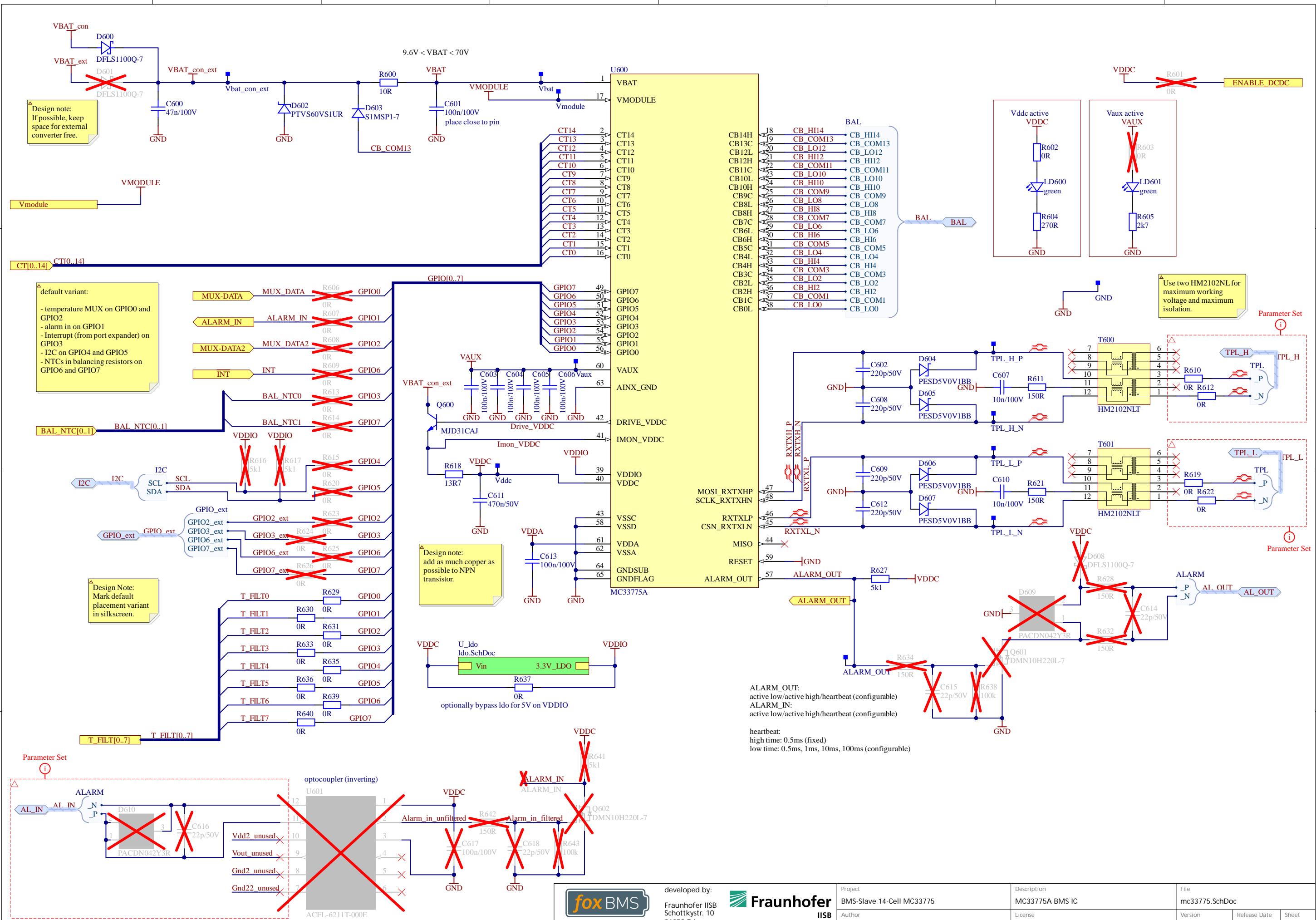
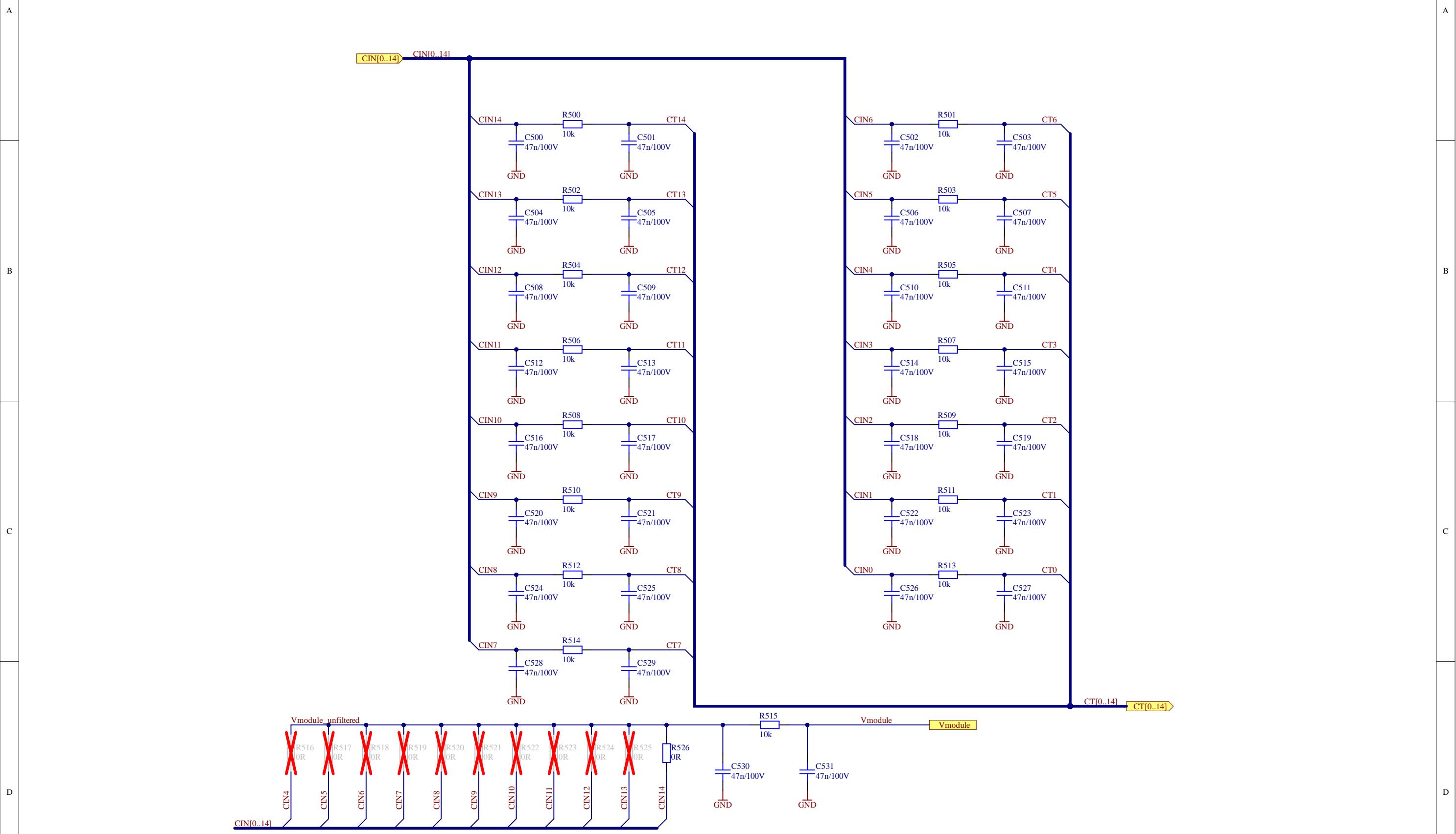


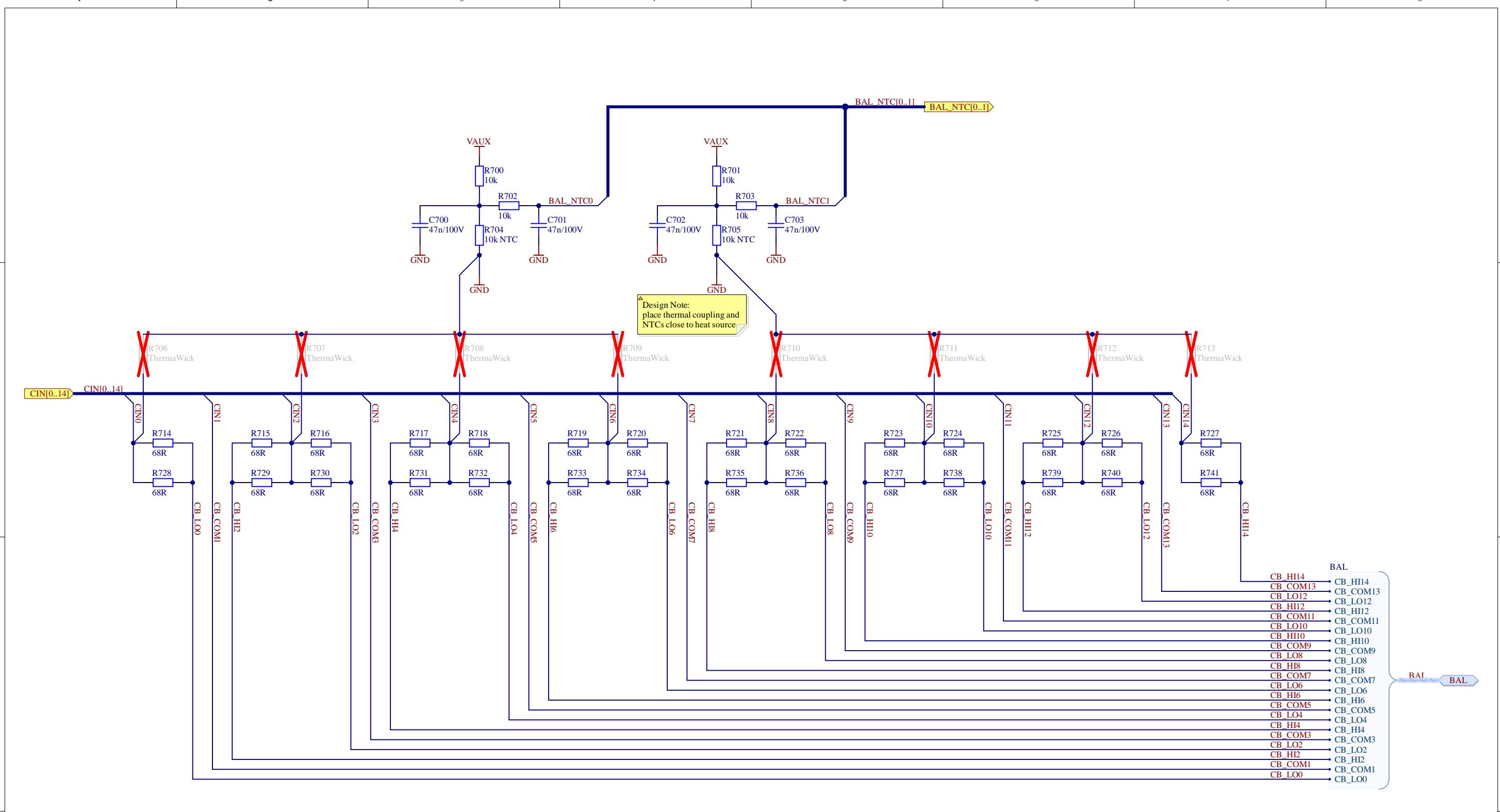
Rationale for creepage and clearance distances

*according to DIN EN 60664-1 (VDE 0110-1):2008-01
 *working voltage up to 1600Vdc
 *functional isolation for 1600Vdc
 *assume "Verschmutzungsgrad 2" and "Isolierstoffklasse 3b"
 *creepage distance: 16.0mm (table F.4)
 *design note: set creepage distance rule between net classes in PCB design
 *assumptions for clearance: 3600V (based on requirements for transient overvoltage), homogenous field: 1.1mm (table F.7)
 *design note: set clearances to net classes in PCB design

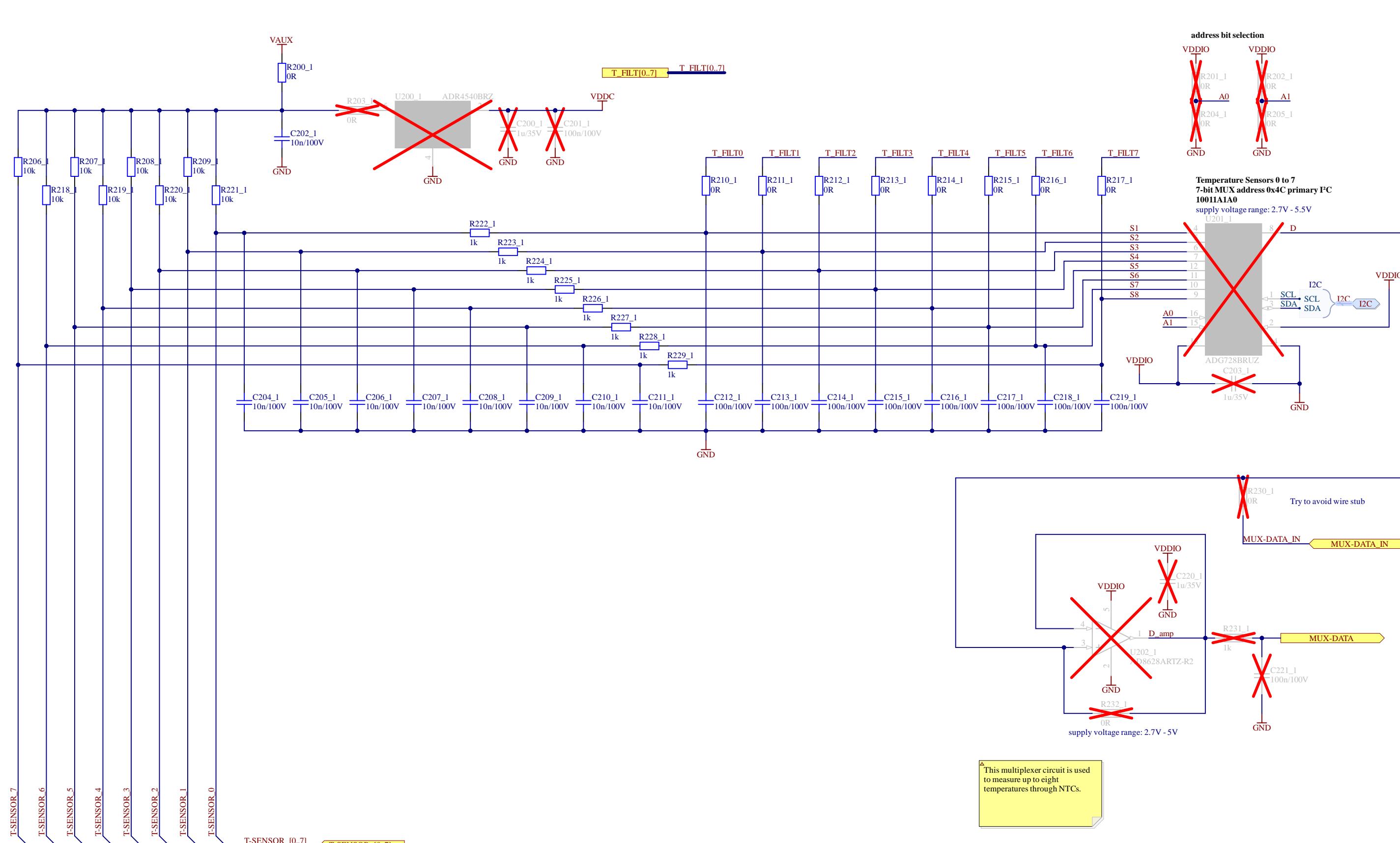
*take care with the mounting points: The spacing around them (6.05mm) is designed for a working voltage of 605Vdc at "Verschmutzungsgrad 2" and "Isolierstoffklasse 3b" or a working voltage of 1600Vdc at a "Verschmutzungsgrad 1" and "Isolierstoffklasse 3b". Consider potential connections to chassis when mounting the board and critically assess the situation.

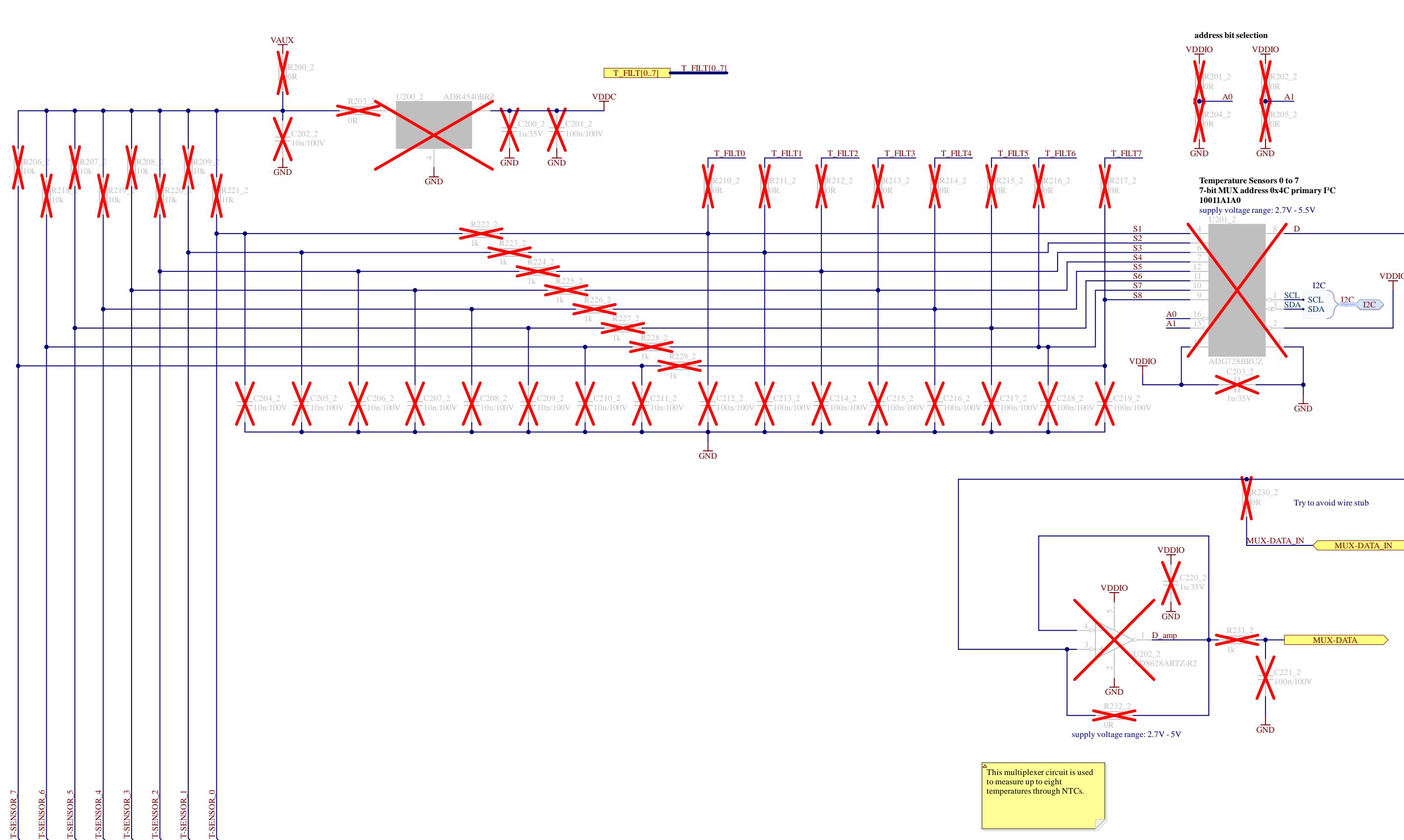




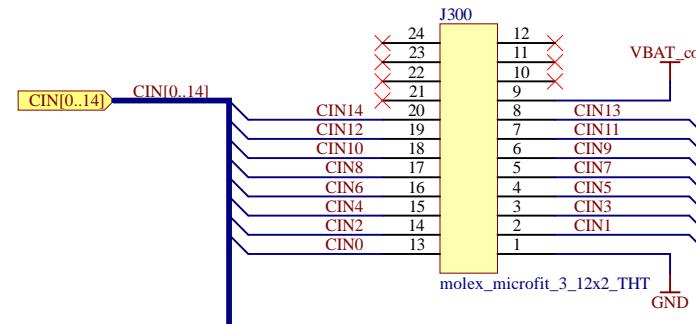
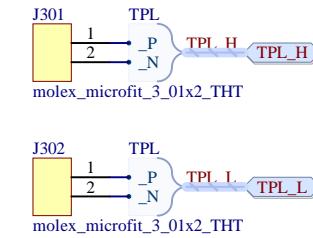
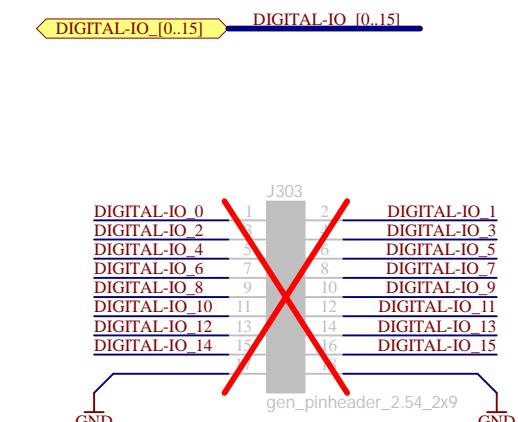


target balancing current: approx. 100mA@3,6V

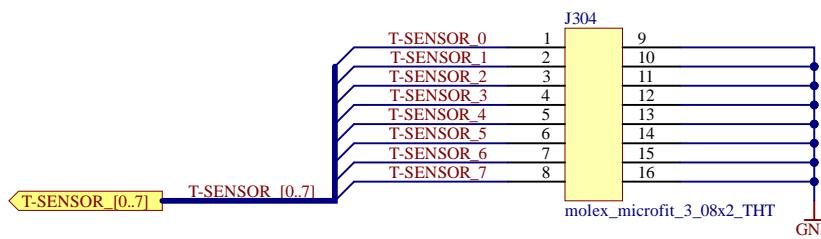
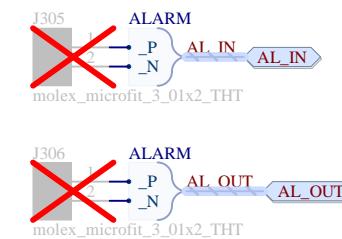




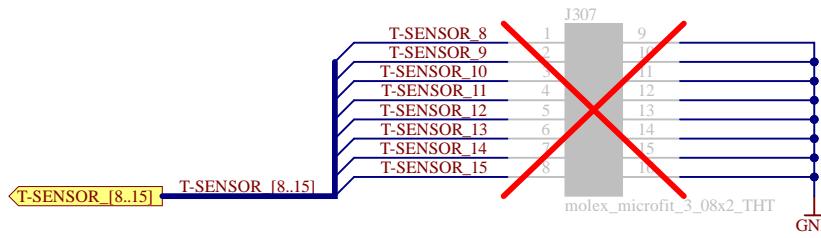
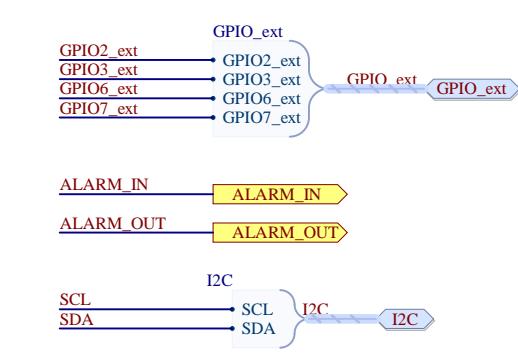
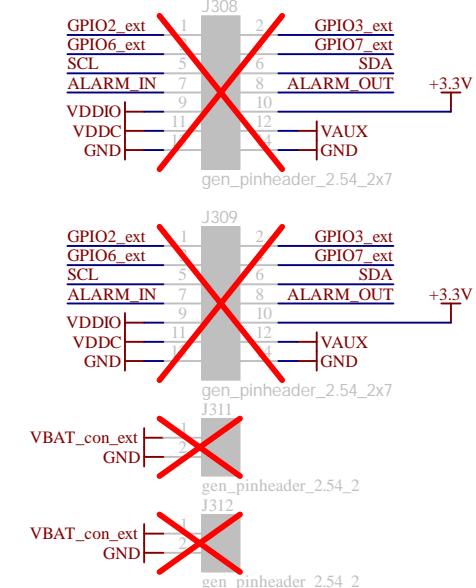
A

Battery cell connector**TPL communication connectors****GPIO extension**

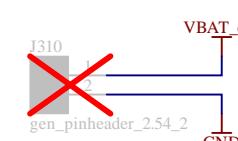
B

Temperature sensor connector**Alarm communication connectors**

C

**Extension connectors**

D

External supply connector

A

A

B

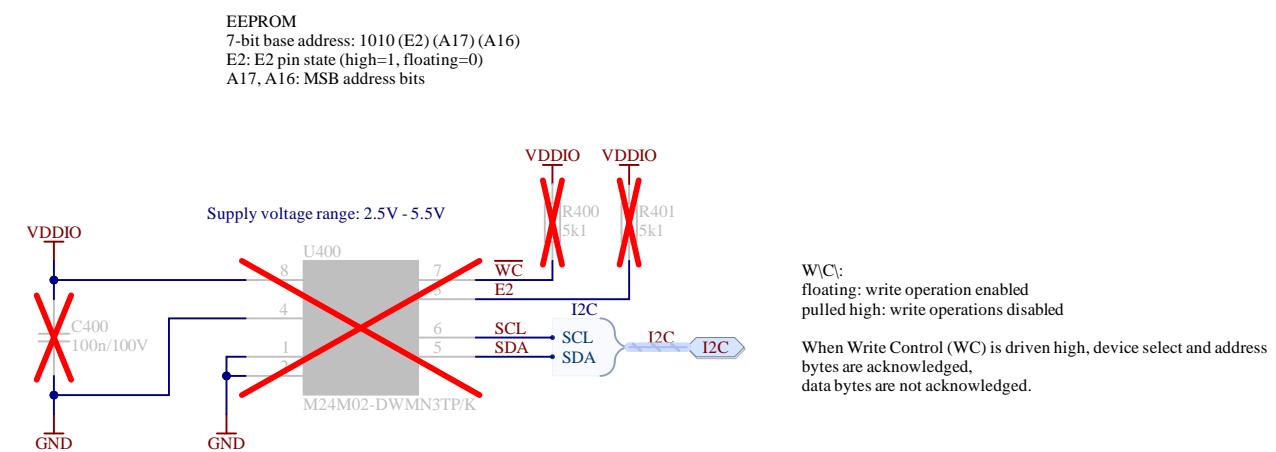
B

C

C

D

D



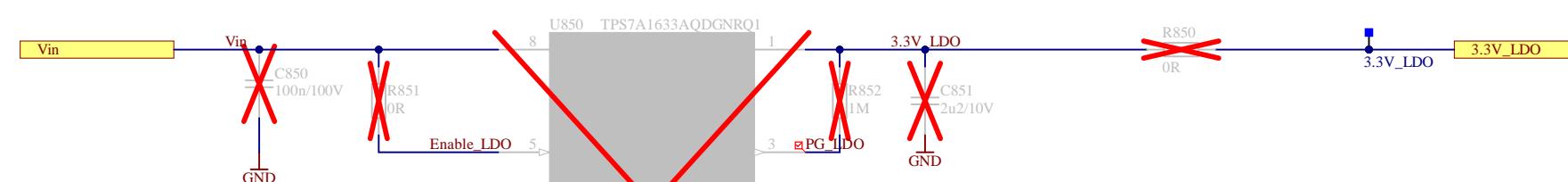
Replace with Cypress CY15B256J-SXE (supply voltage range: 2.0V - 3.6V) for FRAM option.

A

A

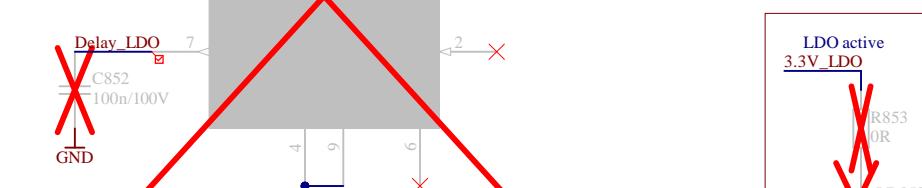
B

B



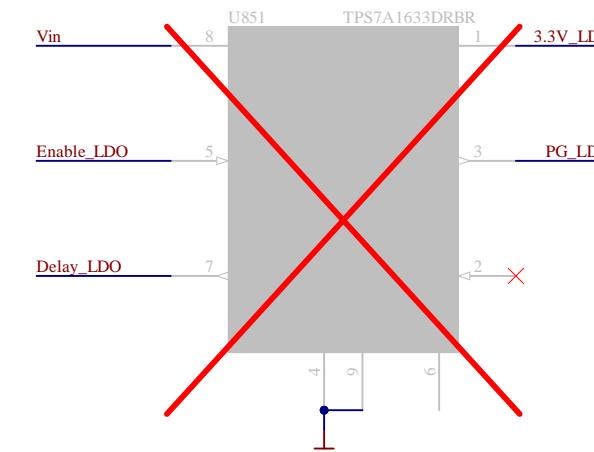
C

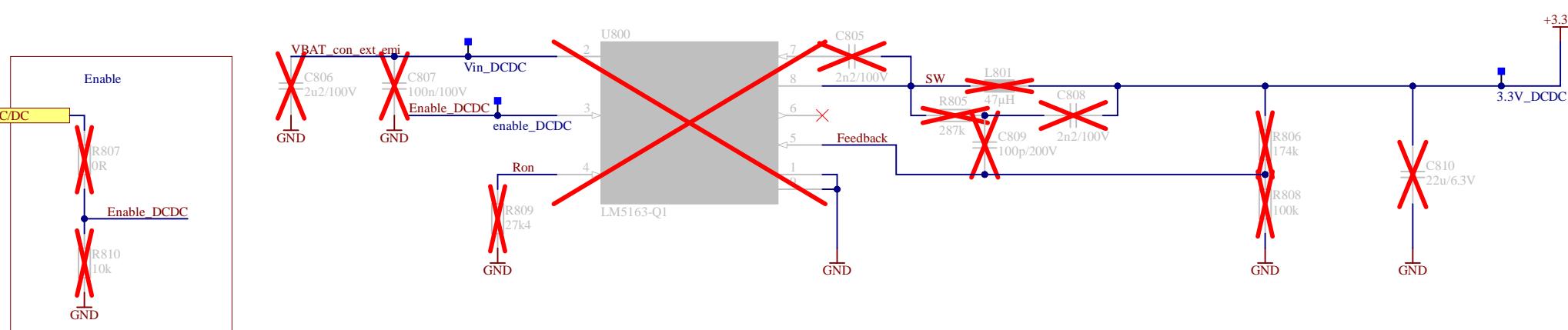
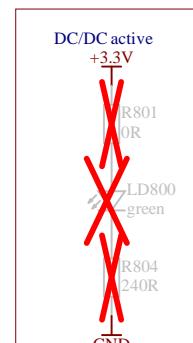
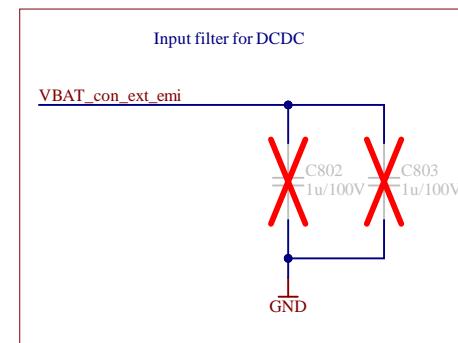
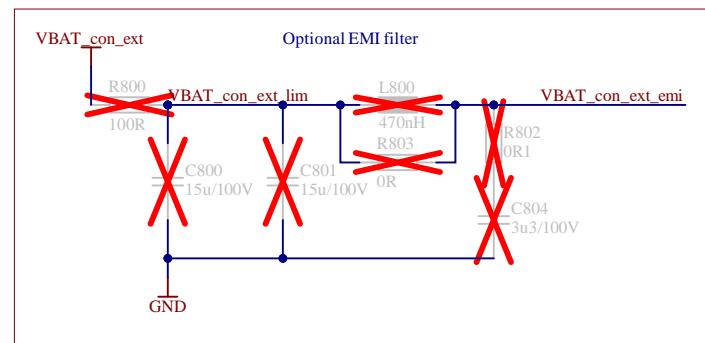
C



D

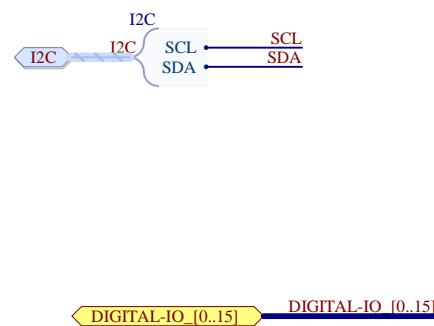
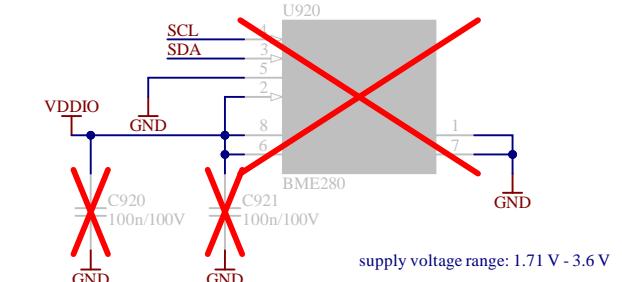
D



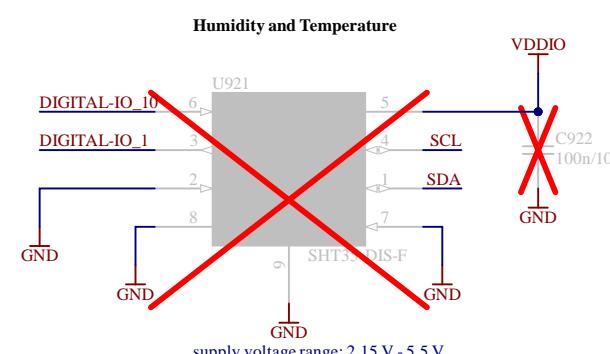
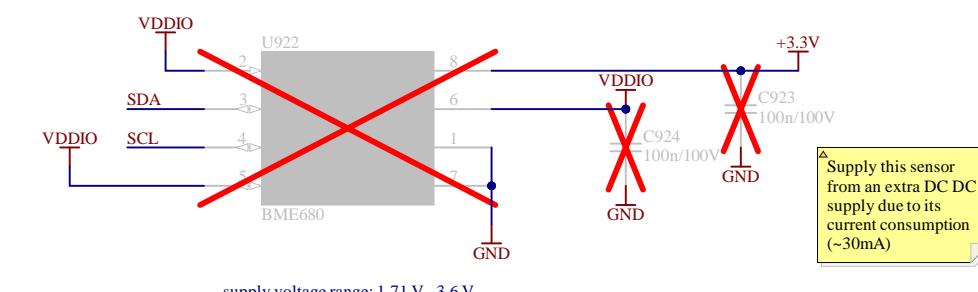


The DC/DC converter is used for applications where larger currents than the LDO can supply are needed.

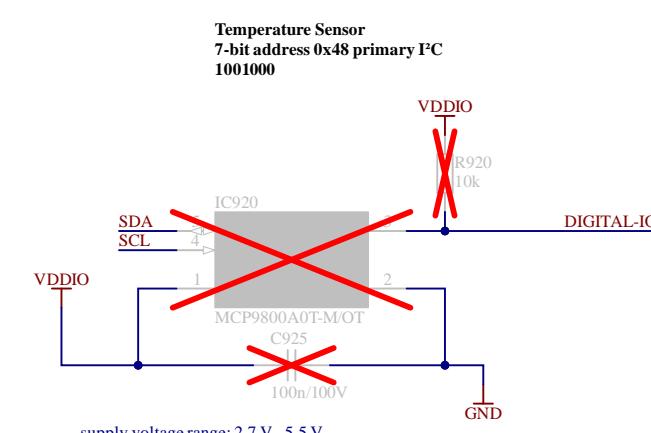
A

**Humidity, Pressure and Temperature**

B

**Humidity, Pressure, Temperature, Volatile Organic Compounds (VOC)**

C



Temperature Sensor
7-bit address 0x48 primary I_C
1001000

±0.5°C (typ.) at +25°C
±1°C (max.) from -10°C to +85°C
±2°C (max.) from -10°C to +125°C
±3°C (max.) from -55°C to +125°C

Attention: use -A0T Type (I_C address conflict otherwise)!

Alert temperature can be configured via I_C

I_C addresses

Analog MUX bank0: 1001100
Analog MUX bank0: 1001101
port expander: 0100000

M24M02-A125: 101xxxx
CY15B256J-SXE: 1010xxx

SHT35: 1000100
MCP9800A0T: 1001000
BME280: 1110110
BME680: 1110111

Temperature Sensor MCP9800 is qualified AEC-Q100

D

D

A

