

STM32G474E-EVAL

MB1397

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Top.SchDoc

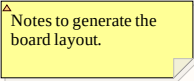


Legend

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

Text to be added to silkscreen.

Warning text.



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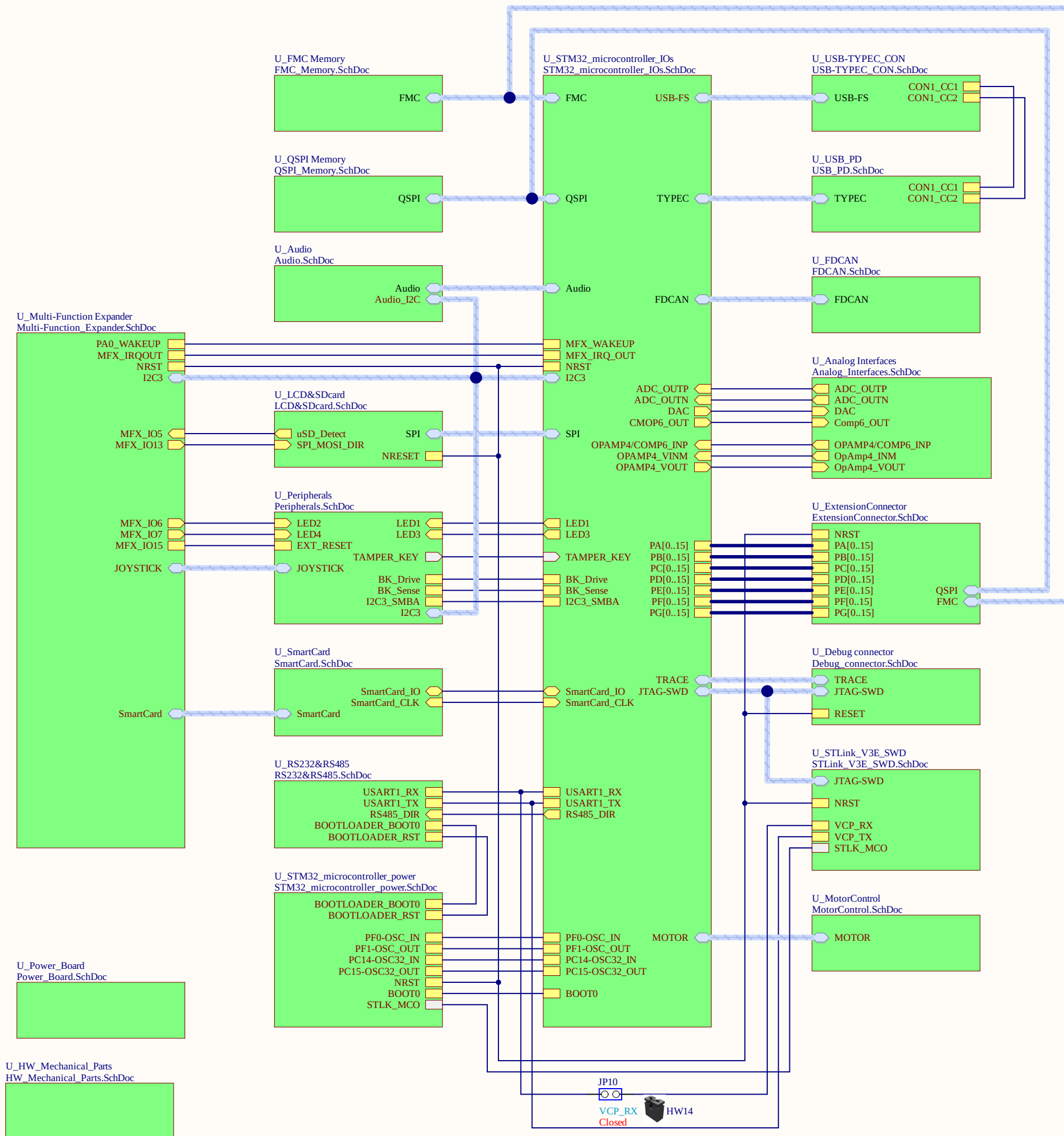
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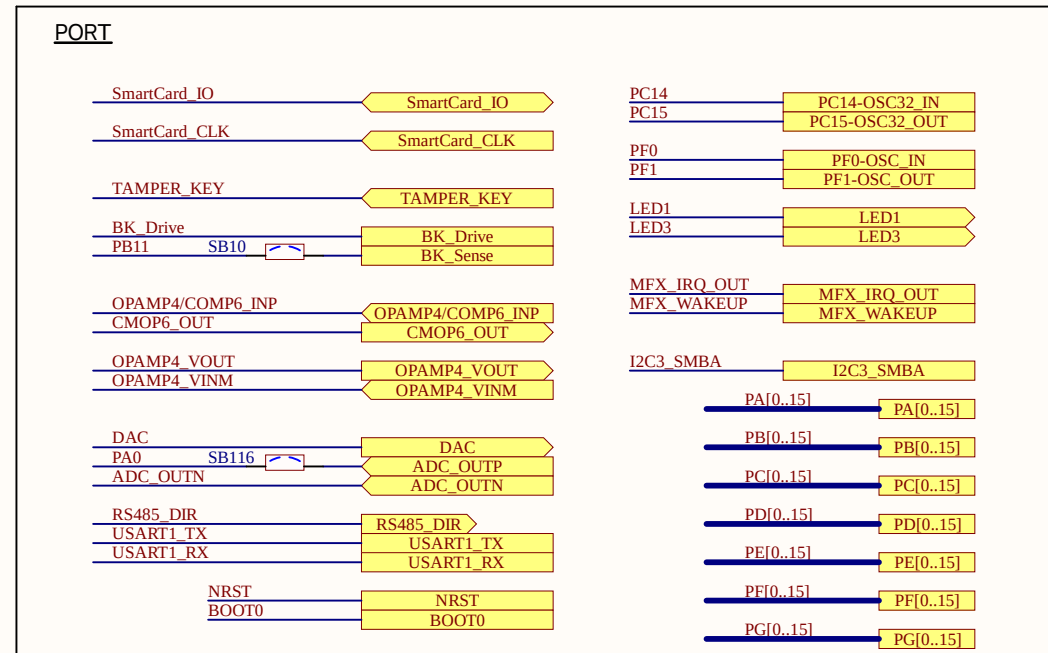
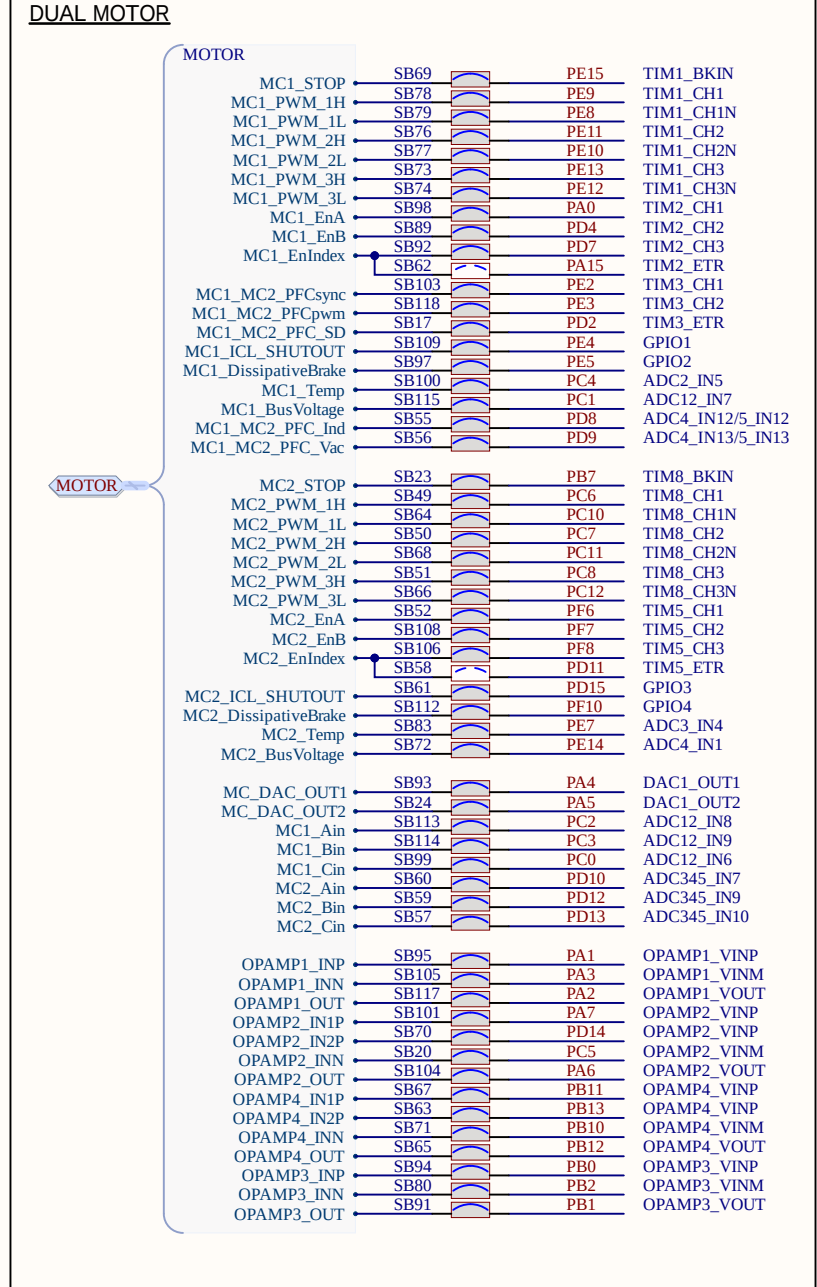
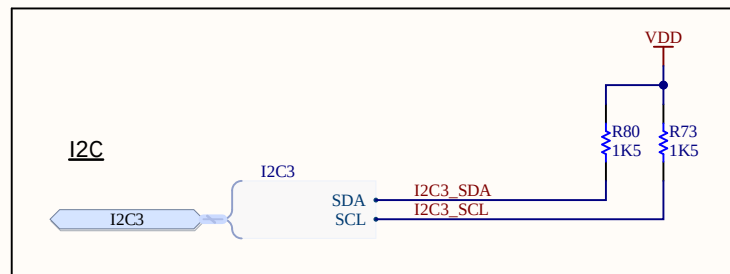
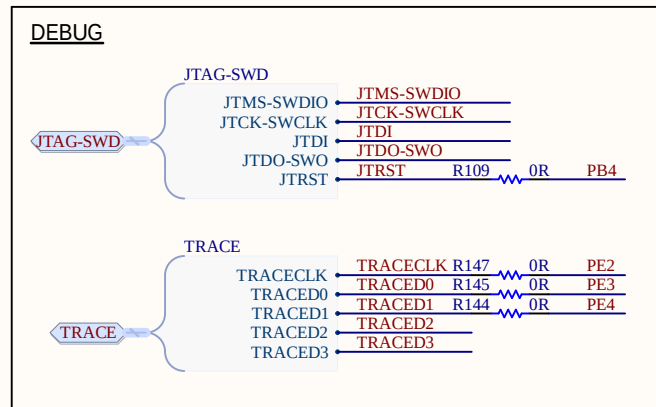
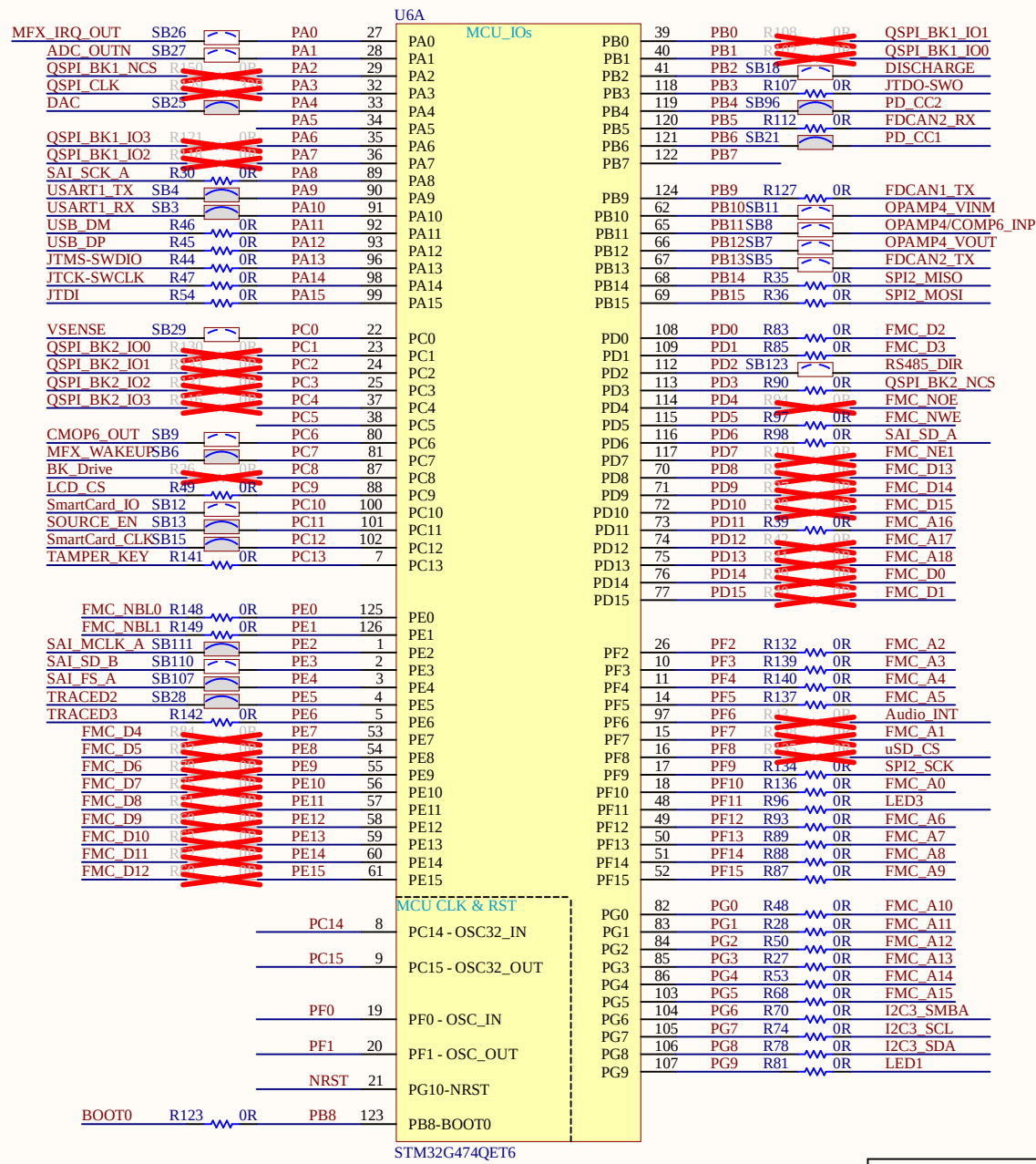
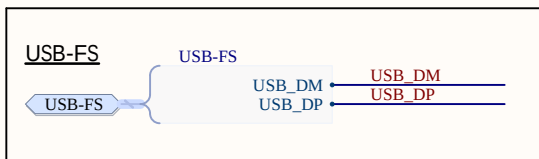
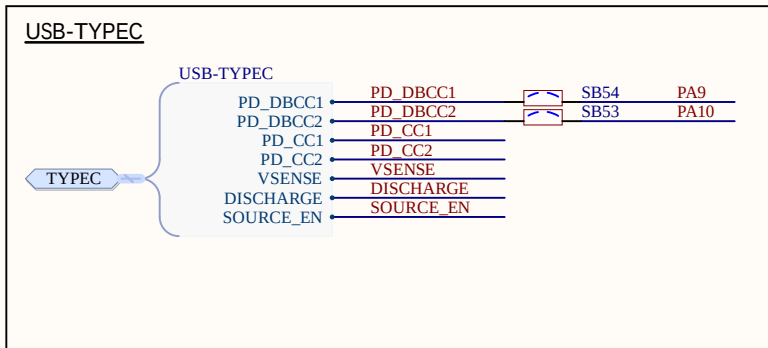
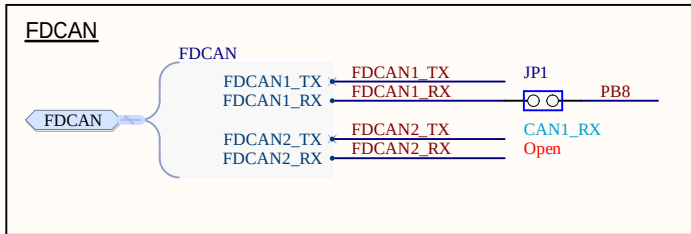
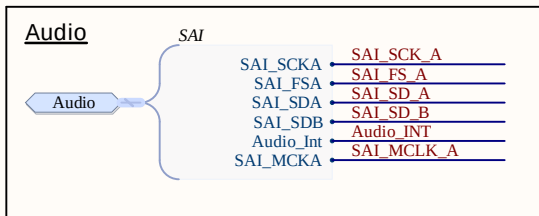
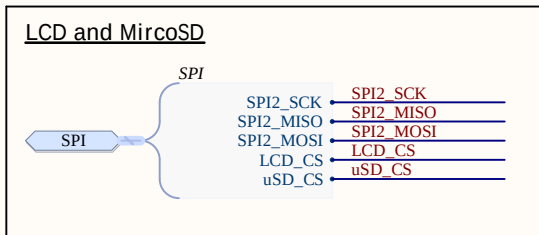
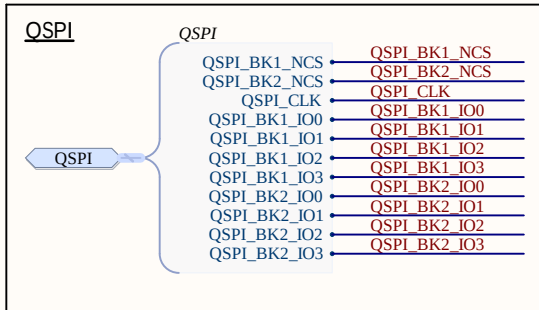
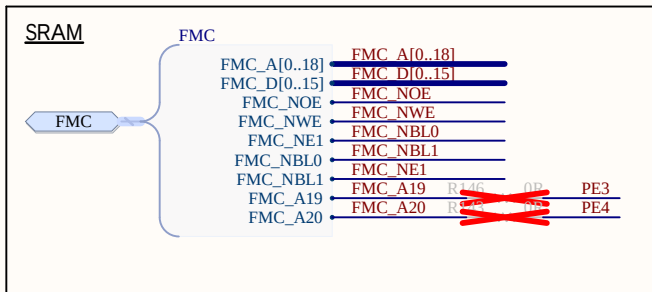
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Title: Project overview		
Project: STM32G474E-EVAL		
Variant: G474EMC		
Revision: B-06		Reference: MB1397
Size: A4	Date: 27-FEB-25	Sheet: 1 of 22



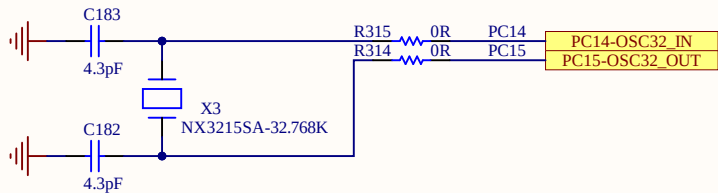


STM32G474QET6 MCU I/Os

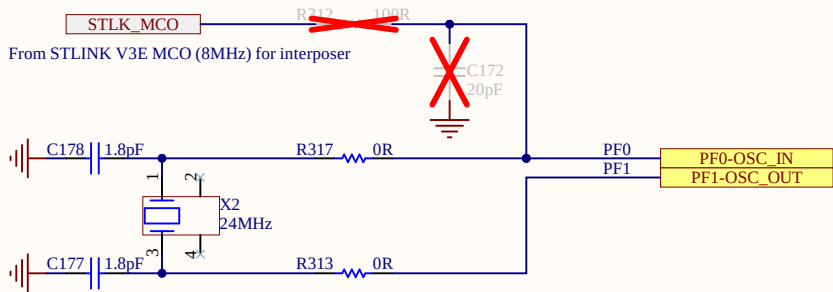


MCU POWER, CLOCK, RESET & BOOT

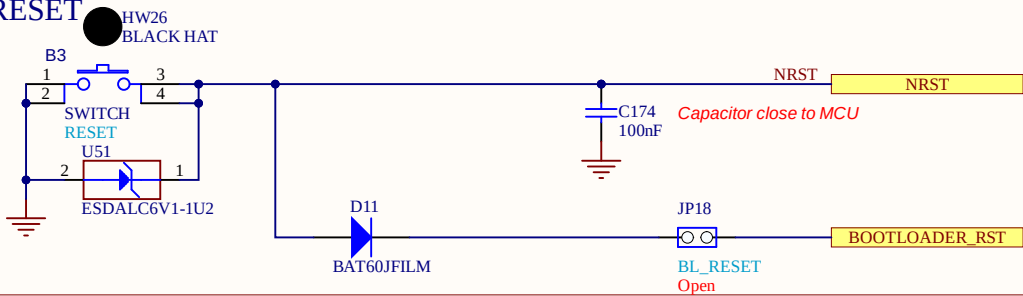
32kHz Clock



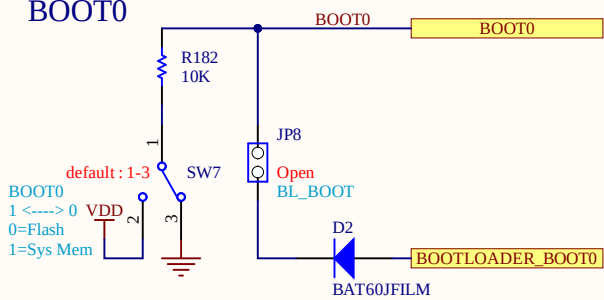
24MHz Clock



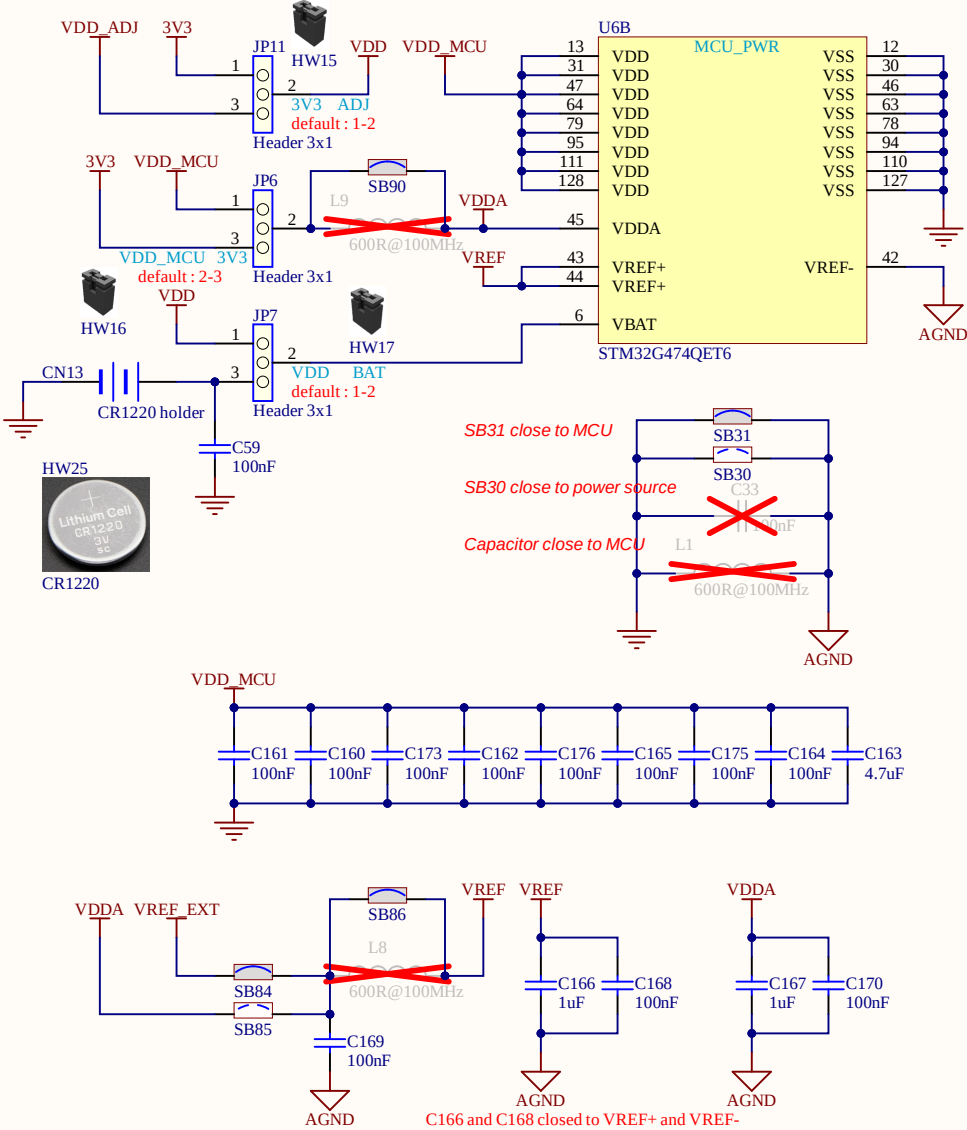
RESET

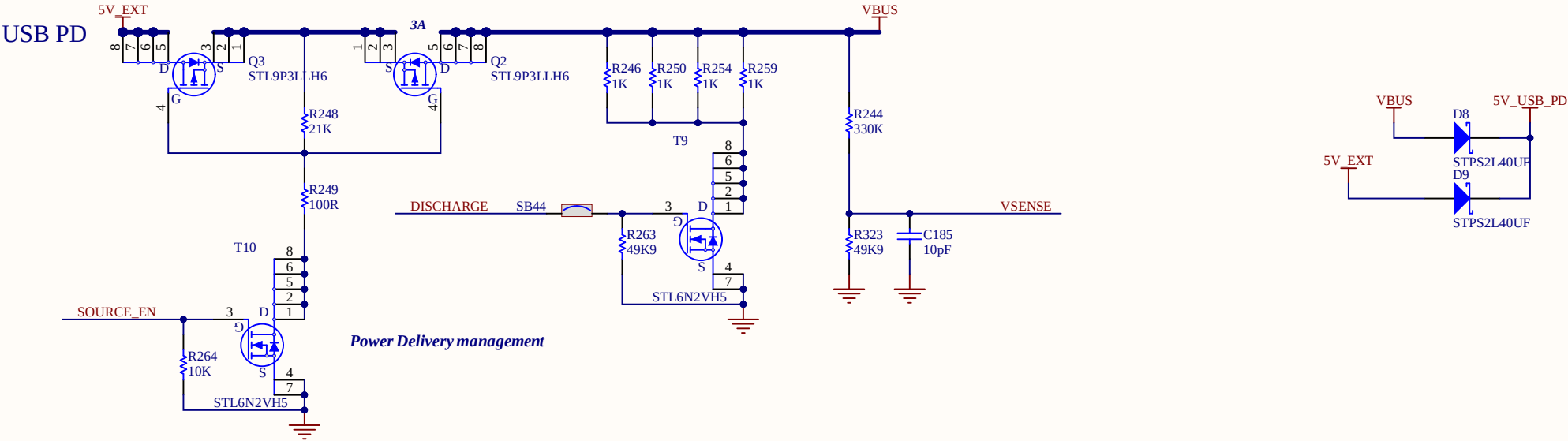


BOOT0

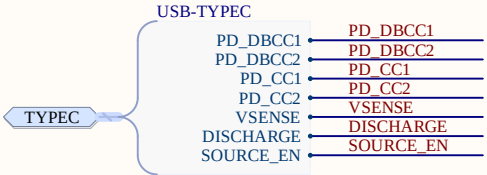


MCU POWER

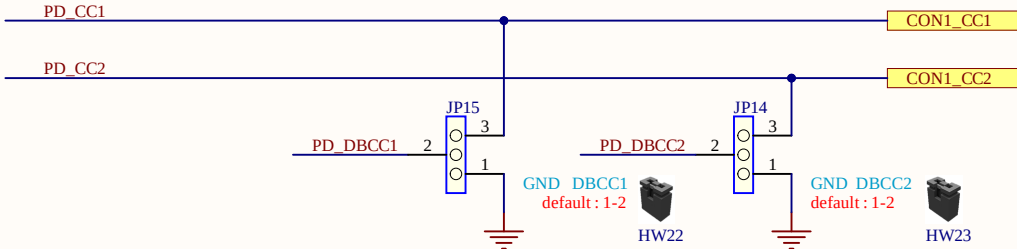




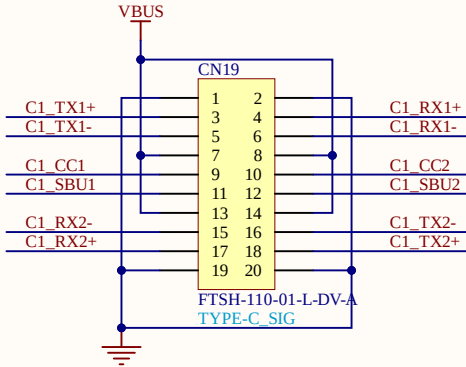
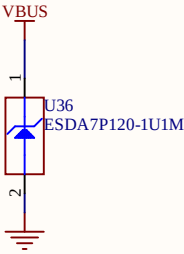
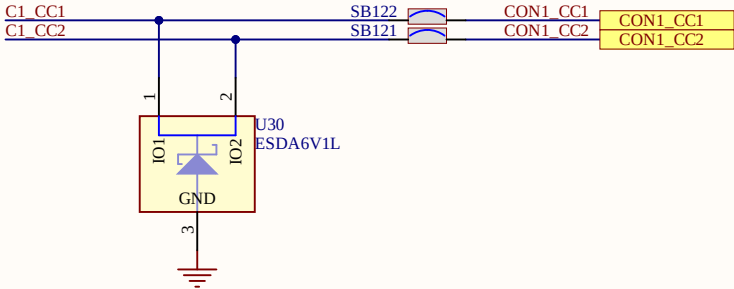
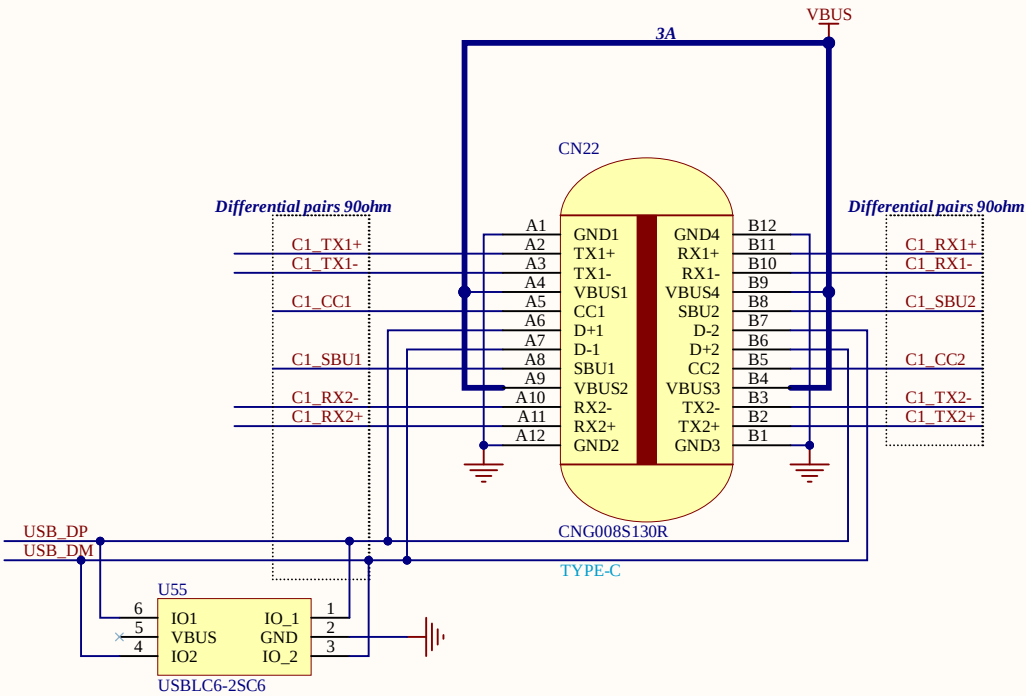
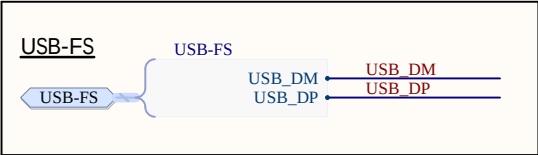
USB-TYPEC



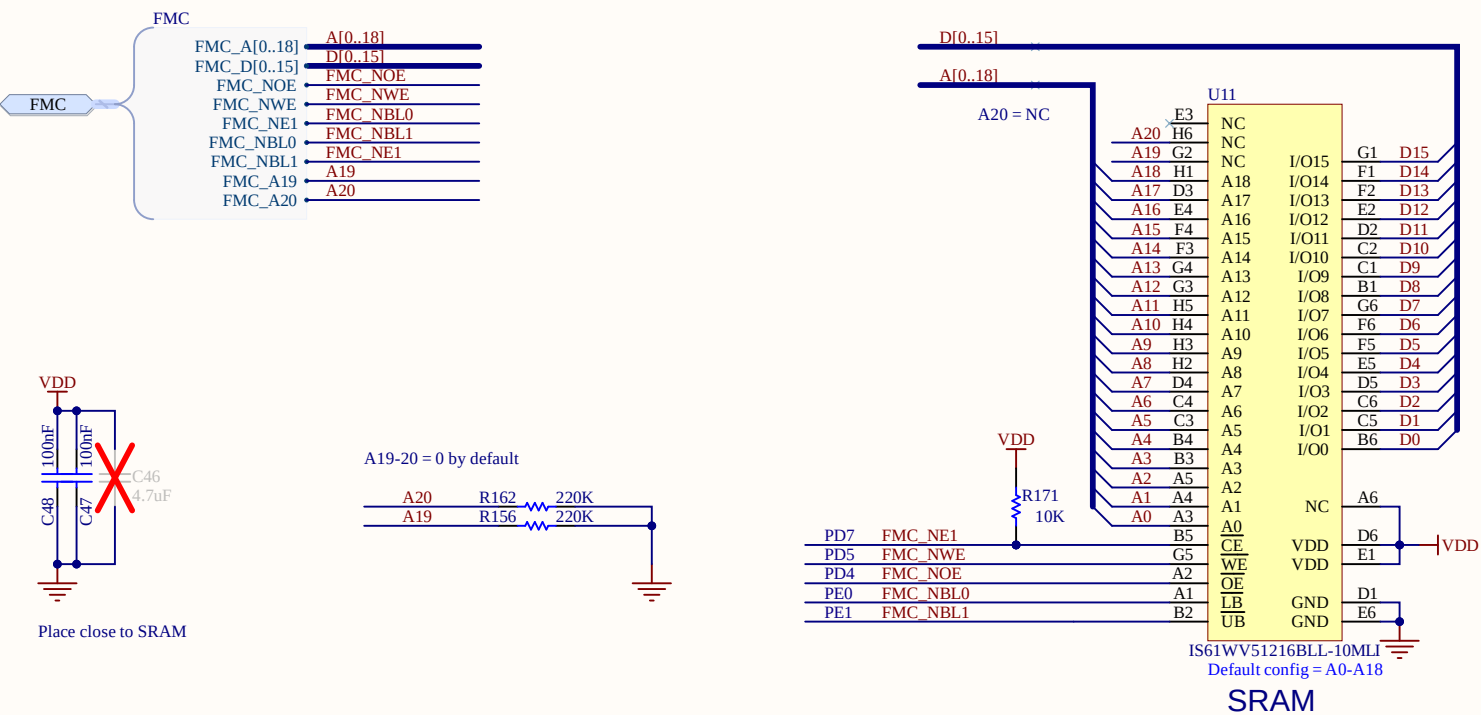
TYPE-C Source port CC management



USB-TYPEC CON



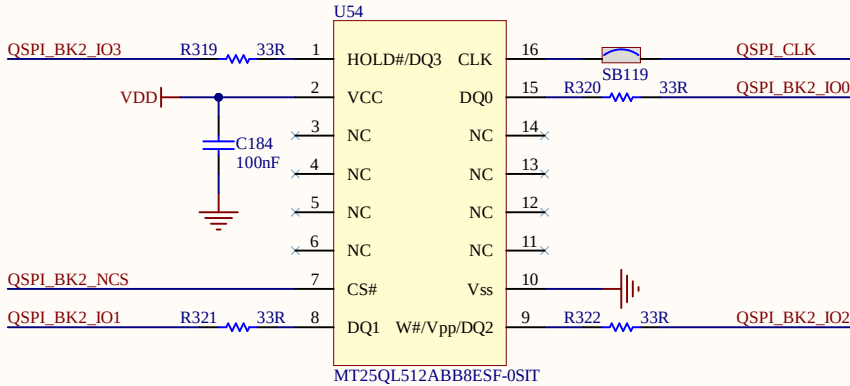
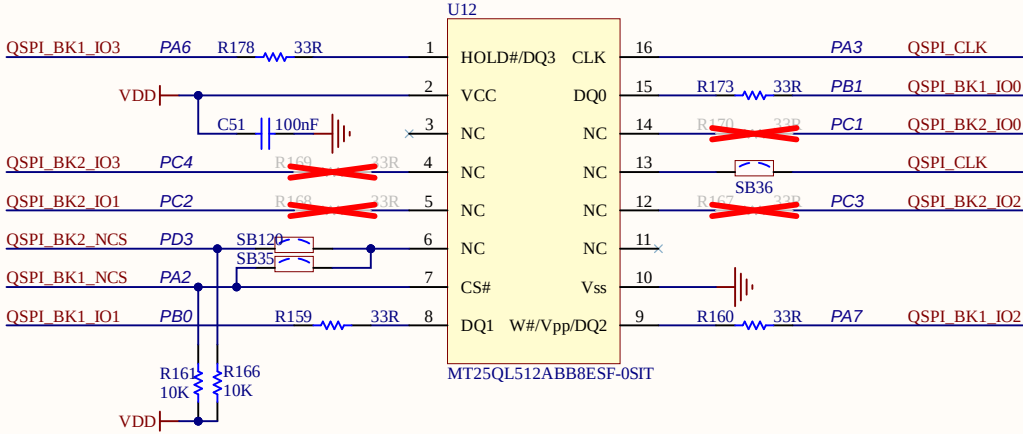
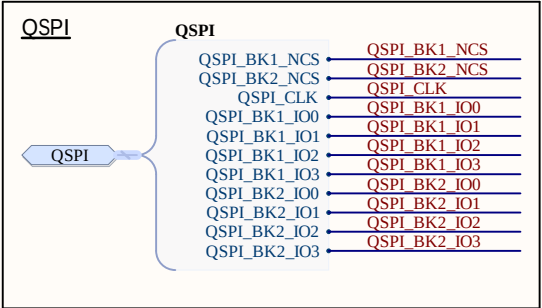
MEMORY



Operating range:
512Kx16: IS61WV51216BLL-10MLI VDD: 2.4V to 3.6V
512x16: IS66WV51216EBLL-55BLI VDD: 2.5V to 3.6V



QSPI Memory



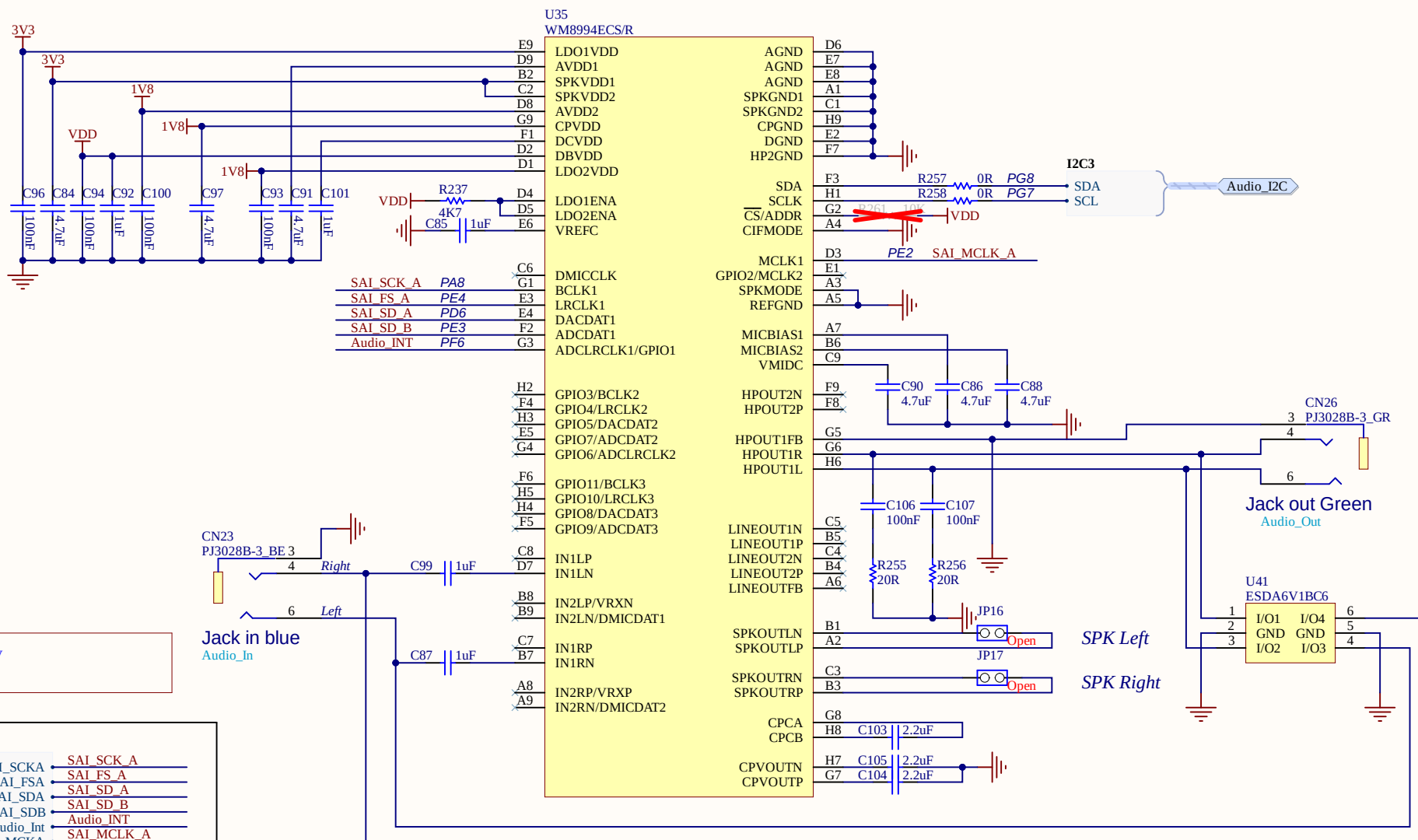
Operating range: 2.7V<VDD<3.6V

Twin Quad SPI Flash solutions:

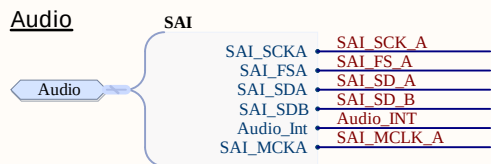
One Twin Quad SPI Flash	U12:MT25TL01GHHB8ESF-0SIT	U54:NA	R167/R168/R169/R170, SB120,SB36 ON	R319/R320/R321/R322, SB119, SB35, C184 OFF
Two Quad SPI Flash (Default)	U12:MT25QL512ABB8ESF-0SIT	U54:MT25QL512ABB8ESF-0SIT	R319/R320/R321/R322, SB119, C184 ON	R167/R168/R169/R170, SB120, SB35, SB36 OFF



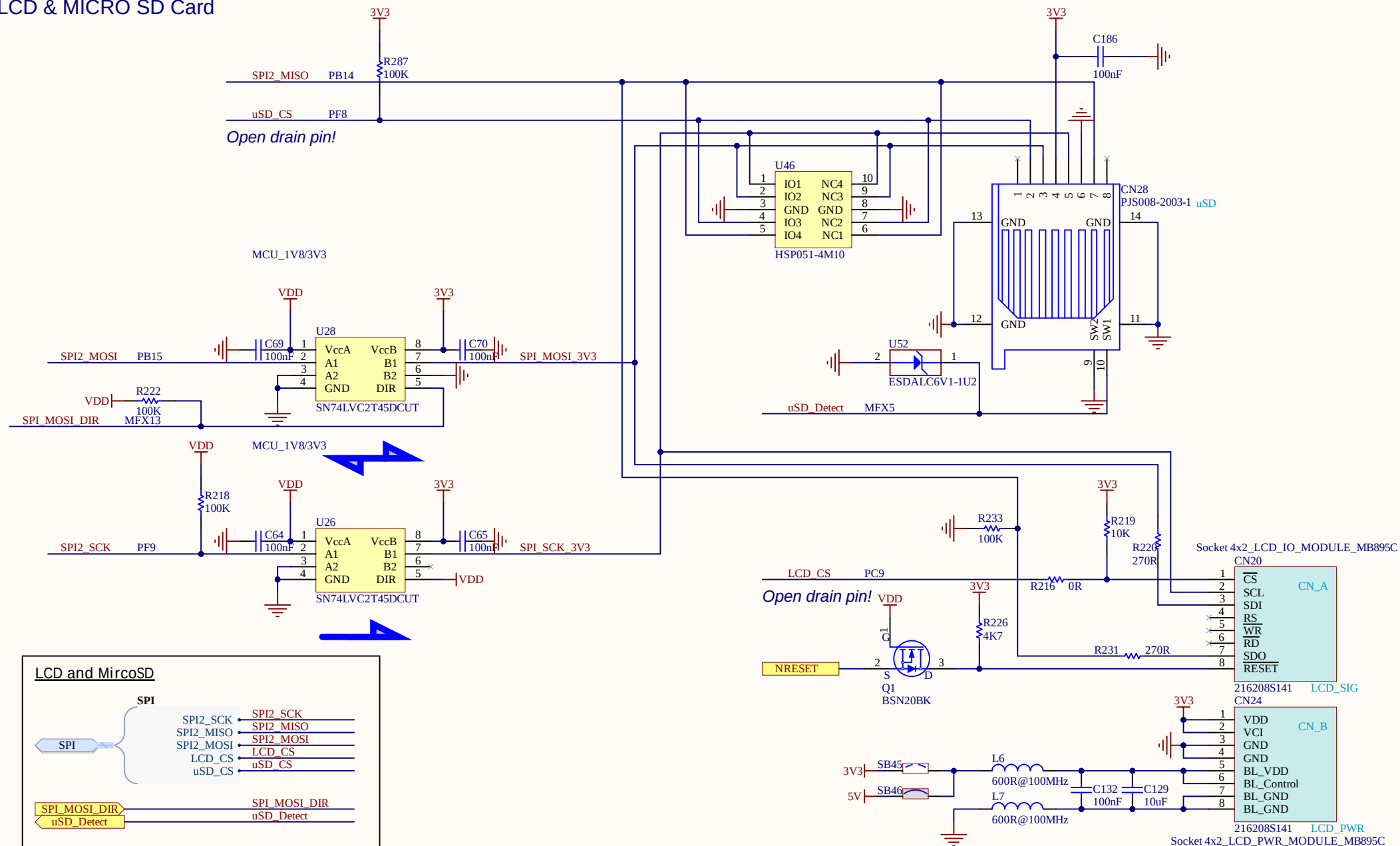
Audio



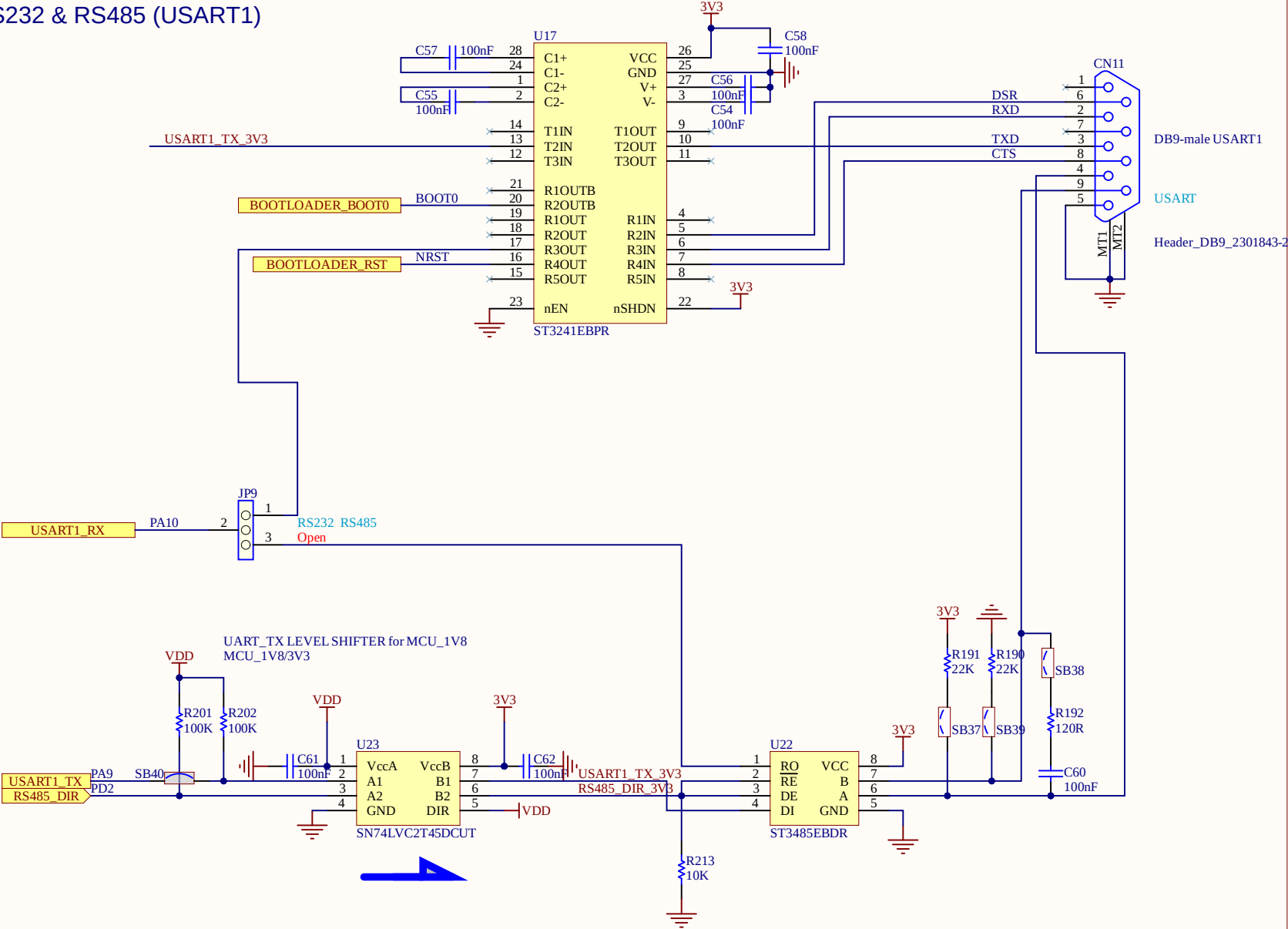
Operating range: 1.62<VDD<3.6V
I2C address: 0x34



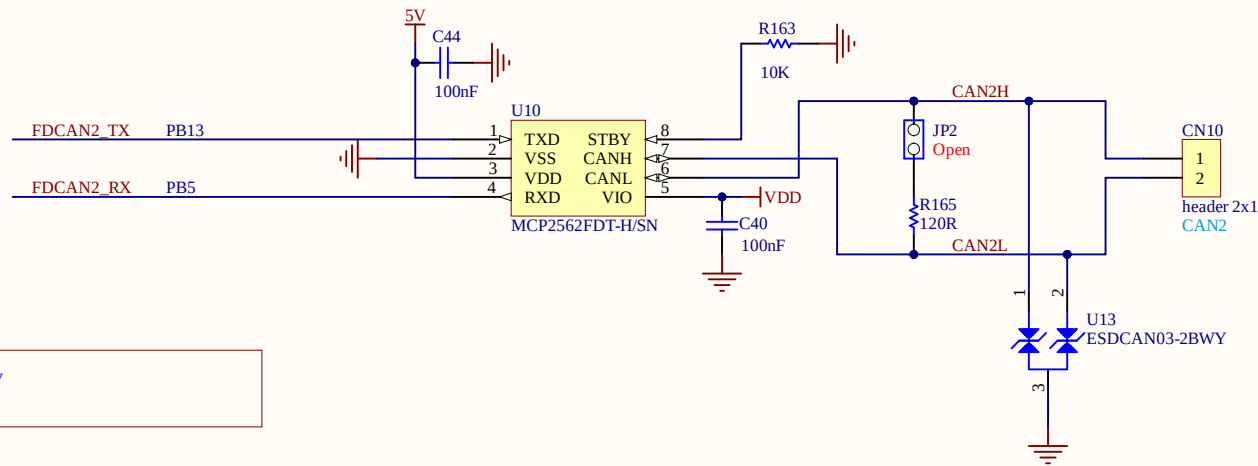
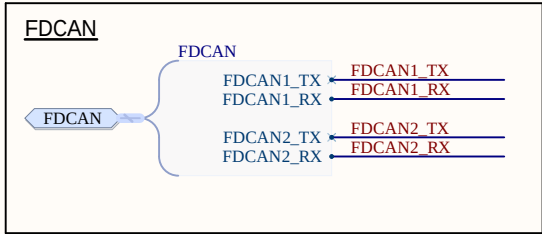
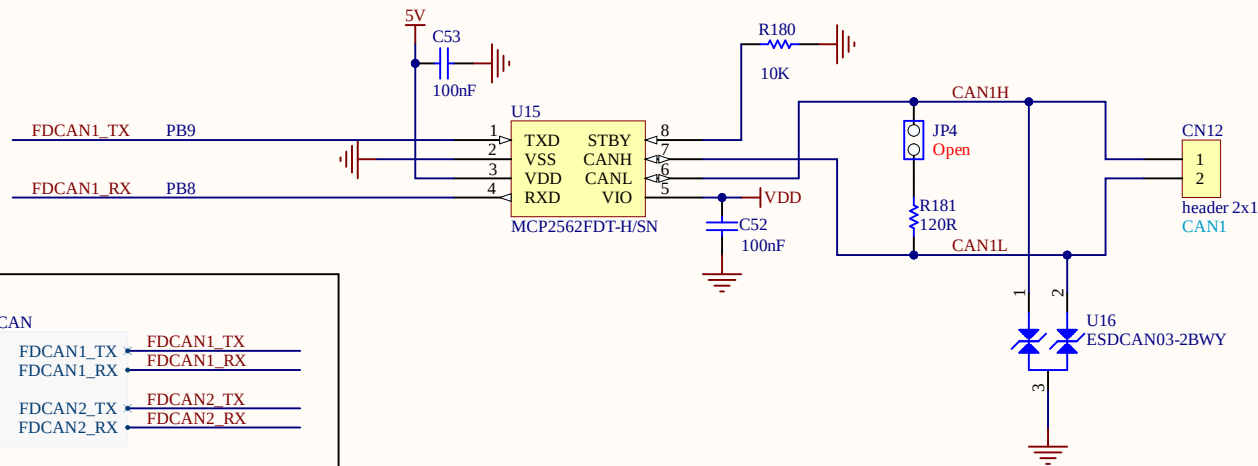
LCD & MICRO SD Card



RS232 & RS485 (USART1)



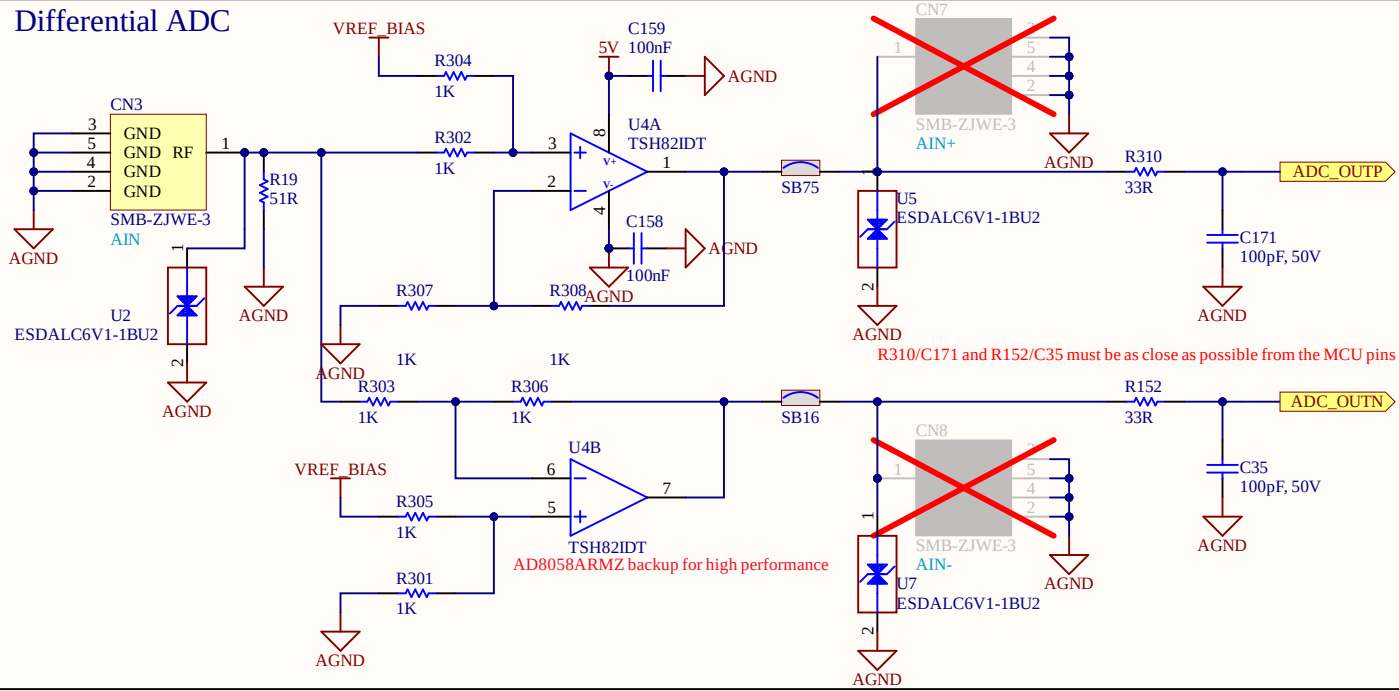
2x CAN FD



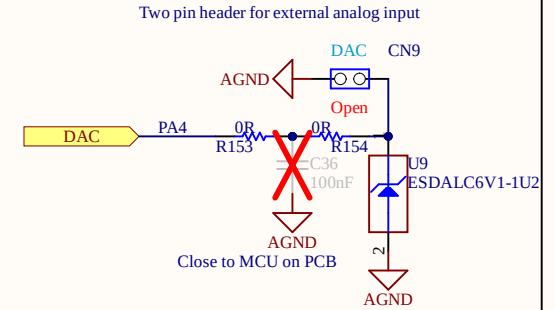
Operating range: VDD>1.8V



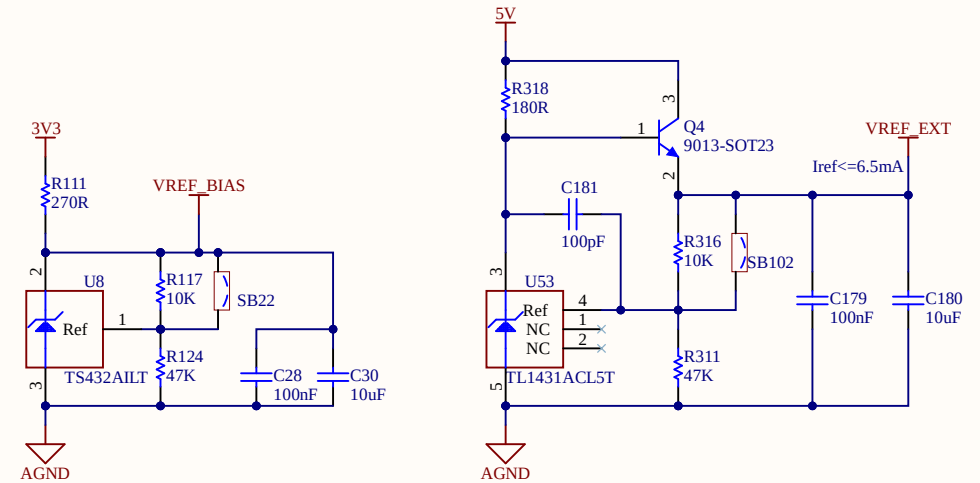
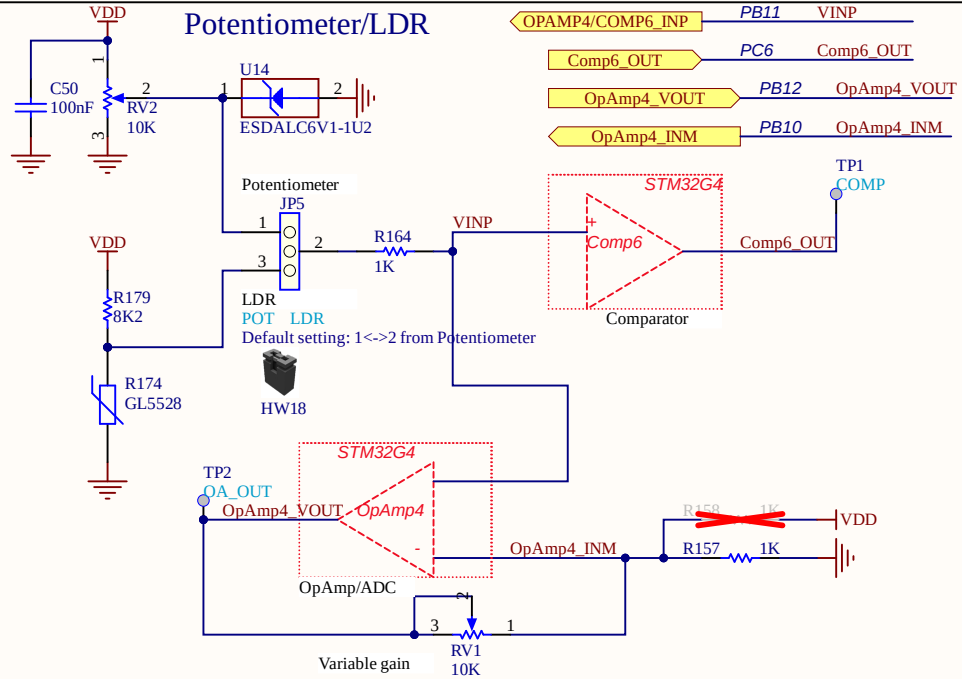
Differential ADC



DAC connector



Potentiometer/LDR



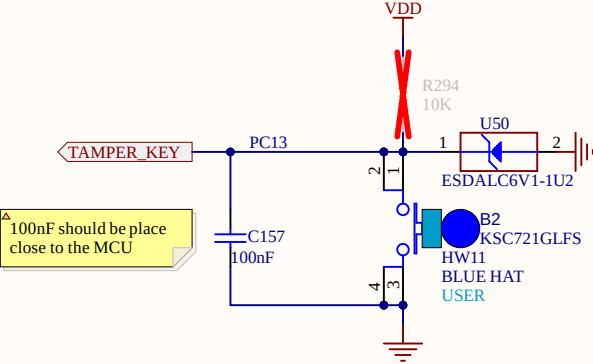
LM4030AMF-2.5 Backup for high accuracy

Title: Analog Interfaces		
Project: STM32G474E-EVAL		
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Size: A4	Date: 27-FEB-25	Sheet: 13 of 22

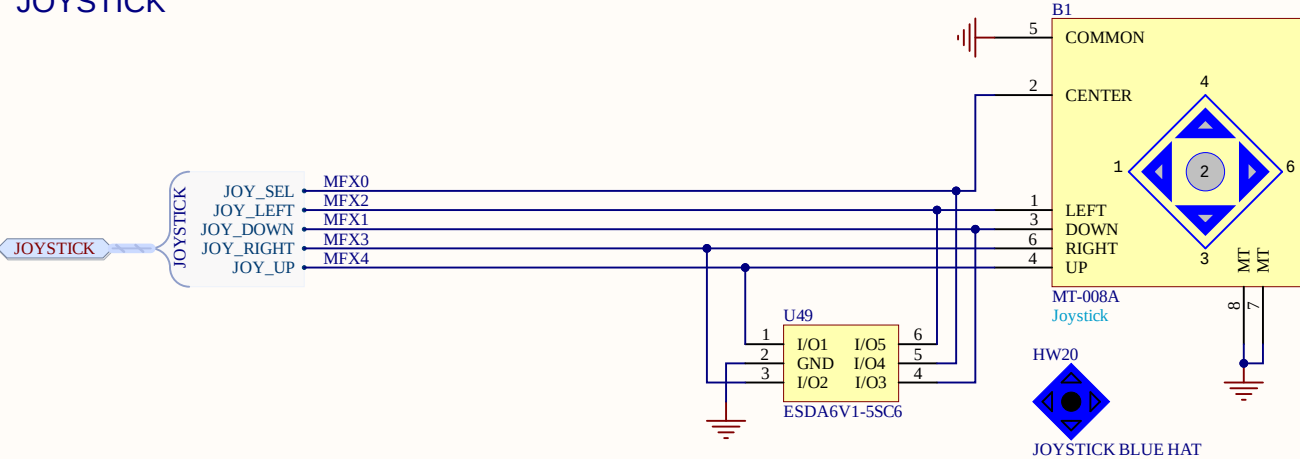


TAMPER & KEY BUTTON

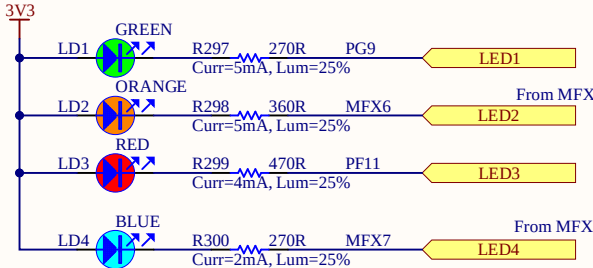
excl with WIFI wake-up



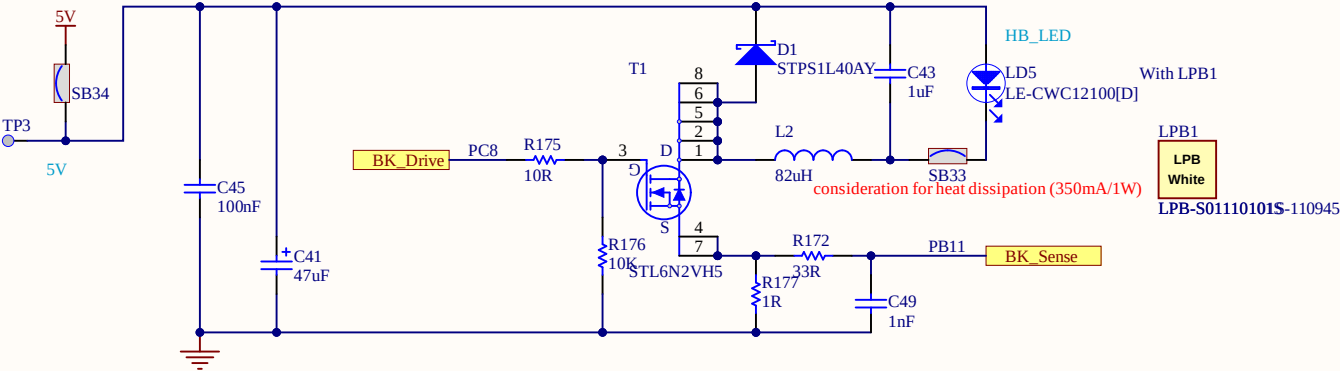
JOYSTICK



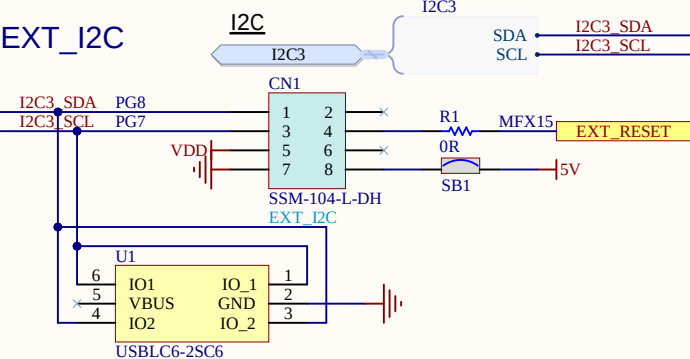
LEDs



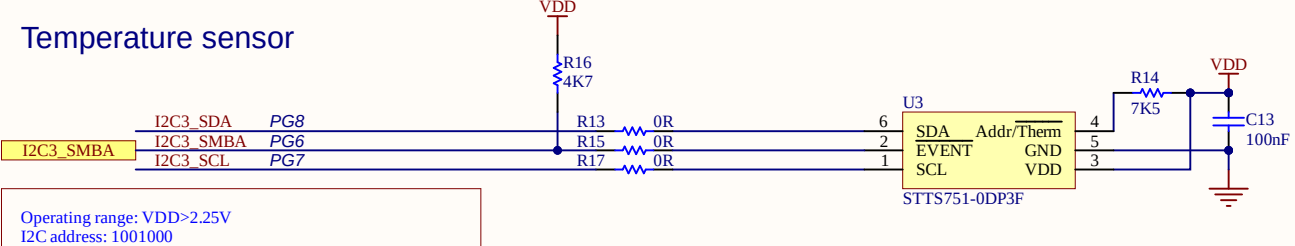
LED BUCK converter



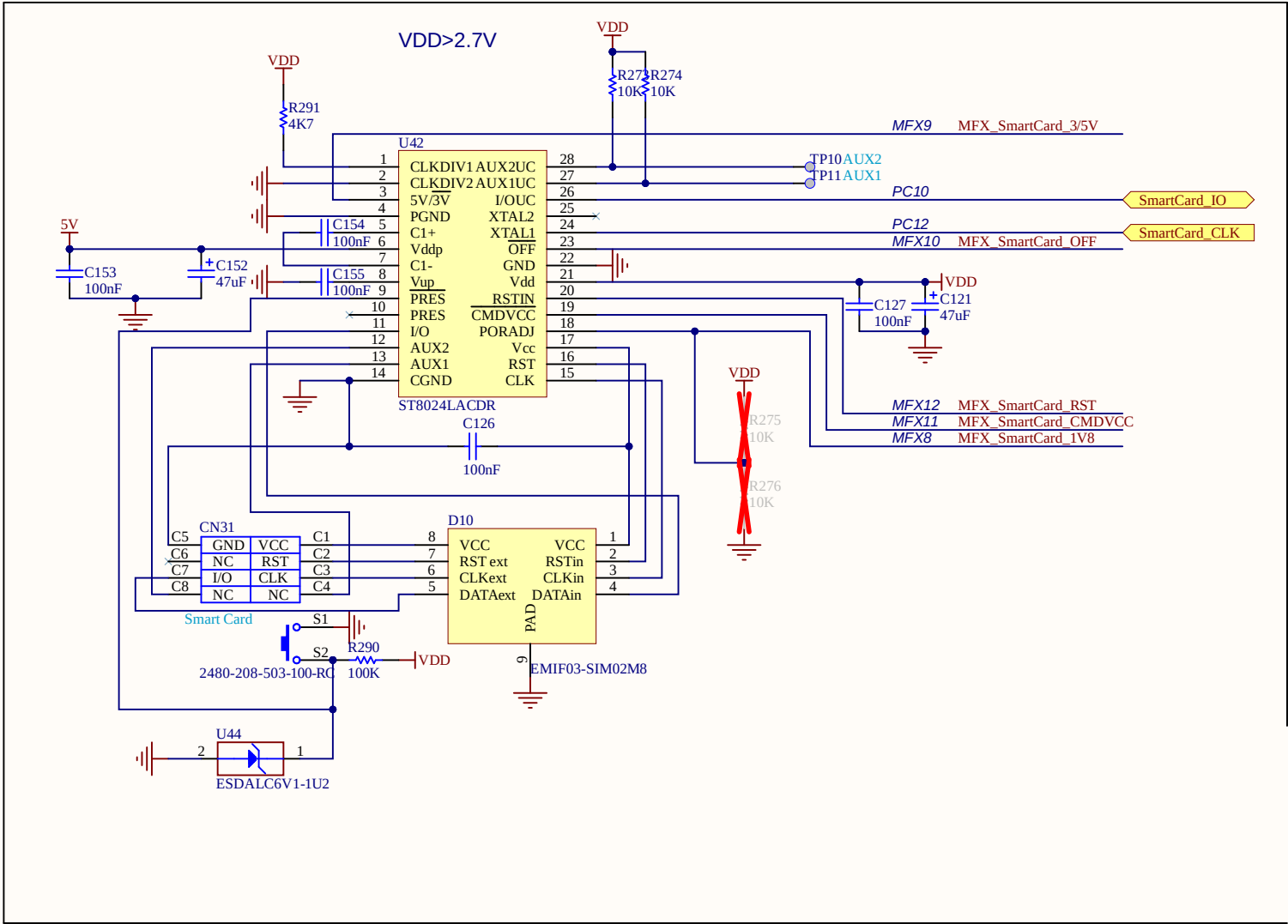
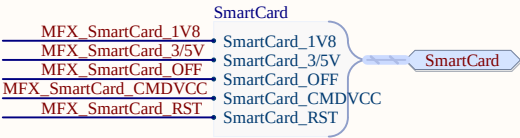
EXT_I2C



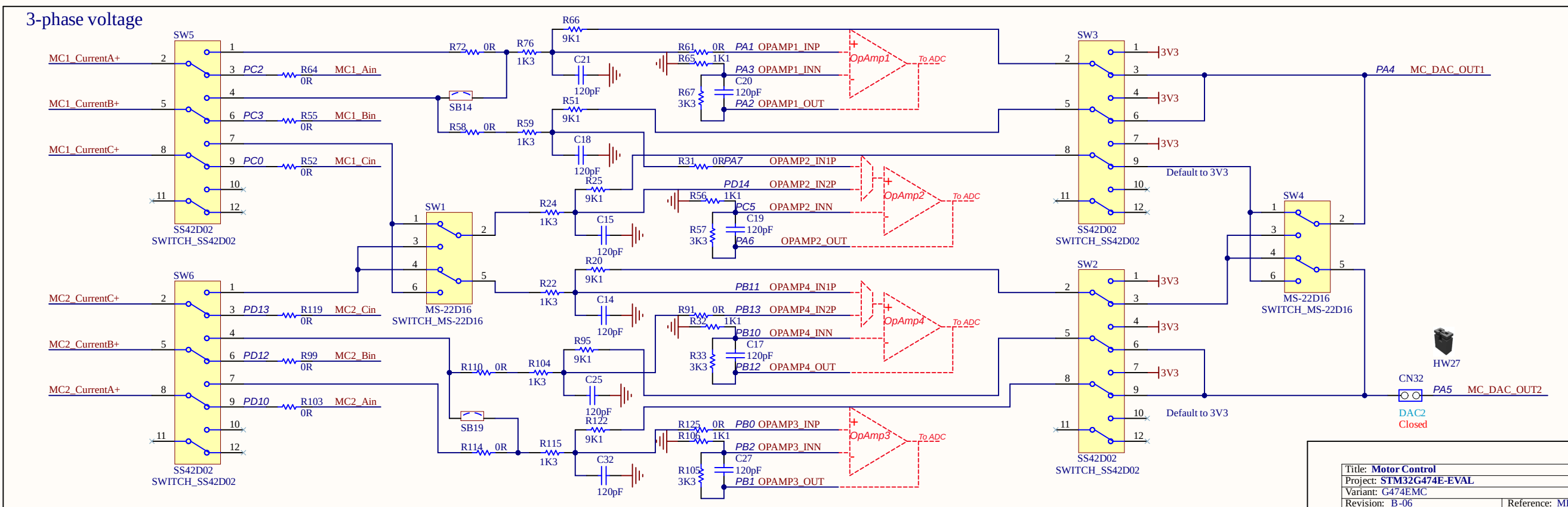
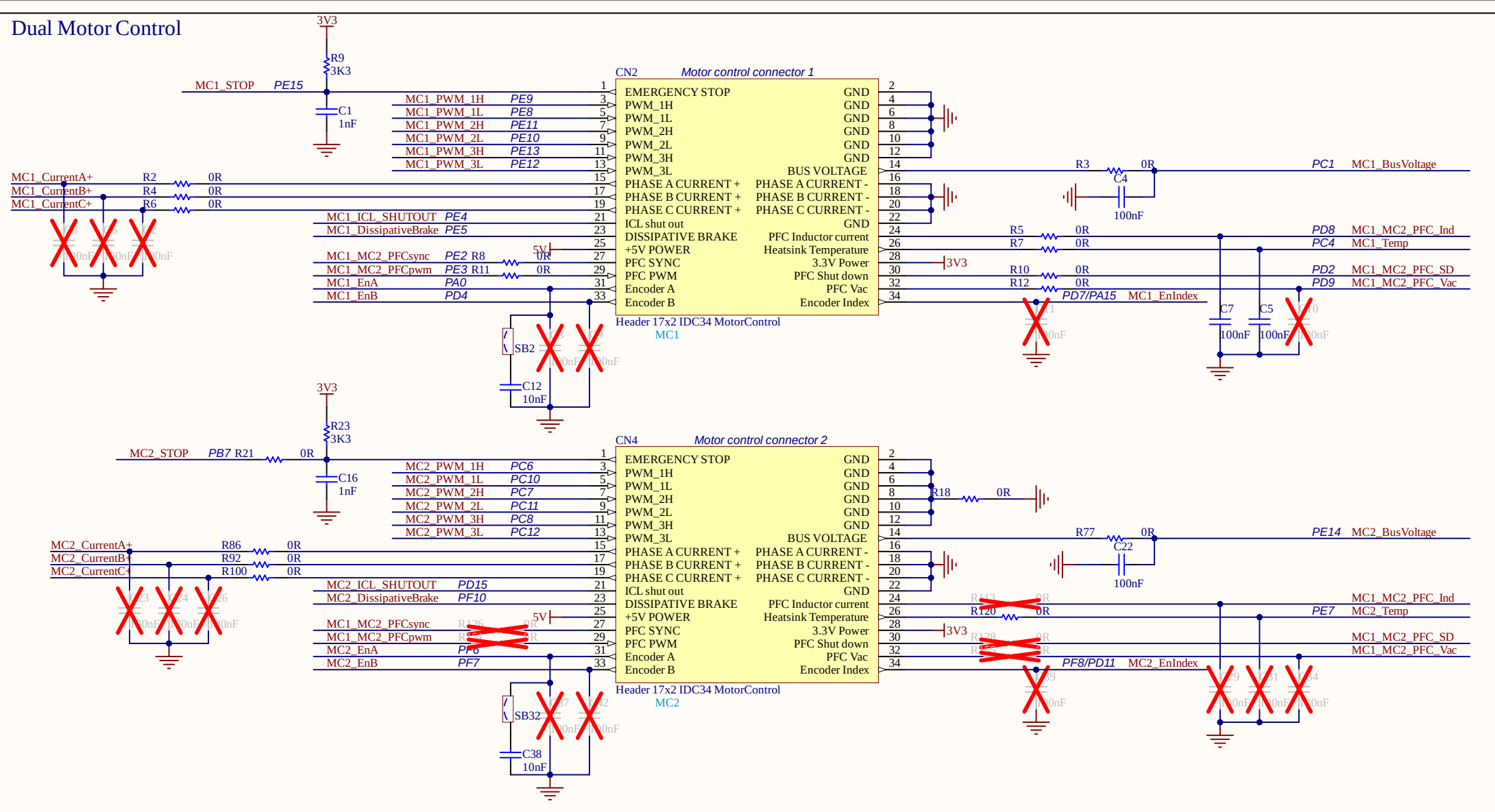
Temperature sensor



Smart Card

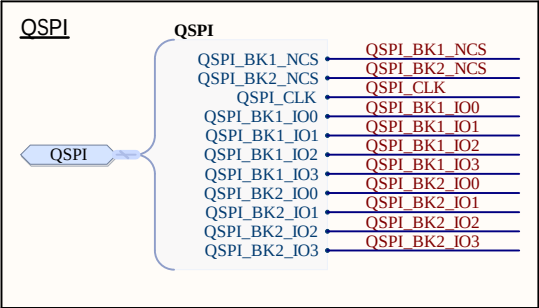
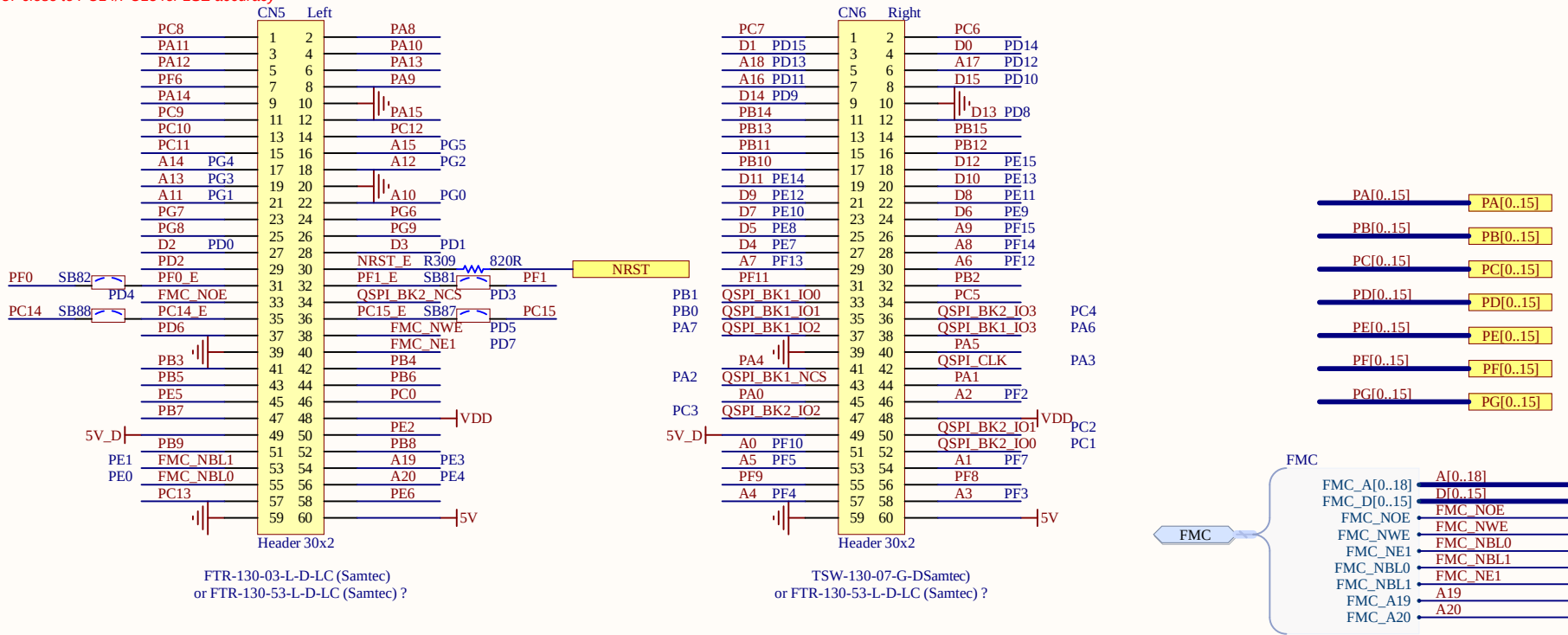


Operating range: VDD>2.7V

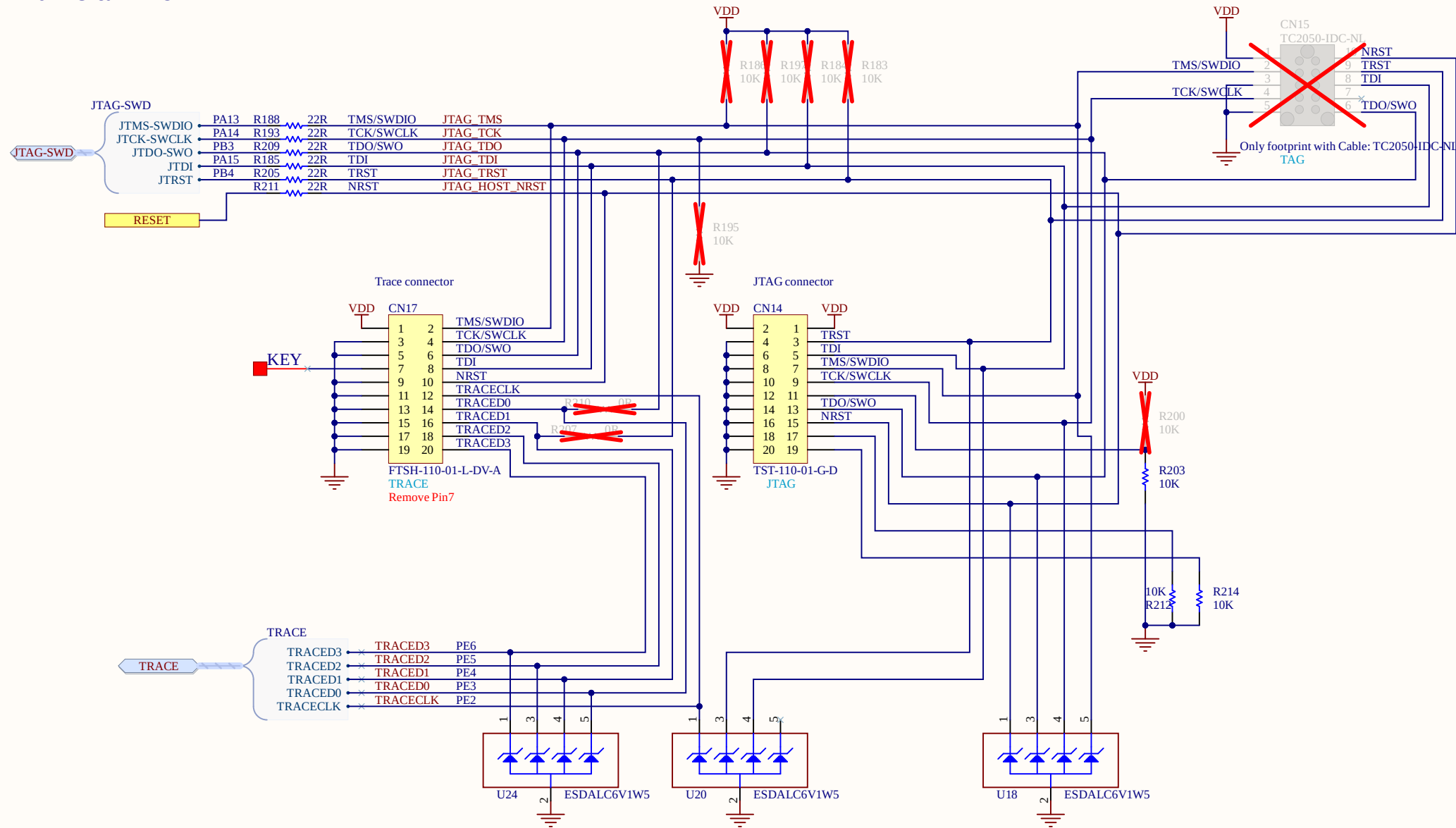


MCU EXTENSION CONNECTORS

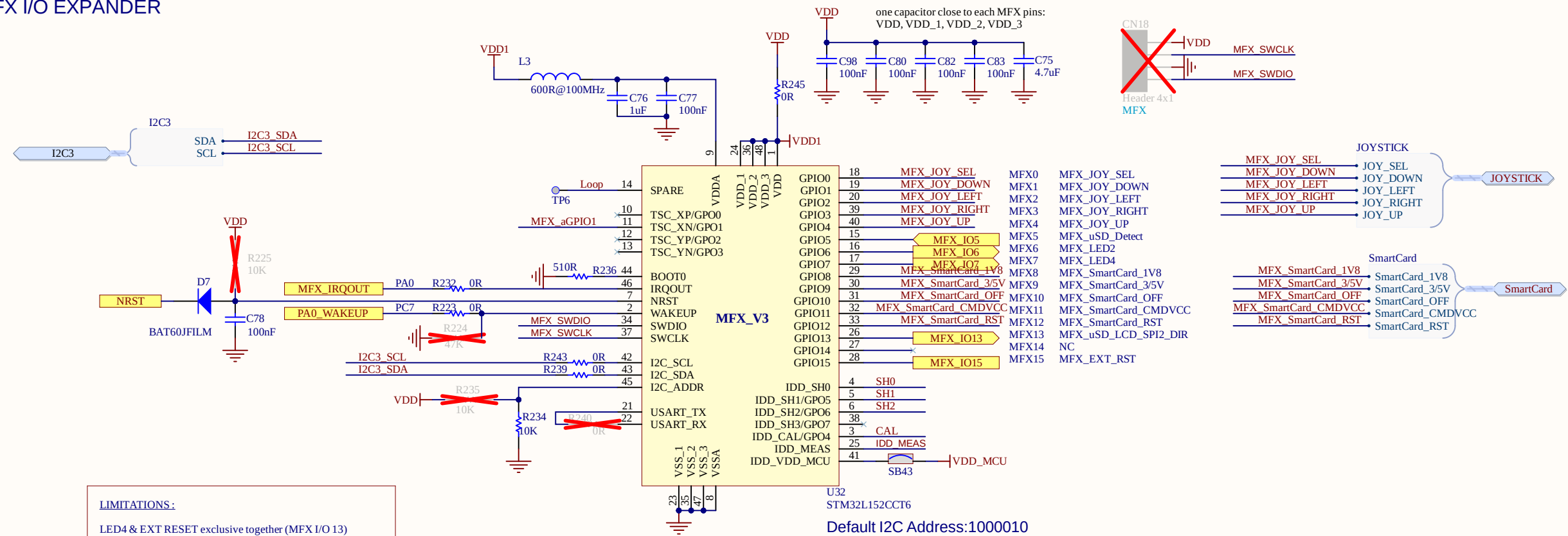
SB82 and SB81 close to PF0/PF1 for HSE accuracy
SB88 and SB87 close to PC14/PC15 for LSE accuracy



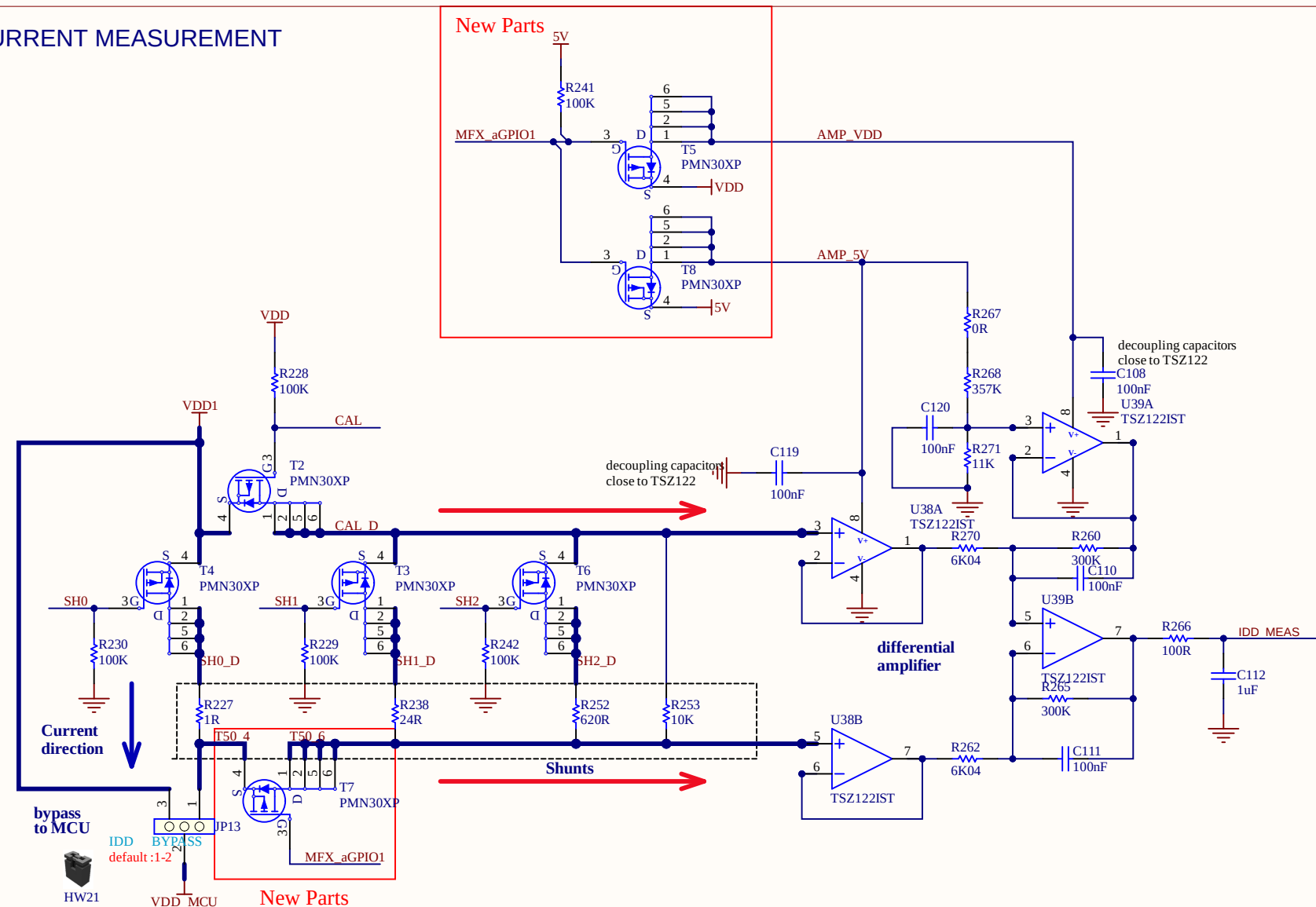
JTAG & TRACE



MFX I/O EXPANDER

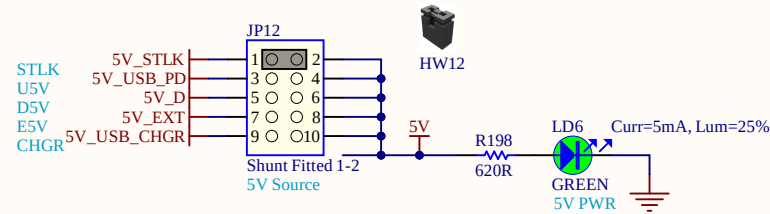


MFX CURRENT MEASUREMENT

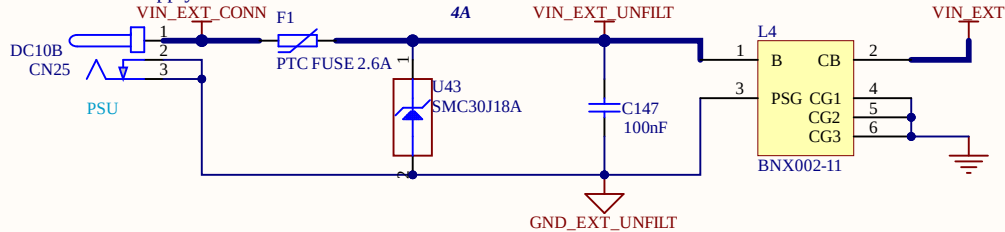


BOARD POWER

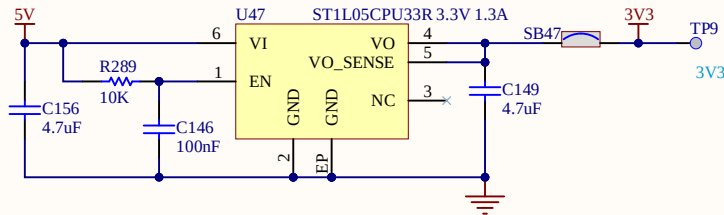
5V Power Supply options



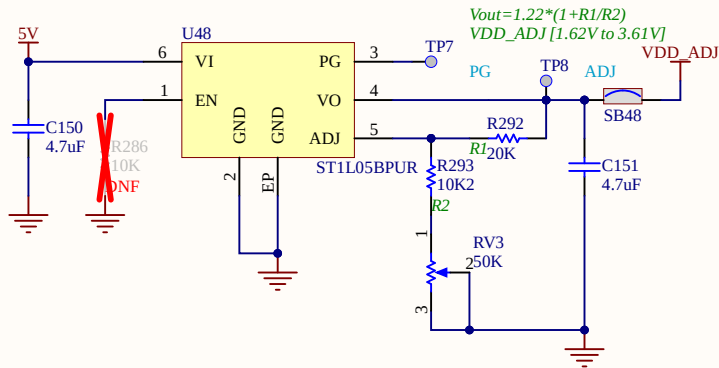
5V to 18V External supply



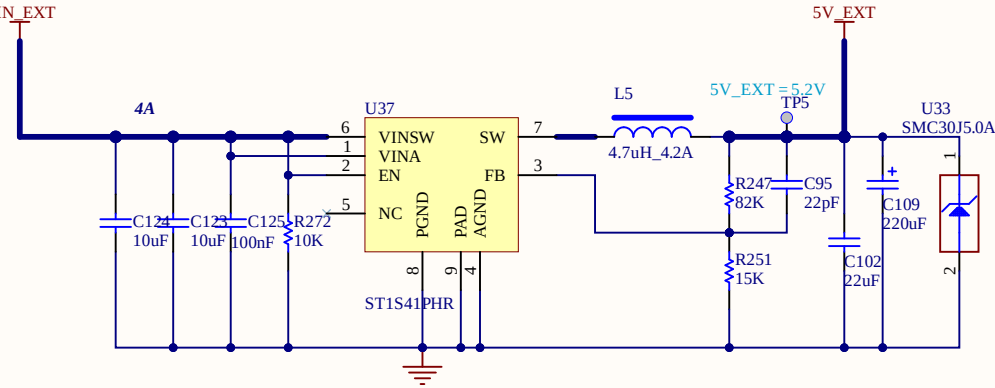
3V3 Supply



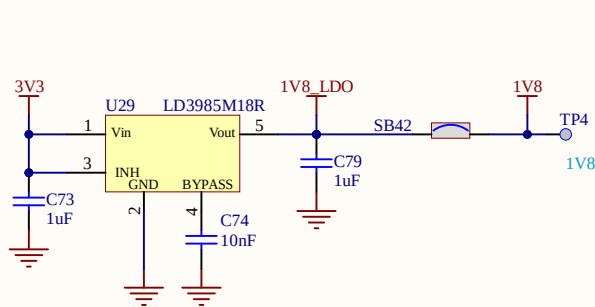
VDD ADJ Supply



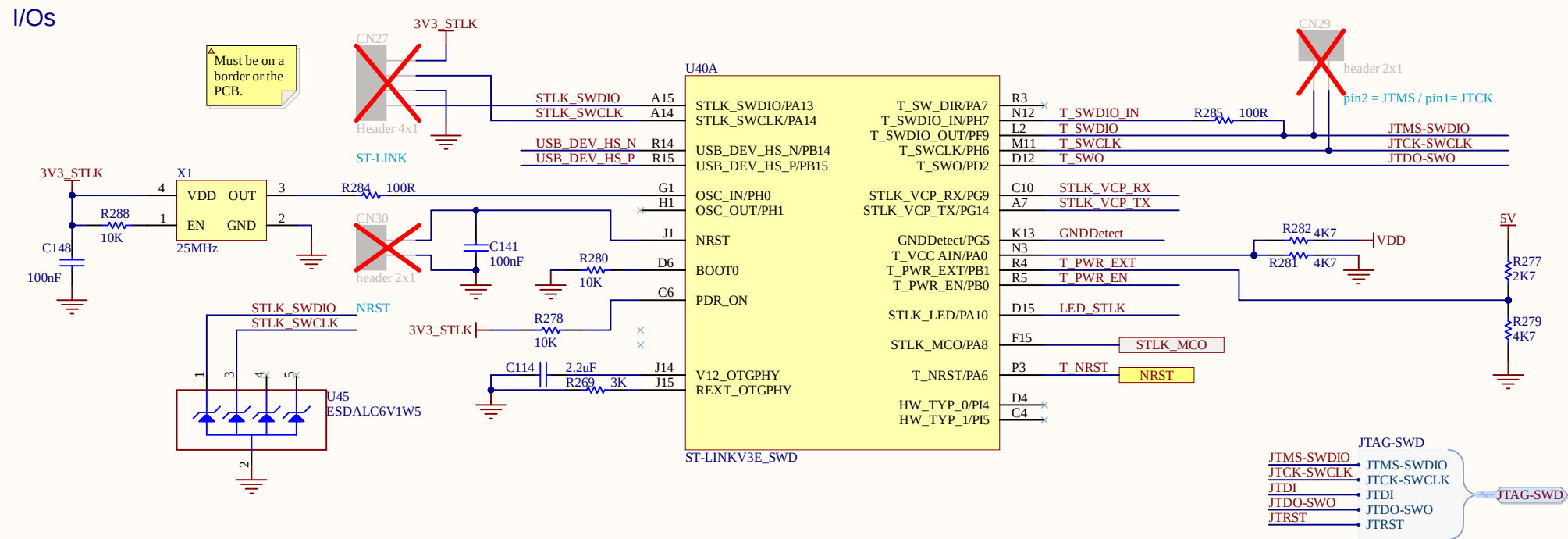
VIN_EXT



1V8



I/Os



The diagram illustrates the electrical connections for the STDC14 connector. It shows the connection of the connector pins to the ESDALC6V1W5 components (U21 and U19) and the resulting signals.

STDC14 Connector Pinout:

Pin	Signal	Resistor	Signal
1	T_SWDIO_STDC	R208	T_SWDIO
2	T_SWCLK_STDC	R206	T_SWCLK
3	T_SWO_STDC	R204	T_SWO
4	T_JTDL_STDC	R199	JTDL
5	T_NRST_STDC	R196	T_NRST
6	VCP_TX_STDC	R194	STLK_VCP_RX

ESDALC6V1W5 Components:

The components U21 and U19 are ESDALC6V1W5, which are 6-pin components with 4 pins connected to the STDC14 connector and 2 pins connected to ground.

U21 Connections:

- Pin 5: T_SWDIO_STDC
- Pin 4: T_SWCLK_STDC
- Pin 3: T_SWO_STDC
- Pin 1: T_NRST_STDC
- Pin 2: Ground

U19 Connections:

- Pin 5: VCP_TX_STDC
- Pin 4: VCP_RX_STDC
- Pin 3: GNDDetect
- Pin 1: T_JTDL_STDC
- Pin 2: Ground

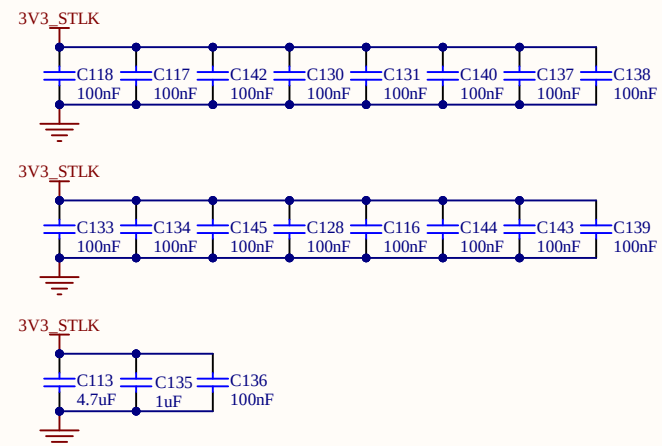
Other Connections:

- KEY: Connected to pin 13 of the connector.
- VDD: Connected to pin 14 of the connector.
- STLK_VCP_TX: Connected to pin 13 of the connector.
- GNDDetect: Connected to pin 13 of the connector.
- STLK_VCP_RX: Connected to pin 13 of the connector.

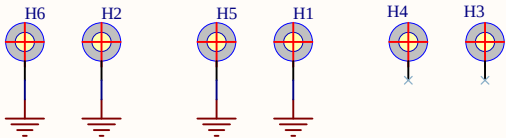
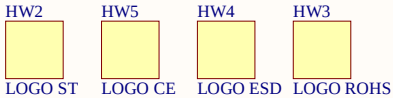
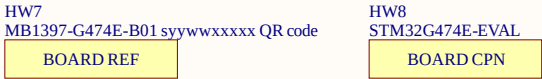
Notes:

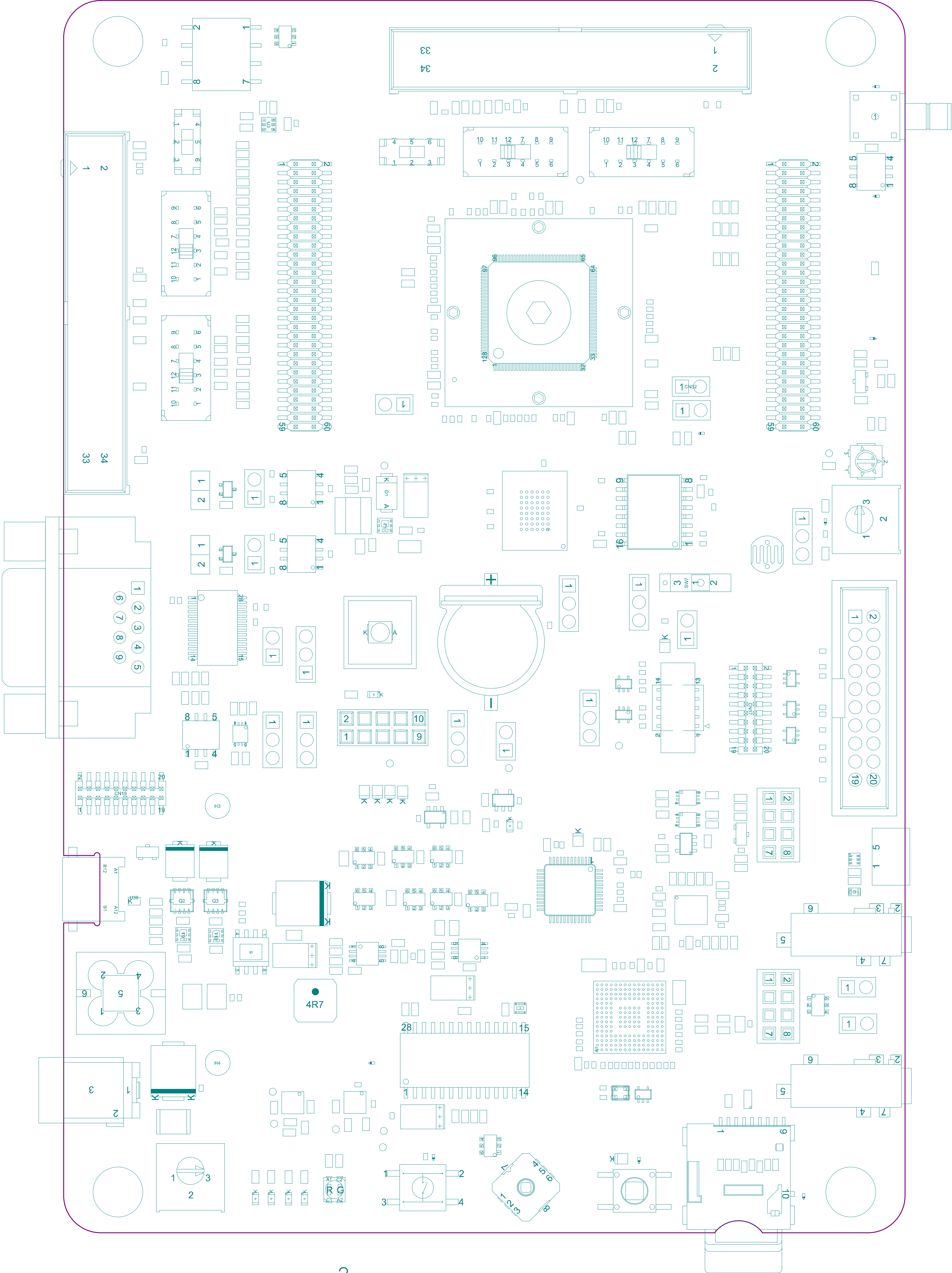
- 47R resistor must be as close as possible from the STDC14 connector
- MIPI10 on STDC14 footprint

Ceramic capacitor (Low ESR)



HW Mechanical parts





2
LAYER 2 (GND PLANE)

FAB DARWING & DRILL LEGEND

FAB DARWIN & DRILL LEGEND

