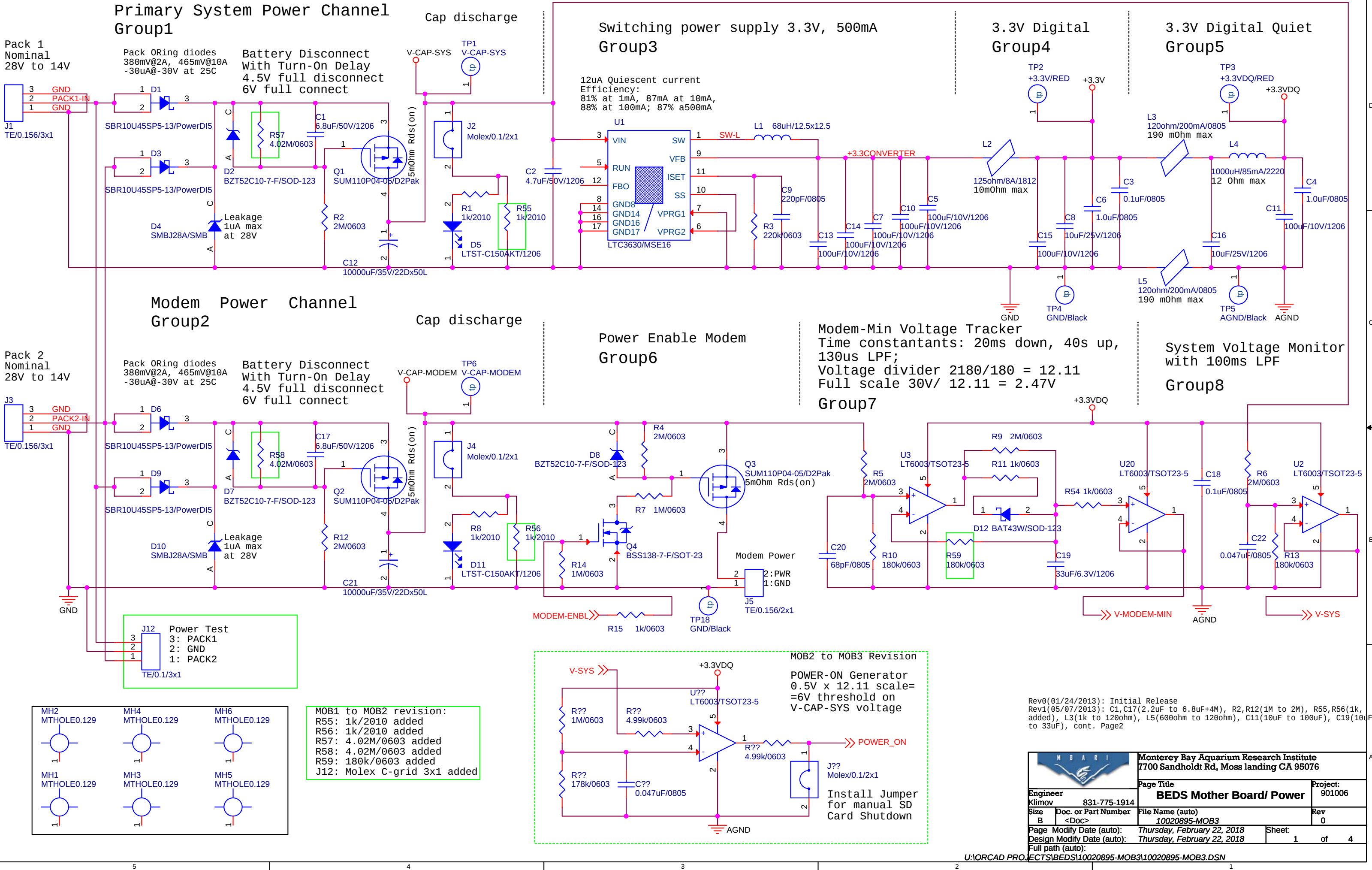
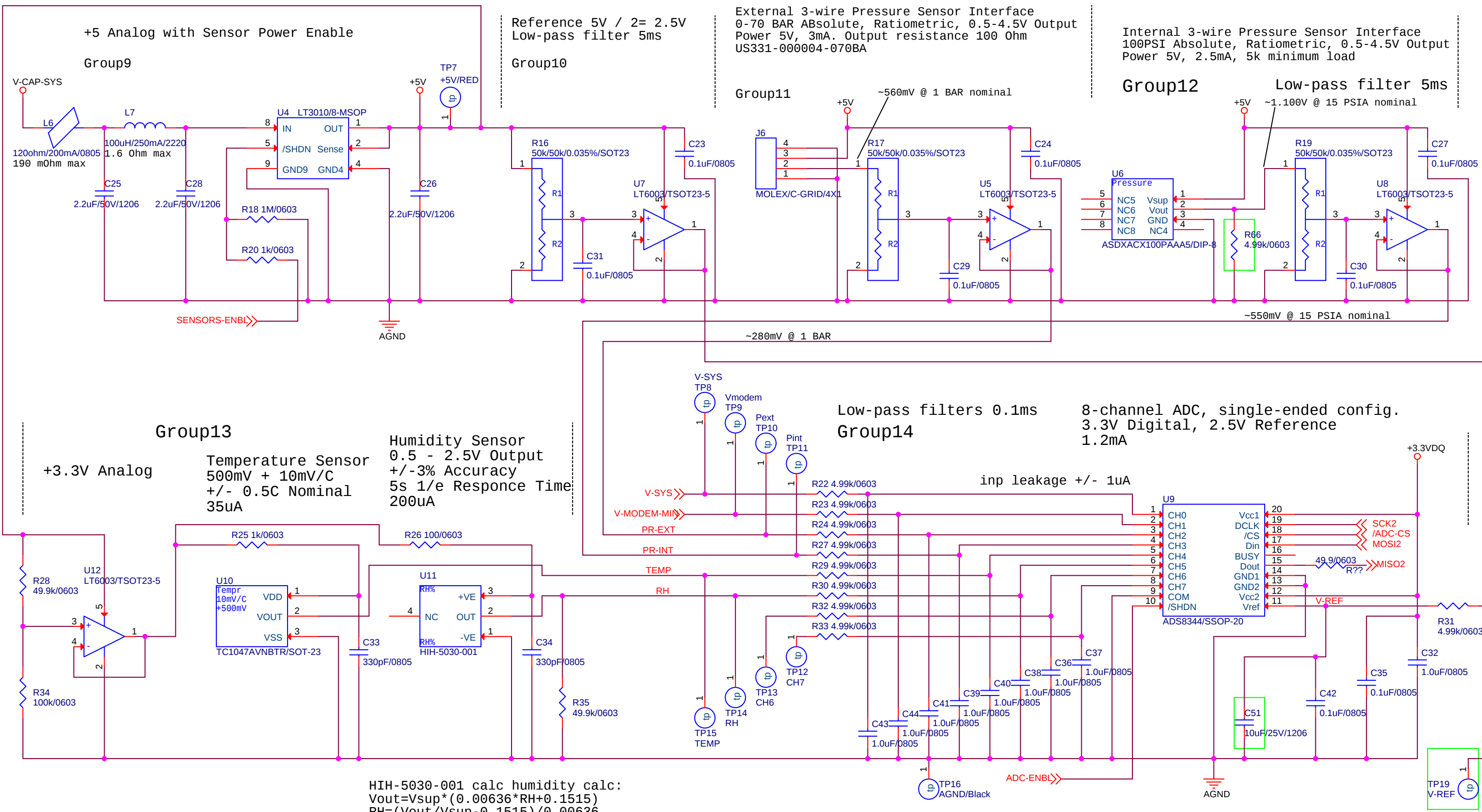
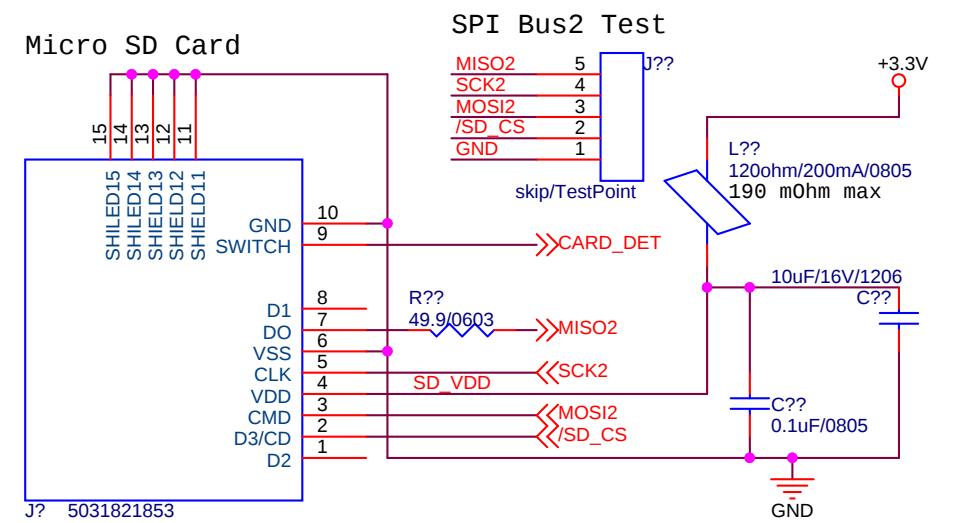
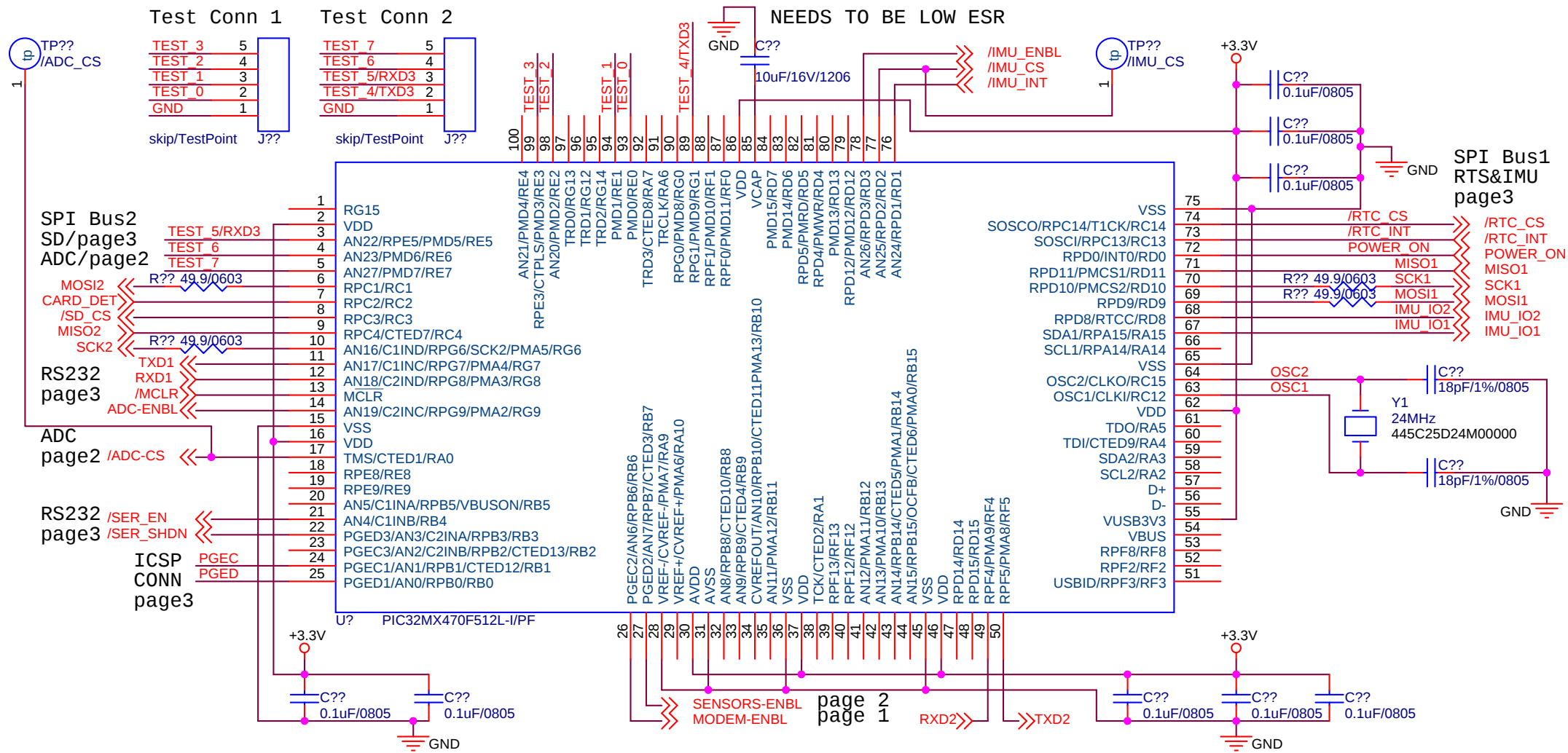




Rev0(01/24/2013): Initial Release
Rev1(05/07/2013): C1,C17(2.2uF to 6.8uF+4M), R2,R12(1M to 2M), R55,R56(1k, added), L3(1k to 120ohm), L5(600ohm to 120ohm), C11(10uF to 100uF), C19(10uF to 33uF), cont. Page2

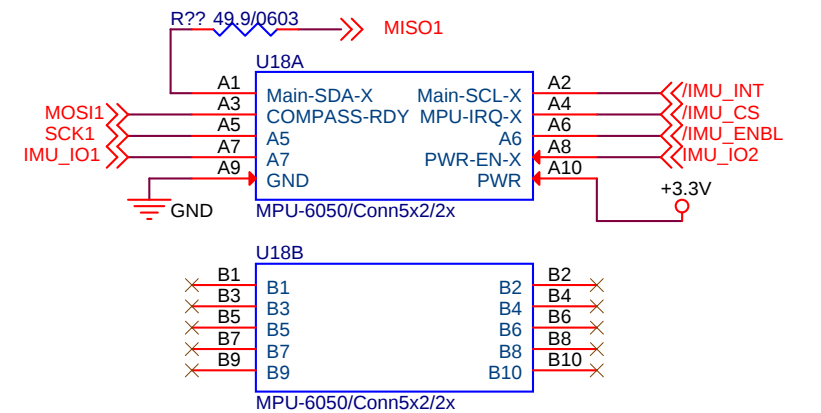
		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov 831-775-1914		Page Title BEDS Mother Board/ Power	Project: 901006
Size B	Doc. or Part Number <Doc>	File Name (auto) 10020895-MOB3	Rev 0
Page Modify Date (auto): Design Modify Date (auto):		Thursday, February 22, 2018 Thursday, February 22, 2018	Sheet: 1 of 4
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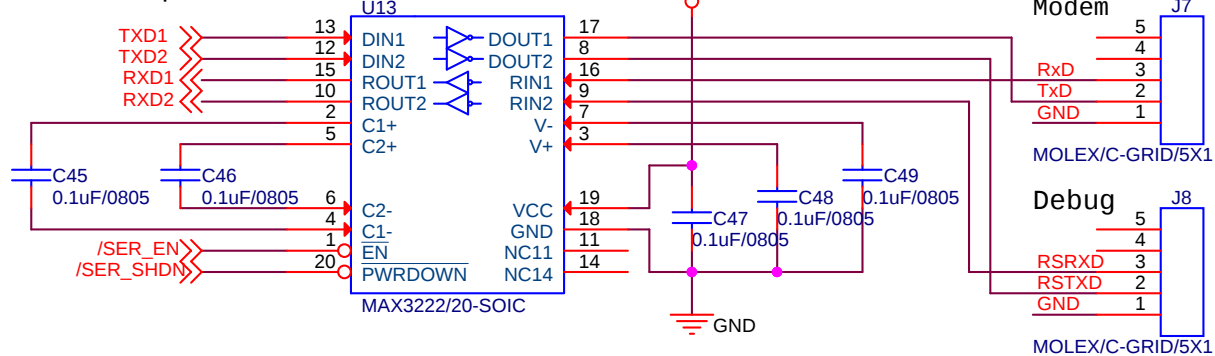


The SPI bus specifies four logic signals:

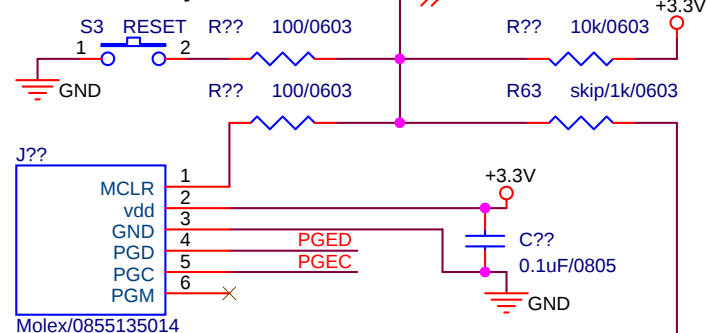
- SCLK: Serial Clock (output from master)
- MOSI: Master Out Slave In (data output from master)
- MISO: Master In Slave Out (data output from slave)
- SS: Slave Select (often active low, output from master)



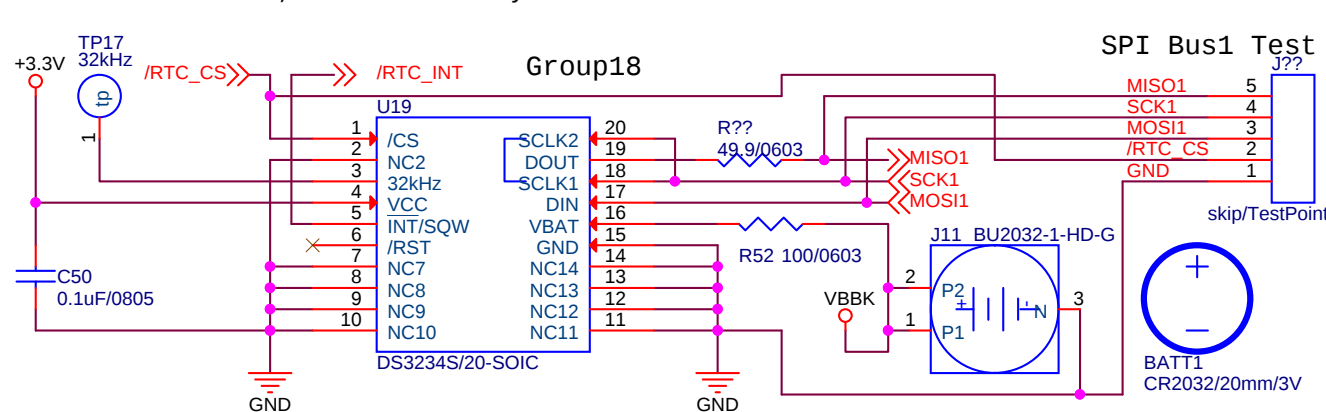
Serial Port Controller 0.3mA; 1uA in shutdown Group19



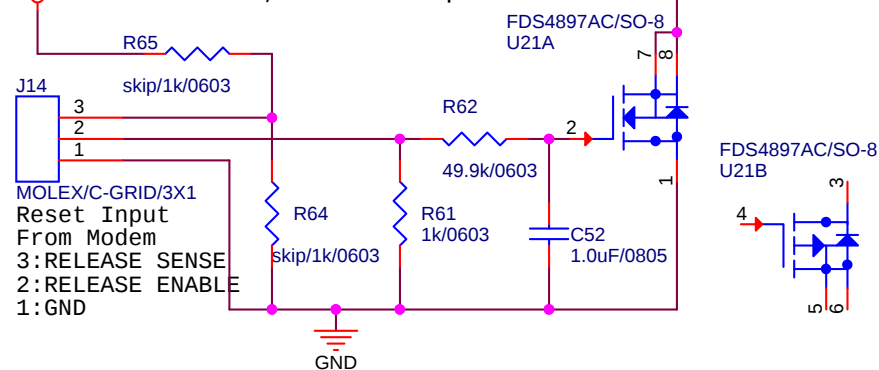
Reset 3-Way Combiner



SPI Bus RTC with Integrated Crystal and SRAM 400uA active, 120uA standby



Reset by Modem Release Enable 3.3V active, 50mS low pass filter



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Engineer Klimov	831-775-1914	Page Title BEDS Mother Board/ Persistor	Project: see page 1
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Page Modify Date (auto): Thursday, February 22, 2018		Sheet: 3 of 4	
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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

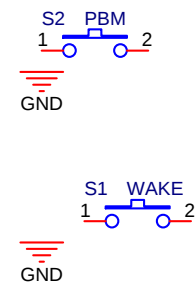
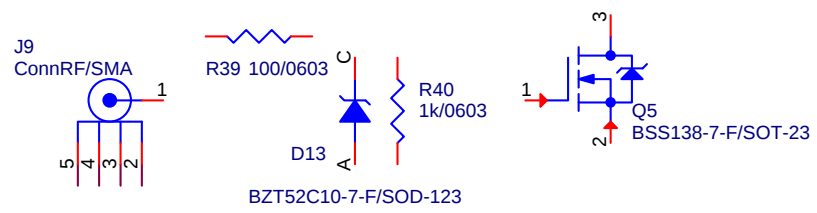
- 8. External pressure sensor. Check voltages on J6.3, J6.2, and TP10
- 9. Internal Pressure sensor. Check voltages on U6.1, U6.2, TP11
- 10. Temperature sensor. Check voltage on U10.1 (3.3V) and TP15
- 11. Humidity sensor. Check voltage on U11.3 (3.3V) and TP14.

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

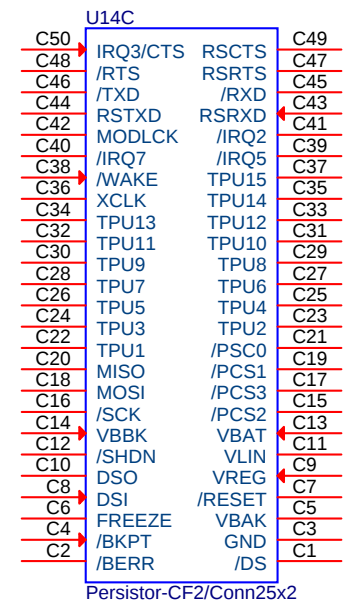
- 0:
- 1:
- 2:
- 3:
- 4:
- 5:

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Engineer Klimov 831-775-1914		Page Title BEDS Mother Board / Checklist	Project: <i>see page 1</i>
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Full path (auto): U:\ORCAD PROJECTS\BEDS\10020895-MOB3\10020895-MOB3.DSN			

Group16
PPS/GPS: 5V 100ms active high
PPS/Clock: 3.3V 400us active high
5nS low pass filter



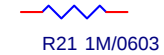
Group15 Persistor Board



Pull-Up resistors
from page 3



Pull-Up resistors
from page 2



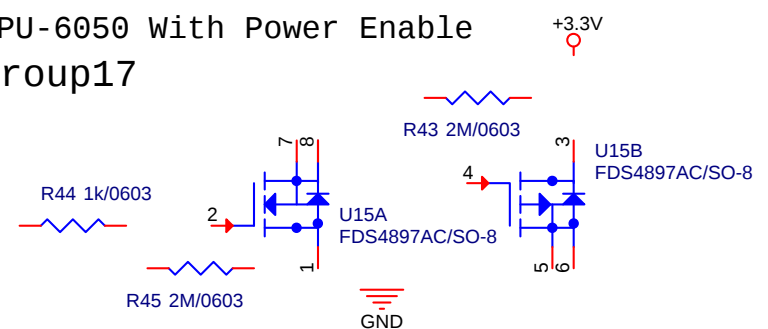
Pull-down resistors
from page 3



Pull-down resistors
from page 2



MPU-6050 With Power Enable
Group17



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Size B	Document Number <Doc>	Rev <RevCode>
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