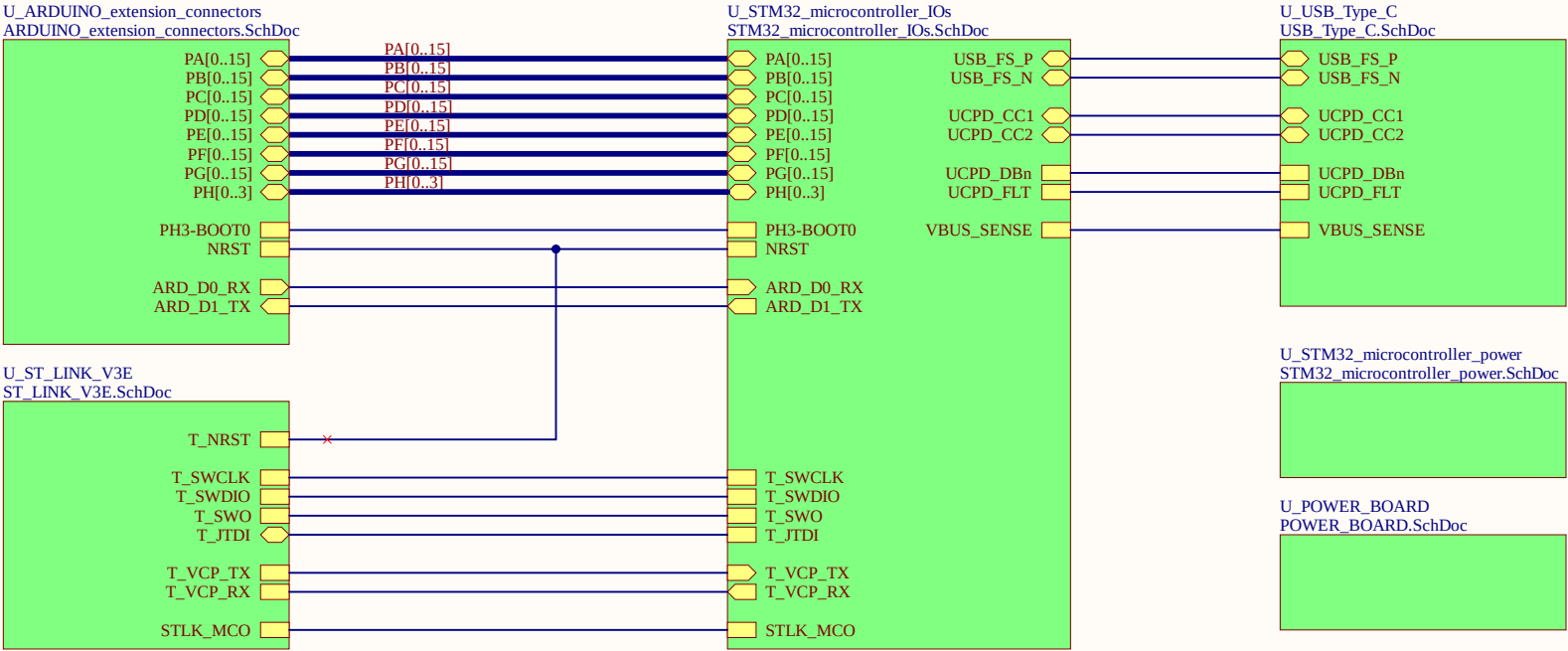
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Title: Project overview		
Project: NUCLEO144_Q (int-SMPS)		
Variant: U575ZIQ		
Revision: C-03	Reference: MB1549	
Size: A4	Date: 27-Oct-21	Sheet: 1 of 8





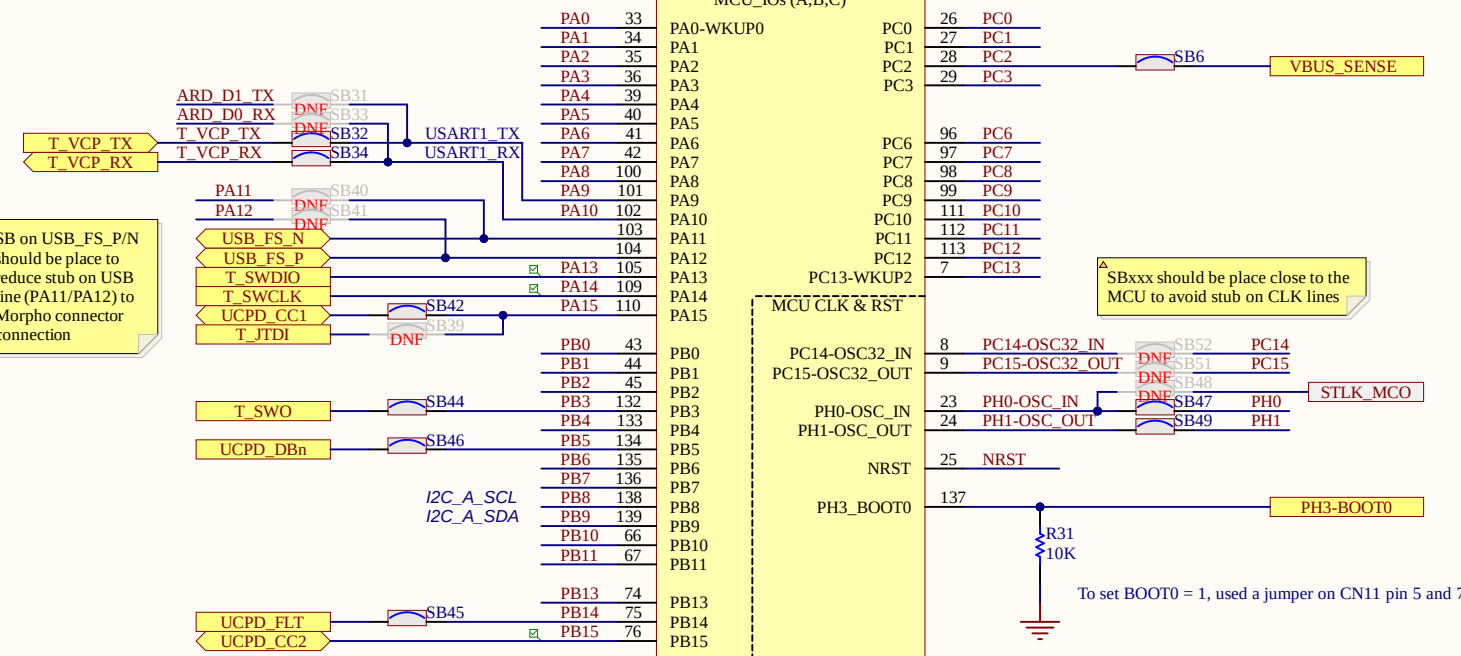
MECHANICAL PARTS

HW101
BOARD REF
MBxxxxy-zz syywwxxxxx

HW102
BOARD CPN
Board CPN



MCU IO CLK and RST



U13B STM32U575ZIT6Q

MCU IOs (D,E,F,G)

PD0	114	PD0	114	PF0	10	PF0	10
PD1	115	PD1	115	PF1	11	PF1	11
PD2	116	PD2	116	PF2	12	PF2	12
PD3	117	PD3	117	PF3	13	PF3	13
PD4	118	PD4	118	PF4	14	PF4	14
PD5	119	PD5	119	PF5	15	PF5	15
PD6	122	PD6	122	PF6	18	PF6	18
PD7	123	PD7	123	PF7	19	PF7	19
PD8	77	PD8	77	PF8	20	PF8	20
PD9	78	PD9	78	PF9	21	PF9	21
PD10	79	PD10	79	PF10	22	PF10	22
PD11	80	PD11	80	PF11	46	PF11	46
PD12	81	PD12	81	PF12	47	PF12	47
PD13	82	PD13	82	PF13	50	PF13	50
PD14	85	PD14	85	PF14	51	PF14	51
PD15	86	PD15	86	PF15	52	PF15	52
PE0	140	PE0	140	PG0	53	PG0	53
PE1	141	PE1	141	PG1	54	PG1	54
PE2	1	PE2	1	PG2	87	PG2	87
PE3	2	PE3	2	PG3	88	PG3	88
PE4	3	PE4	3	PG4	89	PG4	89
PE5	4	PE5	4	PG5	90	PG5	90
PE6	5	PE6	5	PG6	91	PG6	91
PE7	55	PE7	55	PG7	92	PG7	92
PE8	56	PE8	56	PG8	93	PG8	93
PE9	57	PE9	57	PG9	124	PG9	124
PE10	60	PE10	60	PG10	125	PG10	125
PE11	61	PE11	61	PG11		PG11	
PE12	62	PE12	62	PG12	126	PG12	126
PE13	63	PE13	63	PG13	127	PG13	127
PE14	64	PE14	64	PG14	128	PG14	128
PE15	65	PE15	65	PG15	131	PG15	131

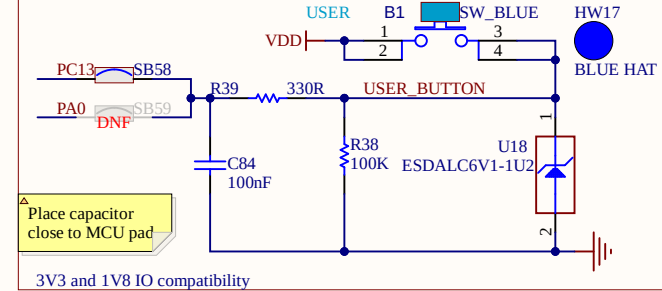
STM32U575ZIT6Q

HW11

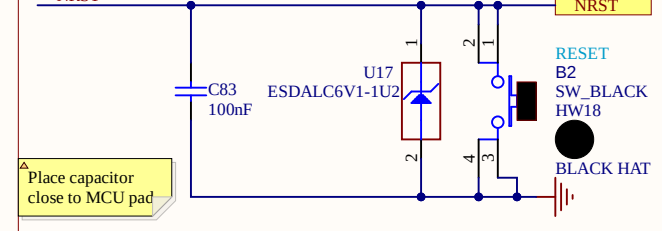


PA[0..15]	PA[0..15]
PB[0..15]	PB[0..15]
PC[0..15]	PC[0..15]
PD[0..15]	PD[0..15]
PE[0..15]	PE[0..15]
PF[0..15]	PF[0..15]
PG[0..15]	PG[0..15]
PH[0..3]	PH[0..3]

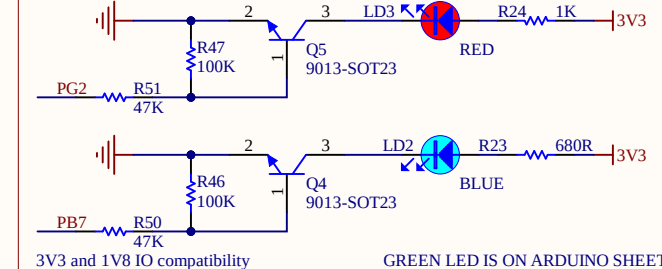
USER BUTTON



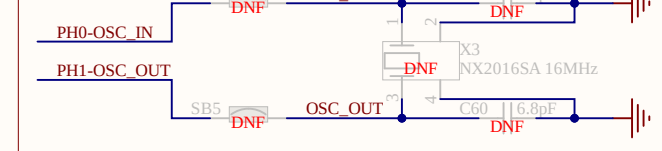
RESET FUNCTION



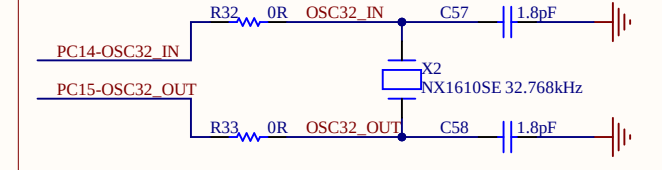
LEDs



EXTERNAL HSE CLK



EXTERNAL LSE CLK



For more detail about Crystal selection, please refer to AN2867

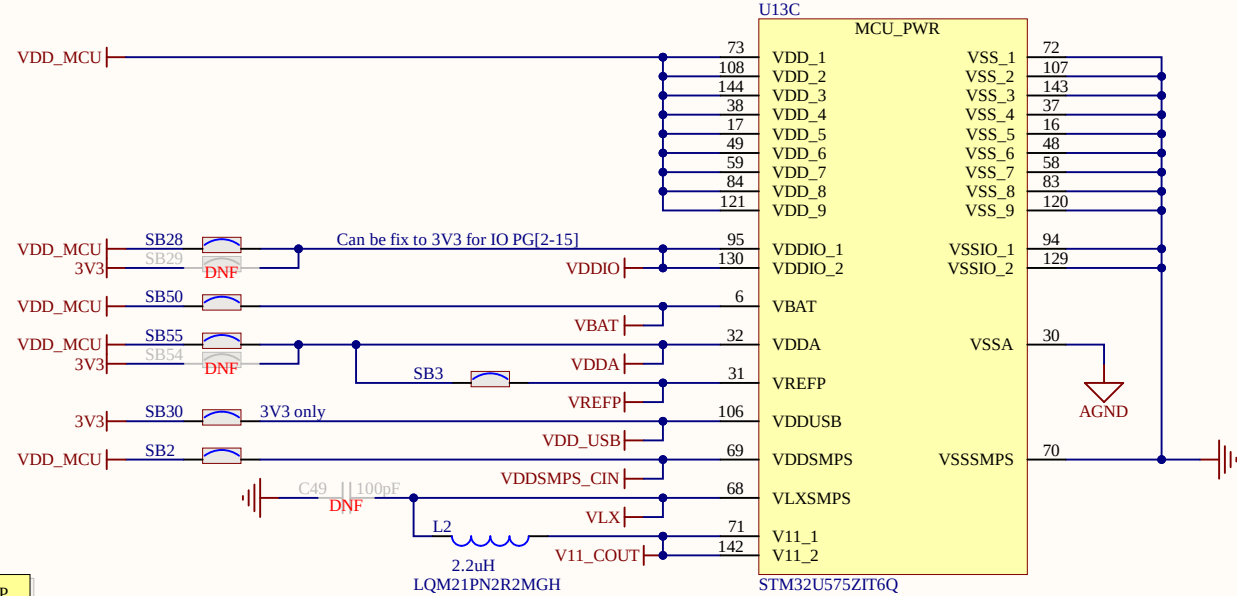
Title: STM32_microcontroller_IOs			
Project: NUCLEO144_Q (int-SMPS)			
Variant: U575ZIQ			
Revision: C-03			
Size: A4	Date: 27-Oct-21	Reference: MB1549	
Sheet: 3 of 8			



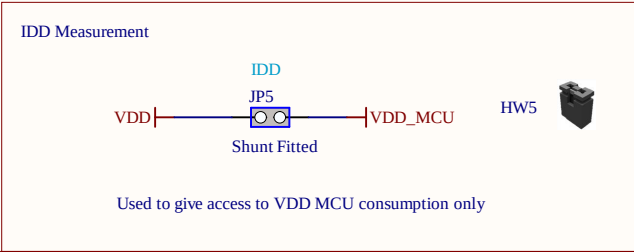
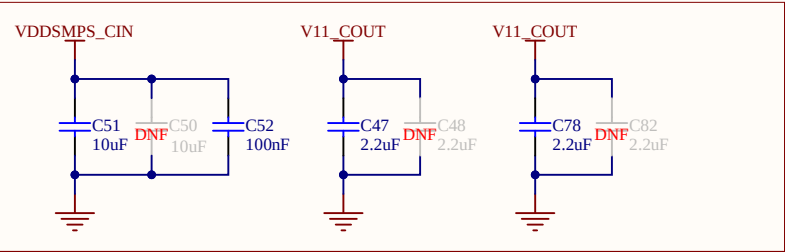
MCU PWR SUPPLIES

Operating range: 1V71<VDD<3V6
Operating range: 1V08<VDDIO<3V6 (only for IO PG[2:15])
Operating range: 1V65<VBAT<3V6
Operating range: 1V62<VDDA<3V6
Operating range: 1V62<VREF<3V6 (depend of VDDA)
Operating range: 1V71<VDDSMPS<3V6

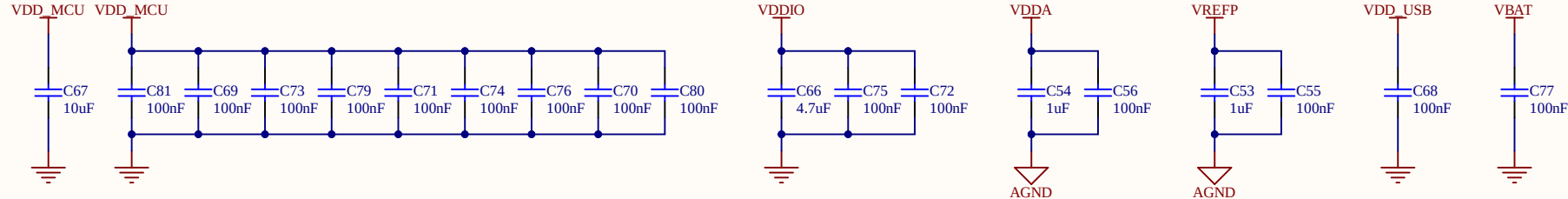
Operating range: 3V0<VDDUSB<3V6



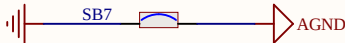
△ "CIN" and "COUT" should be as closed as possible to the LQFP associated pad. COUT 10μF should be place near L4. Or 1 couple of capacitors per pad (4.7μF / 100nF)

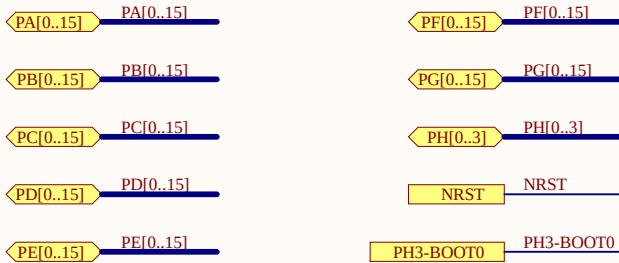
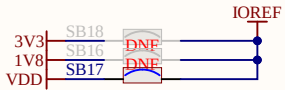


MCU DECAPS
Ceramic capacitor (Low ESR, ESR<1ohm)

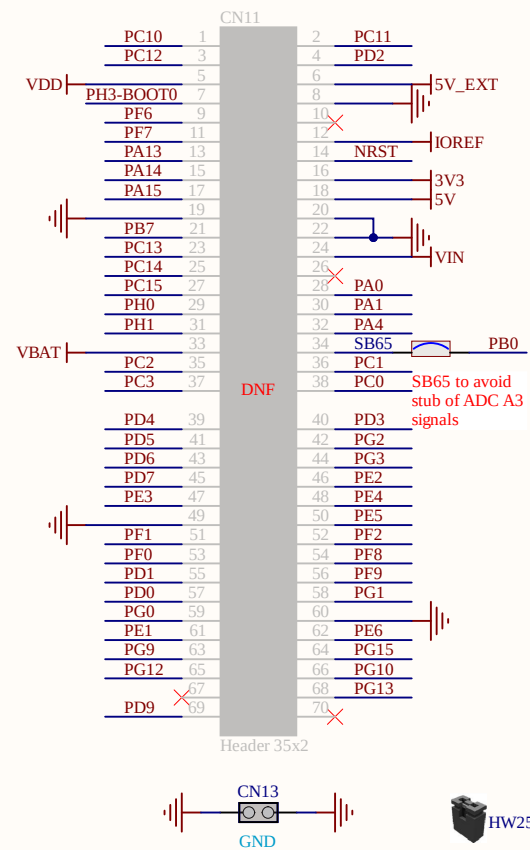


△ For more detail about decap, please refer to AN5373

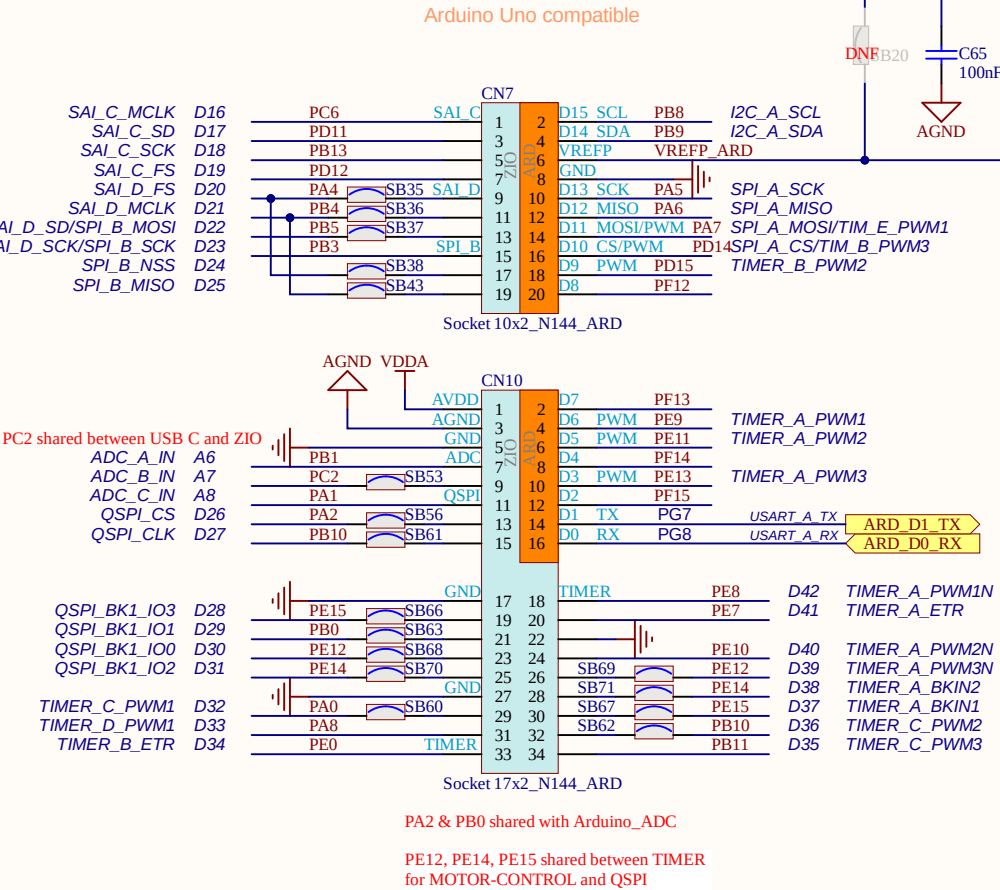
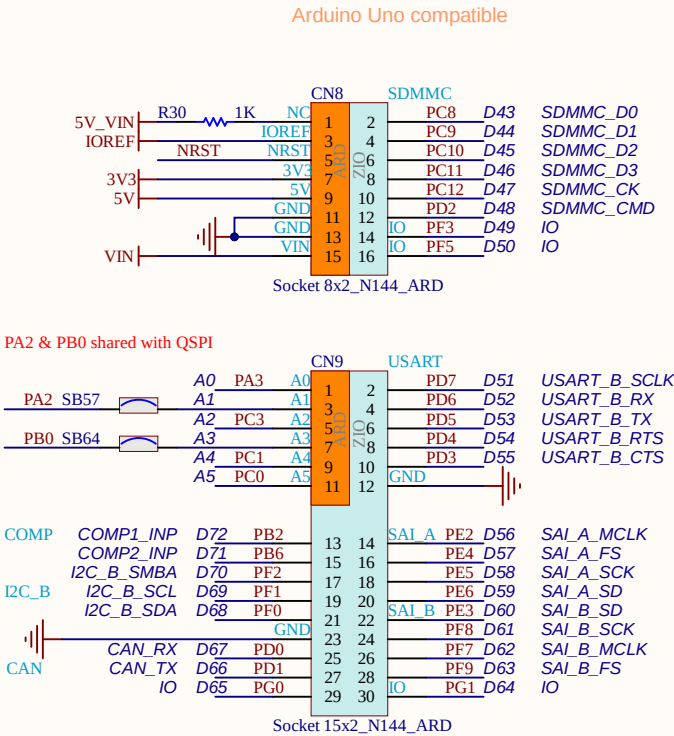




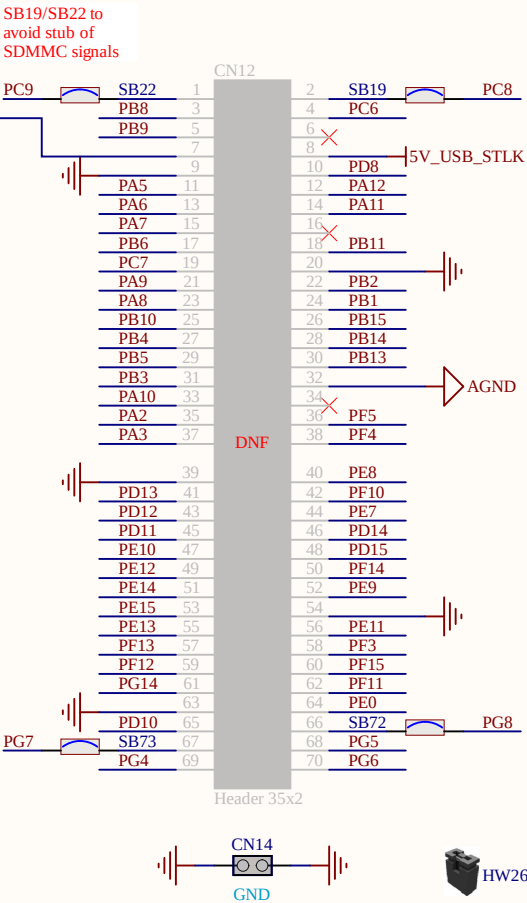
MORPHO CONNECTOR LEFT SIDE



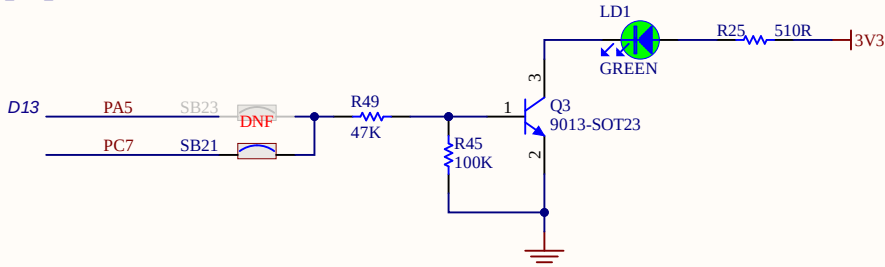
ZIO CONNECTOR ARDUINO UNO V3 COMPATIBLE



MORPHO CONNECTOR RIGHT SIDE

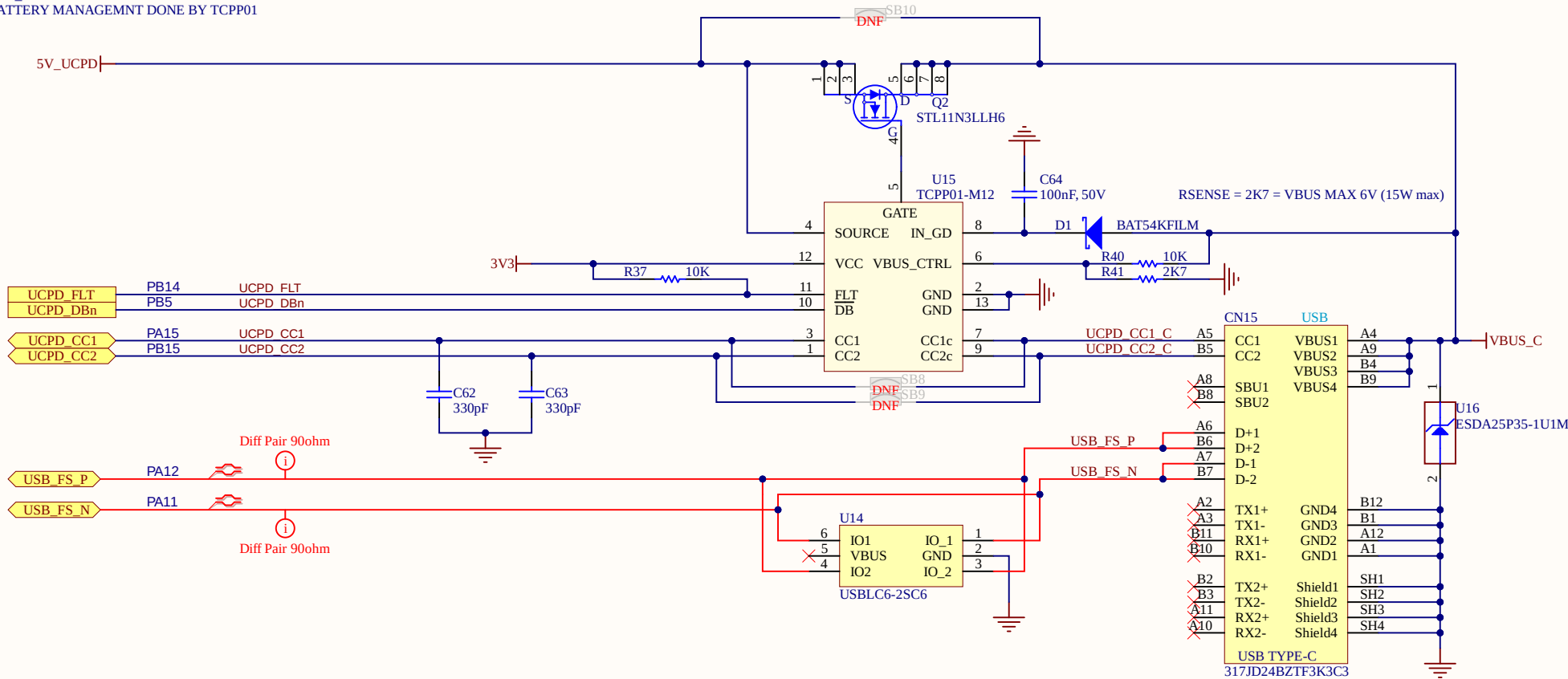


ARD_D13_LED

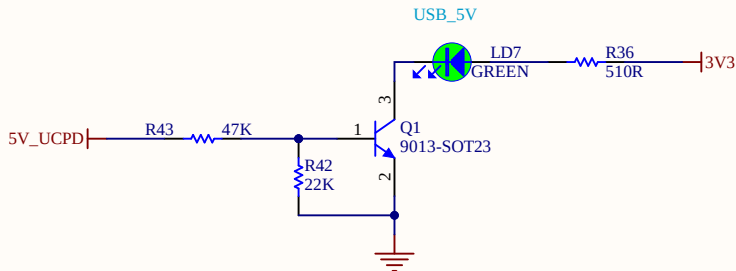


USB_TYPE_C CONNECTOR

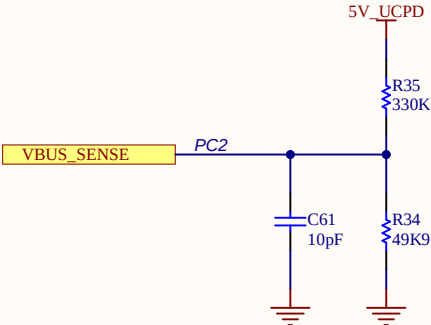
USB_TYPE_C SINK ONLY
DEAD BATTERY MANEMNT DONE BY TCPPO1



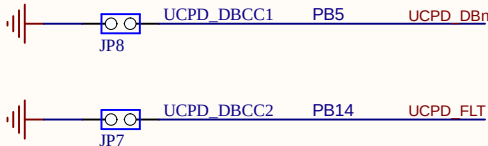
5V_USB_LED



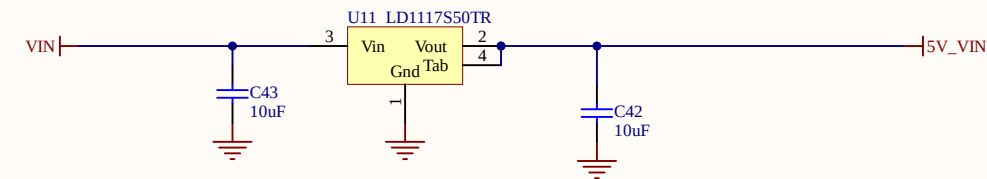
VBUS SENSE



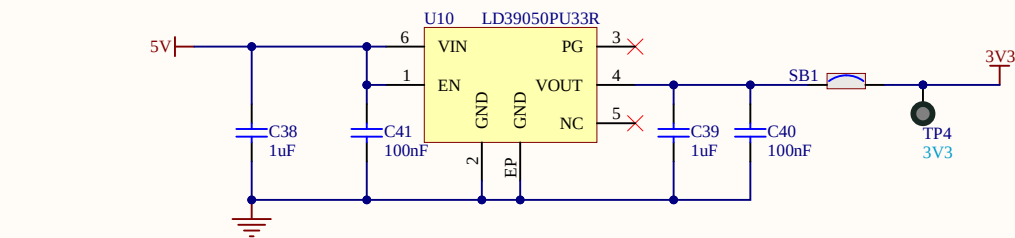
RESERVED FOR DEBUG
DEAD BATTERY MANAGEMENT BY MCU



BOARD PWR: VIN / 5V (output current depend of VIN range)

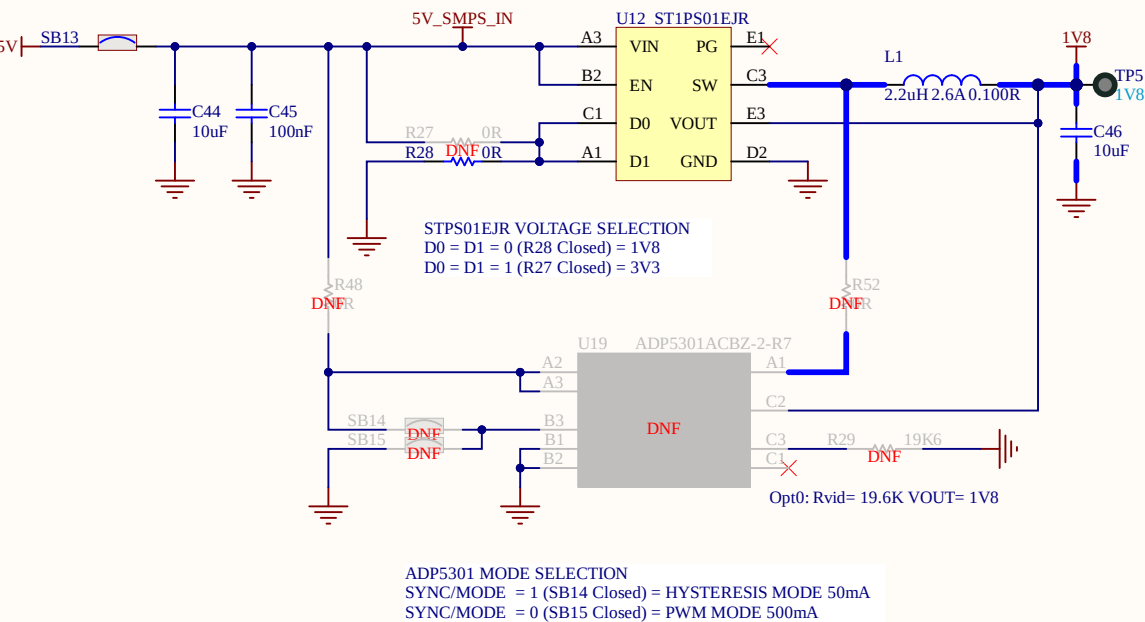


3V3 POWER SOURCE / 500mA

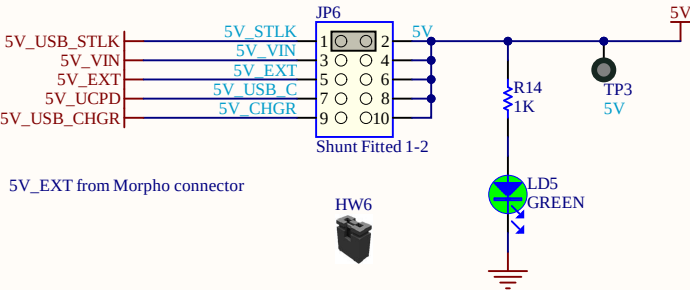


1V8 POWER SOURCE / 400mA

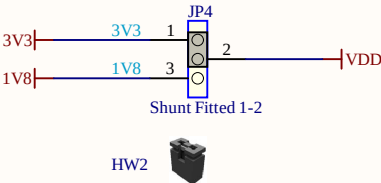
ONLY ONE DEVICE TO BE USED U7 or U101



5V PWR SELECTION
MAX CURRENT 500mA WHEN USING POWER INPUT 5V_USB_STLK



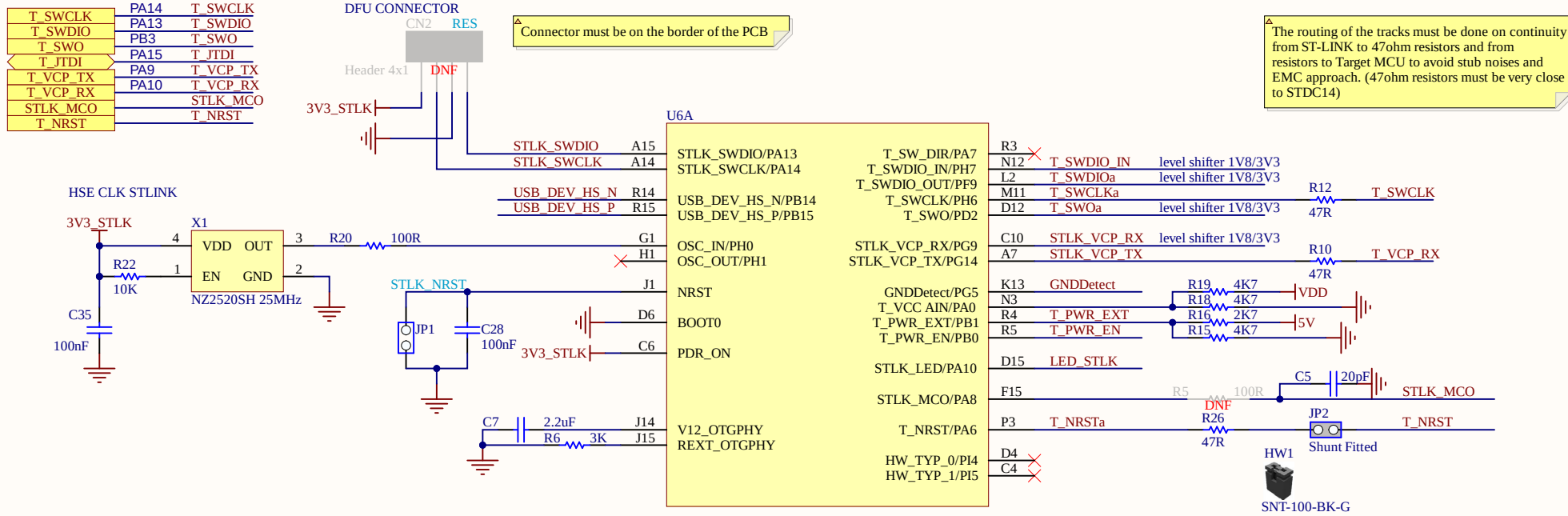
VDD_MCU_SELECTION AND CURRENT MEASUREMENT



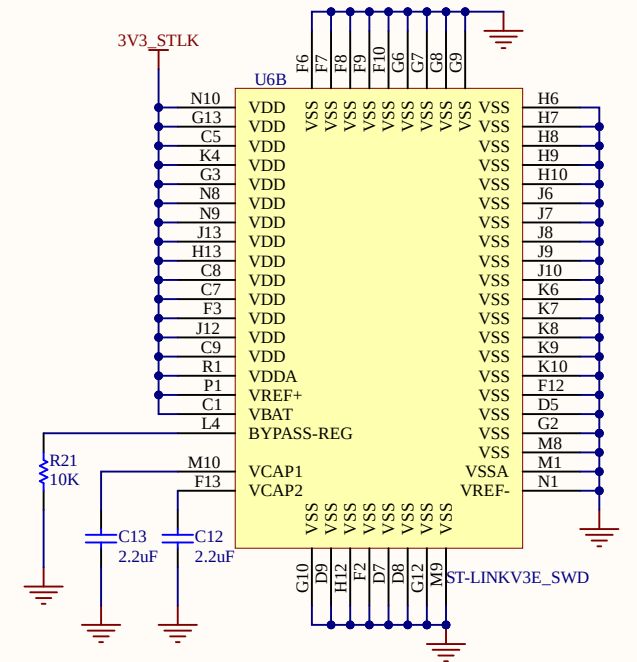
VDD table	JP4
VDD = 3V3	[1-2]
VDD = 1V8	[2-3]



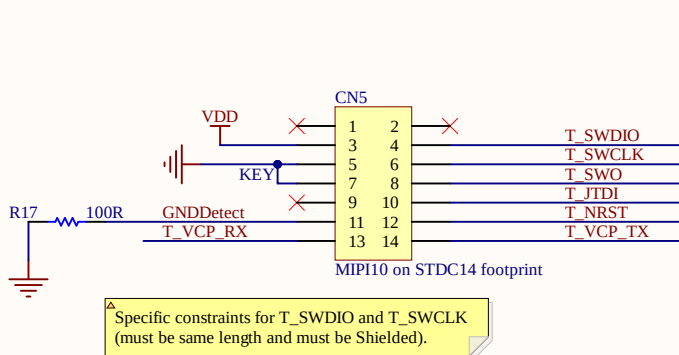
STLINK_MCU



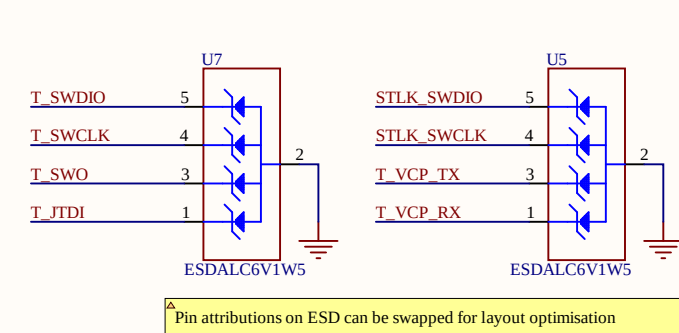
ST-LINK POWER



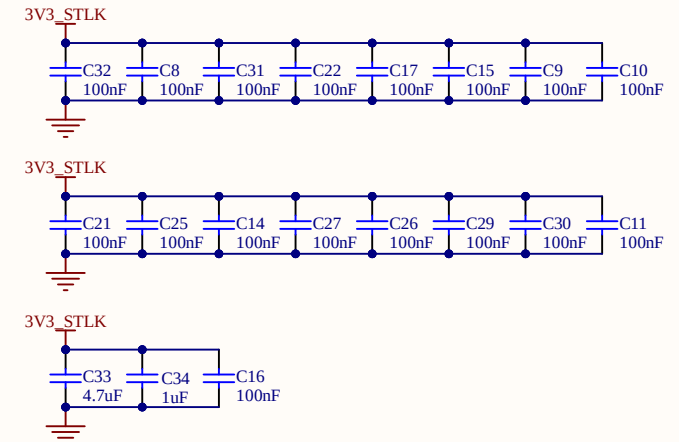
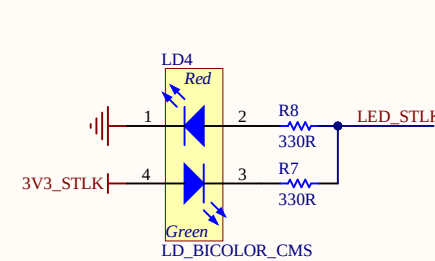
STDC14 Receiver



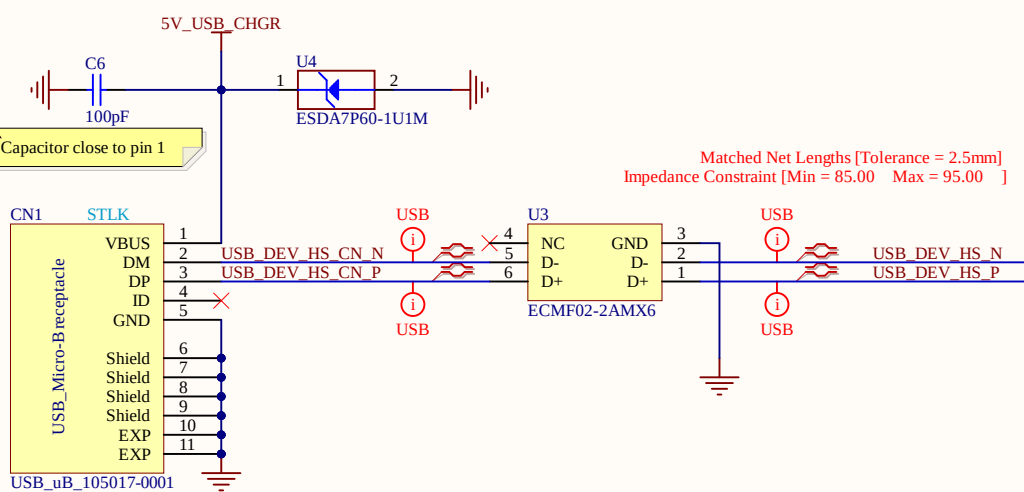
ESD PROTECTIONS



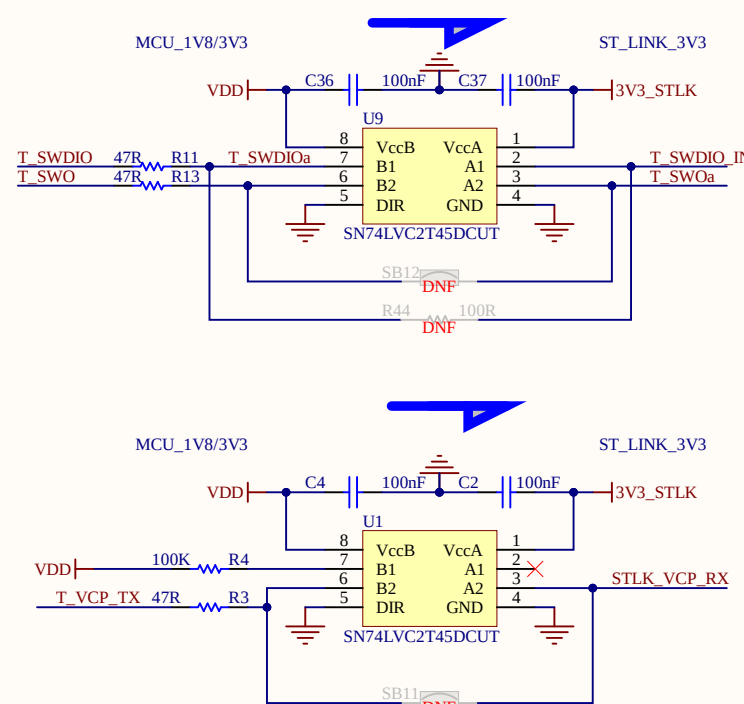
LED STLK



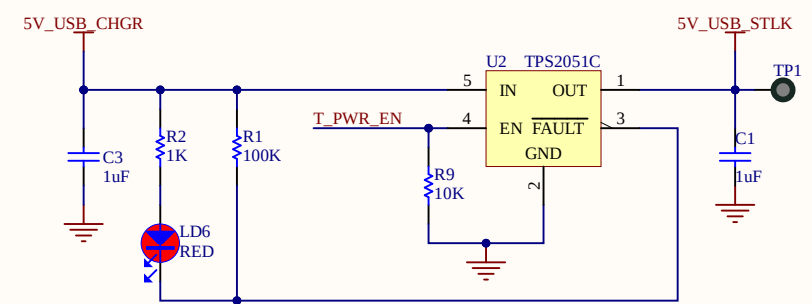
ST-LINK USB CONNECTOR



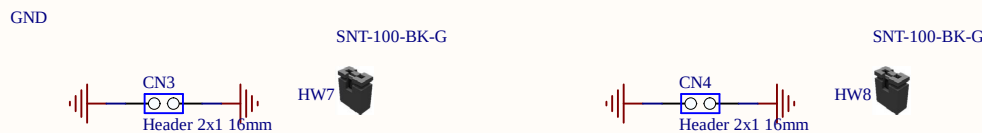
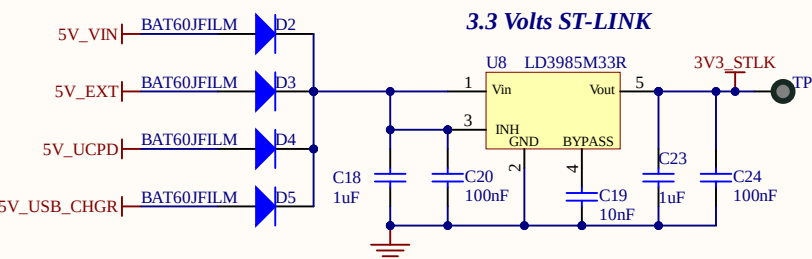
SW LEVEL SHIFTER FOR MCU_1V8

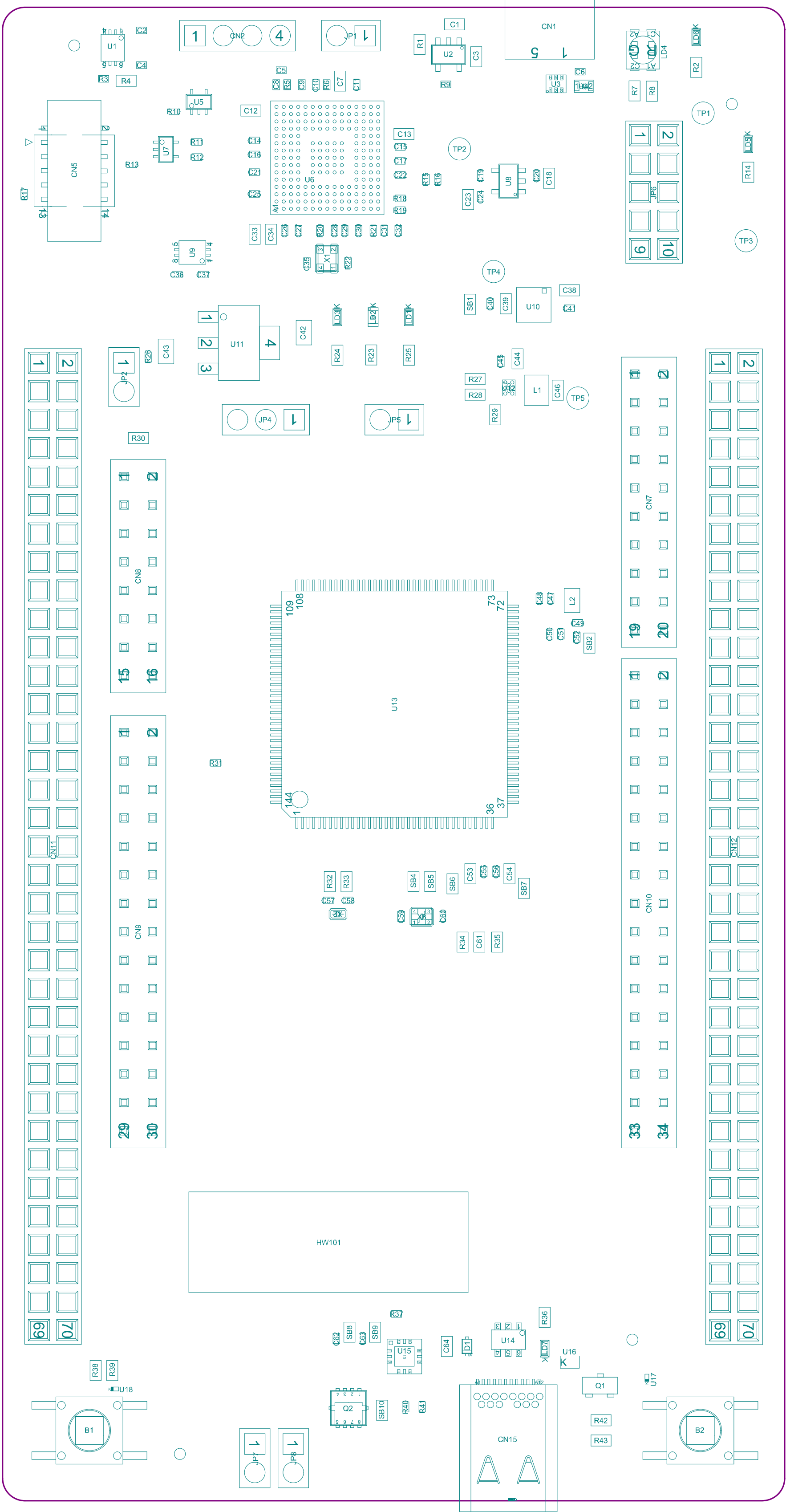


5V ST-LINK PROTECTION

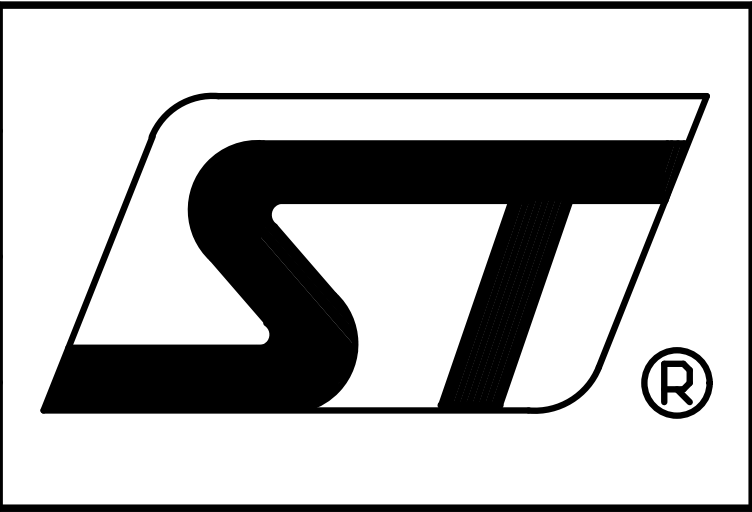


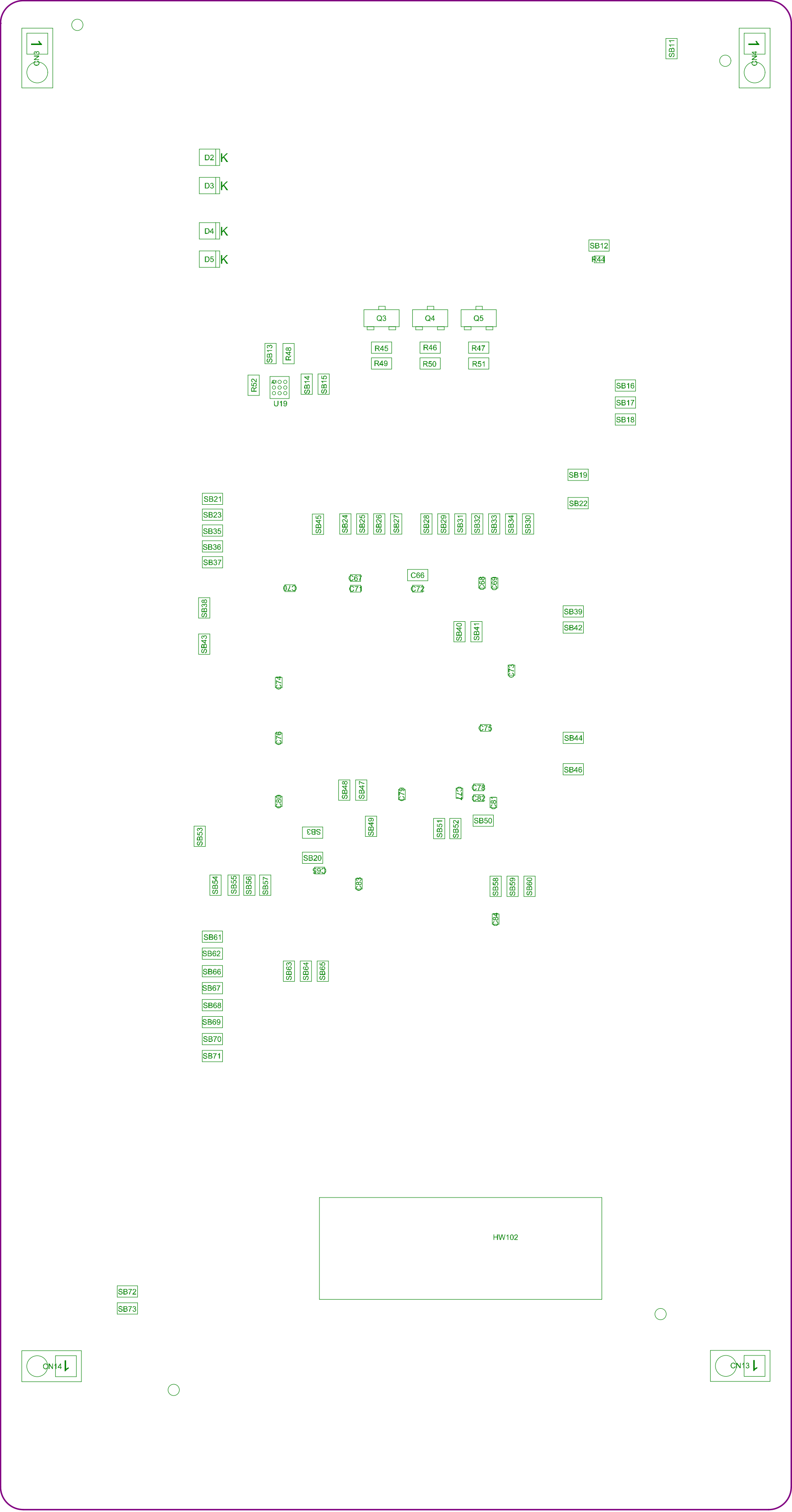
ST-LINK POWER 3V3 / 150mA





Project: NUCLEO144_Q (int-SMPS)	
Layer: M14-Top Assembly	Gerber: .GM14
Variant: [No Variations]	Ref: MB1549
Date: 27-Oct-21	Rev: C





Project: NUCLEO144_Q (int-SMPS)

Layer: M15-Bottom Assembly

Variant: [No Variations]

Date: 27-Oct-21

Gerber:.GM15

Ref: MB1549

Rev: C



