

NUCLEO-WL5JC

MB1389

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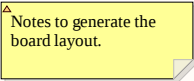
Sheet 8: ST-LINK/V3E-SWD Power Module

U_MB1389_Top
MB1389_Top.SchDoc



Legend

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



OPEN PLATFORM LICENSE AGREEMENT

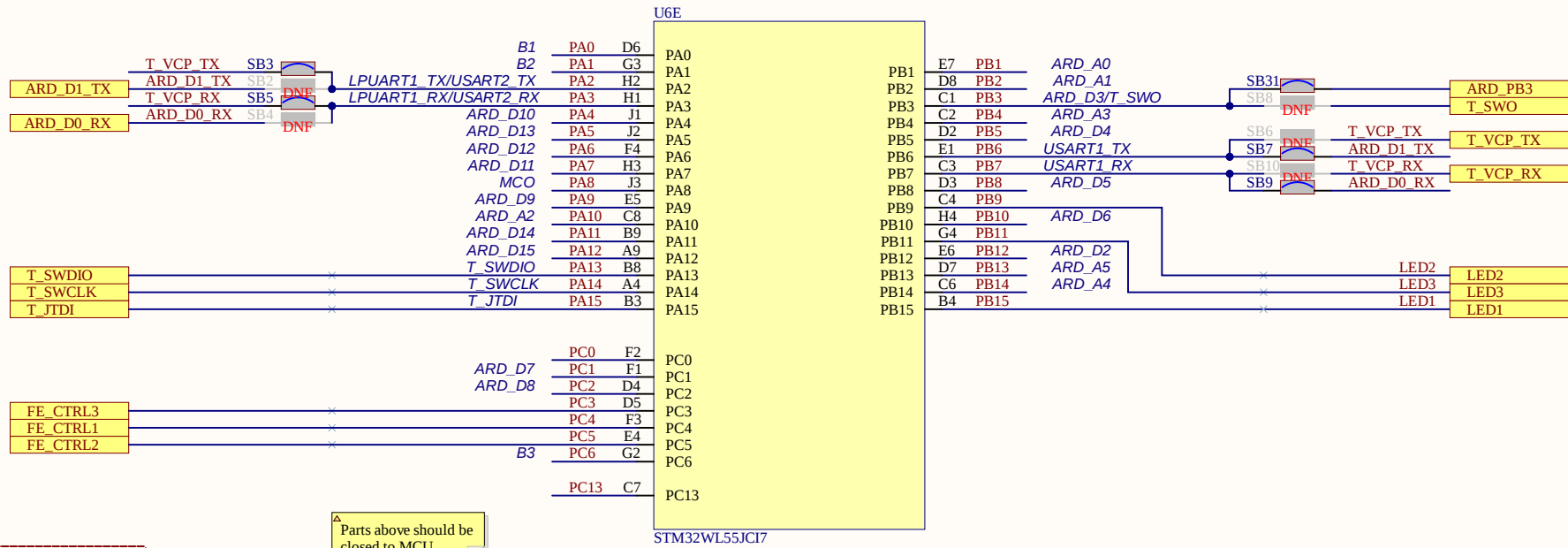
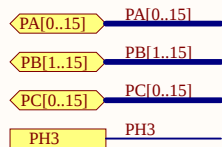
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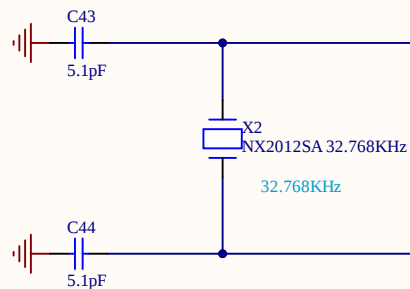
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Title: Project overview		
Project: NUCLEO-WL5JC		
Variant: High-band		
Revision: D-04	Reference: MB1389	
Size: A4	Date: 2020-July-24	Sheet: 1 of 8

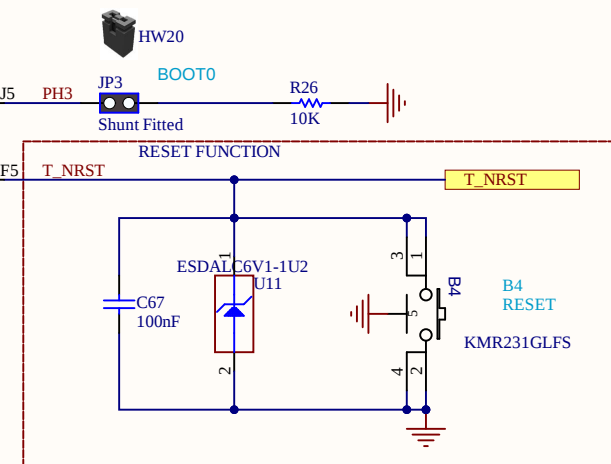
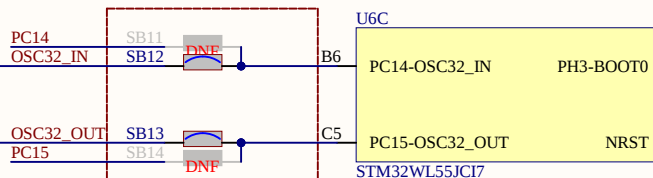
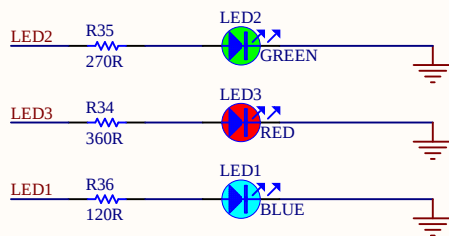




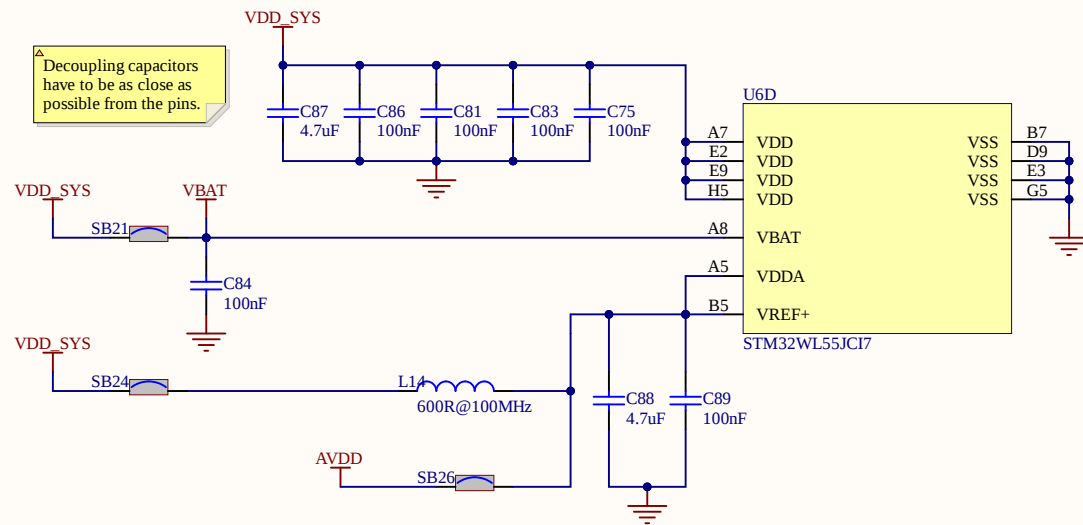
EXTERNAL LSE CLK



LEDs

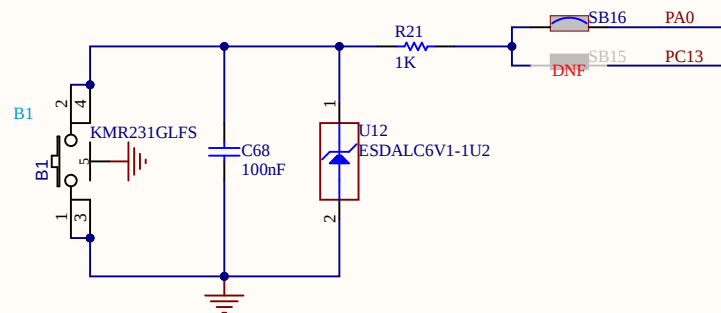


Decoupling capacitors have to be as close as possible from the pins.

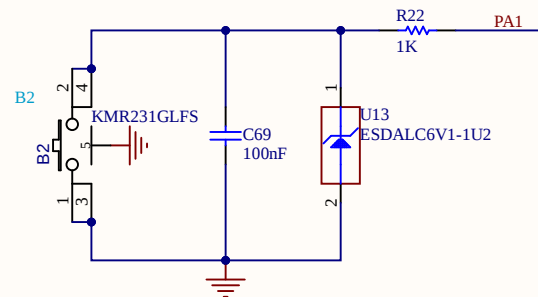


User buttons

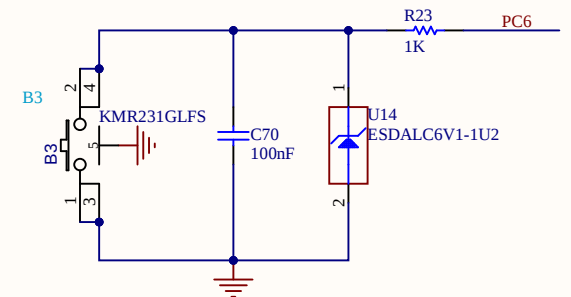
User button 1



User button 2

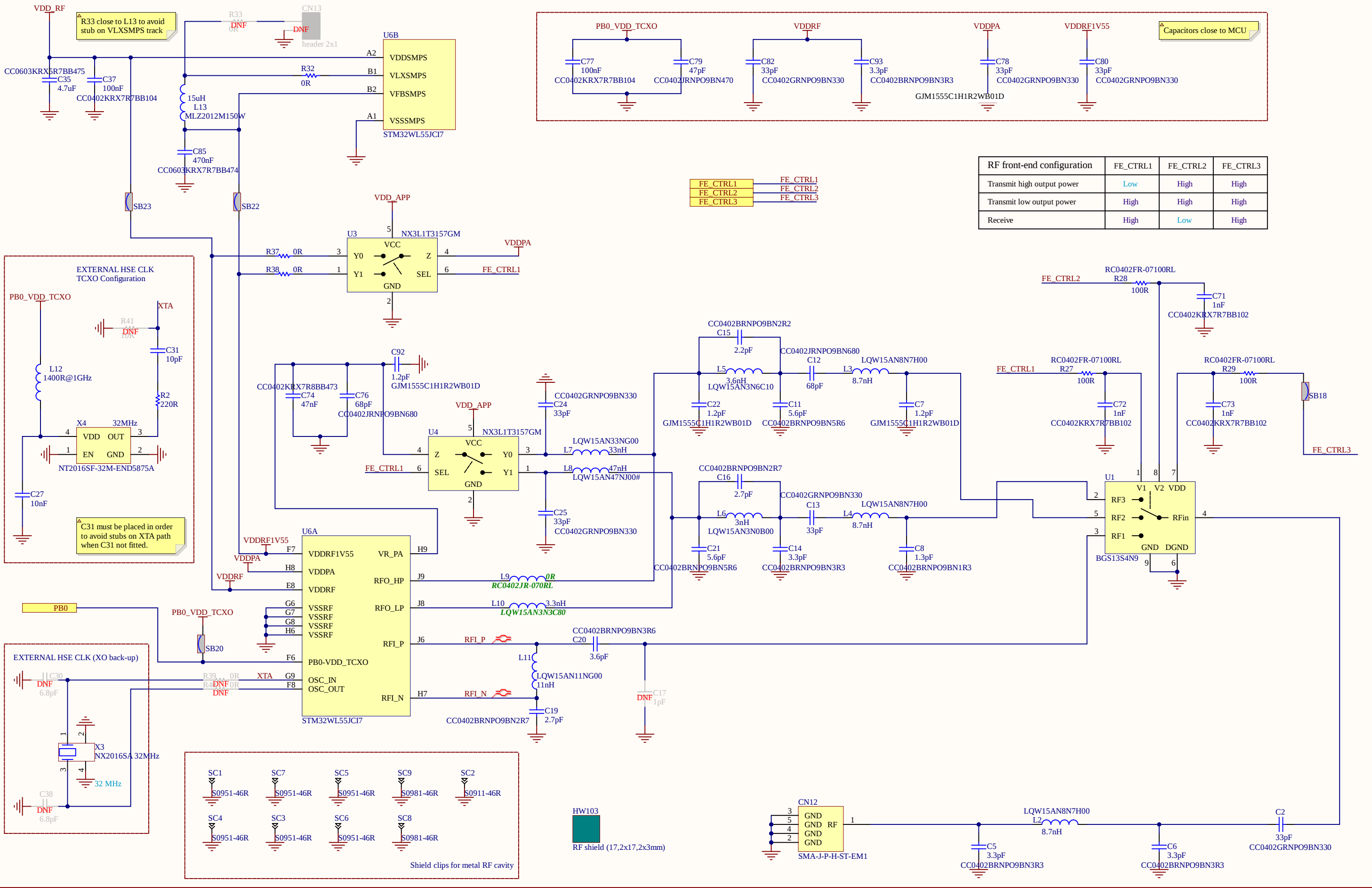


User button 3

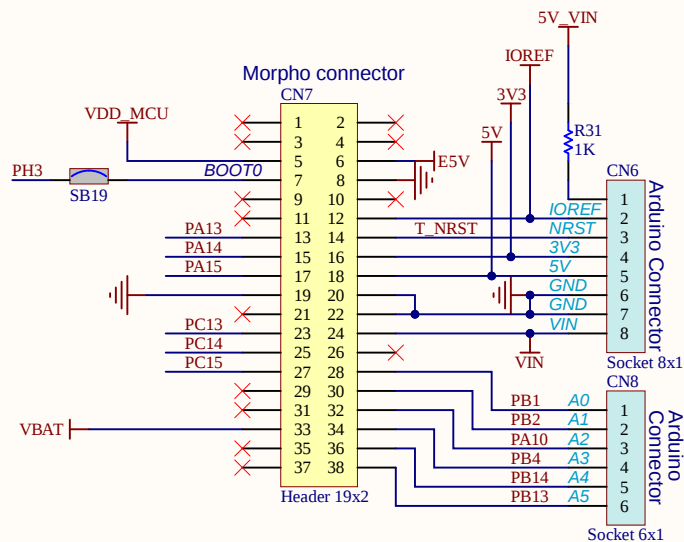
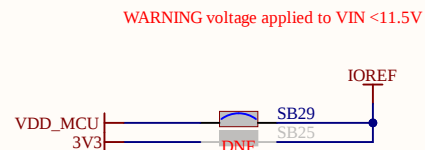
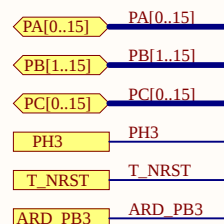


PA[0..15]

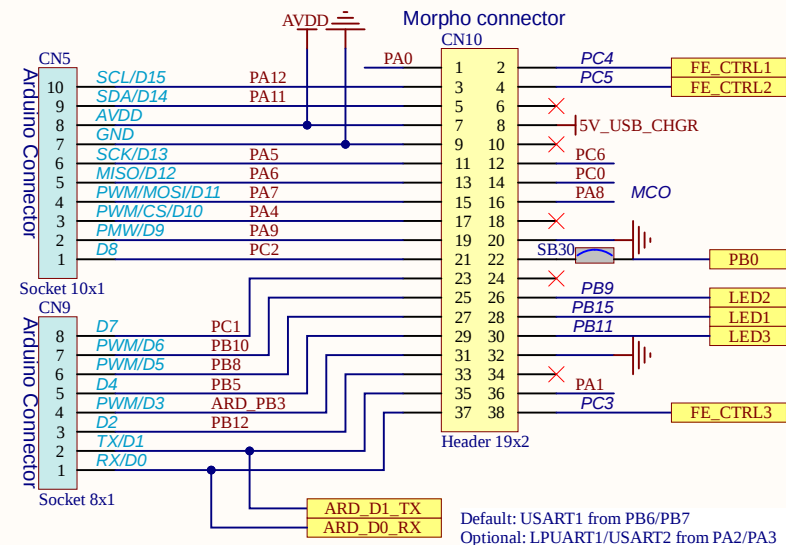
PC[0..15]



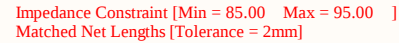
RF front-end configuration	FE_CTRL1	FE_CTRL2	FE_CTRL3
Transmit high output power	Low	High	High
Transmit low output power	High	High	High
Receive	High	Low	High



MCU



5V_USB_CHGR

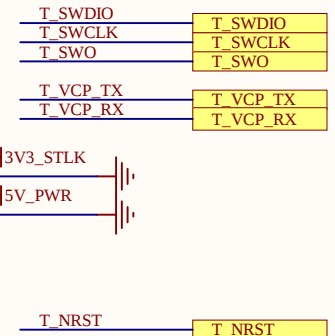
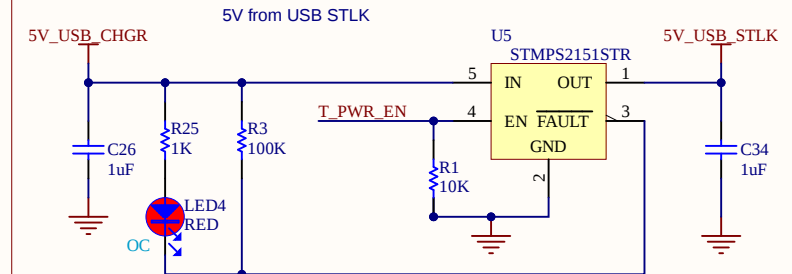


ESD protections for connectors

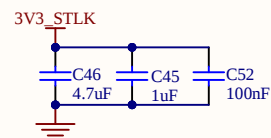
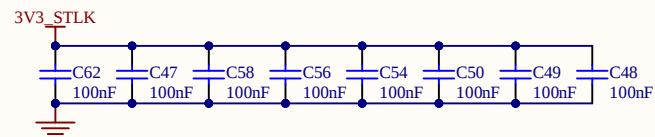
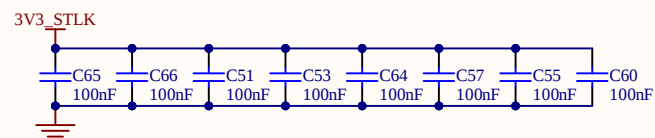
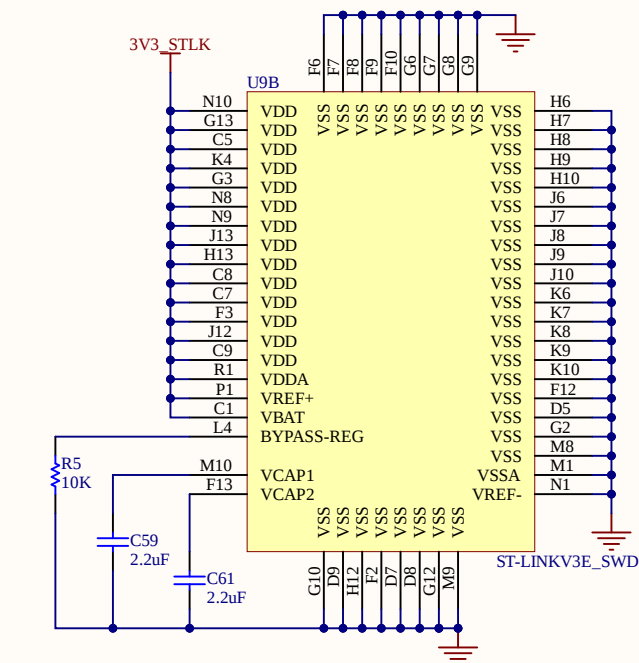
The schematic diagram illustrates the ESD protection circuit for the STM32F407VGT6. It features three ESD protection diodes (U10, U16, U15) connected to the T_NIRST, T_SWCLK, T_SWO, T_JTDI, STLK_SWCLK, STLK_SWCLK, T_VCP_TX, and T_VCP_RX pins. The diodes are connected to ground (pin 2) and are labeled ESDALC6V1-1U2, ESDALC6V1W5, and ESDALC6V1W5 respectively.



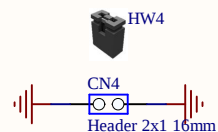
STDC14, Specific constraints for T_SWDIO and T_SWCLK (must have same length and must be Shielded), The routing of the tracks must be done on continuity from ST-LINKV3E --> 47ohms resistors --> Target MCU, to avoid stub noises and for EMC approach (47ohms resistors and ESDALC6V1W5 must be very close to STDC14).



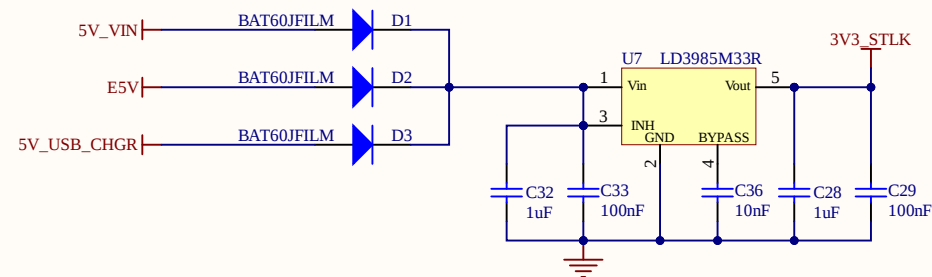
ST-LINKV3E SWD MCU POWER



GND

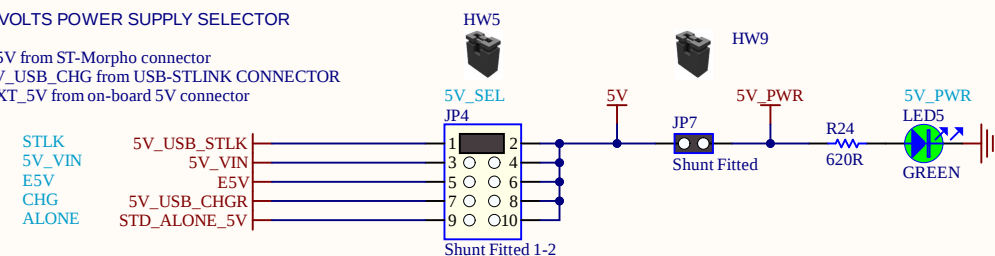


3.3 VOLTS POWER SUPPLY FOR ST-LINK

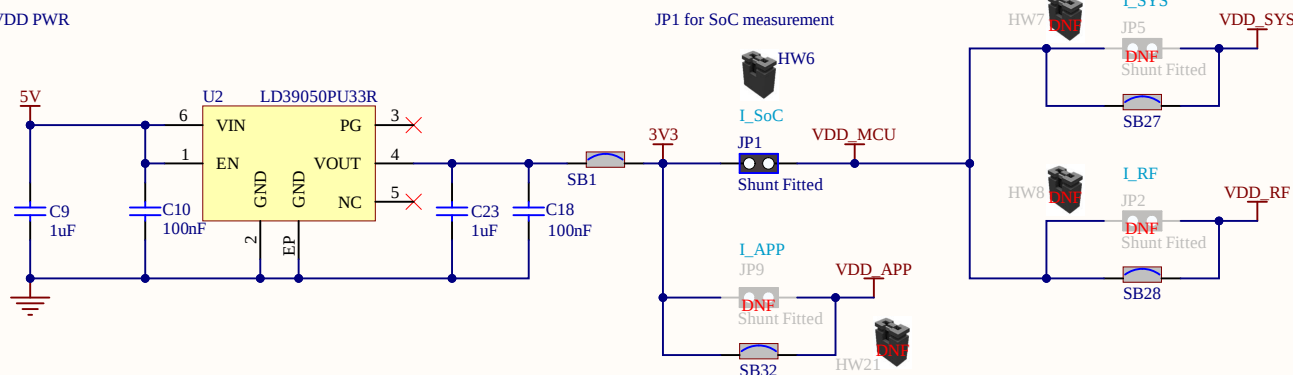


5 VOLTS POWER SUPPLY SELECTOR

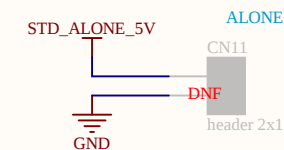
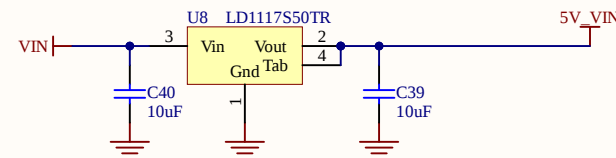
E5V from ST-Morpho connector
5V_USB_CHG from USB-STLINK CONNECTOR
EXT_5V from on-board 5V connector



VDD PWR



VIN / 5V PWR



NUCLEO-WL5JC

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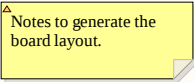
Sheet 8: ST-LINK/V3E-SWD Power Module

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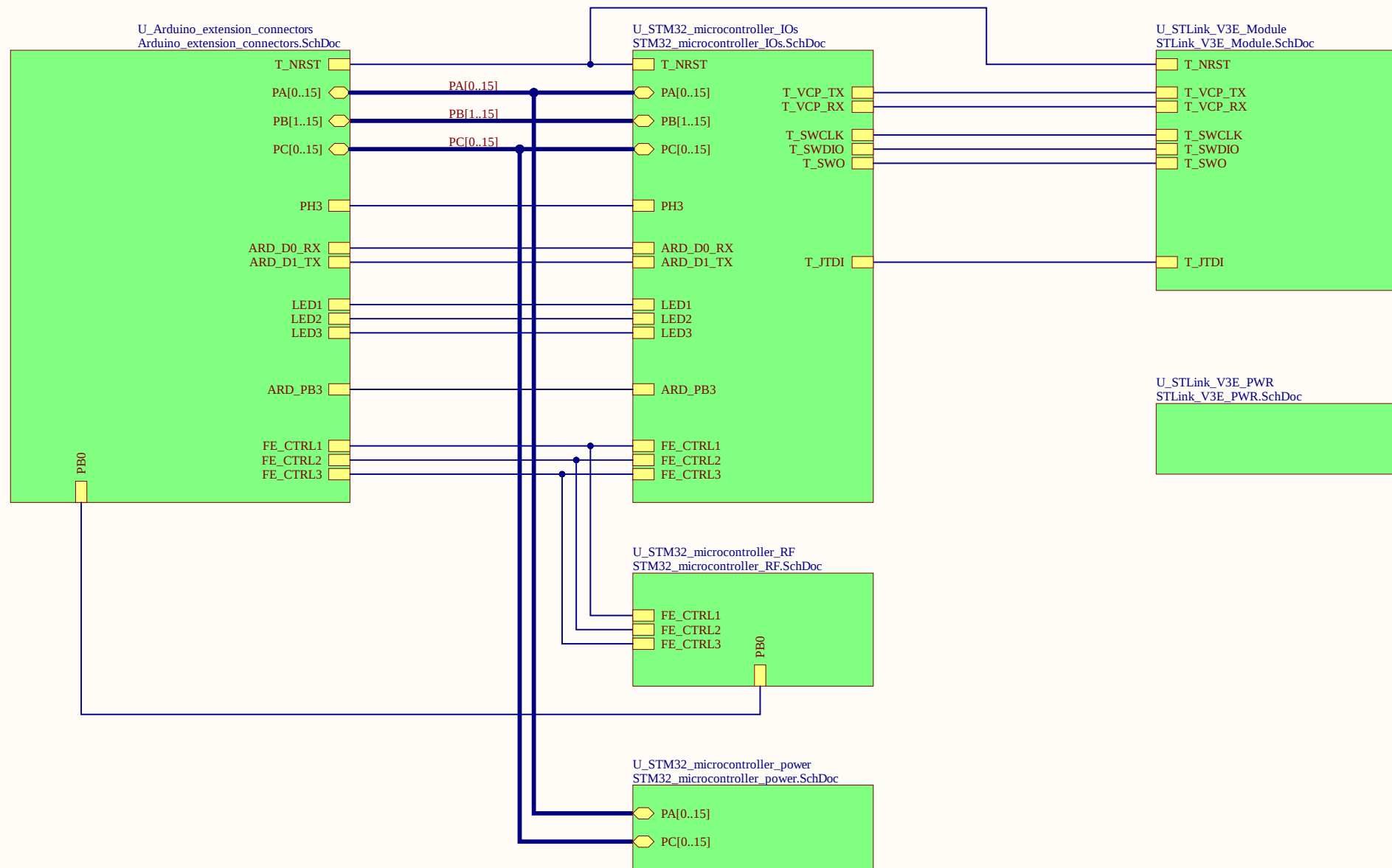
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Variant: Low-band		
Revision: D-04	Reference: MB1389	
Size: A4	Date: 2020-July-24	Sheet: 1 of 8





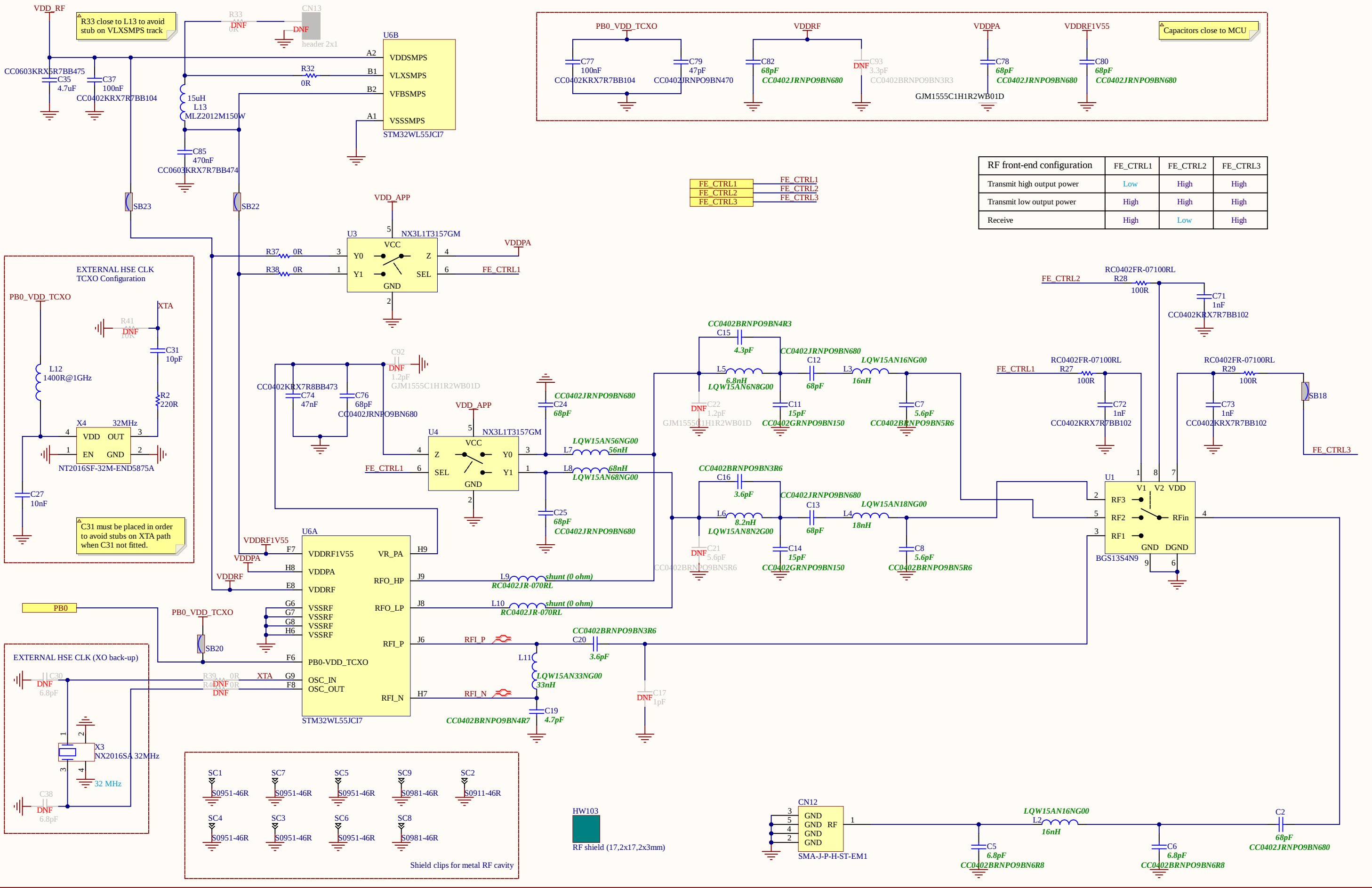
HW100
PCB
MBxxxxx

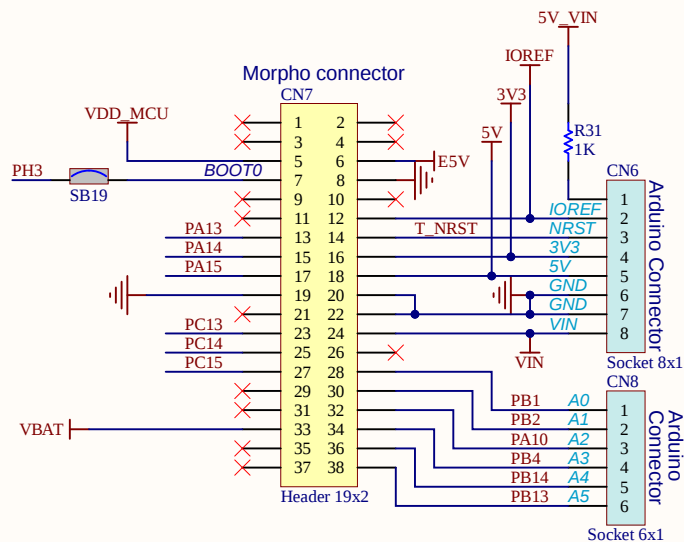
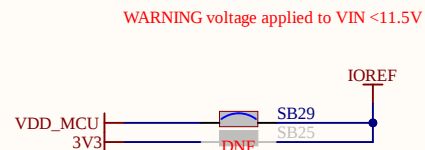
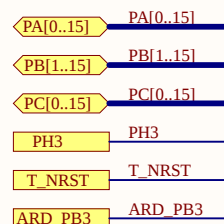
HW101
BOARD REF
MB1389D-01 sywwxxxxx

HW102
BOARD CPN
Board CPN

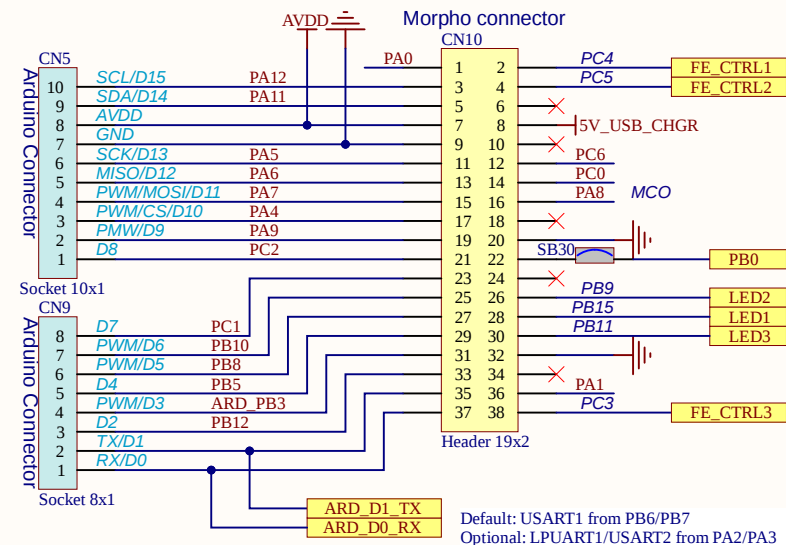
HW108
ES
ES

Title: Top hierarchical view		
Project: NUCLEO-WL5JC		
Variant: Low-band		
Revision: D-04		Reference: MB1389
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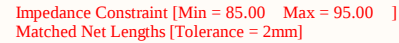




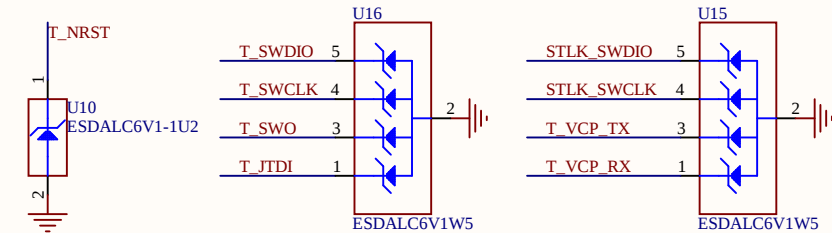
MCU



5V_USB_CHGR



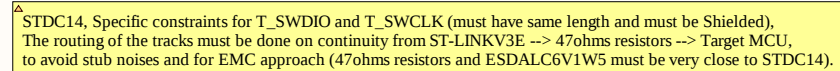
ESD protections for connectors



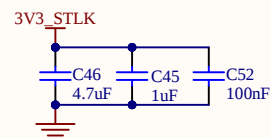
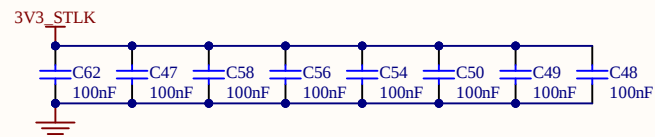
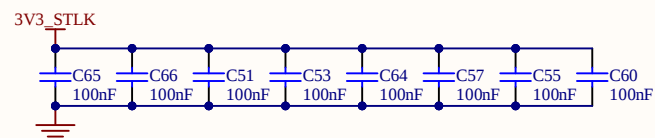
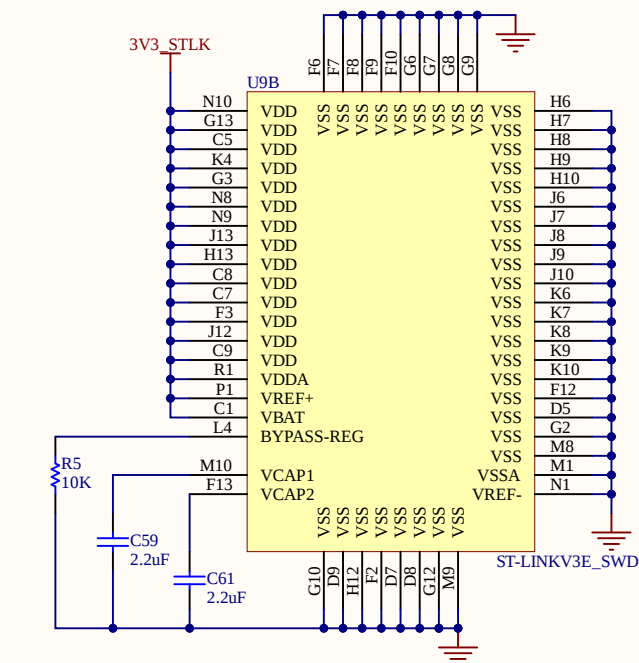
△ Connector must be on the border of the PCB



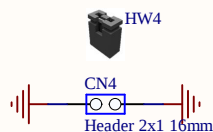
HW11 HW12 HW13 HW14 HW15 HW16



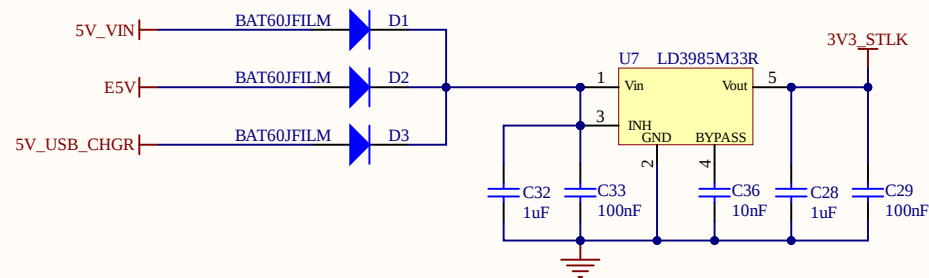
ST-LINKV3E SWD MCU POWER



GND

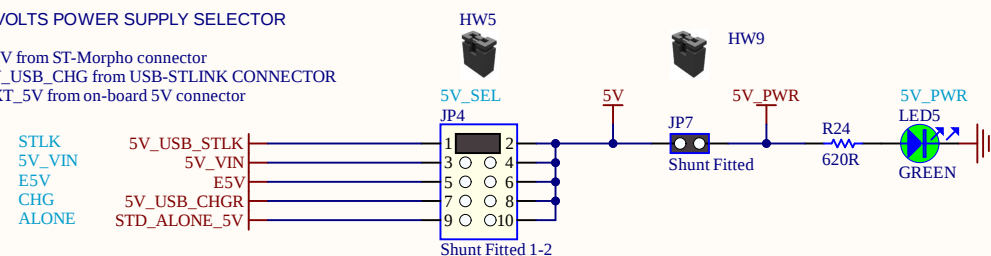


3.3 VOLTS POWER SUPPLY FOR ST-LINK

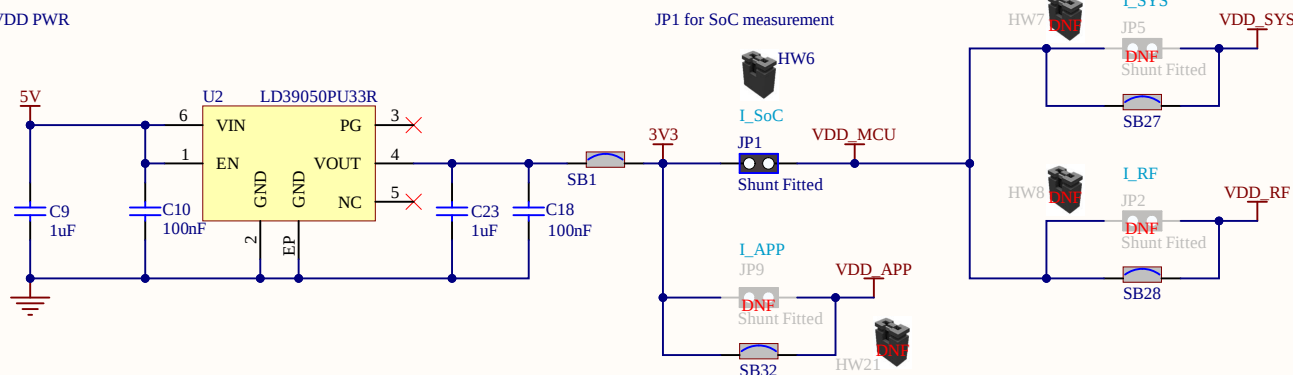


5 VOLTS POWER SUPPLY SELECTOR

E5V from ST-Morpho connector
5V_USB_CHG from USB-STLINK CONNECTOR
EXT_5V from on-board 5V connector



VDD PWR



VIN / 5V PWR

