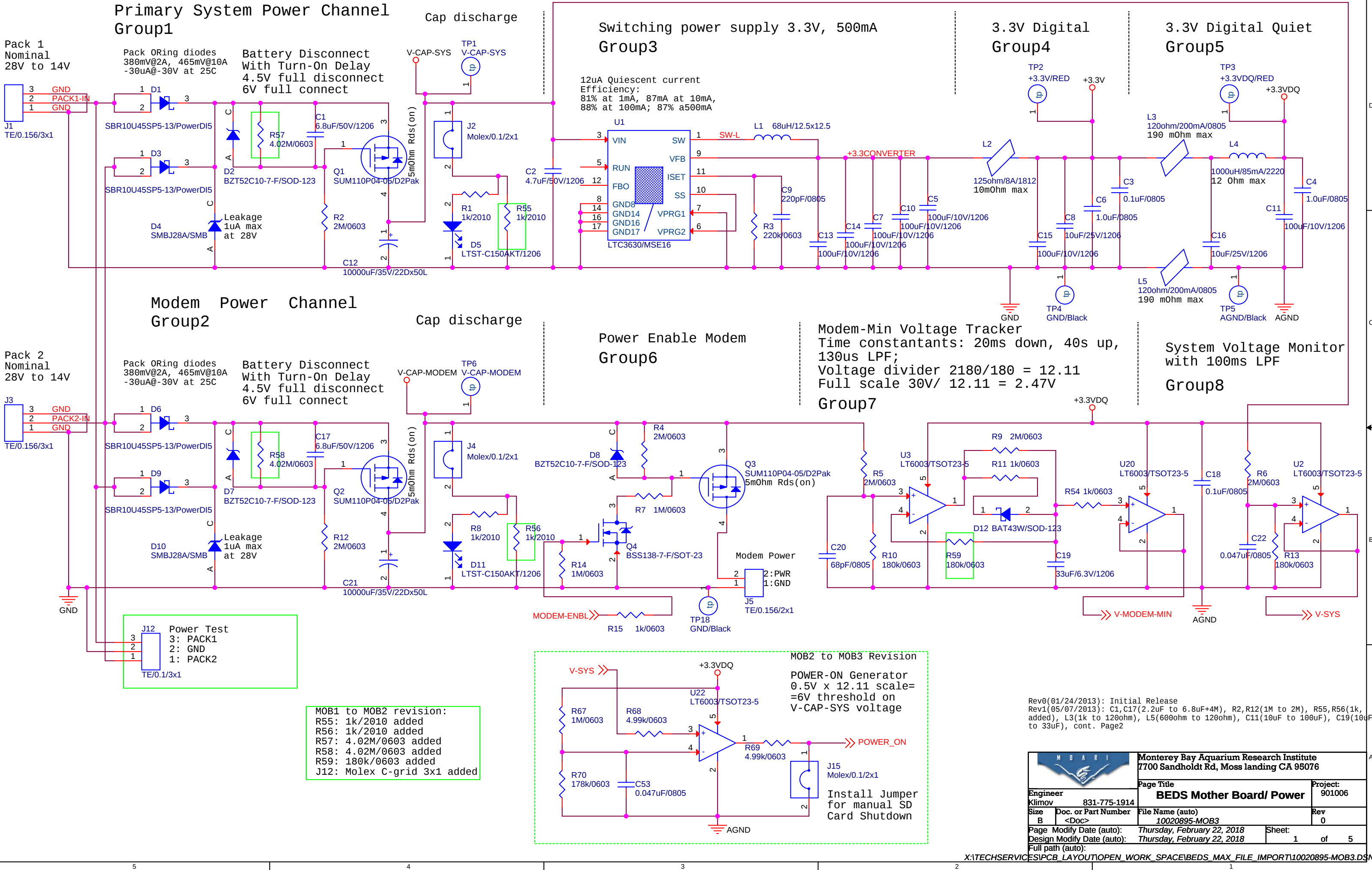
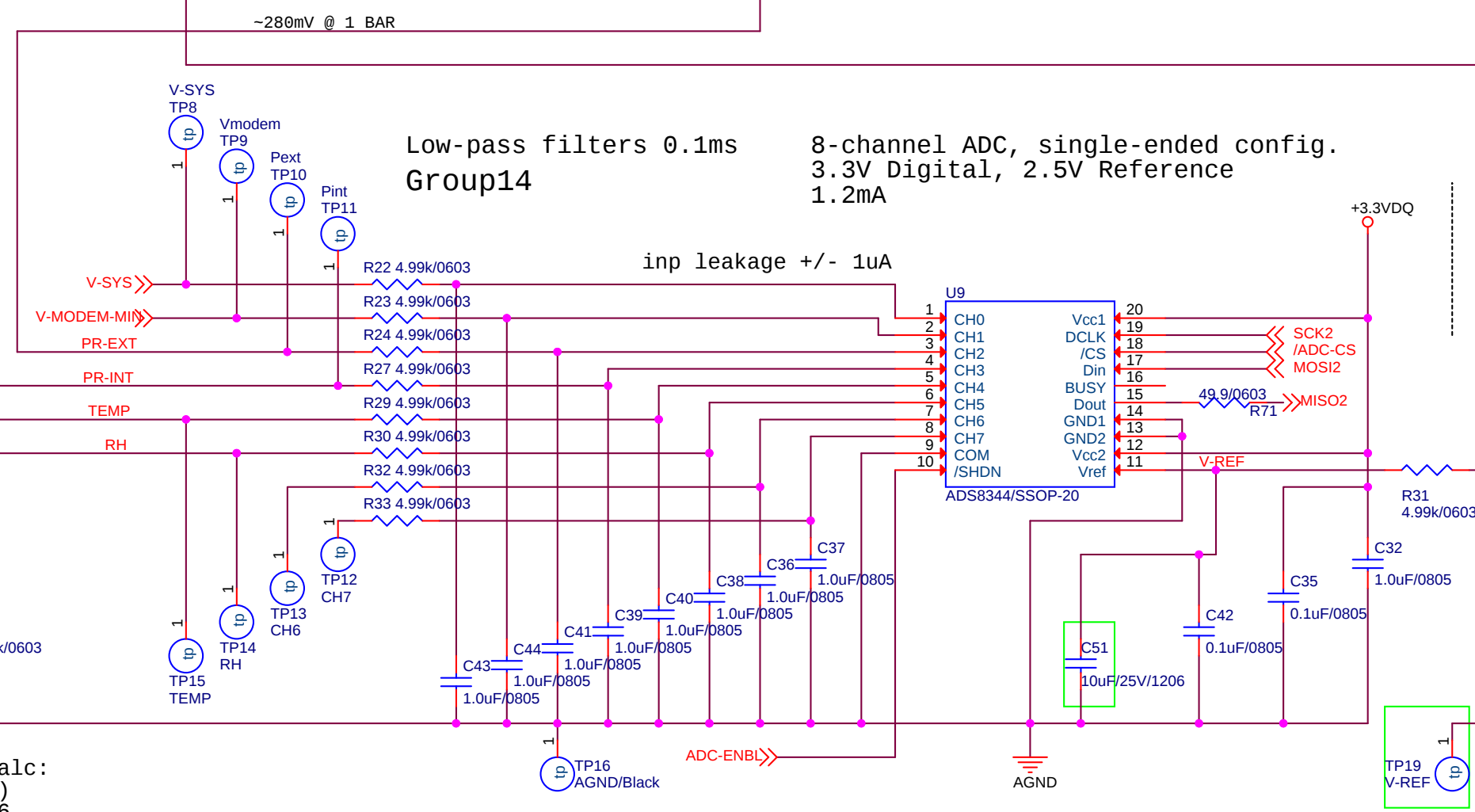
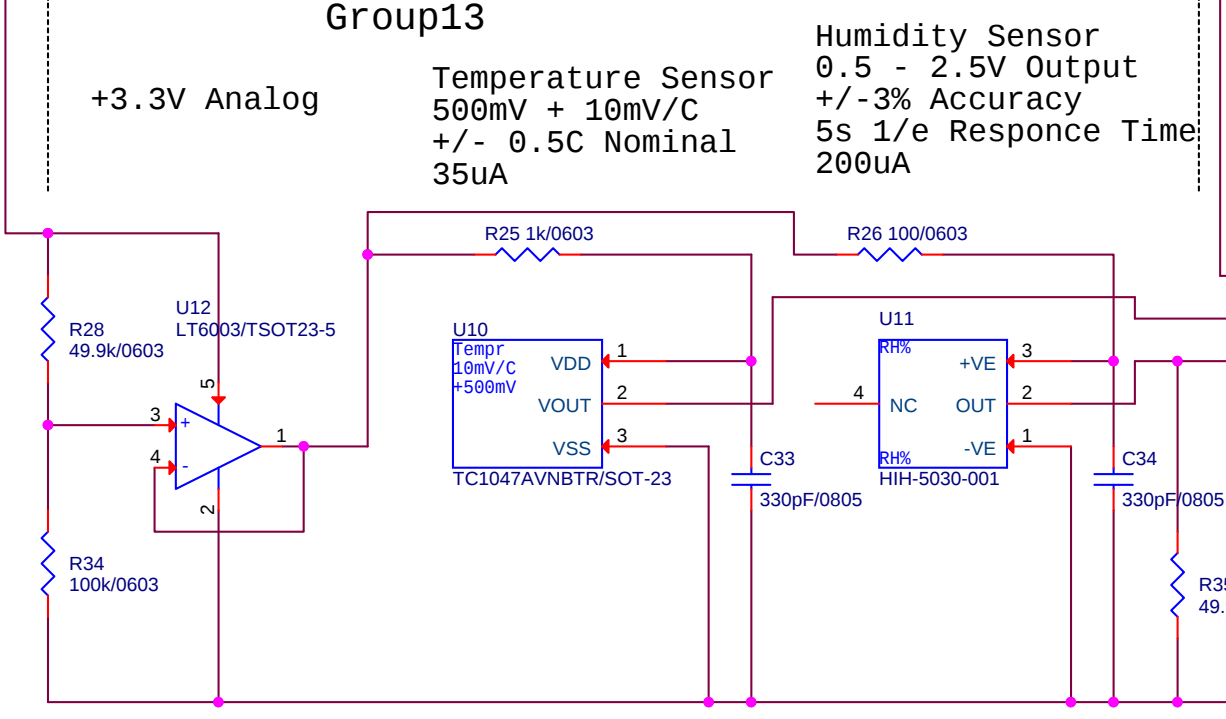
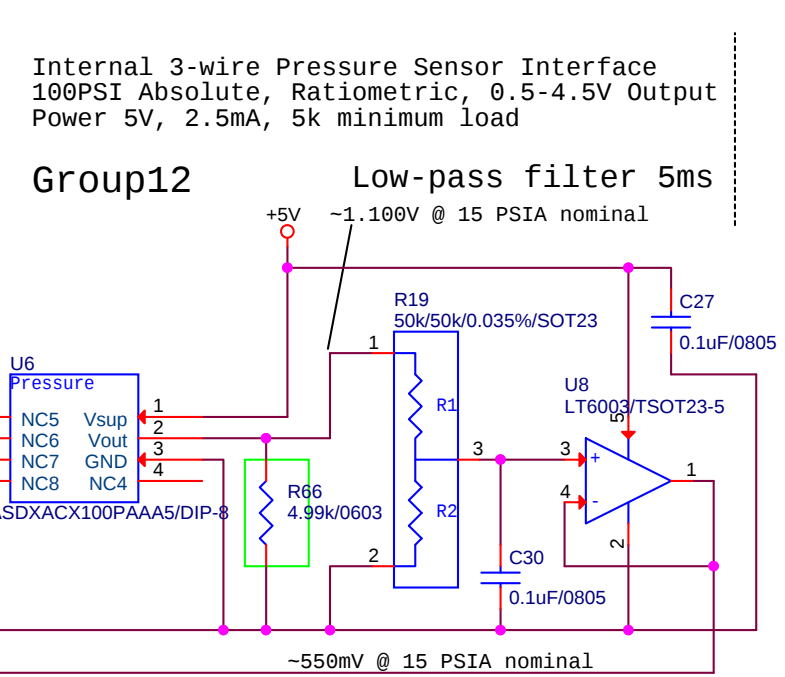
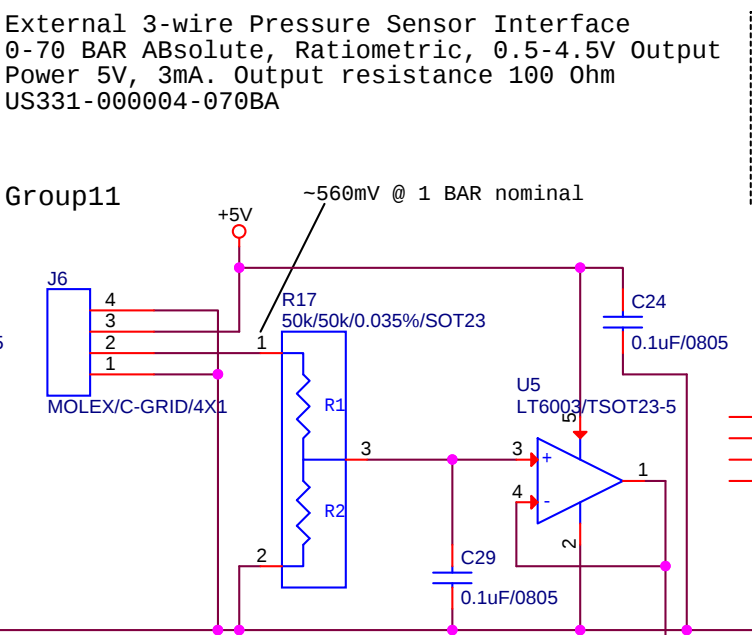
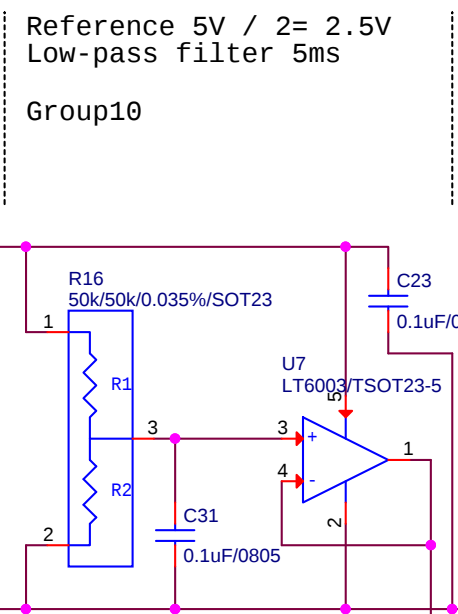
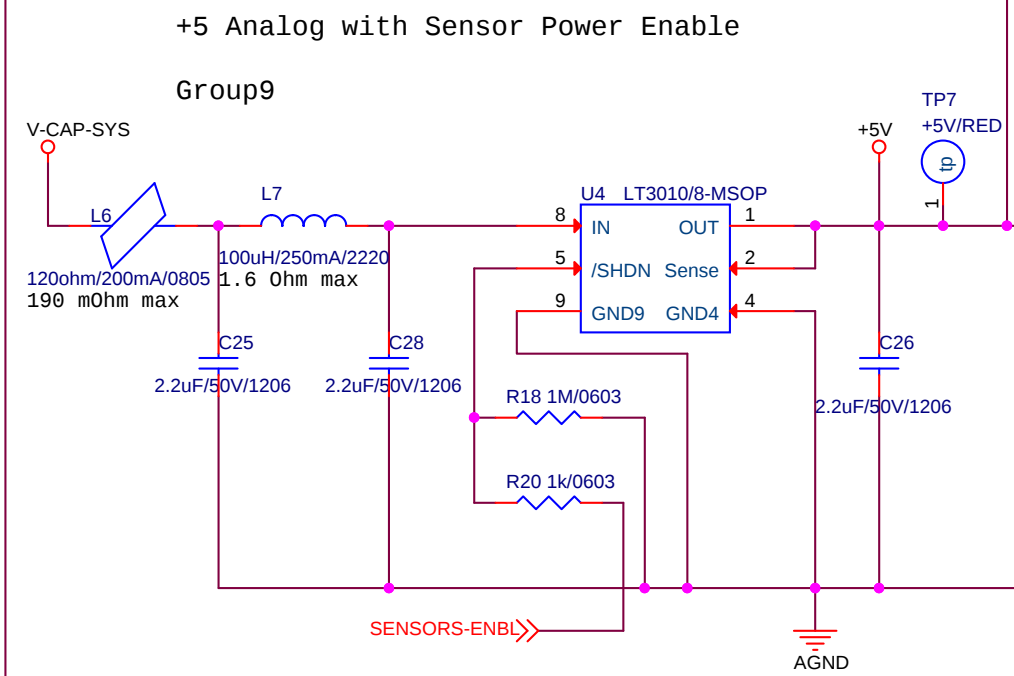
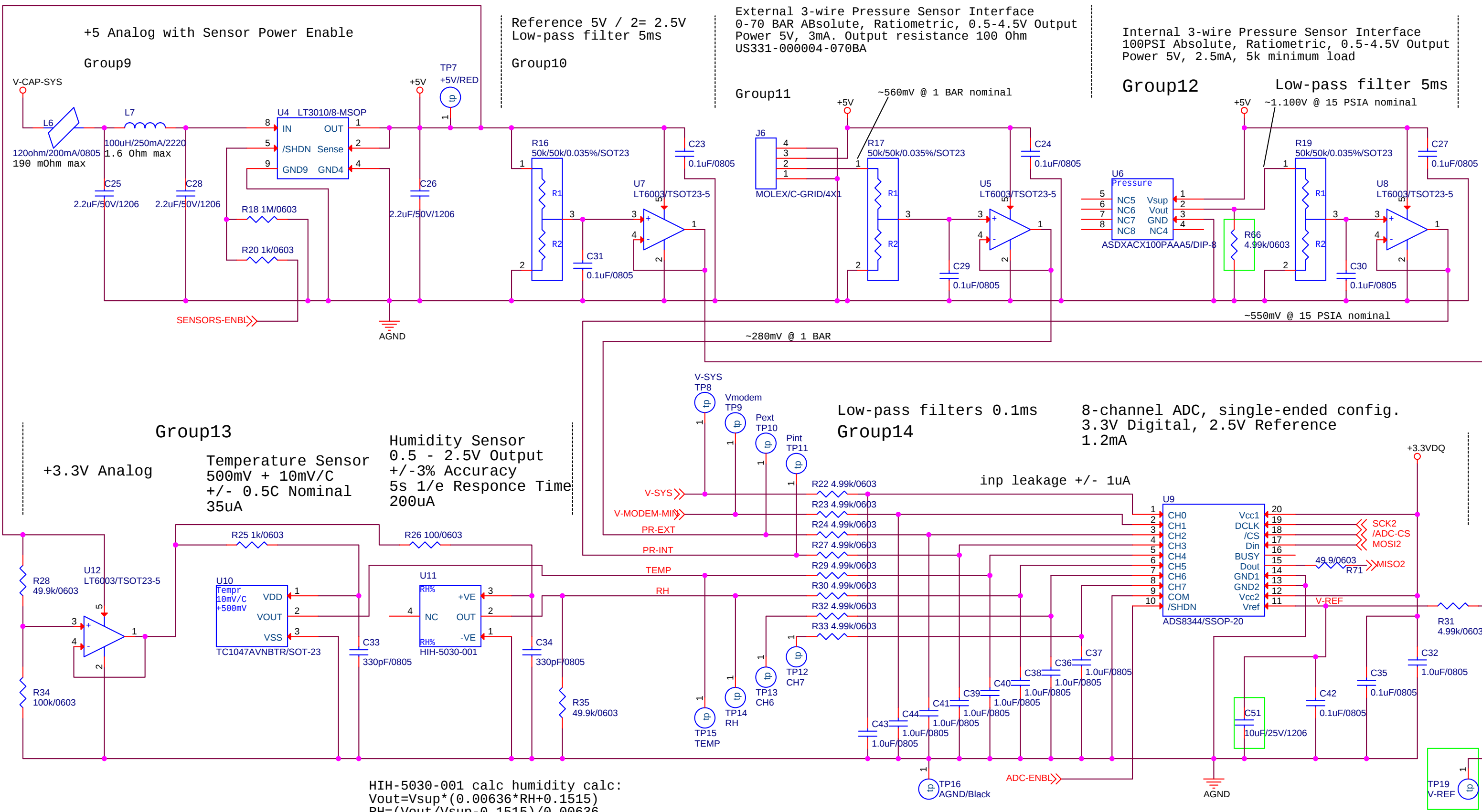




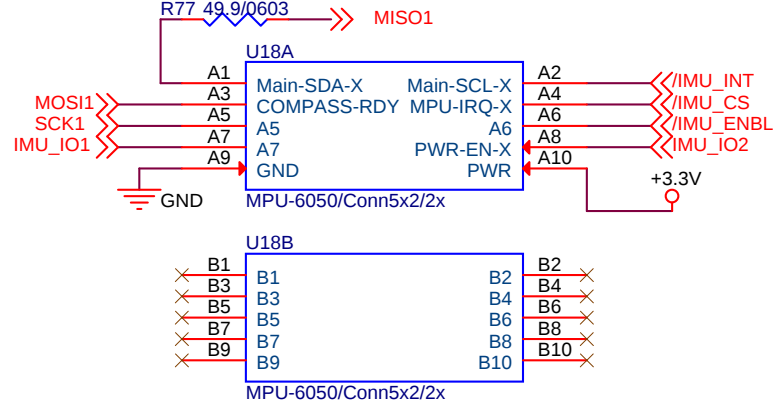
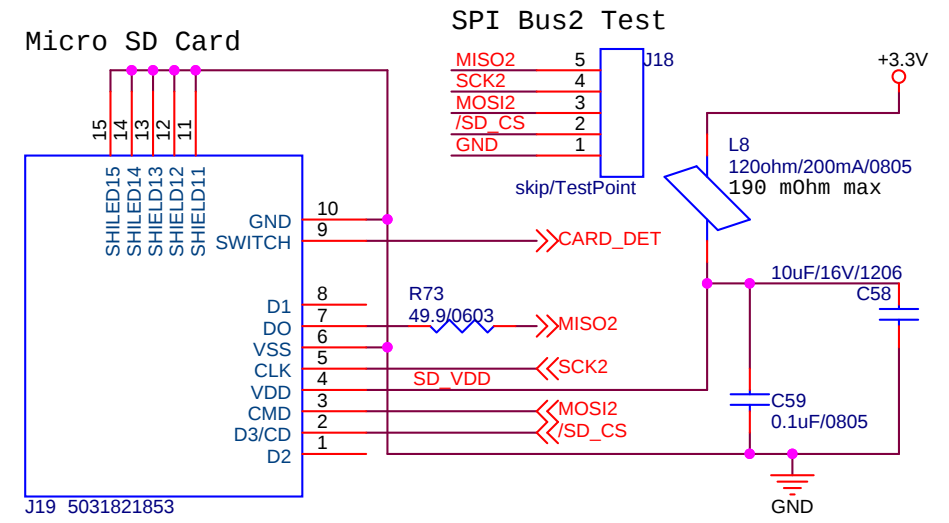
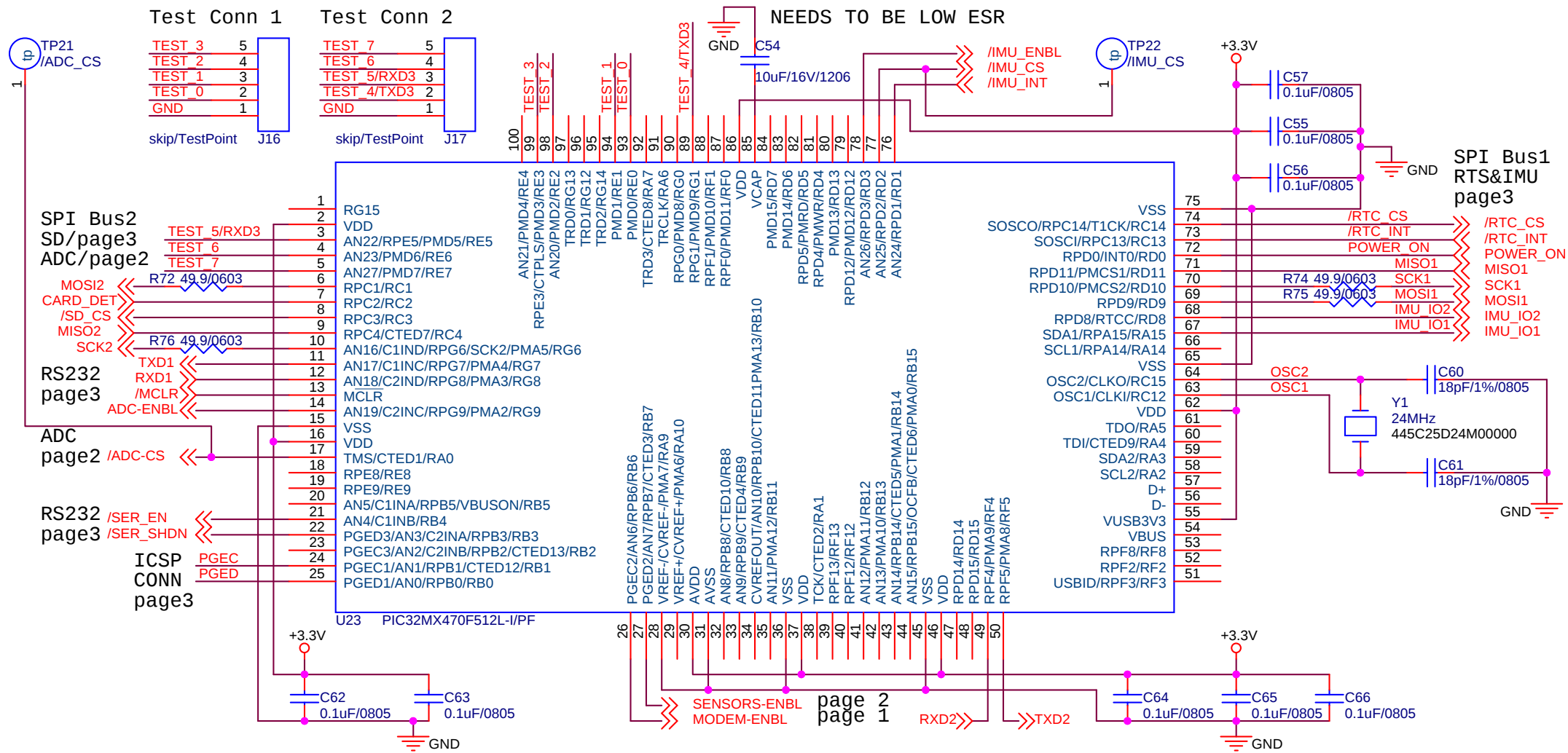


HIH-5030-001 calc humidity calc:
 $V_{out} = V_{sup} * (0.00636 * RH + 0.1515)$
 $RH = (V_{out} / V_{sup} - 0.1515) / 0.00636$

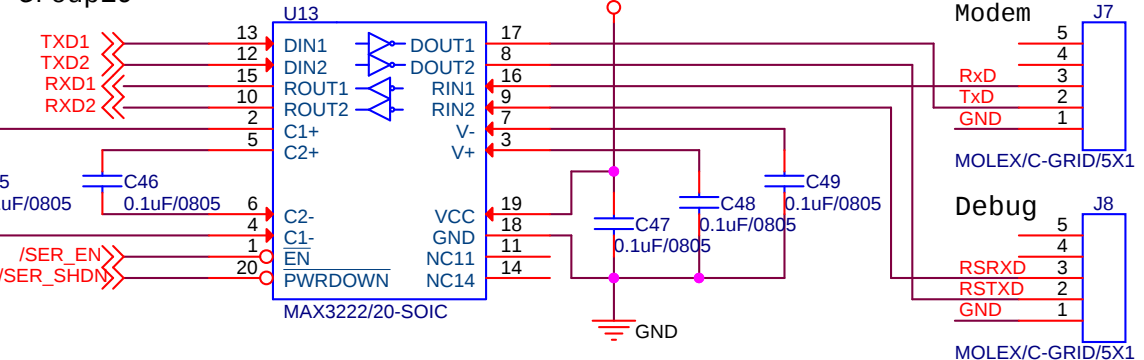
MOB1 to MOB2 revision:
C51: 10uF/25V/1206 added
TP19: V-REF added
R66: 4.99k/0603 added

Rev2 (cont. from Page1): L6(1k/200mA to 120ohm/200mA), R25(100 to 1k),
C33,C34(0.1uF to 330pF), R22-R33(1k to 5k), C37-C41,C43,C44(0.1uF to
1.0uF), C42(0.1uF to 0.1uF+10uF), R31(1k to 5k), cont. to Page3

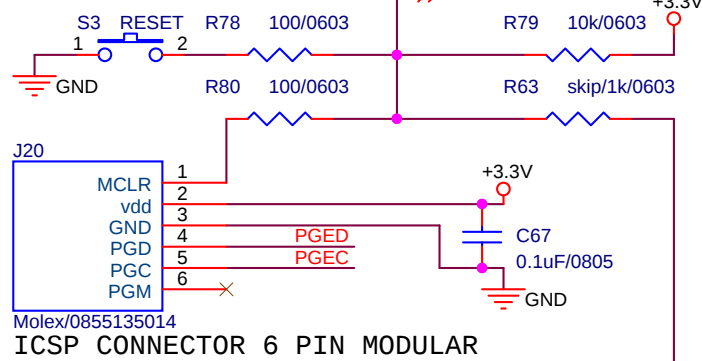
		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov 831-775-1914		Page Title BEDS Mother Board/ Sensors	Project: see page 1
Size B	Document Number see page 1	File Name (auto) 10020895-MOB3	Rev see page 1
Page Modify Date (auto): Thursday, February 22, 2018		Sheet: 2 of 5	
Design Modify Date (auto): Thursday, February 22, 2018			
Full path (auto):			



Serial Port Controller 0.3mA; 1uA in shutdown

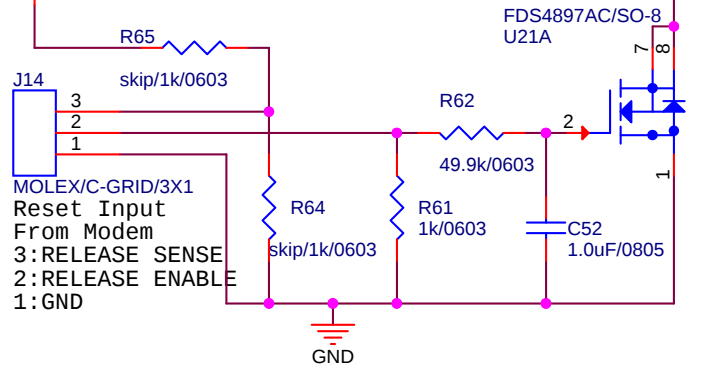


Reset 3-Way Combiner



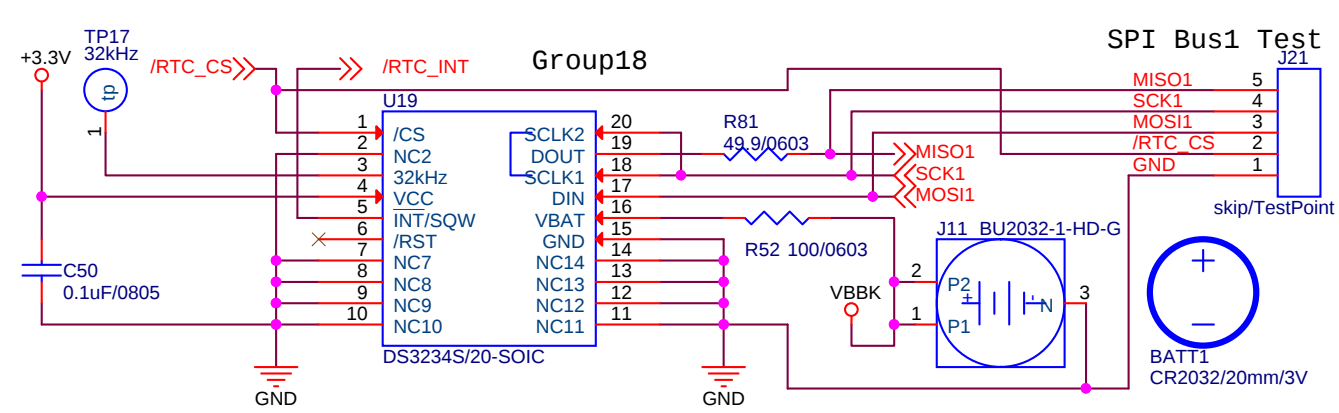
Reset by Modem Release Enable

3.3V active, 50mS low pass filter



SPI Bus RTC with Integrated Crystal and SRAM

400uA active, 120uA standby



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Page Modify Date (auto): Thursday, February 22, 2018		Sheet: 3 of 5	
Design Modify Date (auto): Thursday, February 22, 2018		Full path (auto): X:\TECHSERVICES\PCB_LAYOUT\OPEN_WORK_SPACE\BEDS_MAX_FILE_IMPORT\10020895-MOB3.DSN	

Bring-up Checklist

Fully assembled Mother Board, no Persistor Board, no MPU-6050 board. Set power supply to 12V, power up.

- 0. Connect jumpers to J2 and J4, verify LEDs light up, record PS current with and without LEDs running
- 1. Check voltage level and noise on 3.3V (TP2) with test load on 3.3V, 100mA (33 Ohm) and 200mA (16 Ohm)
- 2. Check voltage level and noise on 3.3VDQ (TP3) with 100mA (33 Ohm) test load on 3.3V power
- 3. Check operation of Modem_Enable with 5 Ohm 50W test load in J5 (2.3A).
- 4. Measure V-CAP-MODEM (TP6), voltage at J5.2, and difference between them (<50mV)
- 5. Check V-SYS (TP8) and V-MODEM-MIN (TP9) trackers with Modem-ENBL cycling and 5 Ohm 50W test load in J5
- 6. Check operation of SENSOR-ENBL and measure 5V (TP7) value and noise.
- 7. Check operation of TPU6 (U14.C27) and voltage on U18.A10

Sensors

- 8. External pressure sensor. Check voltages on J6.3, J6.2, and TP10
- 9. Internal Pressure sensor. Check voltages on U6.1, U6.2, TP11
- 10. Temperature sensor. Check voltage on U10.1 (3.3V) and TP15
- 11. Humidity sensor. Check voltage on U11.3 (3.3V) and TP14.

Plug test Persistor board and run AD Test.
Record values on channels:

- 0:
- 1:
- 2:
- 3:
- 4:
- 5:

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Page Modify Date (auto): Design Modify Date (auto):		Thursday, February 22, 2018 Thursday, February 22, 2018	Sheet: 4 of 5
Full path (auto):			
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