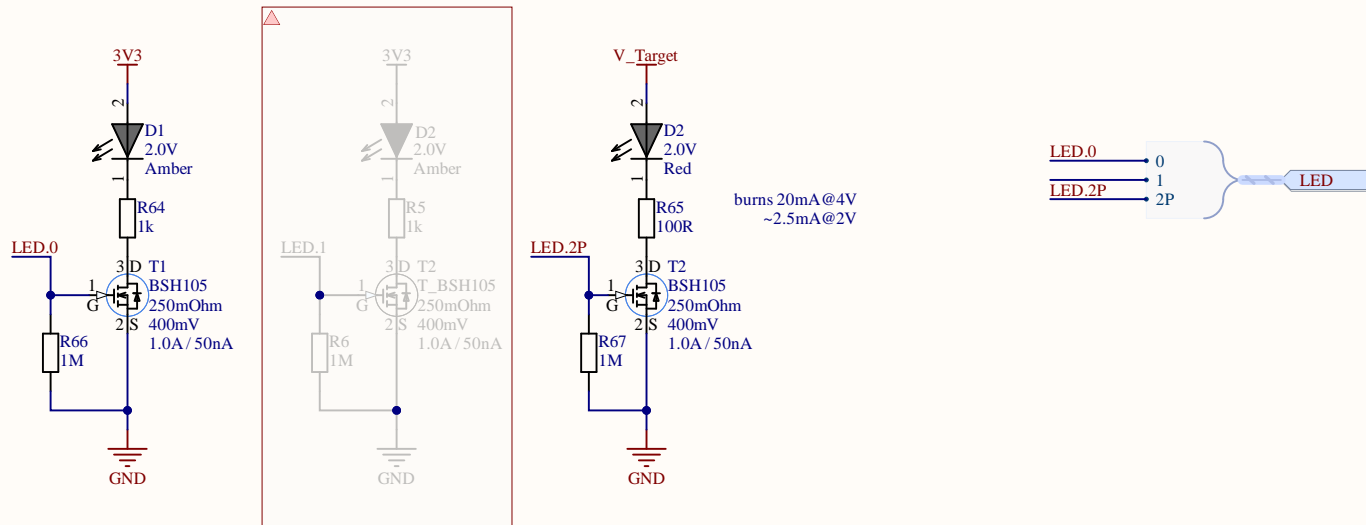
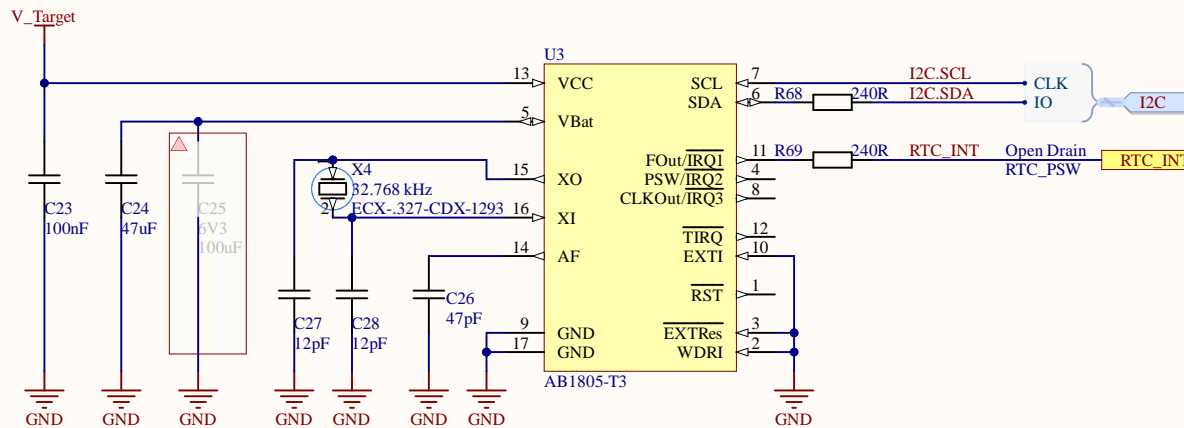


Debug-LEDs



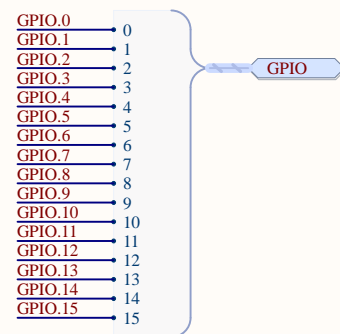
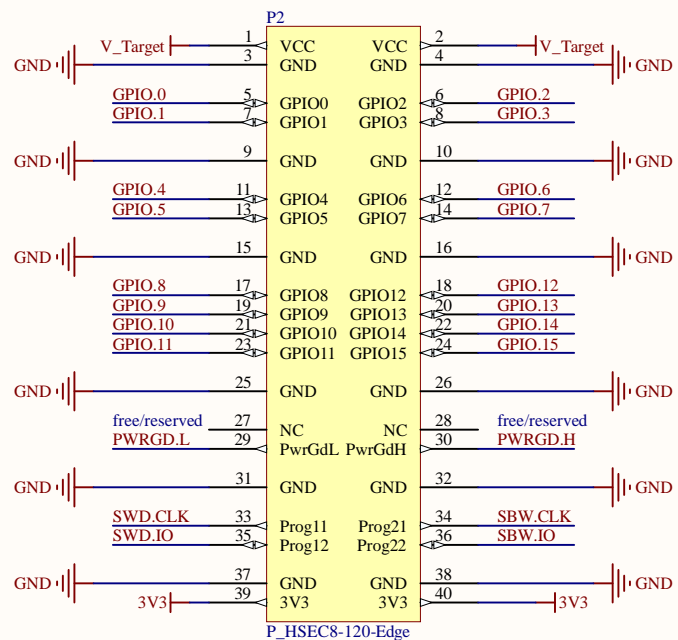
RTC & Watchdog



Title RTC & LEDs NES Lab / TU Dresden		
Size A4	Number	Revision
Date: 2/07/2025	Sheet of nRF_FRAM_Target.PrfPcb	
File: C:\Users\...\misc.SchDoc	Drawn By: Ingmar	

△ signal-direction is from Host point of view (Target is Guest)

Switchable Directions:
Group A = TBD
Group B = TBD
Group C = TBD



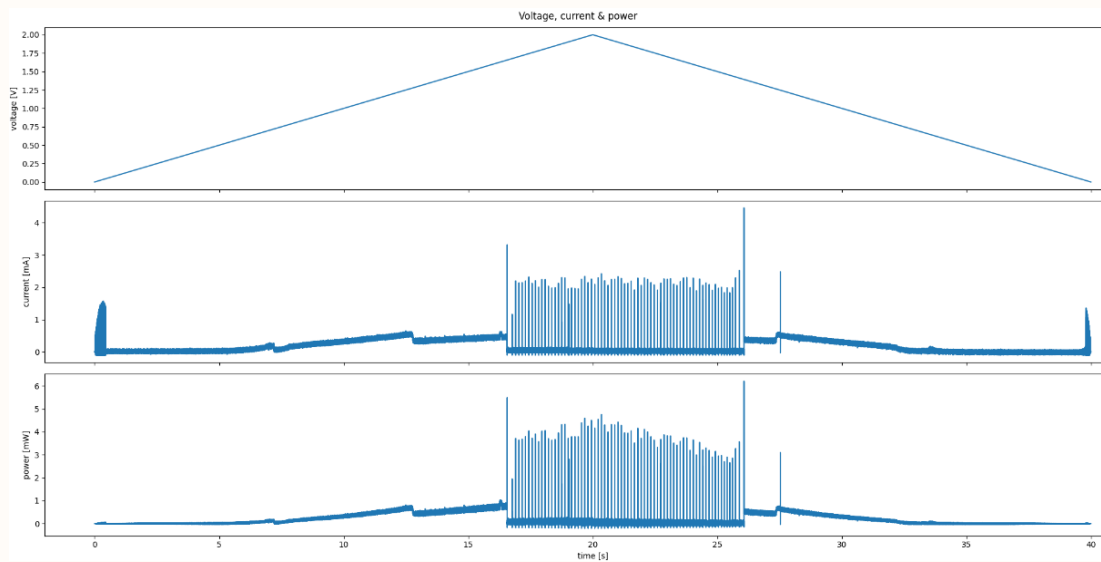
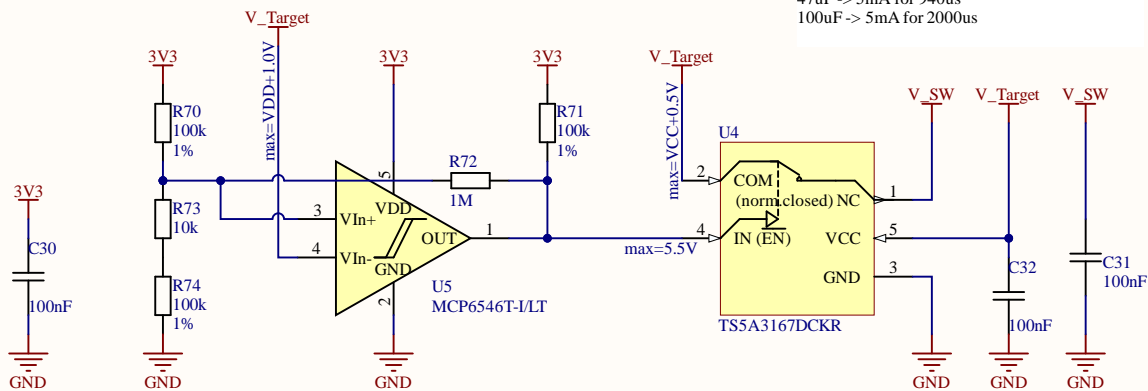
Title Board-Connector NES Lab / TU Dresden			
Size A4	Number		Revision
Date:	2/07/2025	Sheet of	nRF_FRAM_Target_PriPcb
File:	C:\Users\...\board_connector.SchDoc	Drawn By:	Ingmar

Analog Switch controlled by Comparator

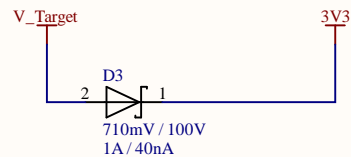
nRF consumes ~.5mA below 1.7V in deep-sleep
- consumption drops when going above 1.69 V
- rise when going below 1.58 V
- tested 13 nodes range from
ON [1.63, 1.69] V
OFF [1.58, 1.60] V

Analog Switch controlled by comparator with small hysteresis.
VON: 1.729 V
VOFF: 1.652 V (according to datasheet)
Own Calculations say: 1.642 & 1.797 V
-> measurements confirm own calc!

Calculate PDraw for 100mV-Drop when enabling
10uF -> 5mA for 200us
10uF -> 1mA for 1000ms
47uF -> 5mA for 940us
100uF -> 5mA for 2000us



Over-Voltage-Protection



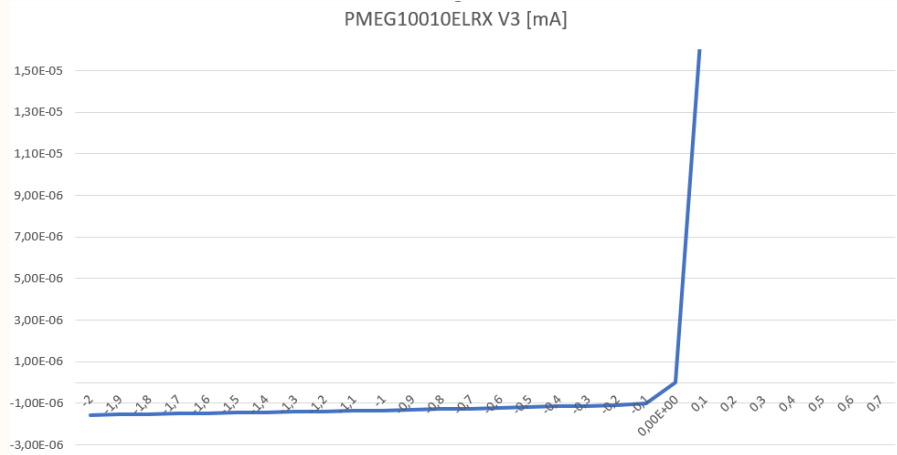
505-565mV @ 100mA

Abs Max Ratings:

nRF52 3.9 V
RTC 3.8 V
MSP430 4.1 V

One Diode:

+ 0.0 V -> 6 pA (noise)
+ 0.1 V -> 47 nA
+ 0.2 V -> 2.3 uA
+ 0.3 V -> 120 uA
+ 0.4 V -> 4.83 mA



Title

Size

A4

Number

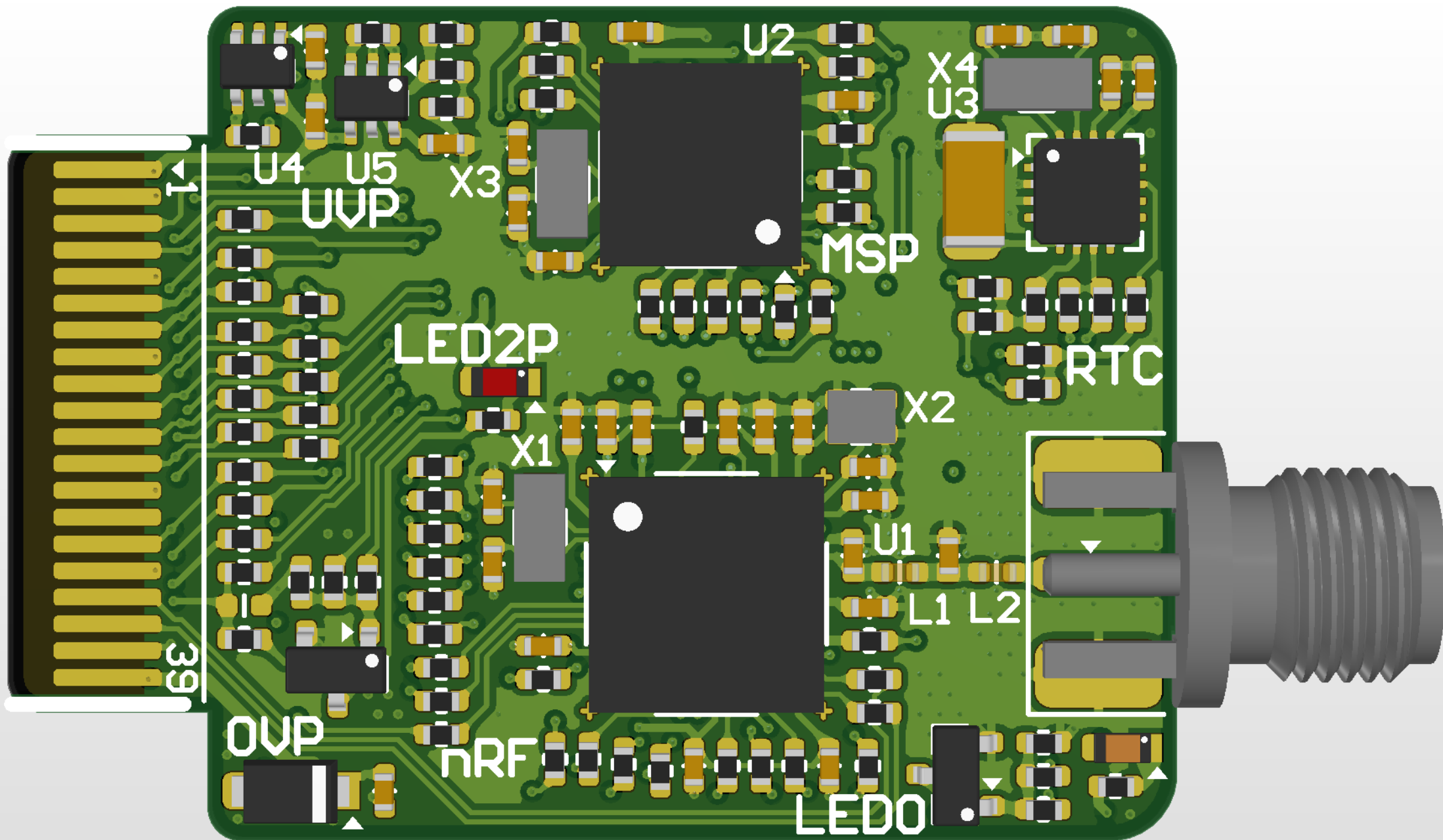
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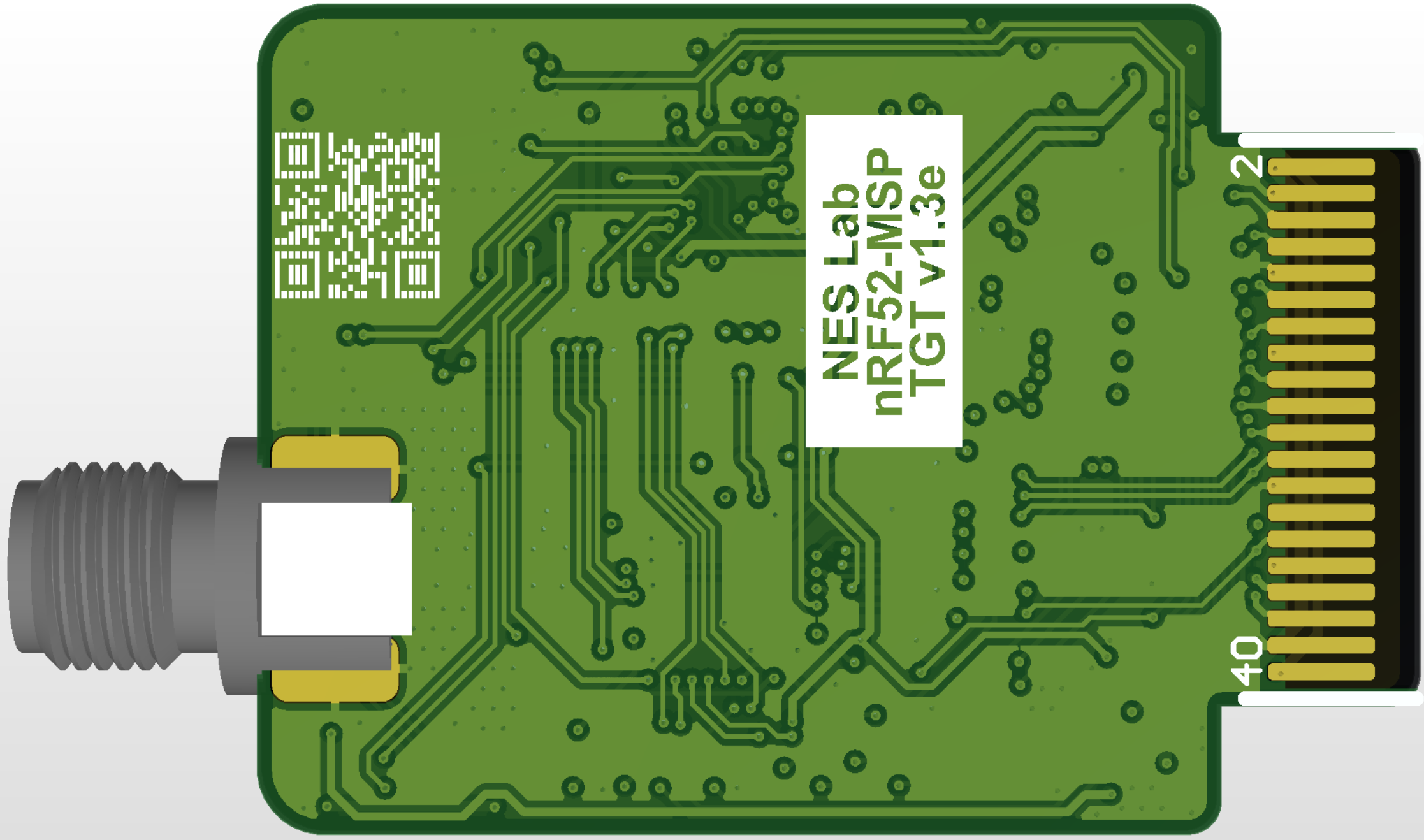
File: C:\Users\...\power.SchDoc

Revision

Sheet of

Drawn By:





NES Lab
nRF52-MSP
TGT v1.3e

40 2