

STM32WL STMod+ expansion board

MB1779

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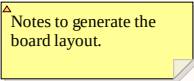


Legend

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

Text to be added to silkscreen.

Warning text.



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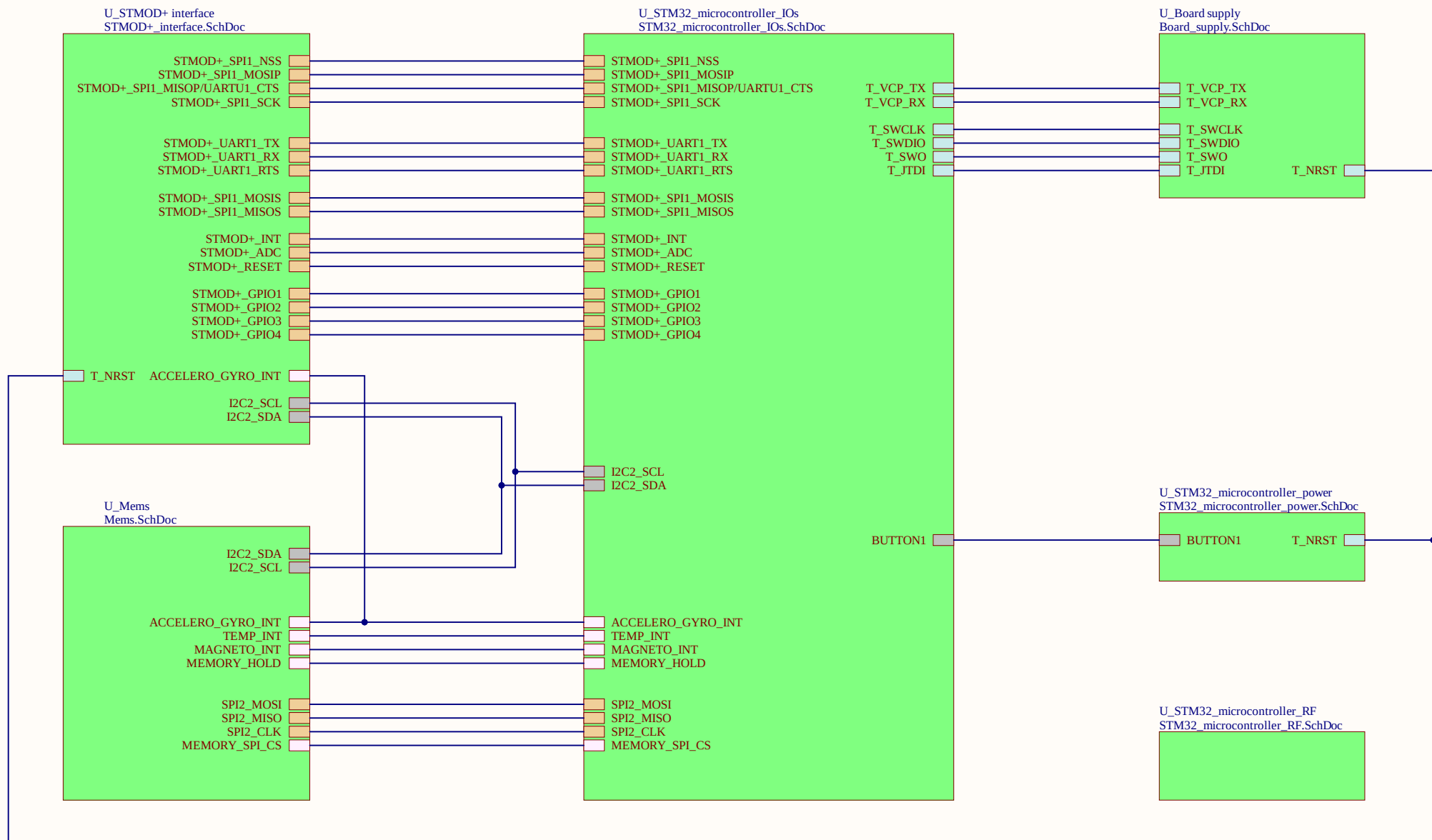
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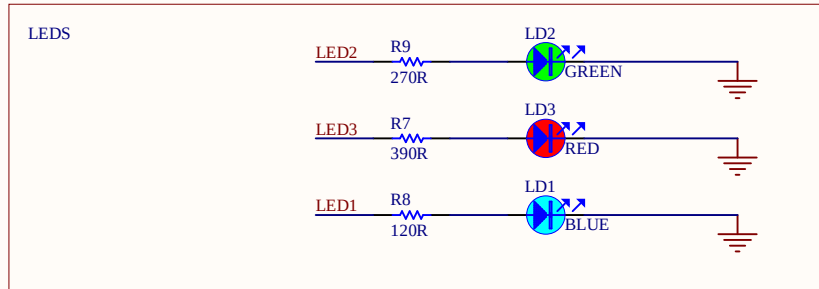
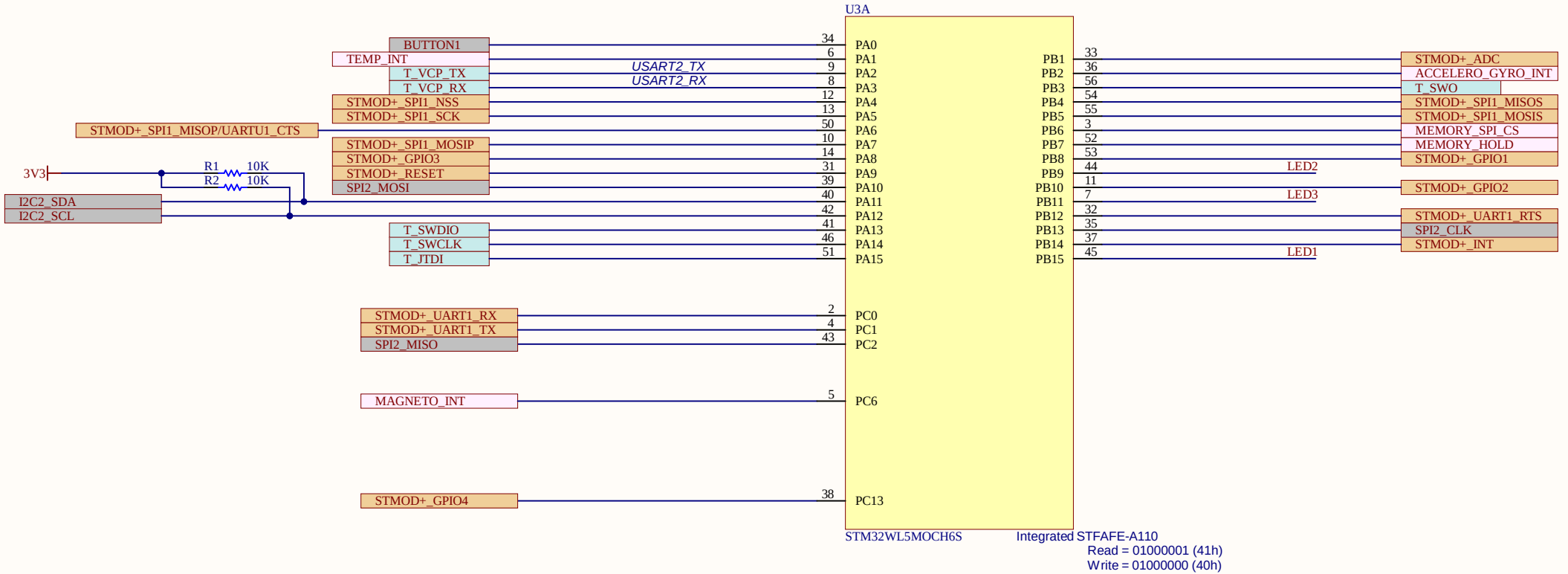
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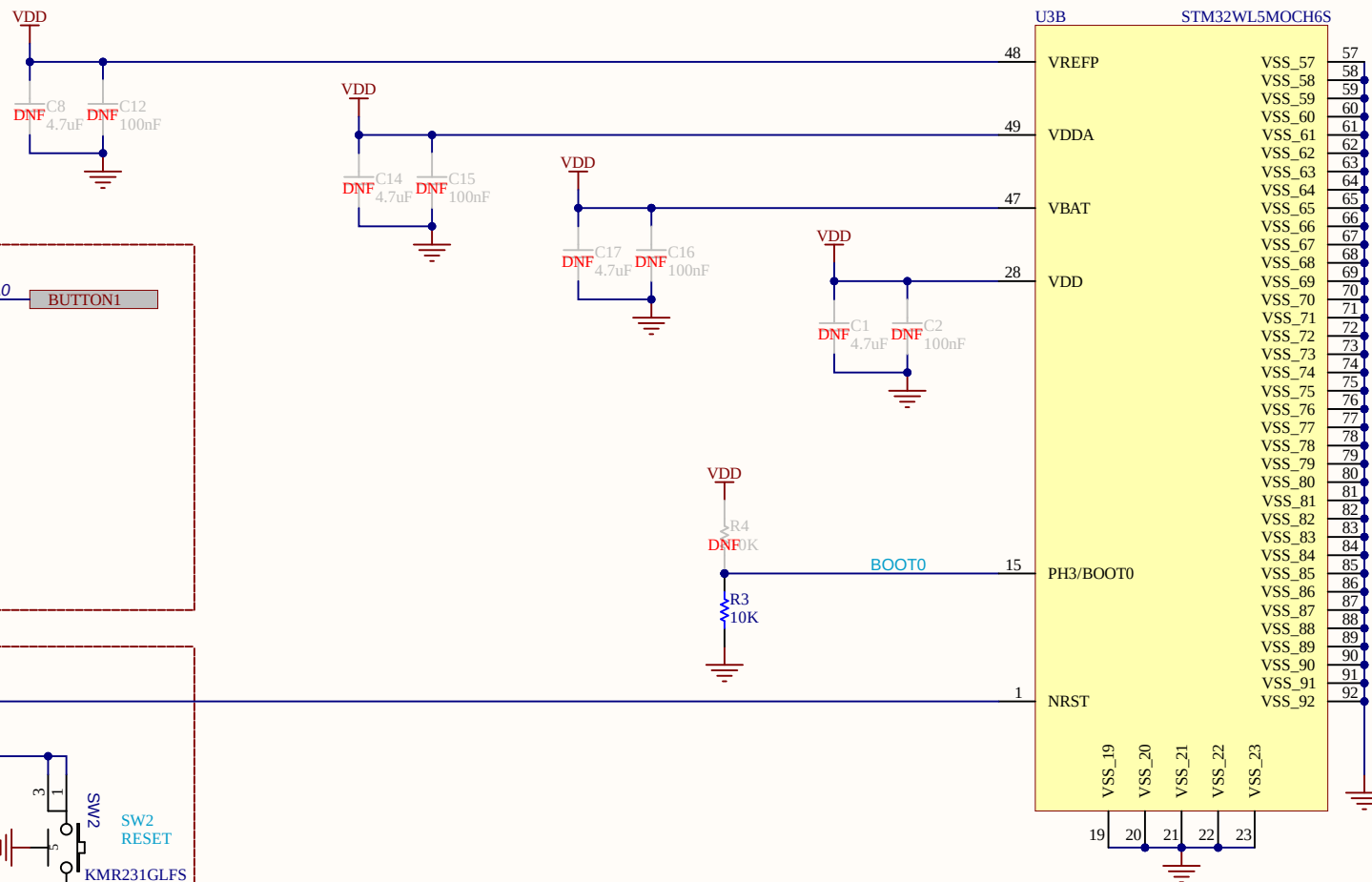
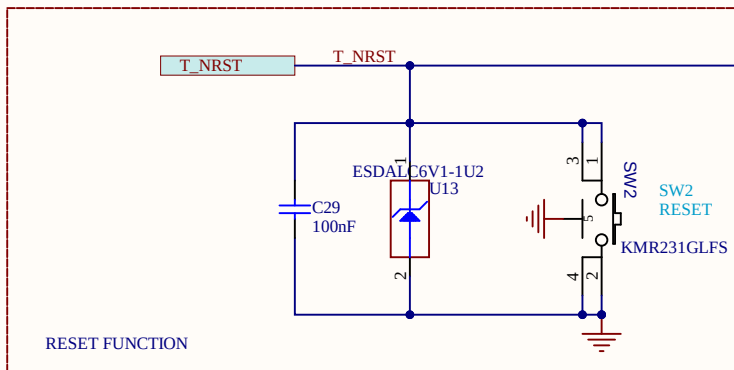
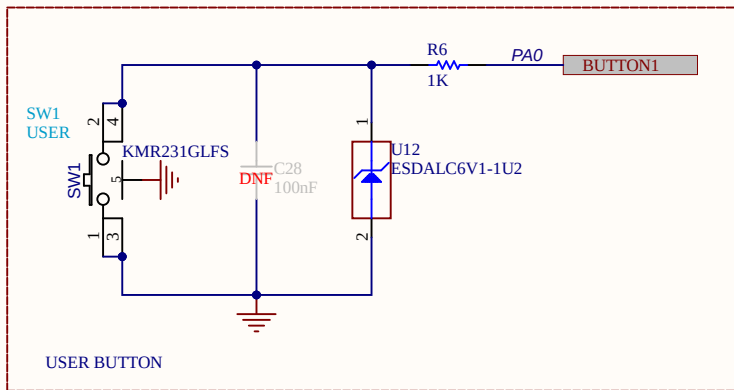
Title: Project overview		
Project: STM32WL STMod+ expansion board		
Variant: HIGH-BAND		
Revision: B-02	Reference: MB1779	
Size: A4	Date: 16-JULY-2023	Sheet: 1 of 8





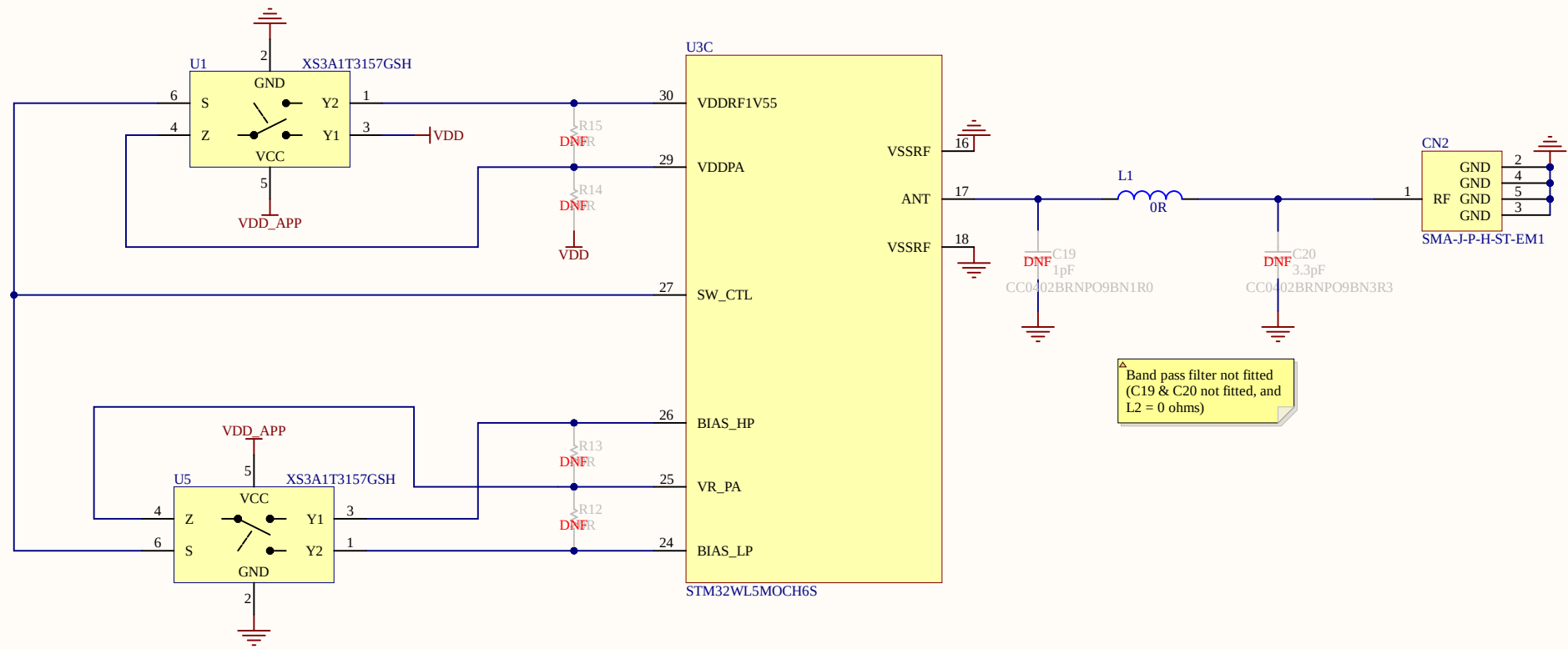


Decoupling capacitors have to be as close as possible from the pins.



RF transceiver configuration	SW_RF	PC5	PC3
Transmit high output power	Low	High	High
Transmit low output power	High	Low	High
Receive	High	High	High

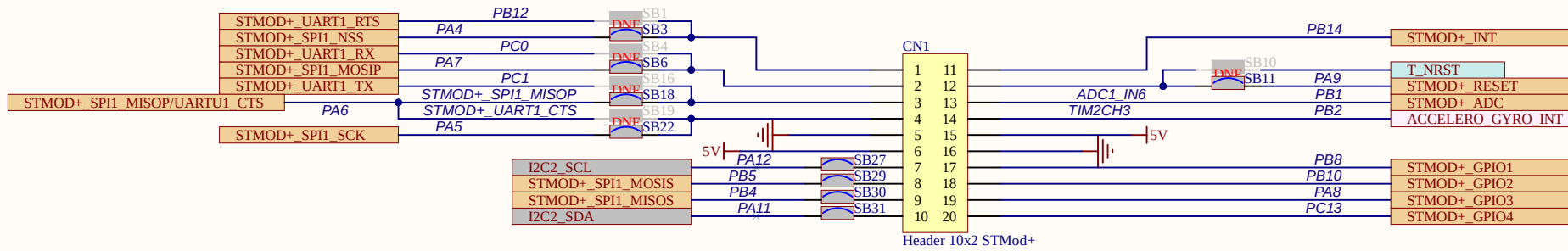
Note: PC5 and PC3 are IOs inside the STM32WL5MOCH module and dedicated to the RF front-end switch control.



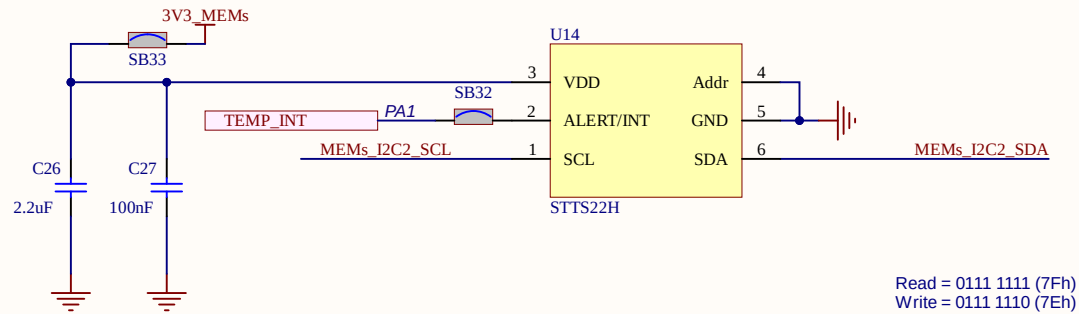
3 output power operating modes:

HP: High Power mode only	R13 & R14 fitted; R12 & R15 not fitted; U1 & U5 not fitted
LP: Low Power mode only	R13 & R14 not fitted; R12 & R15 fitted; U1 & U5 not fitted
HP/LP: Combined High & Low Power modes	R13, R14, R12 & R15 not fitted; U1 & U5 fitted

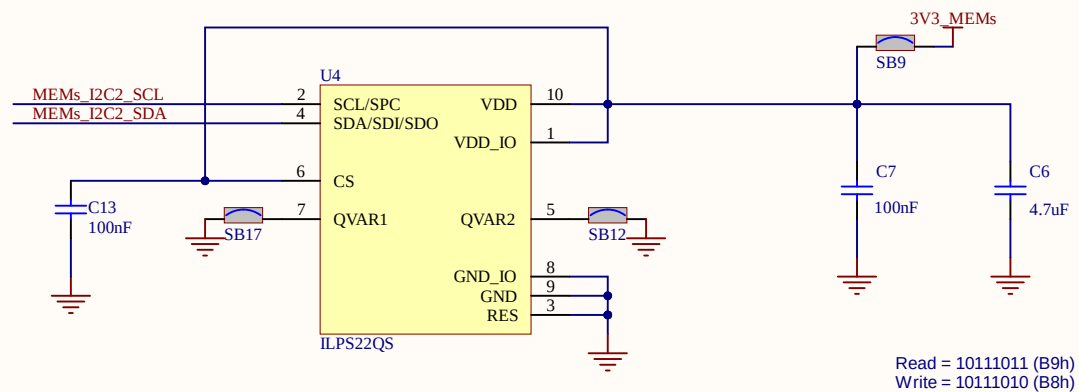




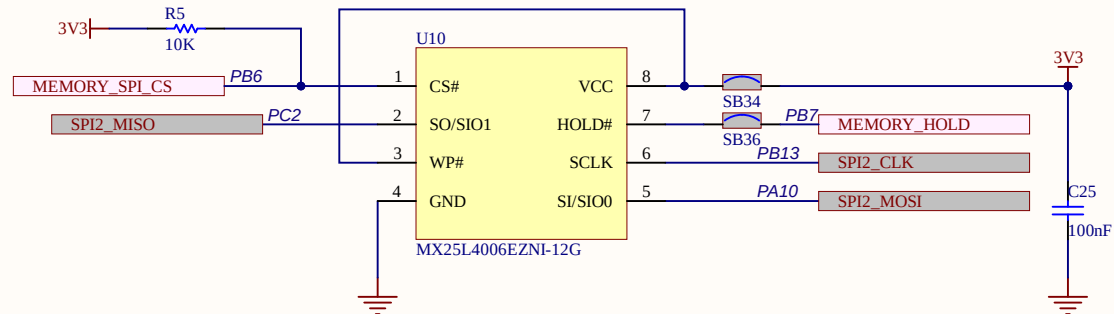
Capacitive digital sensor for temperature



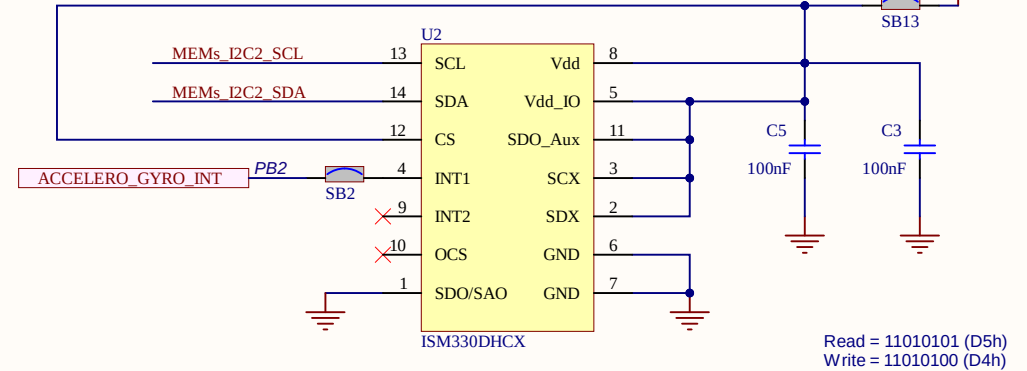
Dual full-scale, 1.26 bar and 4 bar, absolute digital output barometer



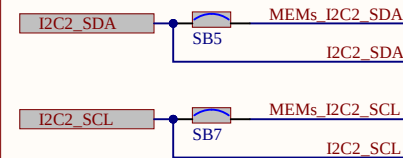
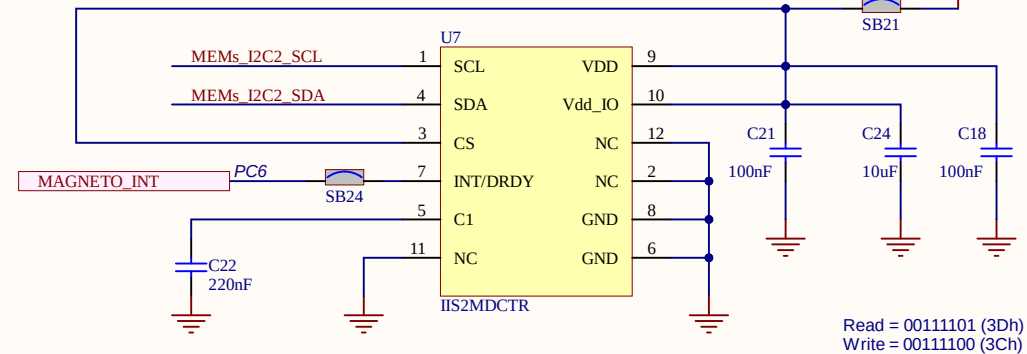
3V, 4M-BIT CMOS SERIAL FLASH MEMORY



3D accelerometer and 3D gyroscope

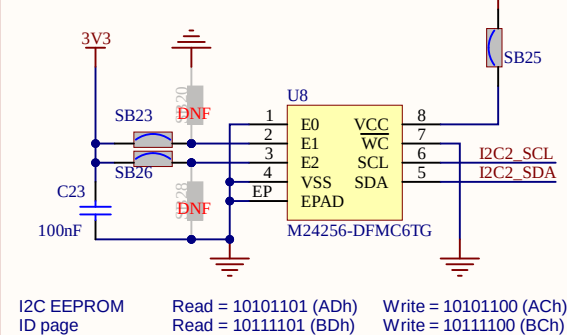


High-accuracy, ultra-low-power, 3-axis digital output magnetometer

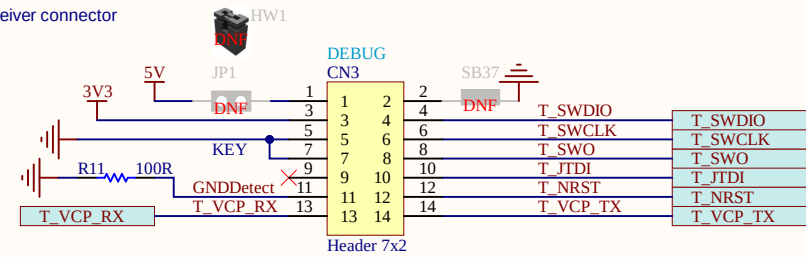


100nF Capacitors on external supplies should be placed as close as possible to the supply pads of the MEMs.

I2C Bus EEPROM



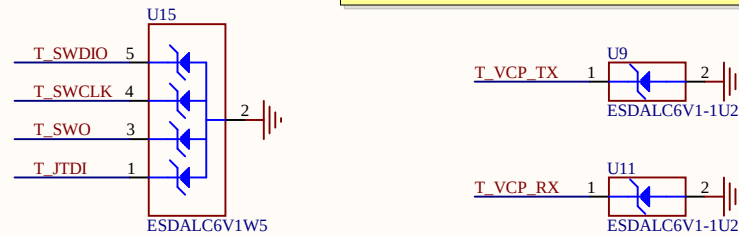
STDC14 receiver connector



Specific constraints for T_SWDIO and T_SWCLK (must have same length and must be Shielded),

ESD protections for connectors

Pin attributions on ESD can be swapped for layout optimisation

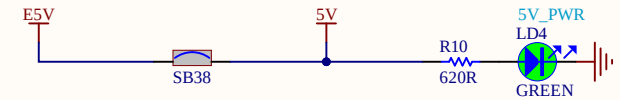
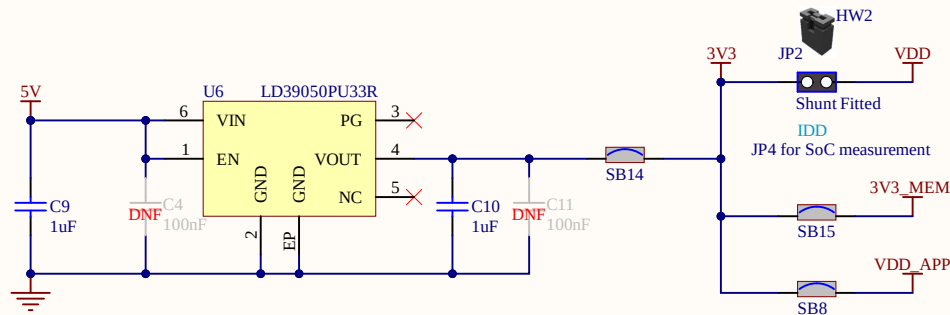


There are 3 ways to provide the 5V voltage supply to the board:

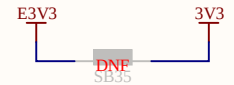
- With an external E5V (CN4),
- With STMOD+ (CN1),
- With external STLINK-V3 debugger (CN3).

!!! Be careful. If the board is supplied by STMOD+ or by the 5EV (CN4), and if STLINK-V3 debugger is used, then to not forget to remove the JP1 jumper (to avoid 5V conflict between STMOD+ (or E5V) and STLINK-V3 debugger). If the board is connected to the STMOD+ connecteur, then E5V must not supply the board (so remove SB38 also), as the board is already supplied via the STMOD+.

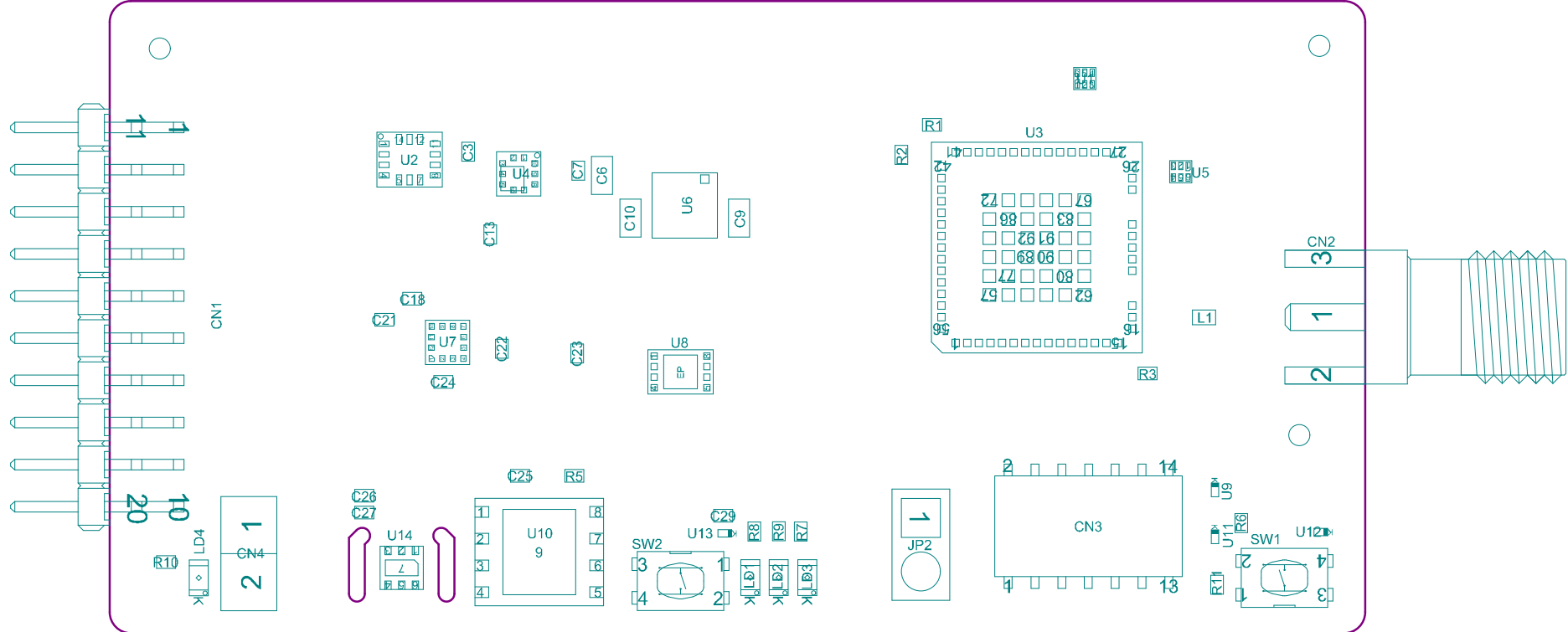
VDD PWR for MCU



Connectors for external supplies



Be careful!! When an external 3V3 supply is used, SB14 (& SB38) must be removed (not fitted) and SB35 must be fitted.



Project: STM32WL STMod+ expansion board

Layer: M14-Top Assembly

Gerber: .GM14

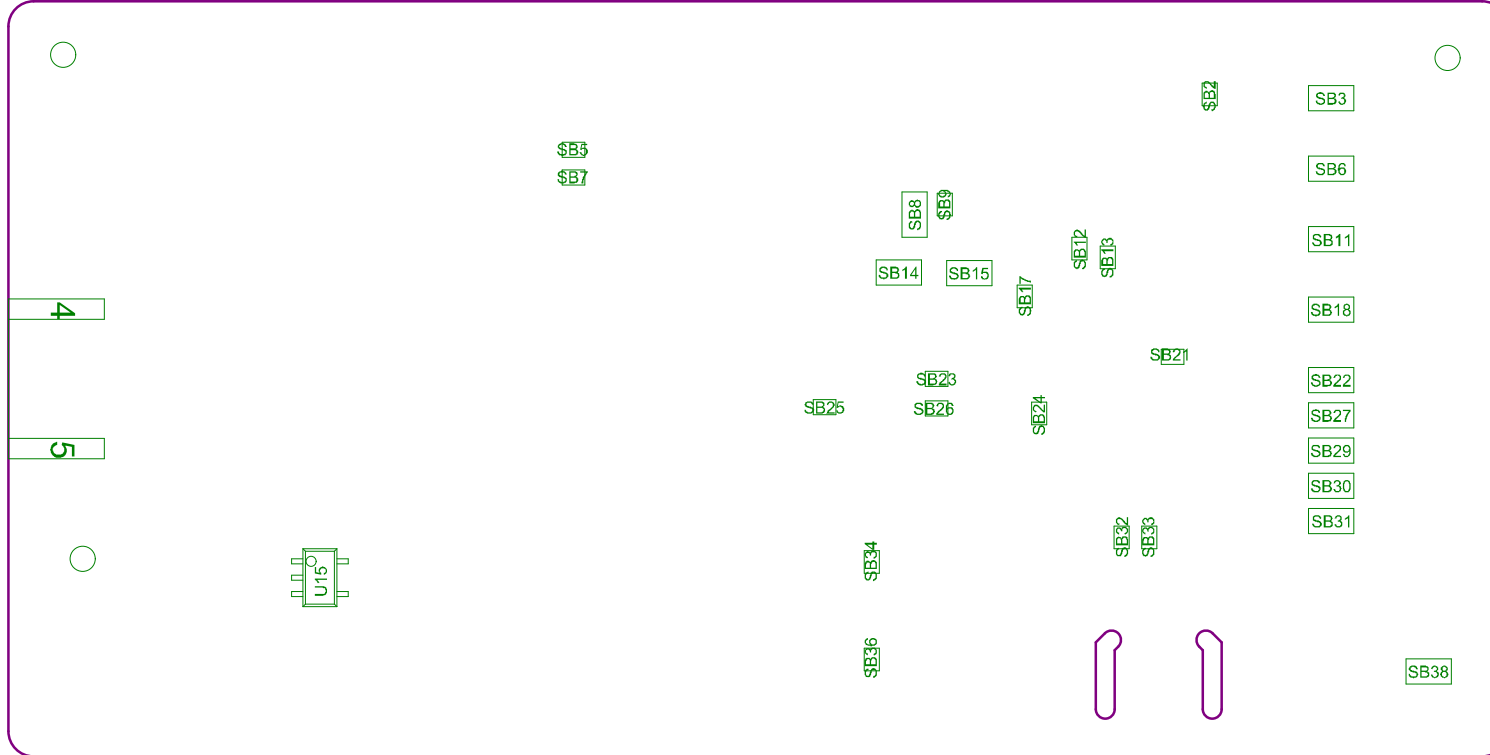
Variant: HIGH-BAND

Ref: MB1779

Date: 16-JULY-2023

Rev: B





Project: STM32WL STMod+ expansion board		
Layer: M15-Bottom Assembly	Gerber: .GM15	
Variant: HIGH-BAND	Ref: MB1779	
Date: 16-JULY-2023	Rev: B	