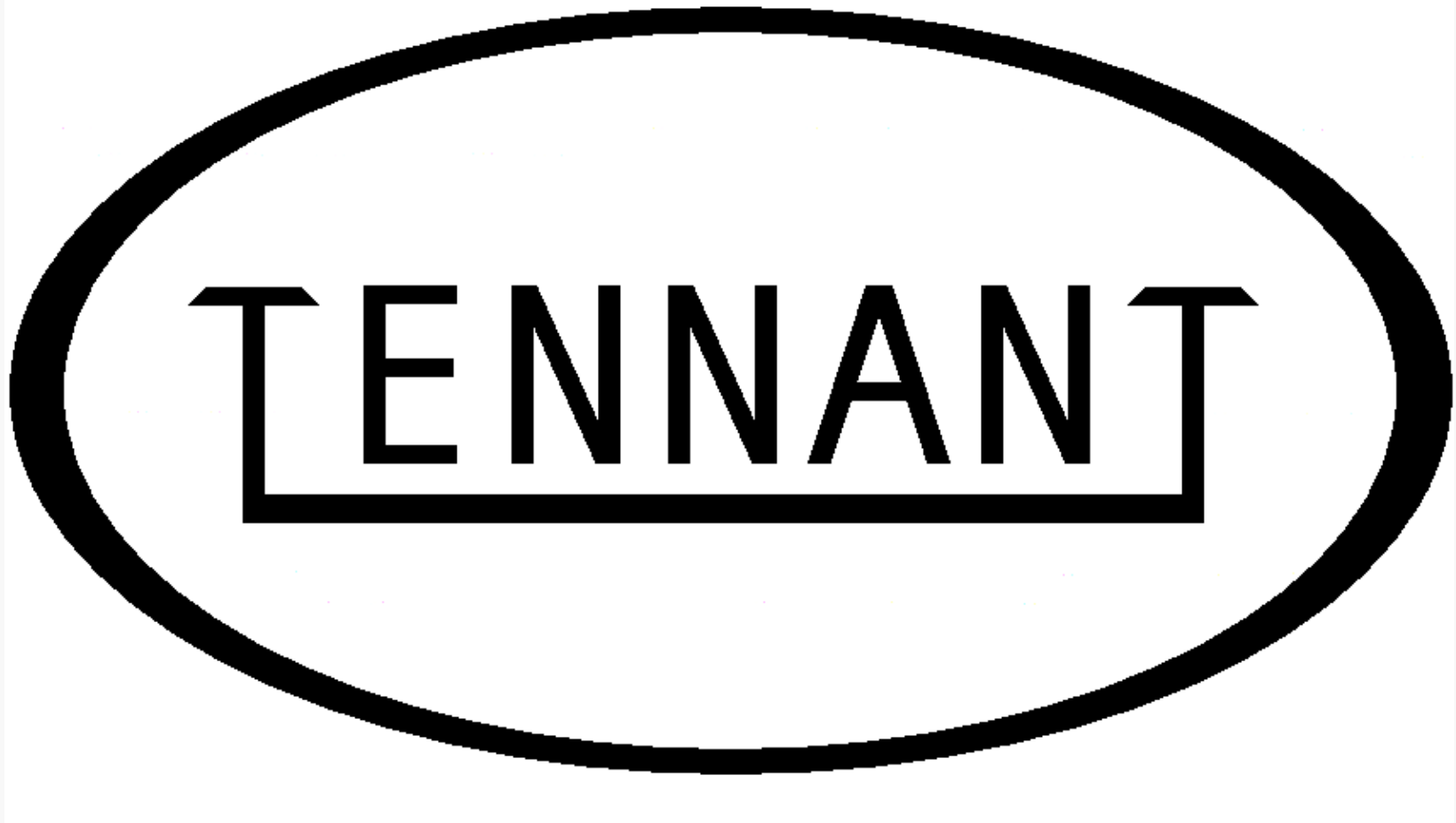




IRIS TM4 REFRESH, USA

Q26028-002

PAGE 1: COVER SHEET, INDEX
PAGE 2: MICRO, FLASH, RTC, RS232, CAN, ACCELEROMETER
PAGE 3: LOWSIDE DRIVERS, ANALOG IN, CONNECTOR, POWER SUPPLY, CURRENT SHUNT
PAGE 4: MODEM SUPPORT, PB, ANALOG IN, LED ENCODER
PAGE 5: WIFI MODULE

REVISIONS:

REV A: 3/30/2016
STARTED WITH IRIS, 5680HD SCHEMATIC Q26004-001.
MADE THE FOLLOWING CHANGES:
1) TPs added.
2) Sallen-Key Filter corrected
3) Filtering added to A/D signals.
4) High Frequency Bypass capacitance added
5) Wifi added
6) All components moved to front of board
7) Removed Display circuitry
8) changed 3.3V to provide more current
9) changed L1 inductor to handle more current
10) R17 changed to make IRIS Battery voltage sense 52V compliant

REV B: 1/17/2017
STARTED WITH IRIS, 5680HD SCHEMATIC Q26004-001.
MADE THE FOLLOWING CHANGES:
1) R17 changed to make IRIS Battery voltage sense 52V compliant.
Added additional notes for clearer understanding of Schematic change of R17

REV C: 1/23/2024
1)Change Y2 and Y3 to Q12000-009
2)Port from Allegro/OrCAD files to Altium
3)Remove port to power symbol from top left corner of pages 2-5 as power symbols are already global in Altium
4)Replace CR1 (Q11021-005) with B1 (Q11021-006)
5)Disallowed copper thieving in fab notes
6)Changed RTC battery charging circuit
 a. Removed R117, R121
 b. Replaced R109 with 620 ohm
 c. Changed charging circuit to source from 5V to 3v3
7) Deleted all "GND" net labels from GND ports to avoid renaming 3p3V nets
8) Updated rev bits to REV 3
9) NA and EMEA variants are now managed by Altium variant manager
10) Removed verbiage around status LEDs for clarity
11) Changed "remove copper necks below X mils" to 10 for top layer copper pour

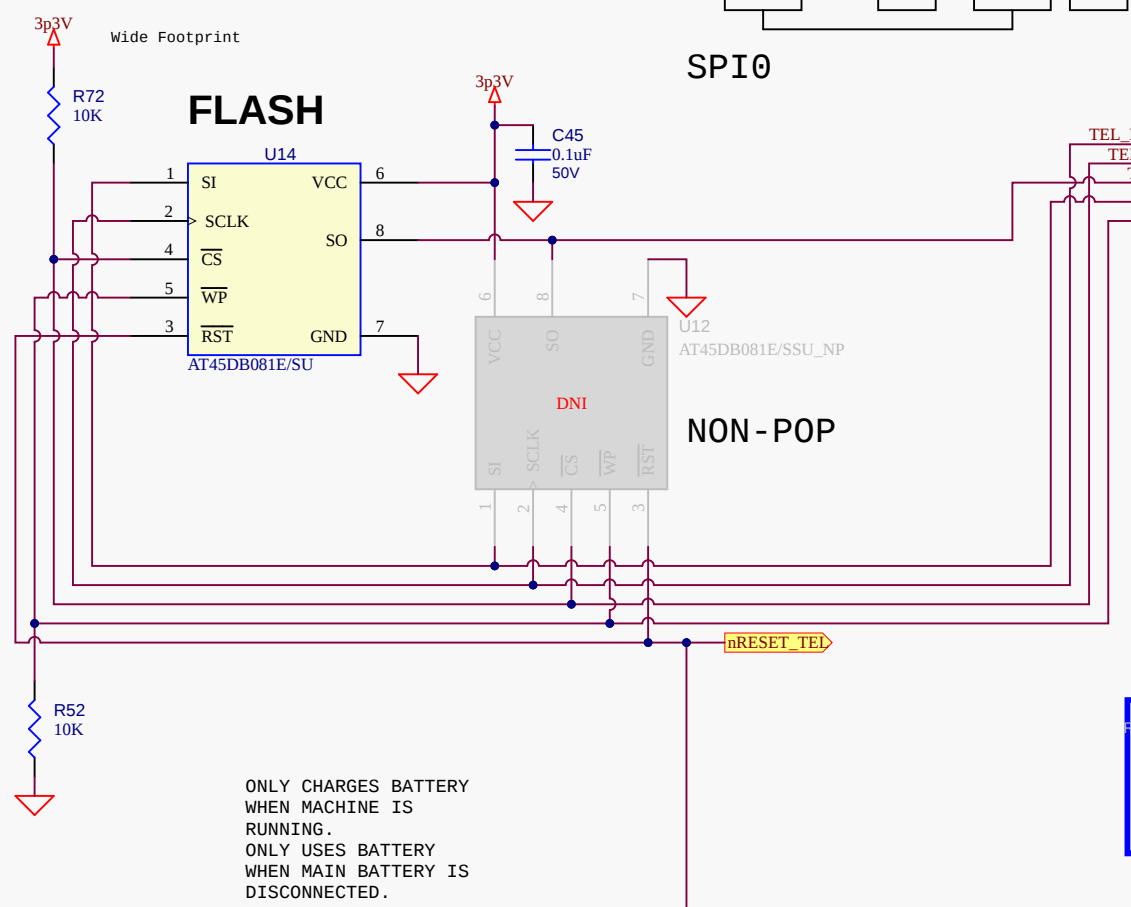
BOM ITEMS:

-  DENWARE Q30085-001
-  PCB1 Q25078-002
-  SCHEMATIC1 Q26028-001

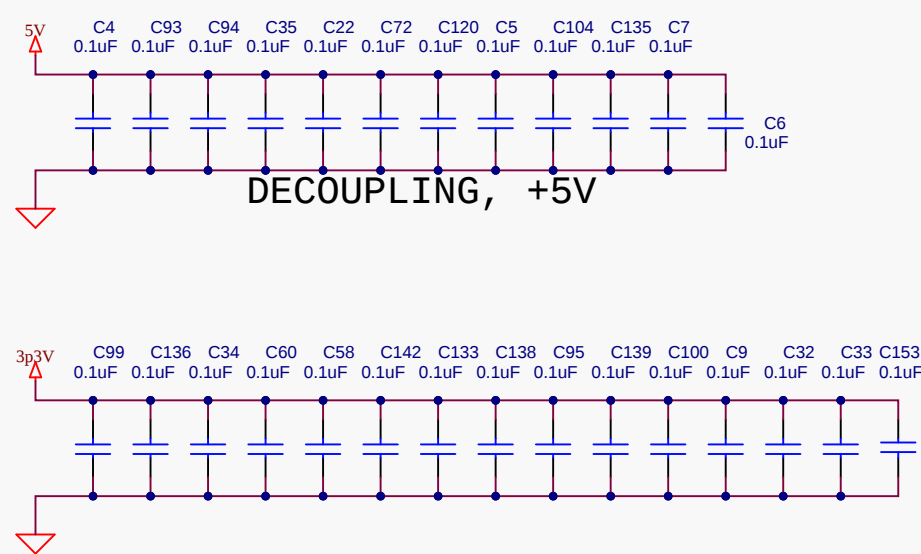
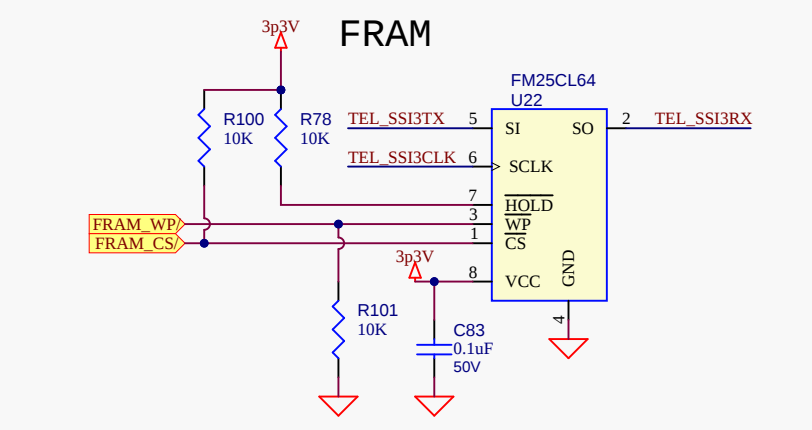
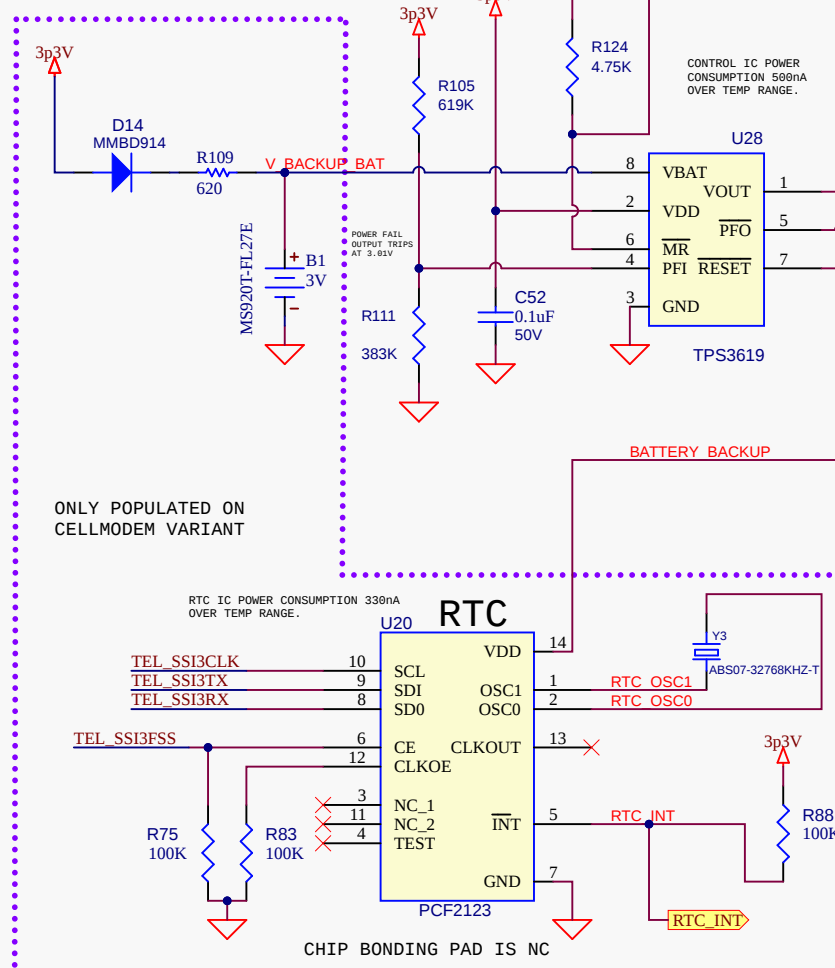
PROPRIETARY INFORMATION		Rev C		Title	
THE INFORMATION IN THIS DOCUMENT IS PROPERTY OF TENNANT COMPANY. IT IS SUBJECT TO RETURN UPON DEMAND AND MAY NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION OF TENNANT COMPANY.		Size: D		Iris 4G Board	
		Document Number Q25078-002		Engineer Andrea Smith	
		Date: 1/25/2024		Sheet 1 of 5	



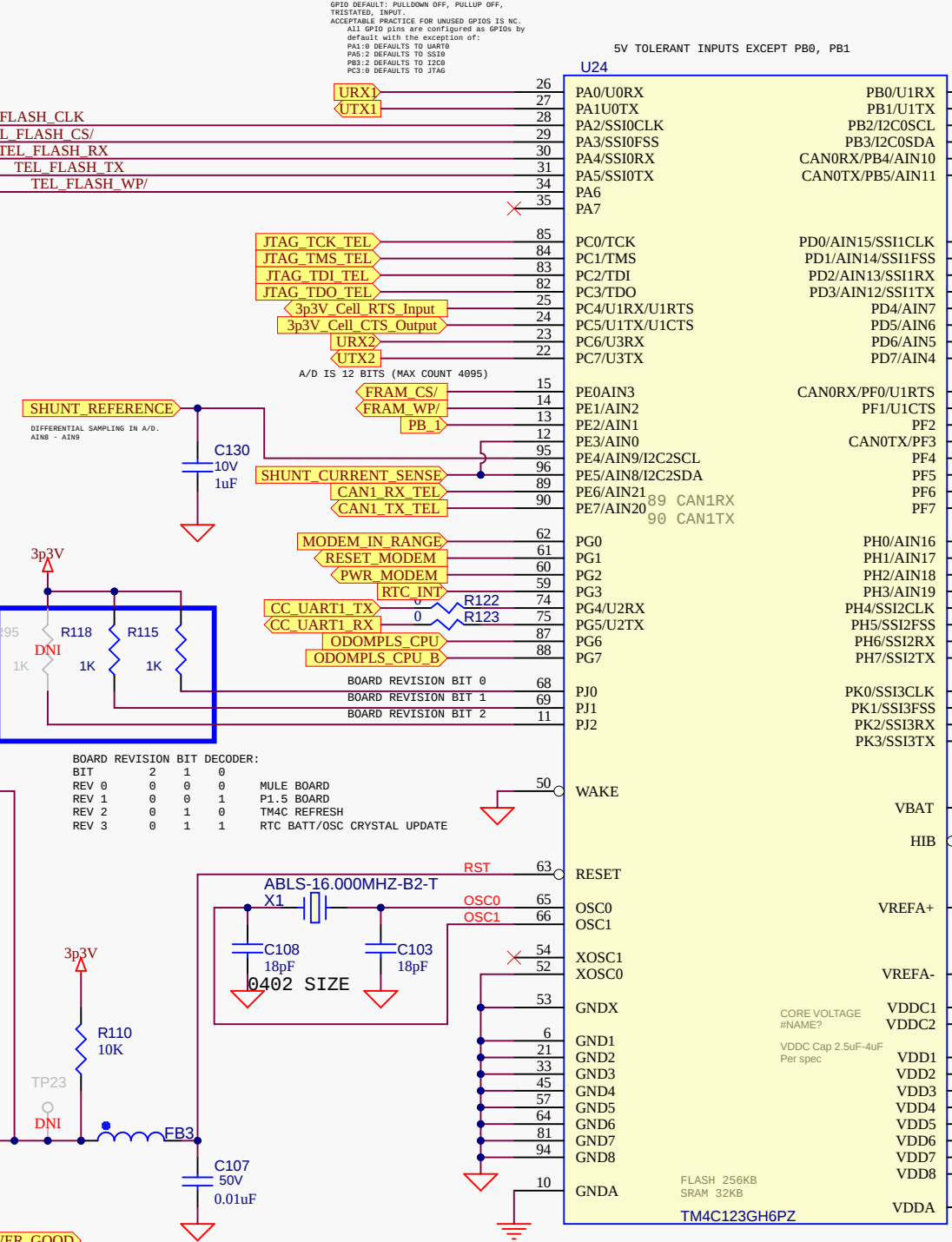
NARROW / WIDE footprints.



ONLY CHARGES BATTERY WHEN MACHINE IS RUNNING.
ONLY USES BATTERY WHEN MAIN BATTERY IS DISCONNECTED.



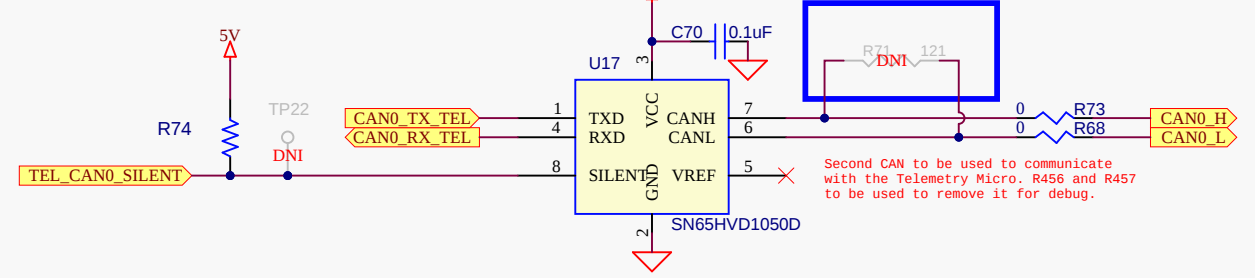
MICRO AND WIFI ORTHOGONAL!



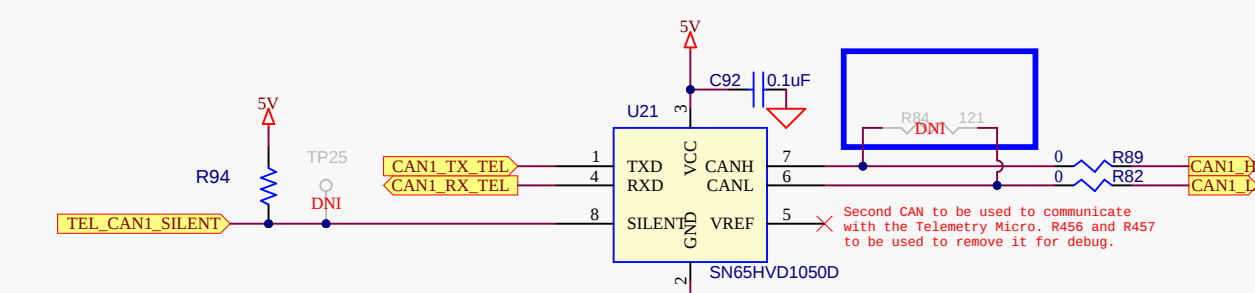
TMC123GH6PZ

CAN COMMUNICATIONS

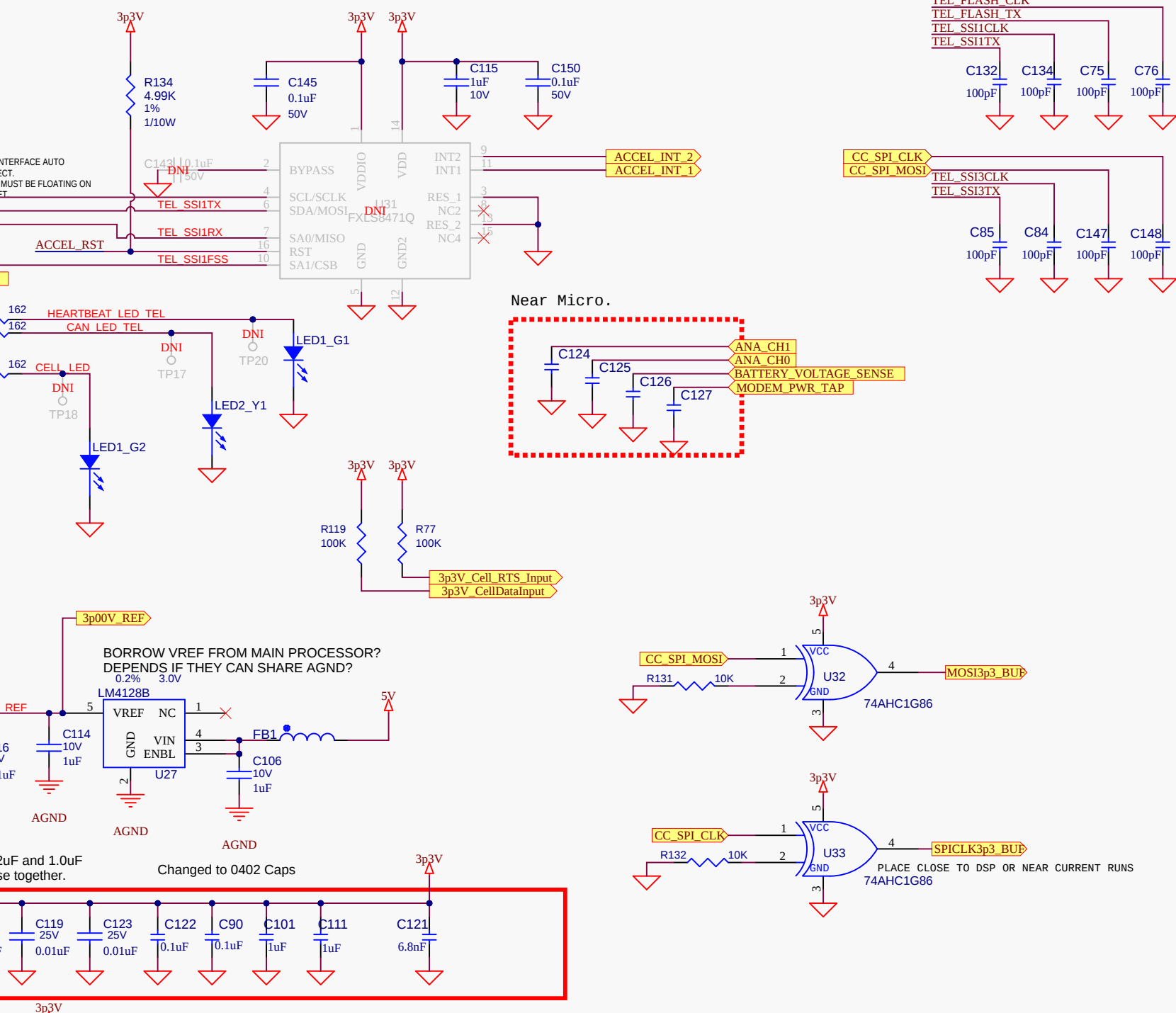
CAN0 CAN OPEN



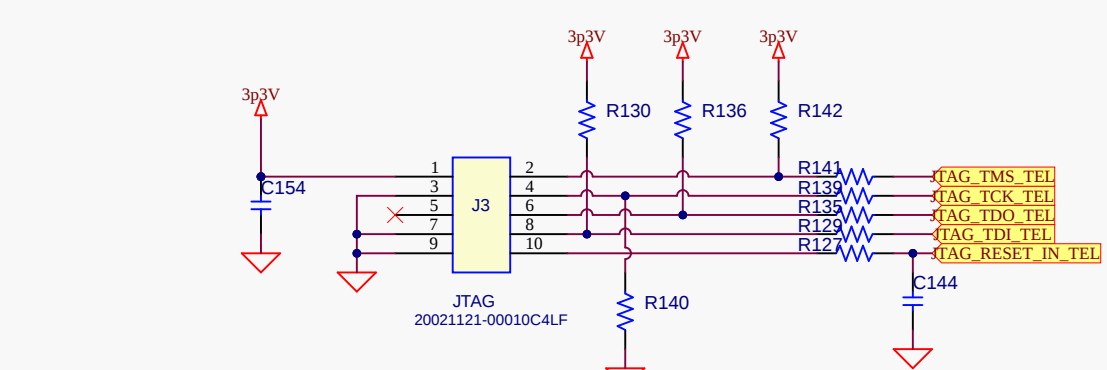
CAN1 CAN J1939



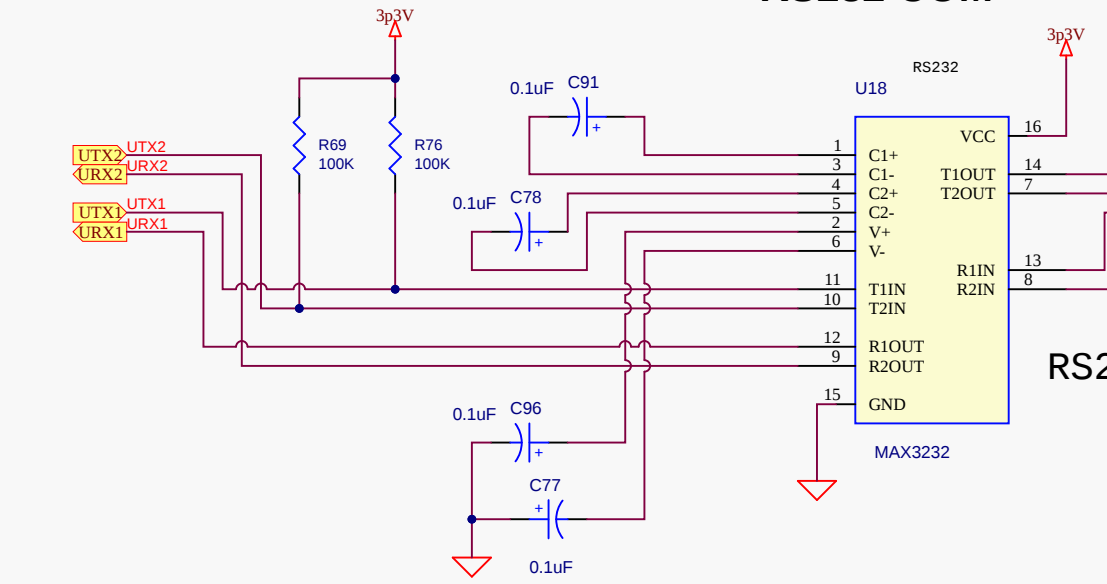
ACCELEROMETER



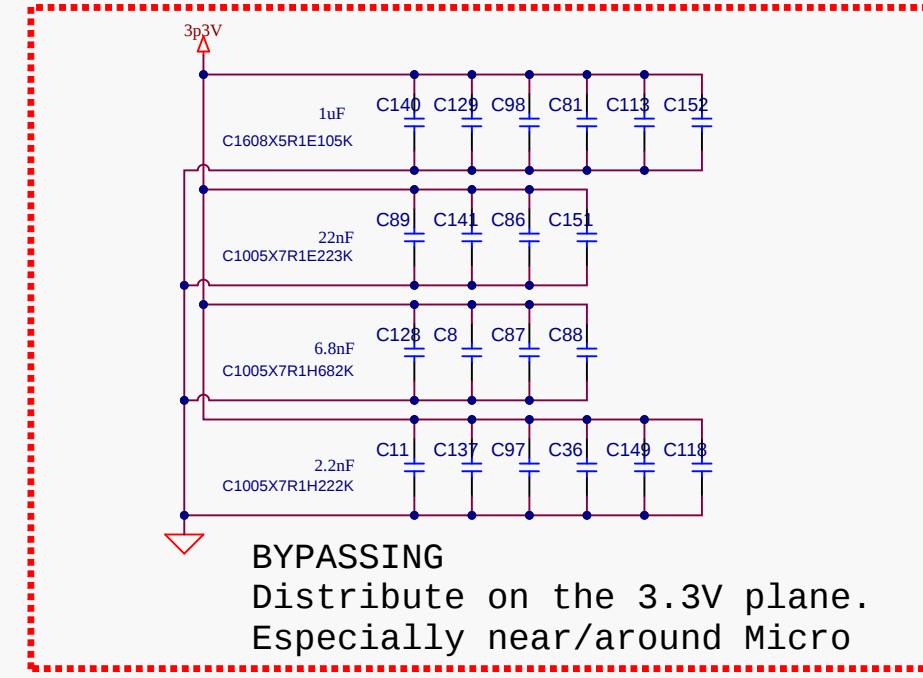
JTAG



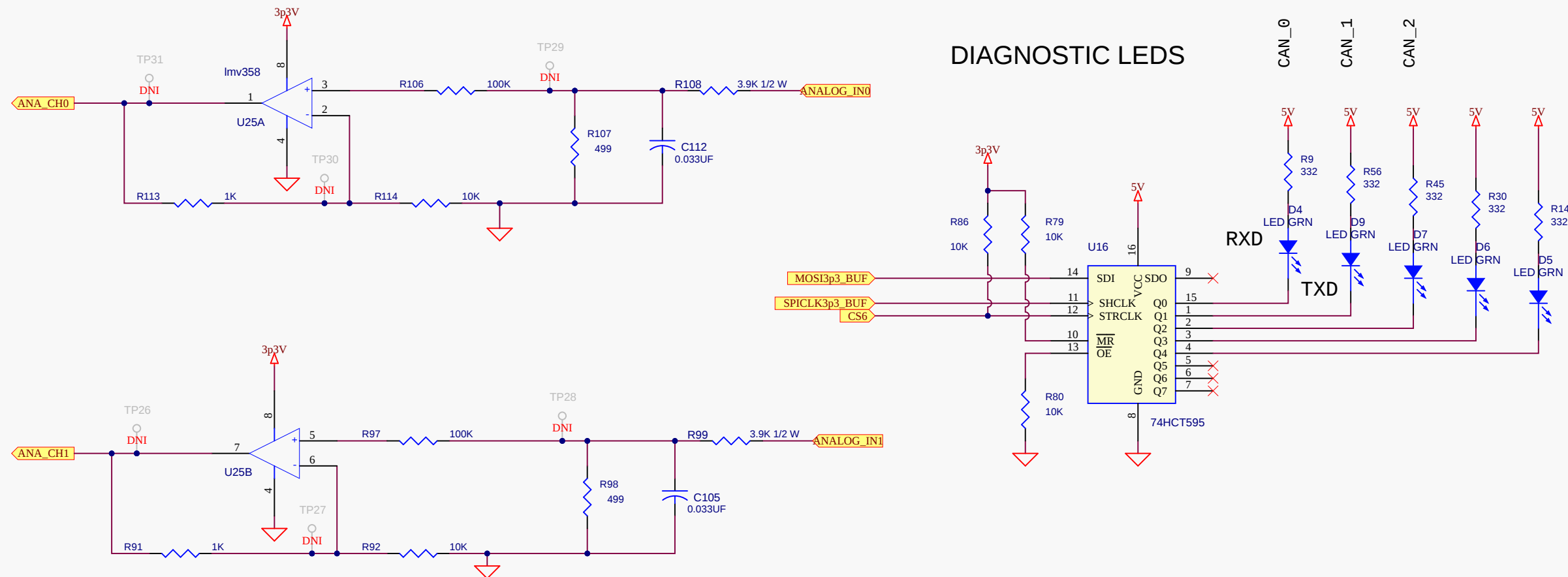
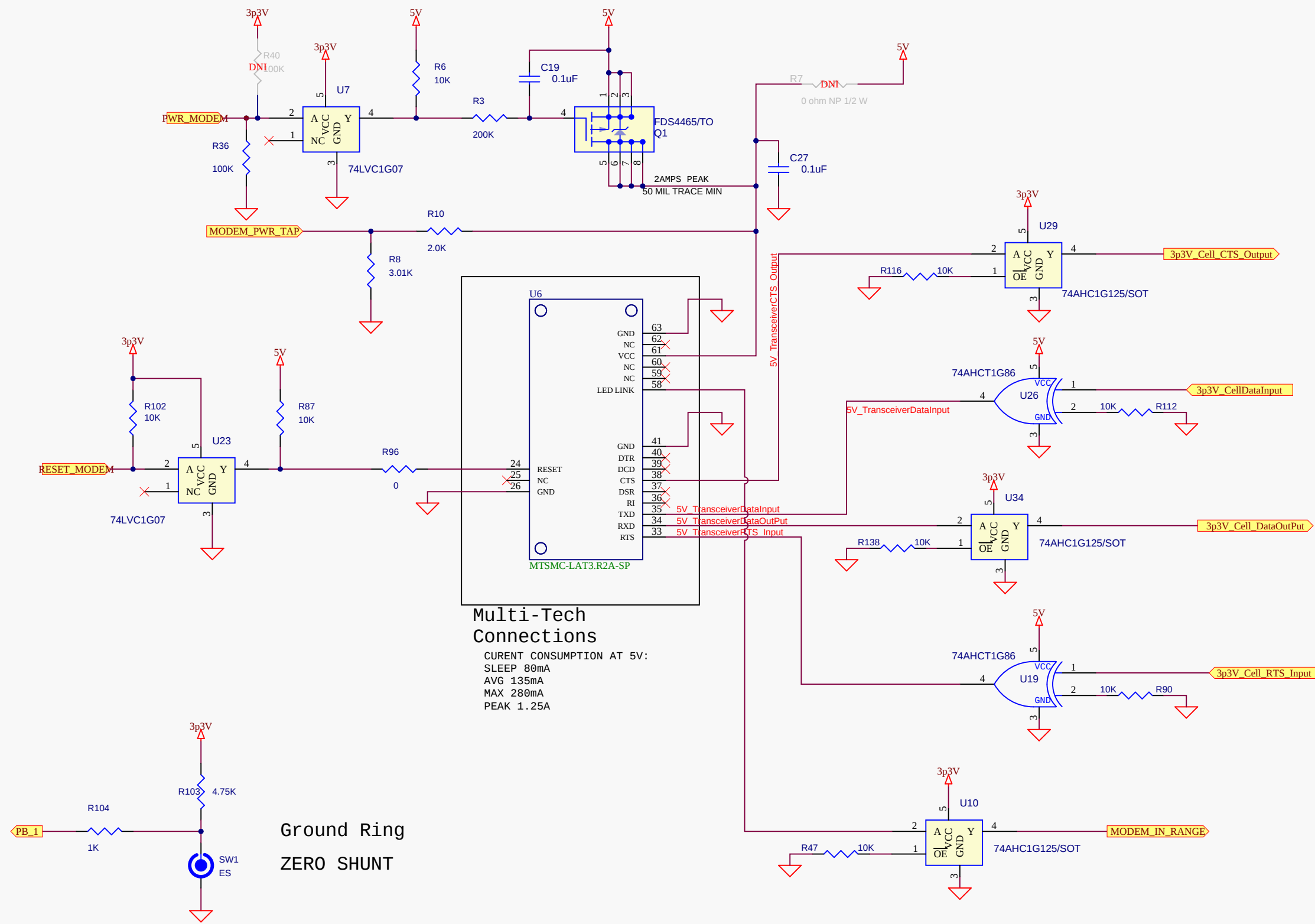
RS232 COM



RS232 -B



BYPASSING
Distribute on the 3.3V plane.
Especially near/around Micro



CONTINUOUS CURRENT 272mA TYP.
CALIBRATION CURRENT 450mA TYP FOR 24ms

Higher current needed for 3.3V
for WiFi requirements



External serial flash
stores the user profiles
and firmware patch
updates.

FLASH ALSO VERIFIED
TO WORK WITH ADESTO
AT25DF081A 8Mb.