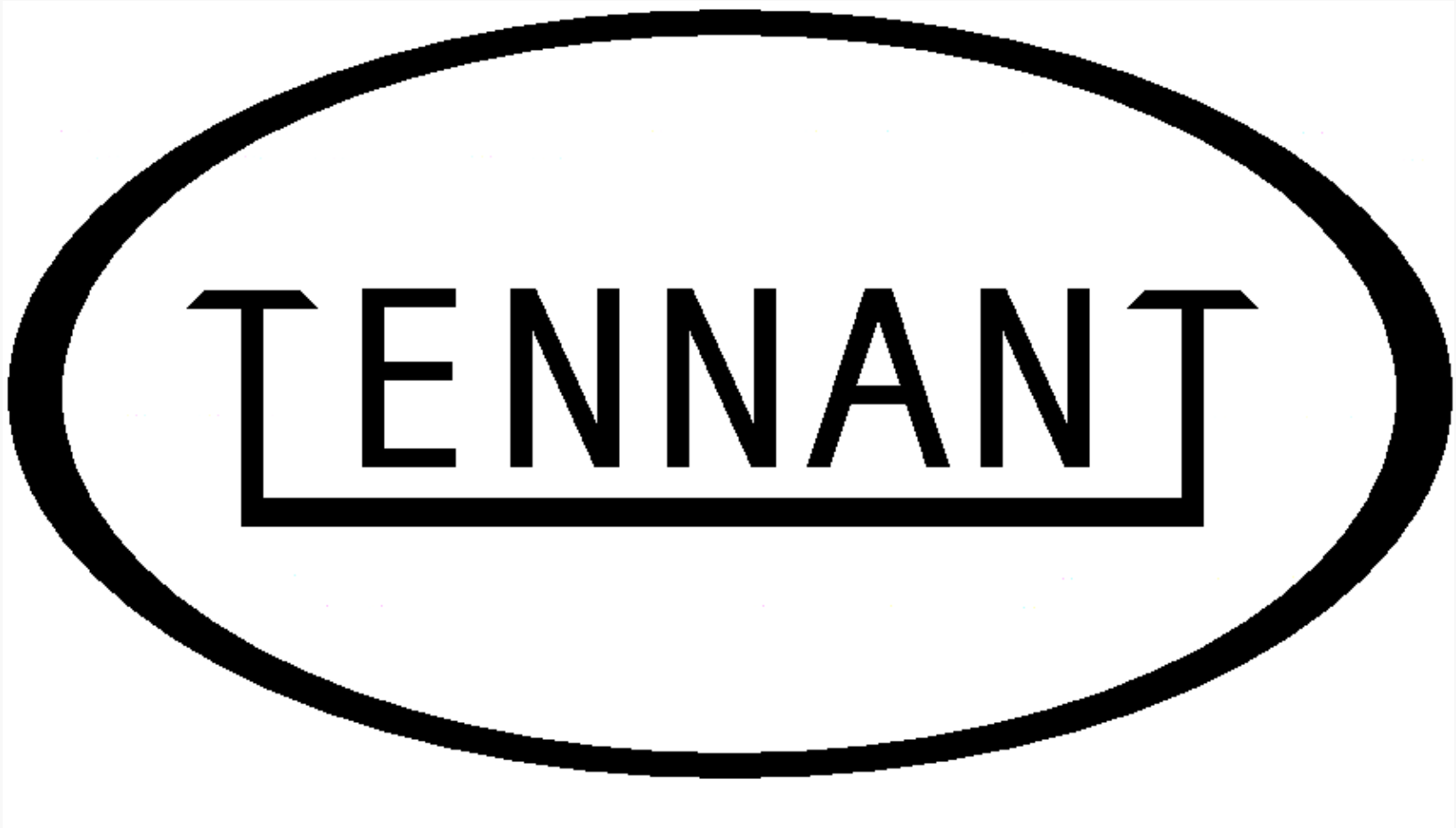




IRIS TM4 REFRESH, USA

Q25078

- 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 Li 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: 4/16/2024
1) Port from Allegro/OrCAD files to Altium
2) Combined NA (1259268) and EMEA (1259269) variants into one PN: 1269799
3) BOM change- Y2 and Y3 to Q12000-009
4) BOM change- U6 to Q23000-036
5) BOM & ref des change- Replace CR1 (Q11021-005) with B1 (Q11021-006)
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) Updated rev bits to REV 3
8) Updated schematic and PCB to follow new QPL naming scheme (see EEST_HWE_006)
8) Remove port to power symbol from top left corner of pages 2-5 (power symbols are already global in Altium)
9) Deleted all "GND" net labels from GND ports to not rename 3p3V nets
10) Removed verbiage around status LEDs for clarity
11) Move HW rev bits to 4

BOM ITEMS:

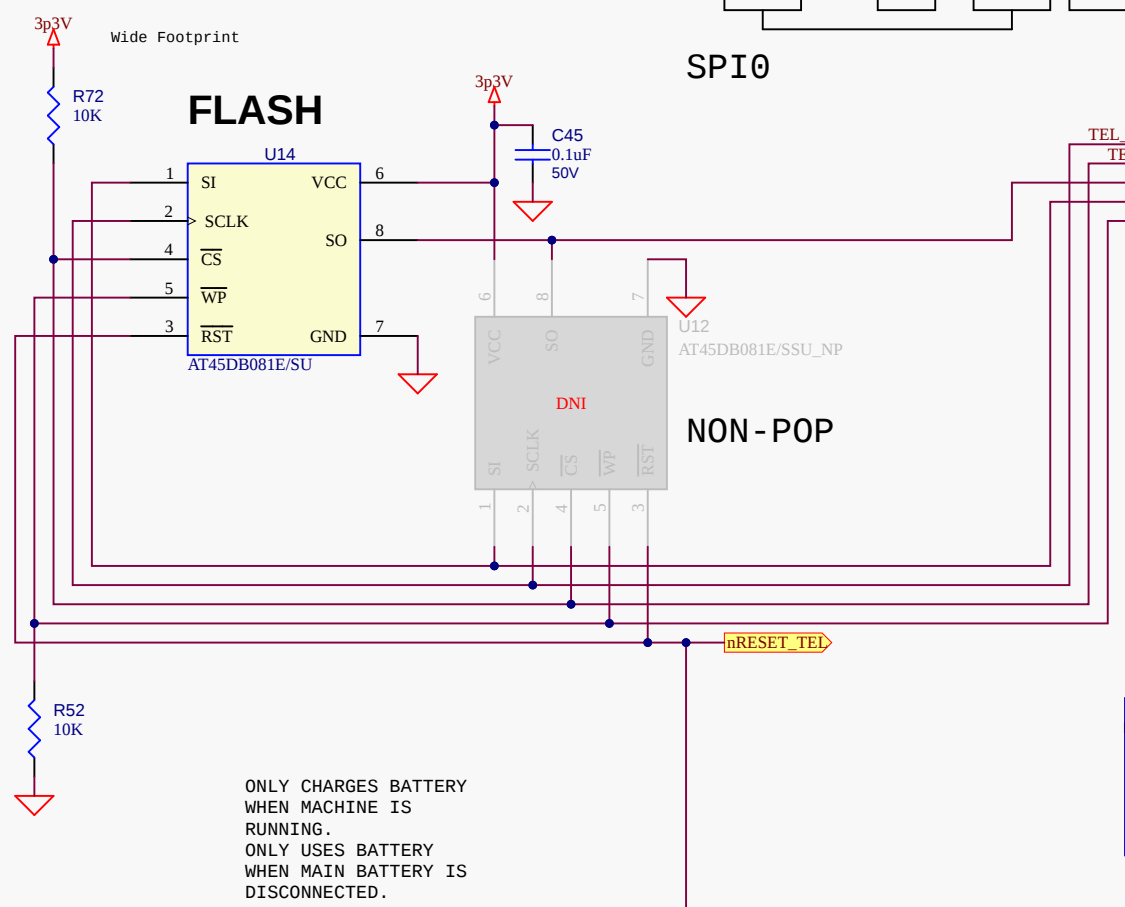
FW1
DNI
Q30126-002

SCHEMATIC1
DNI
Q25078-SCH_revC

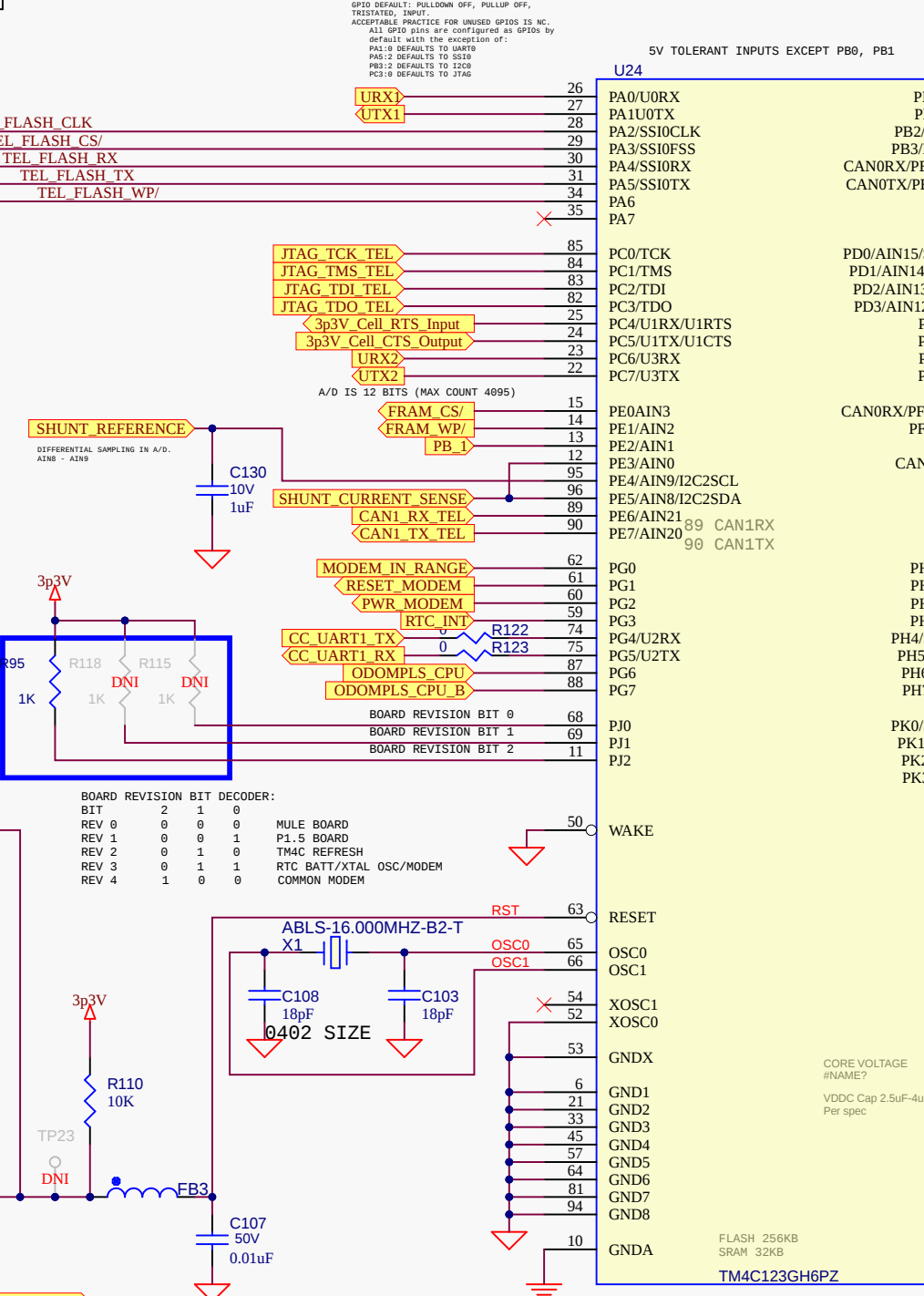
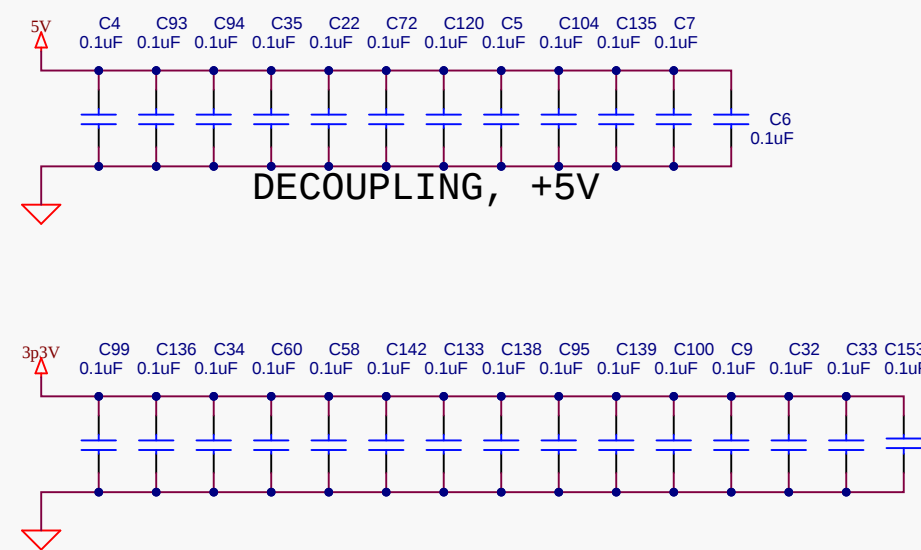
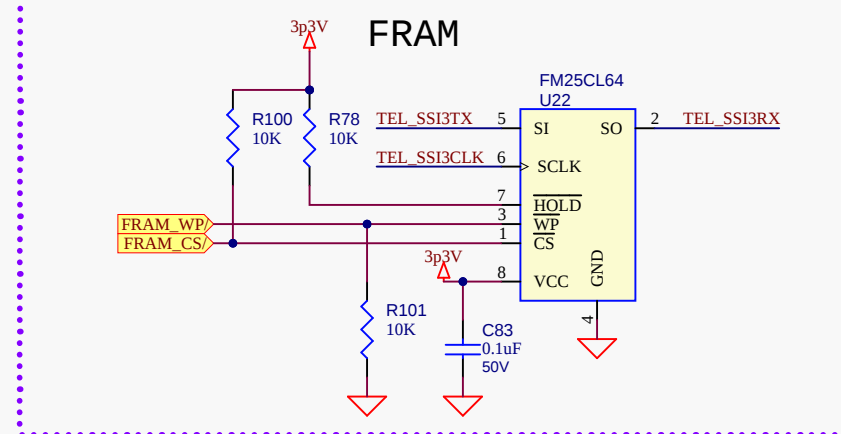
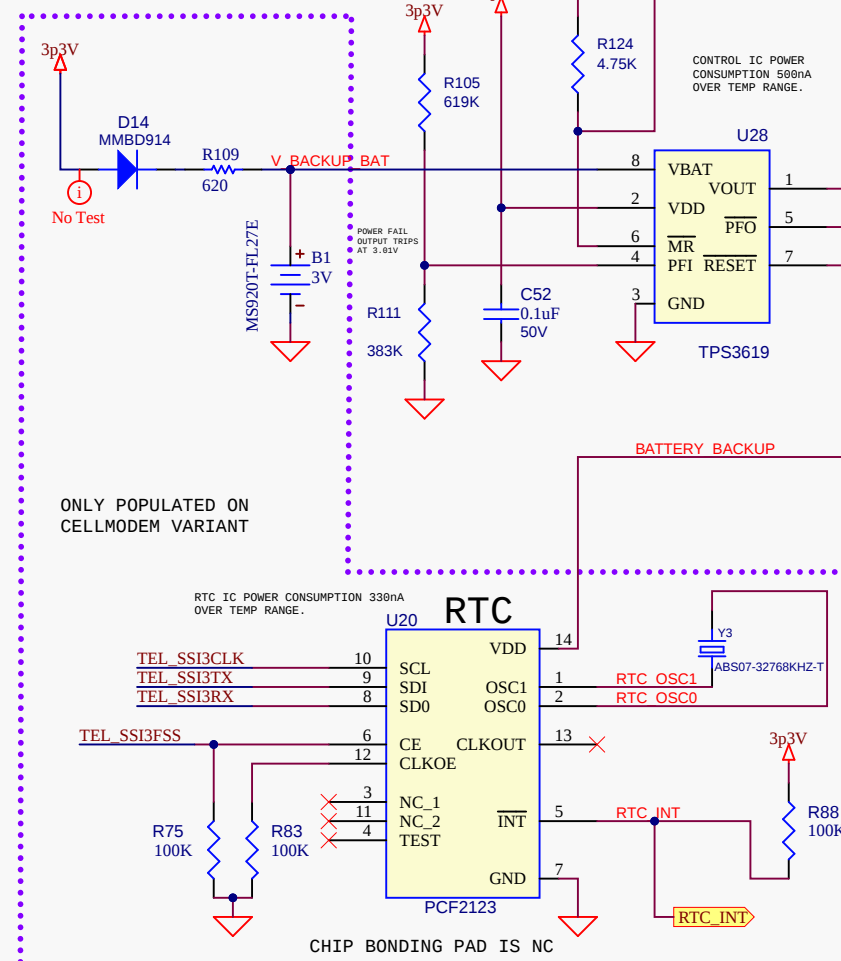
PCB1
PCB Q25078-PCB_revB

MICRO AND WIFI ORTHOGONAL!

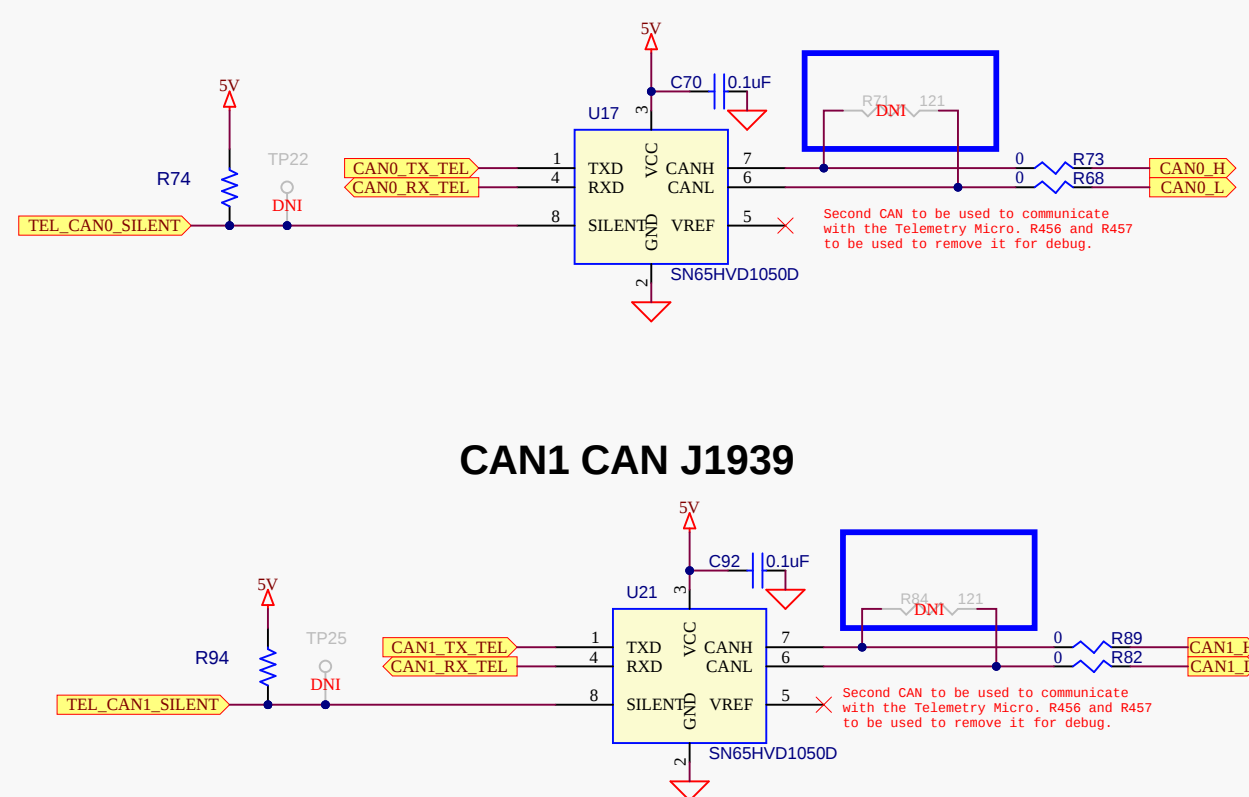
NARROW / WIDE
footprints.



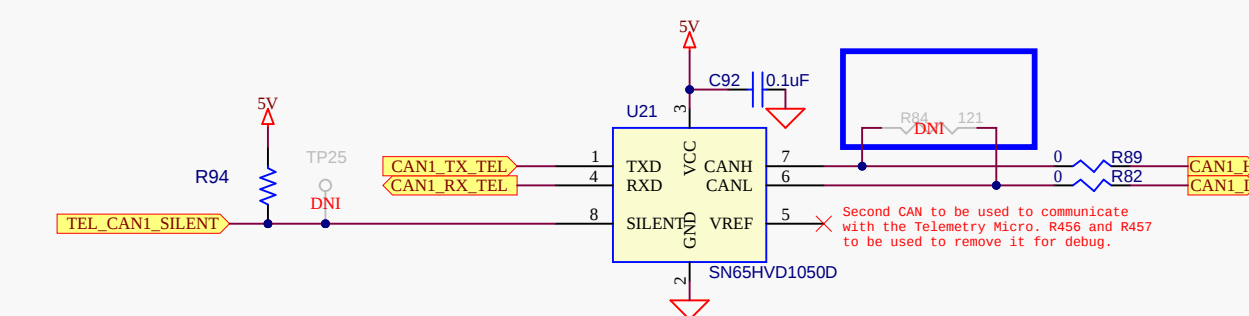
ONLY CHARGES BATTERY
WHEN MACHINE IS
RUNNING.
ONLY USES BATTERY
WHEN MAIN BATTERY IS
DISCONNECTED.



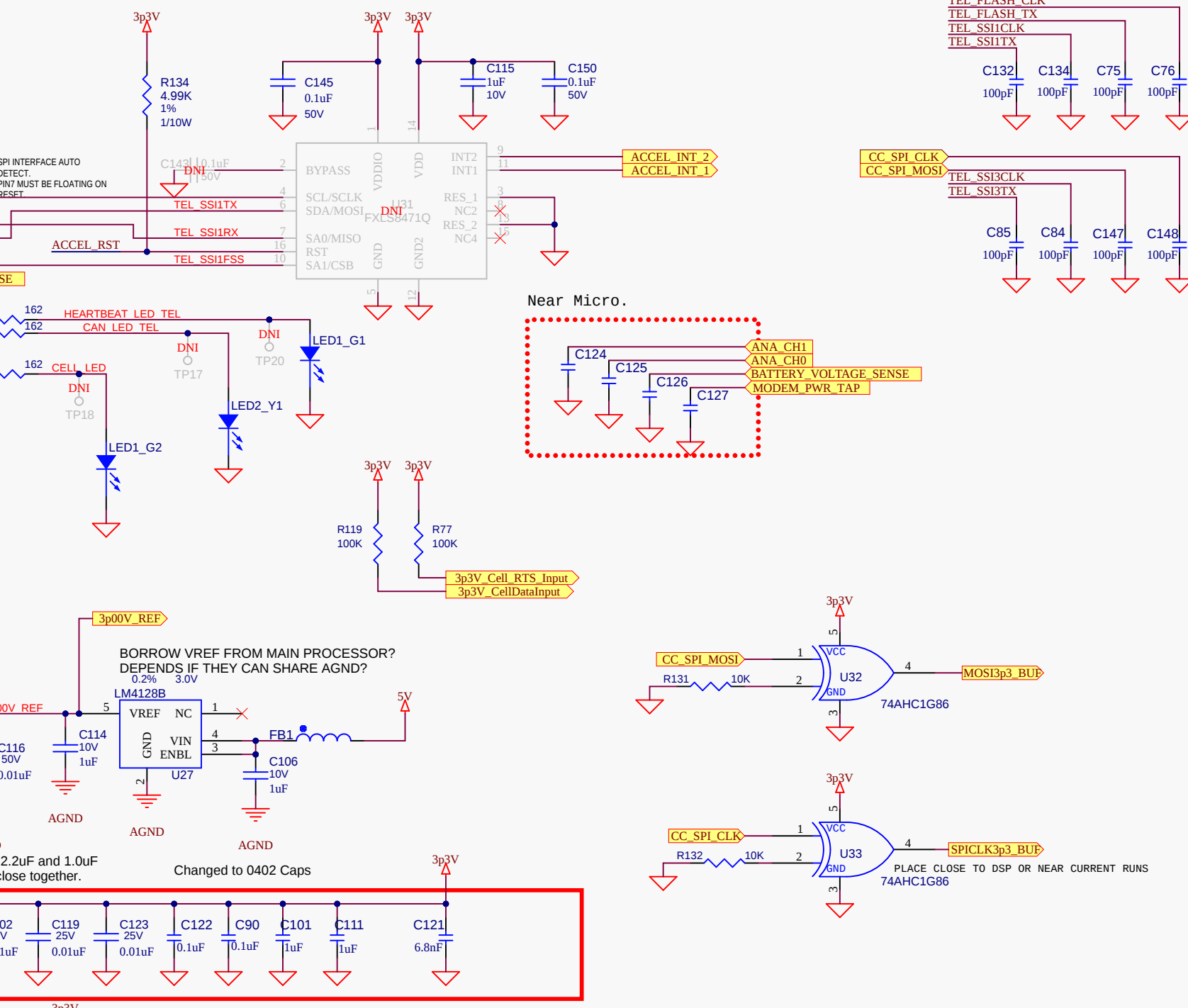
CAN COMMUNICATIONS CAN0 CAN OPEN



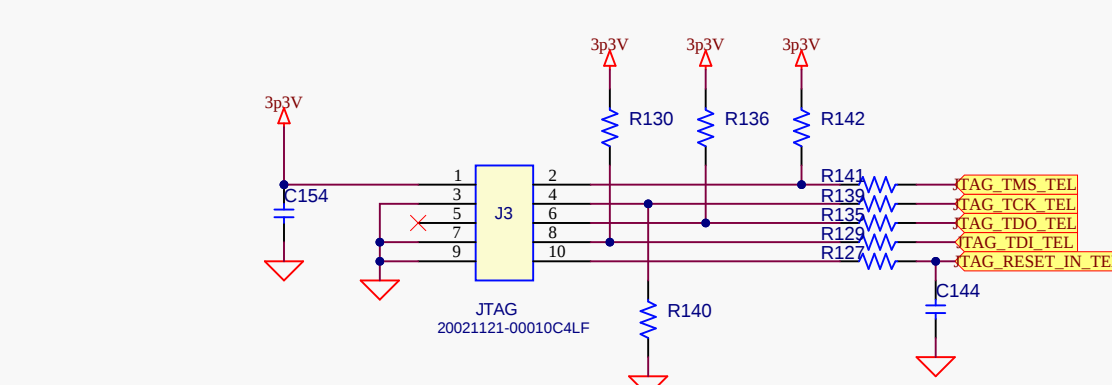
CAN1 CAN J1939



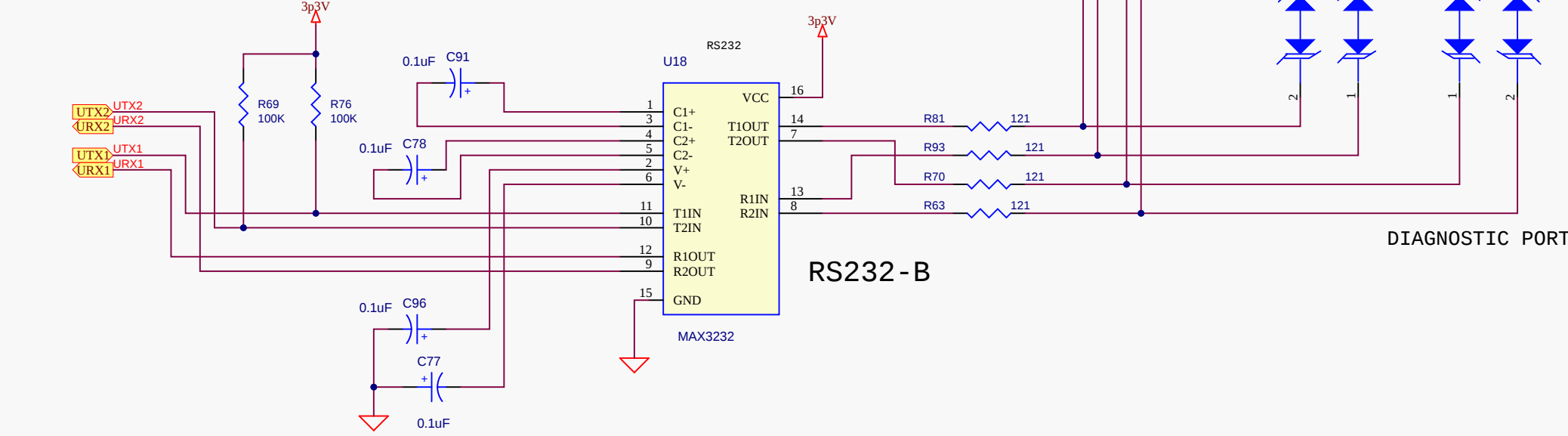
ACCELEROMETER



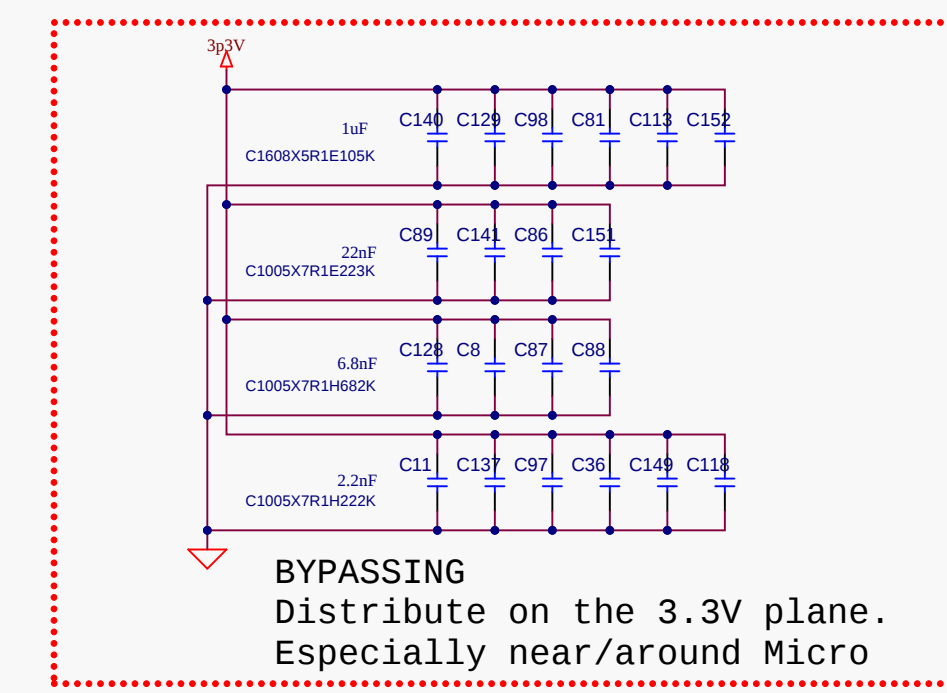
JTAG



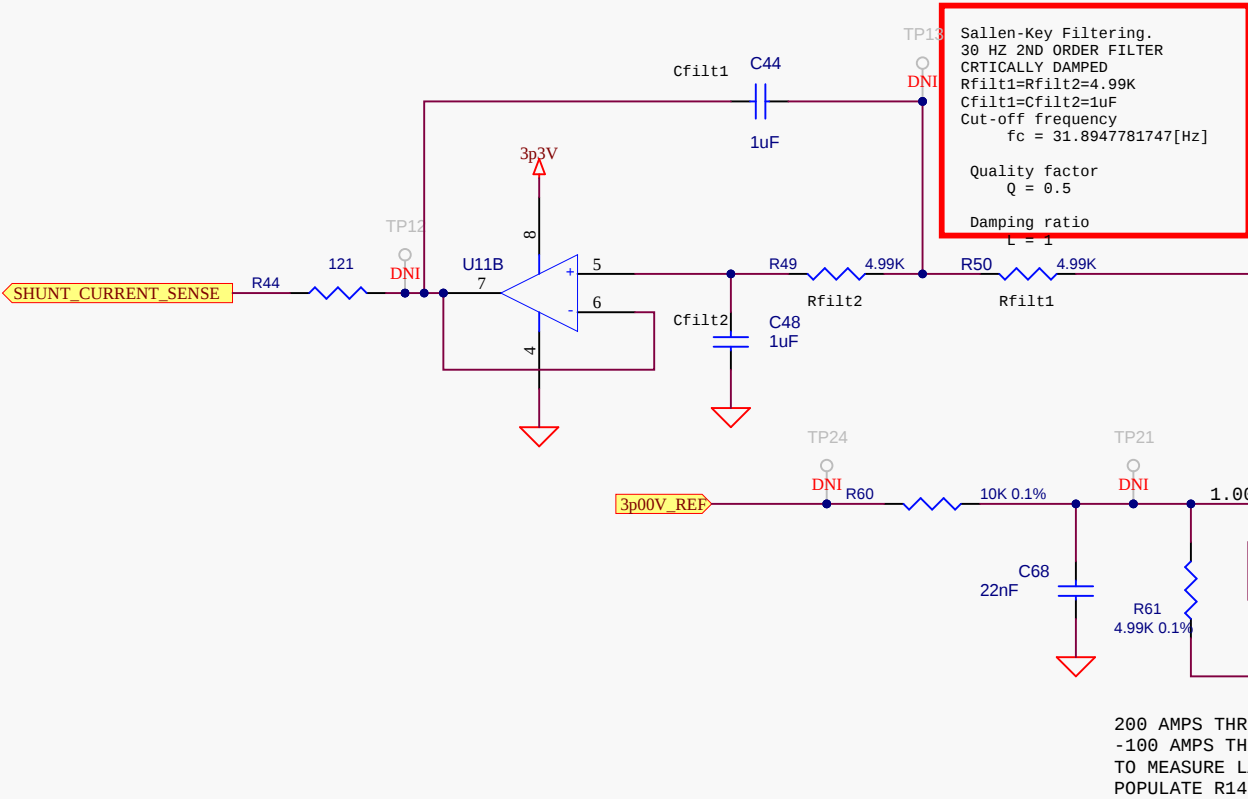
RS232 COM



RS232 -B

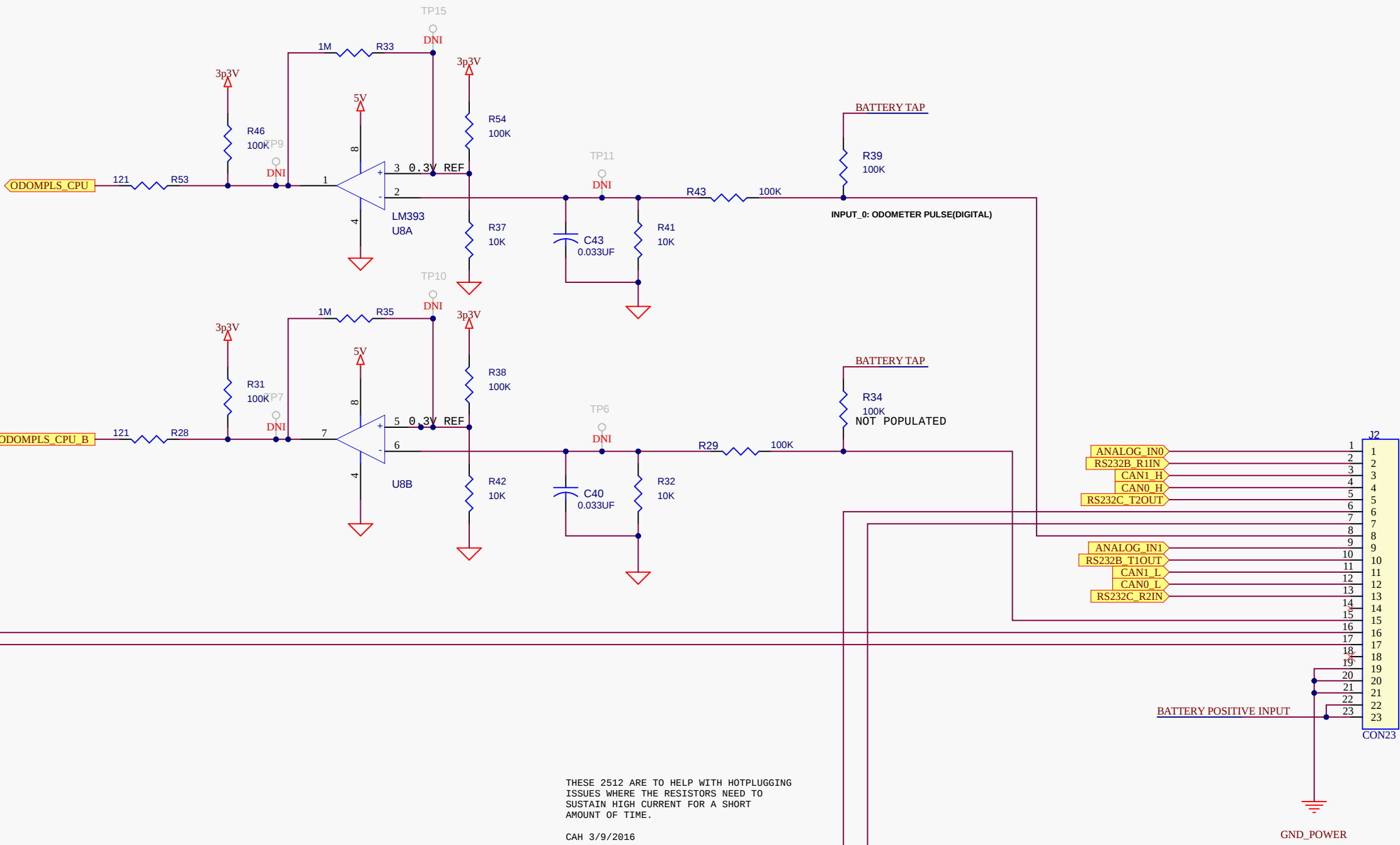
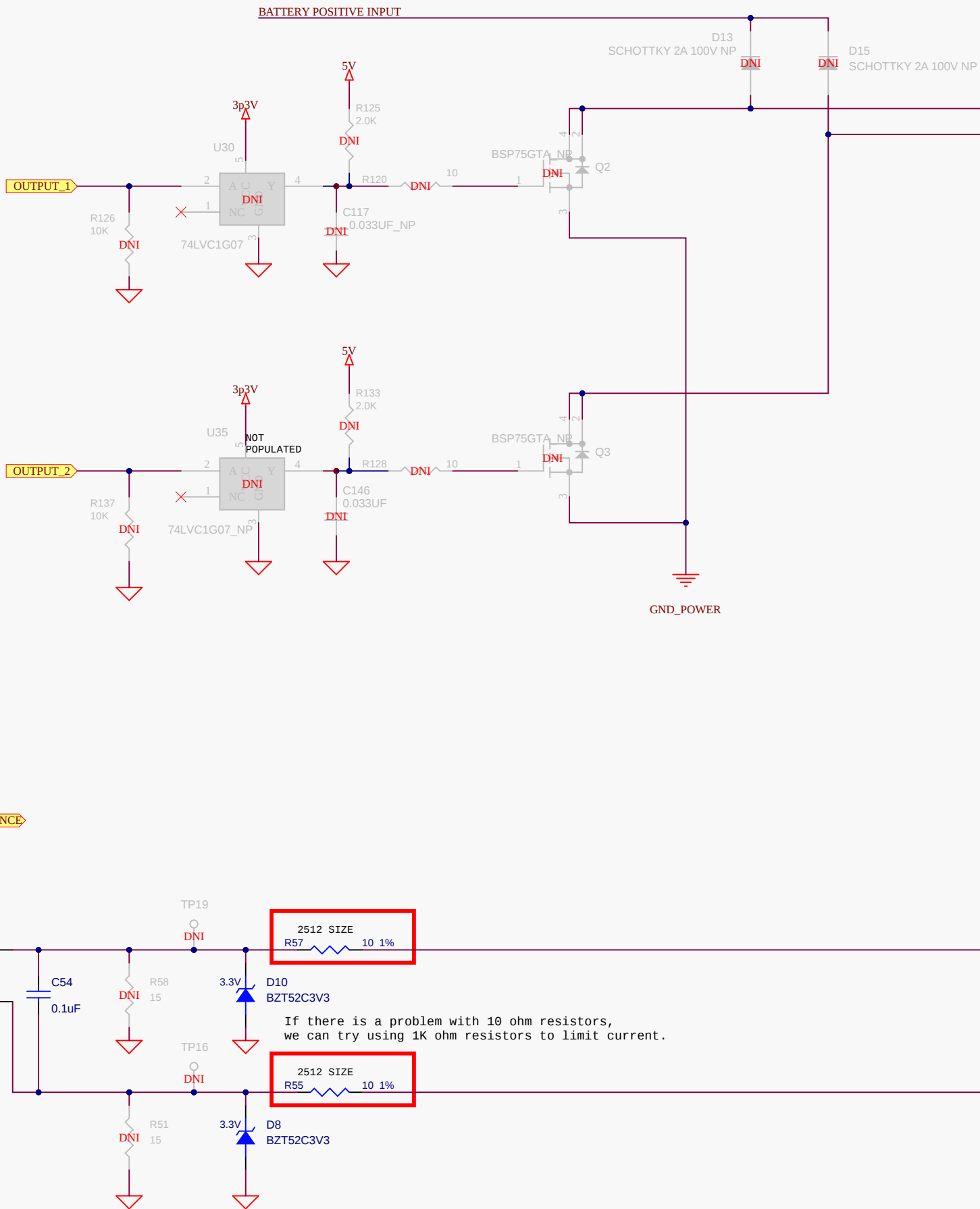
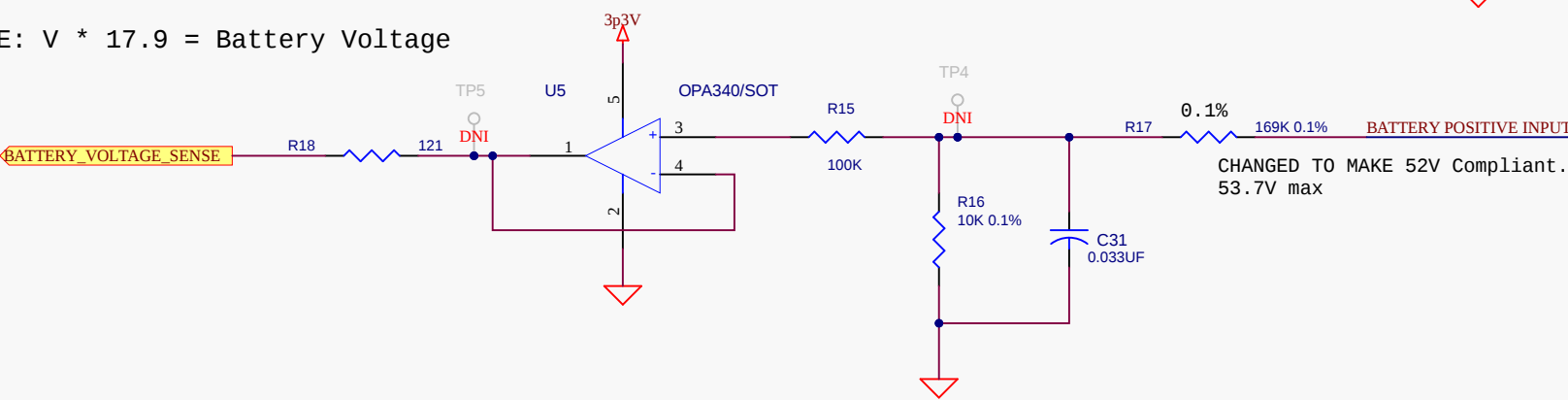


BYPASSING
Distribute on the 3.3V plane.
Especially near/around Micro

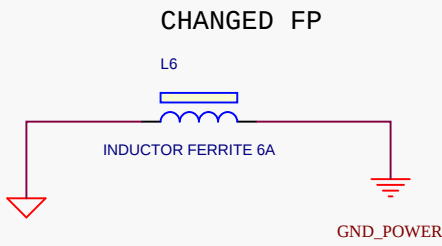
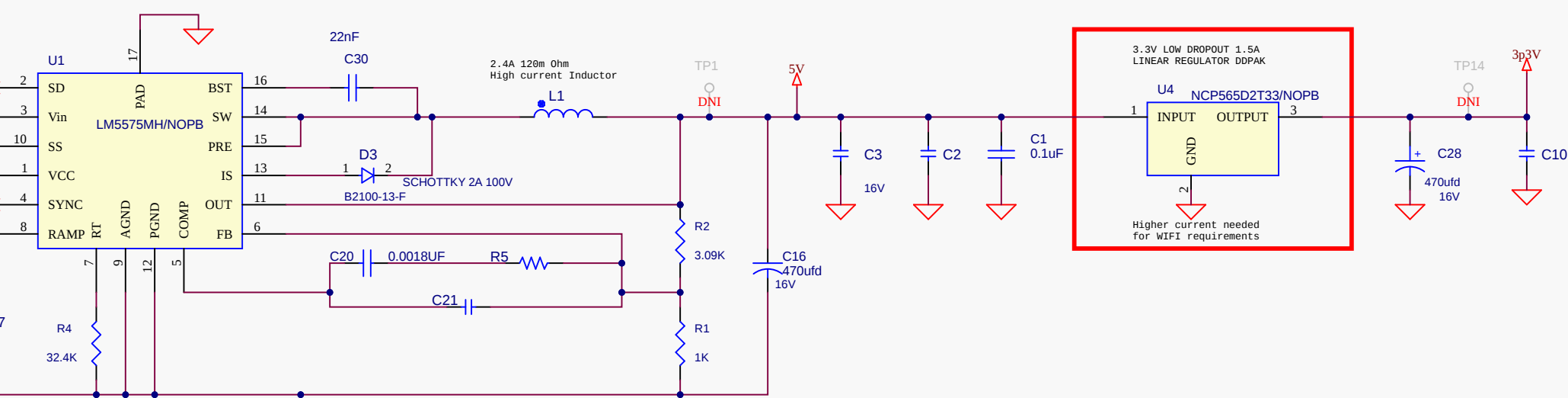


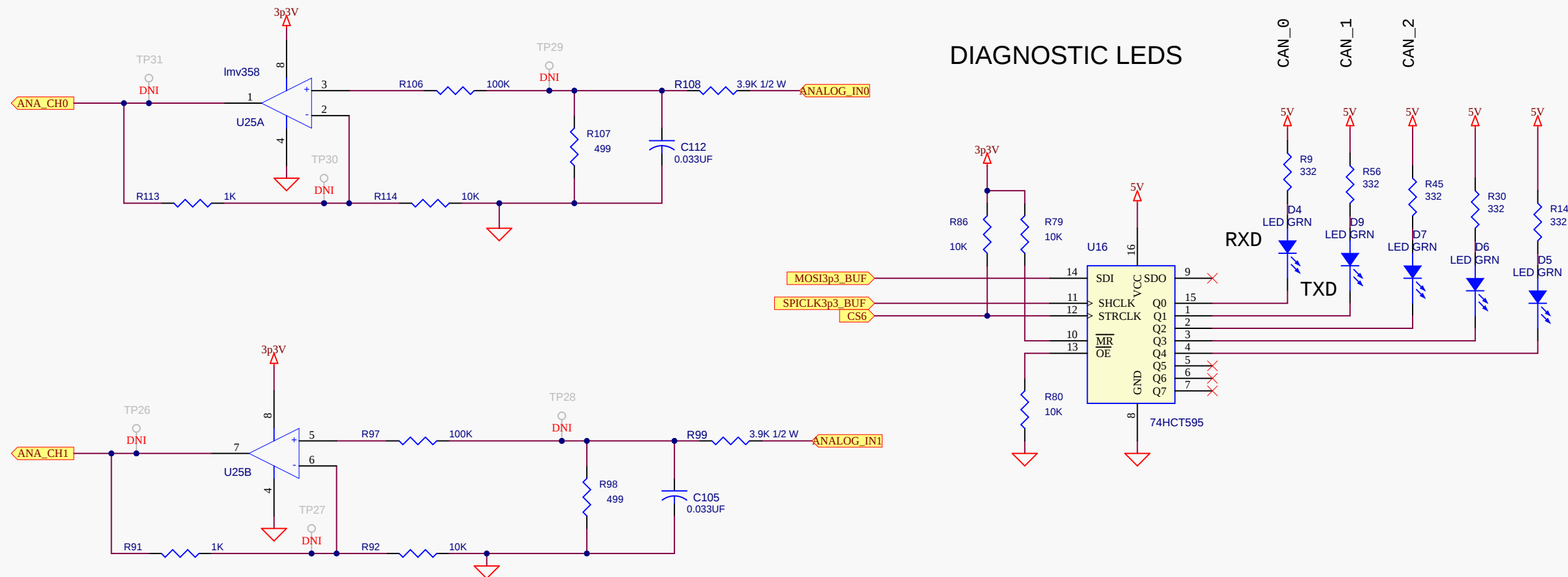
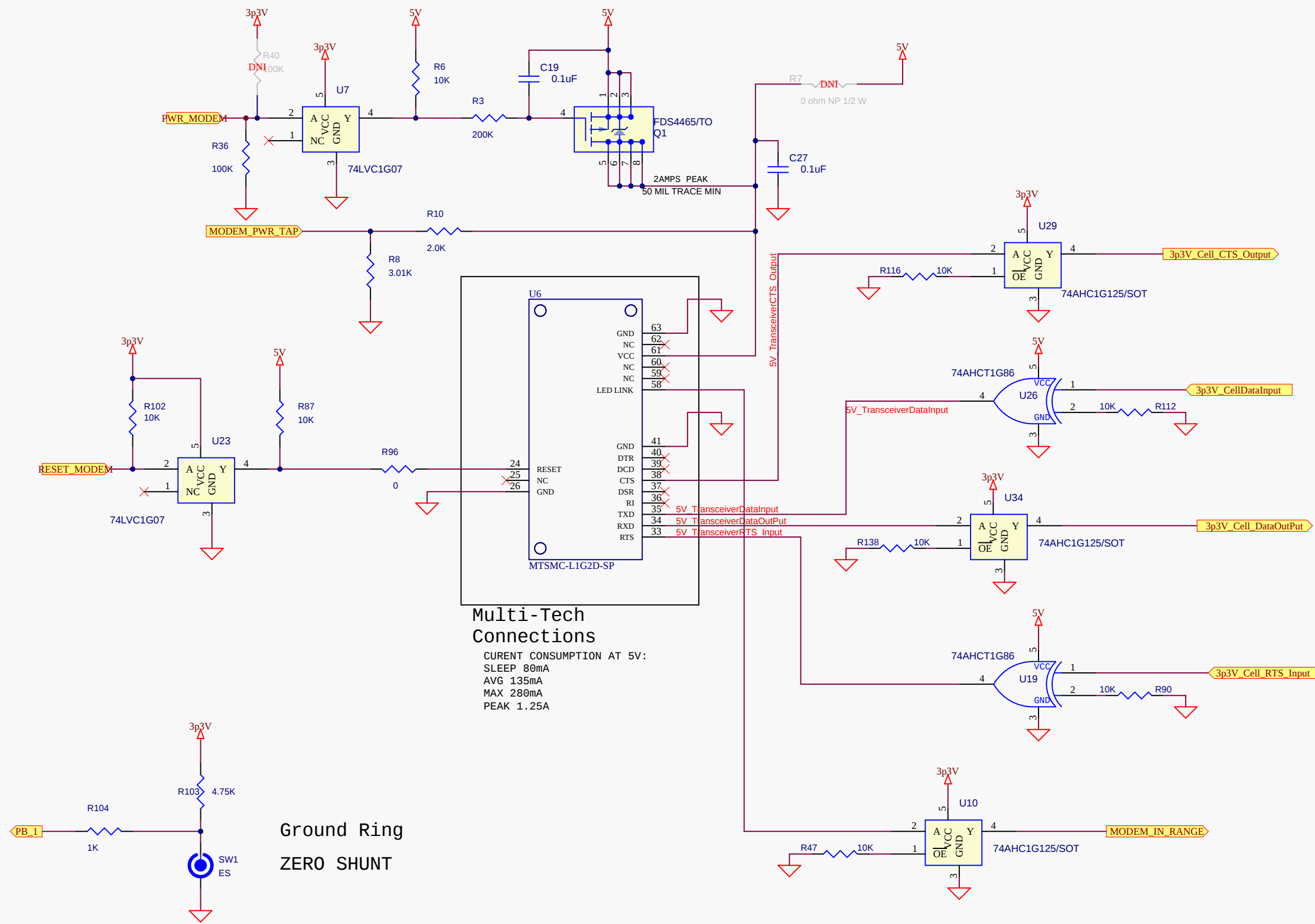
Equation: 17.9* voltage to the A/D will give the true battery voltage.
This is changed from the previous value of 16*voltage to the A/D

TRUE VOLTAGE: V * 17.9 = Battery Voltage



POWER SUPPLY +3.3V





IRIS WIFI MICRO AND WIFI ORTHOGONAL!

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

Higher current needed for 3.3V
for WIFI requirements

