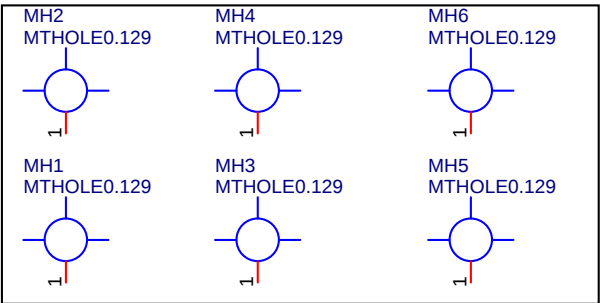
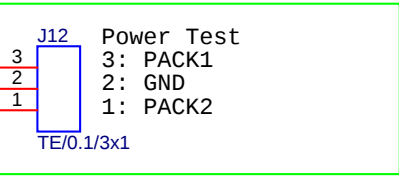
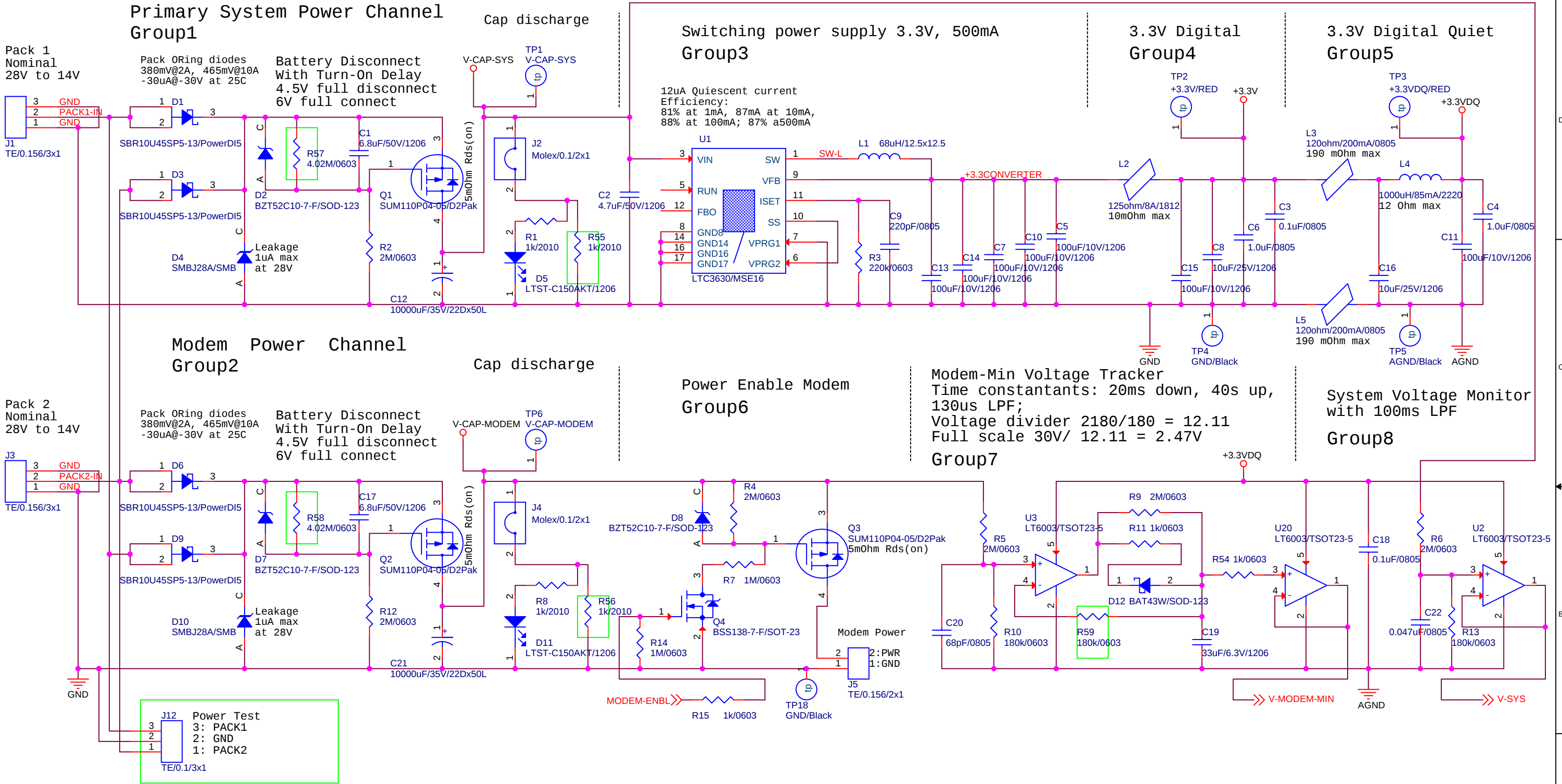




MOB1 to MOB2 revision:

R55: 1k/2010 added

R56: 1k/2010 added

R57: 4.02M/0603 added

R58: 4.02M/0603 added

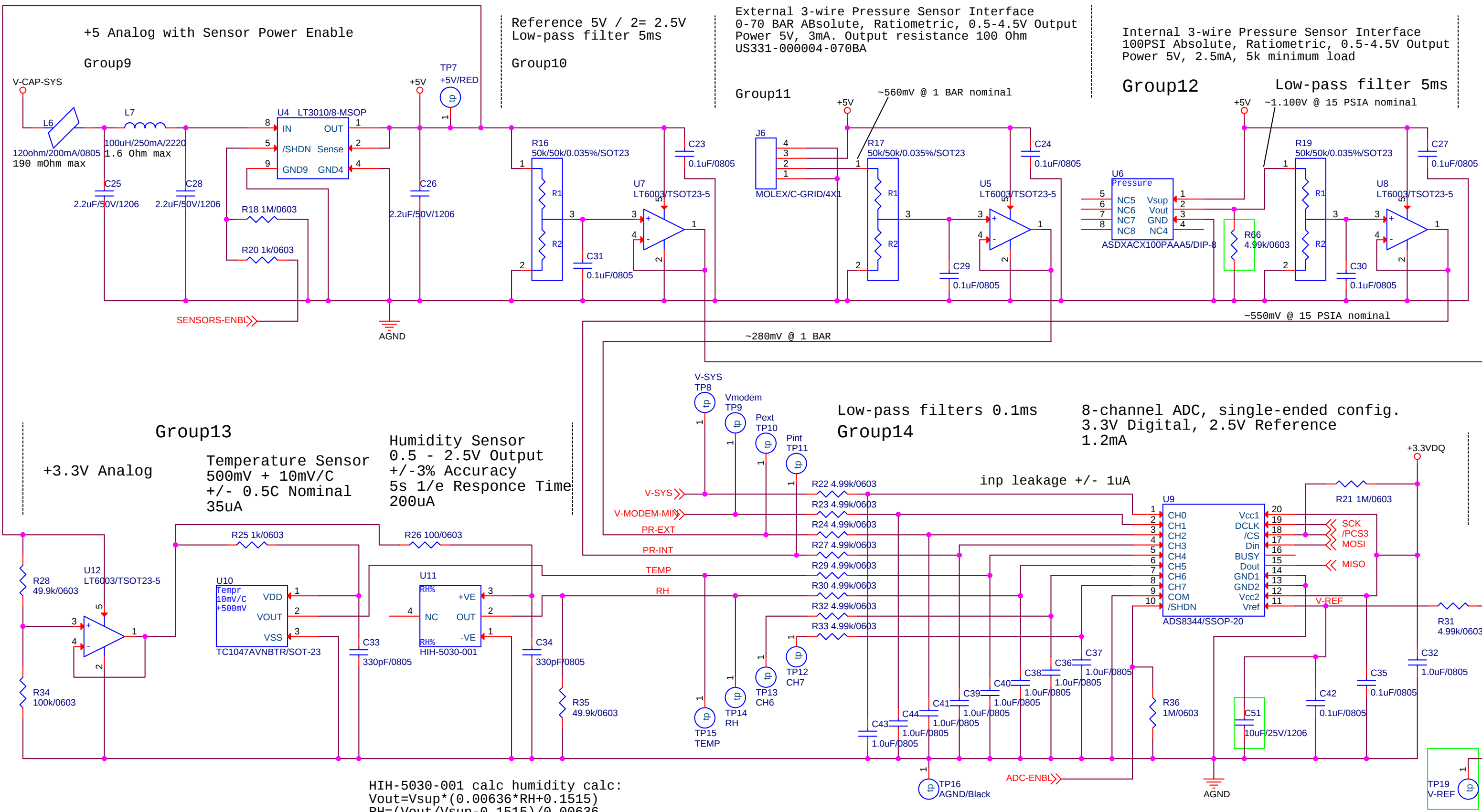
R59: 180k/0603 added

J12: Molex C-grid 3x1 added

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

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HIH-5030-001 calc humidity calc:
Vout=Vsup*(0.00636*RH+0.1515)
RH=(Vout/Vsup-0.1515)/0.00636

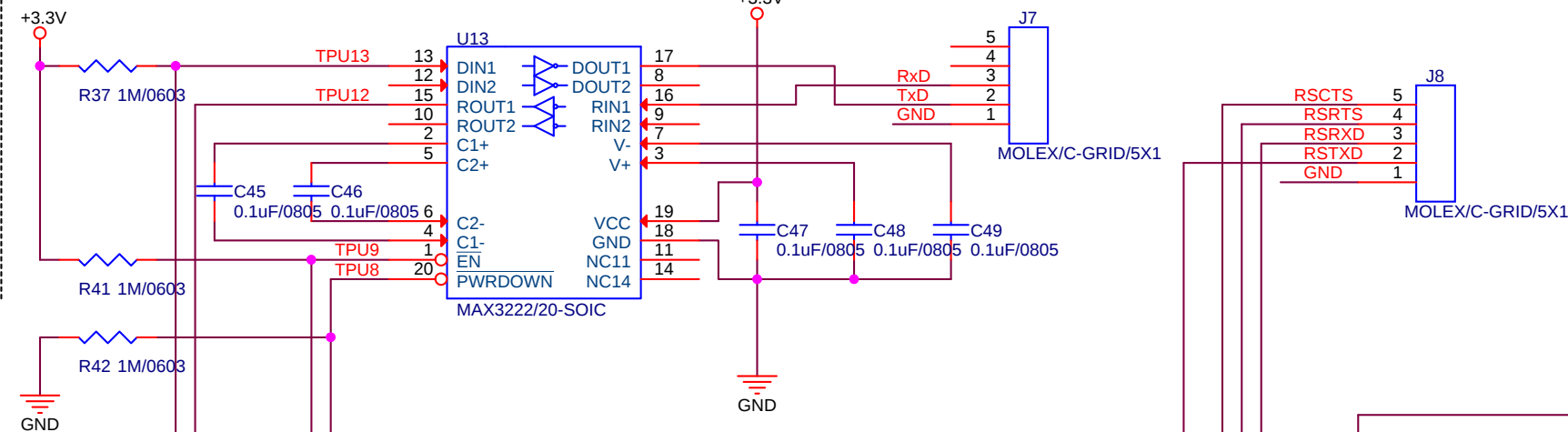
MOB1 to MOB2 revision:
C51: 10uF/25V/1206 added
TP19: V-REF added
R66: 4.99k/0603 added

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

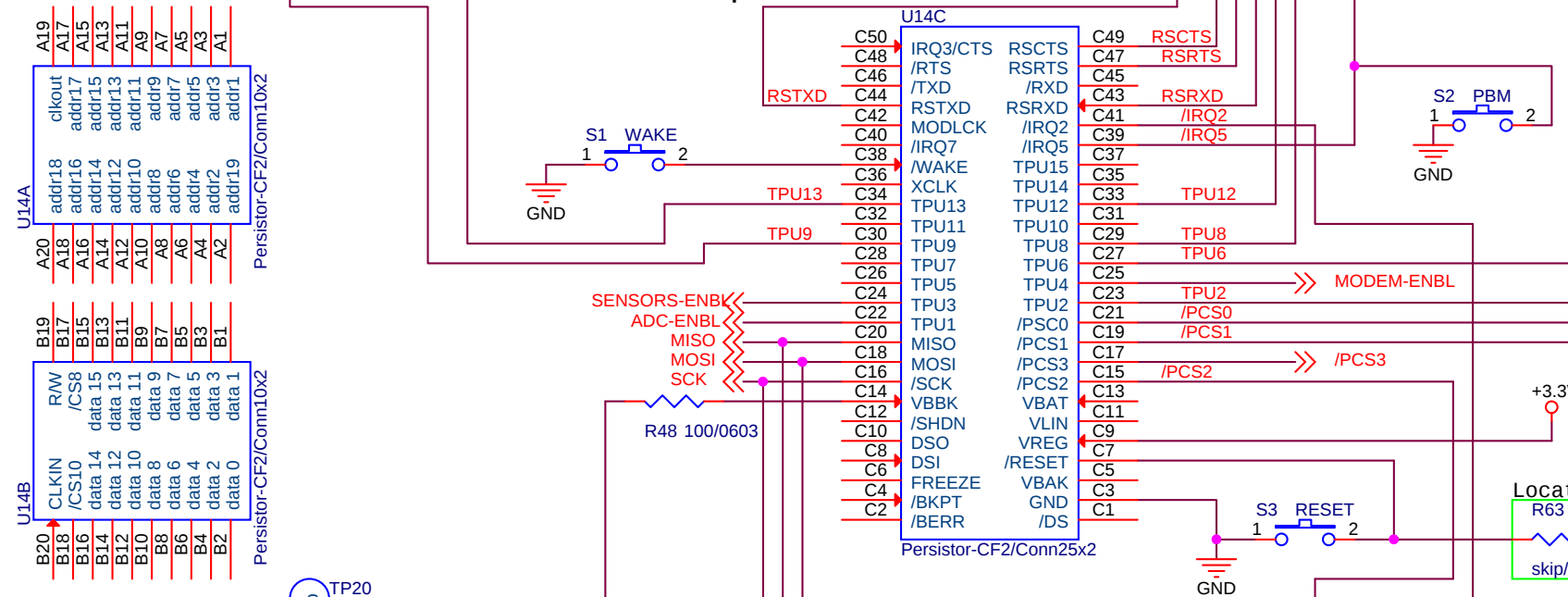
		Monterey Bay Aquarium Research Institute 7700 Sandholdt Rd, Moss landing CA 95076	
Engineer Klimov		Page Title BEDS Mother Board/ Sensors	Project: see page 1
Size B	Document Number see page 1	File Name (auto) 10020895-MOB2	Rev see page 1
Page Modify Date (auto): Design Modify Date (auto): Full path (auto):		Wednesday, September 02, 2015 Wednesday, September 02, 2015	Sheet: 2 of 4
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Serial Port Controller
0.3mA; 1uA in shutdown

Group19

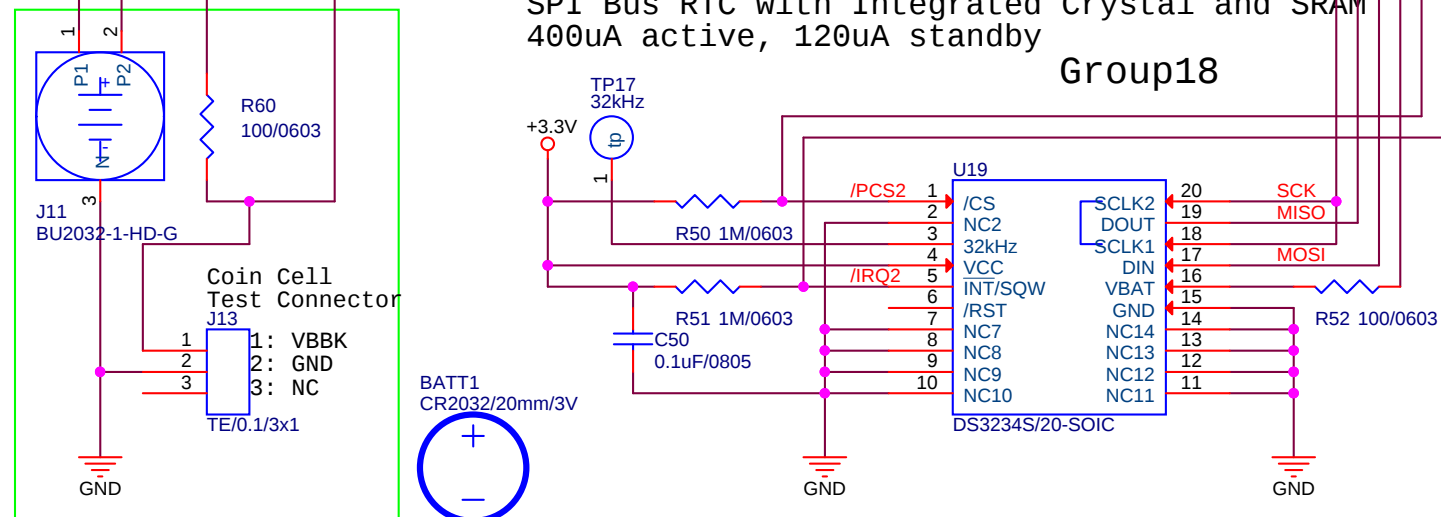


Group15 Persistor Board



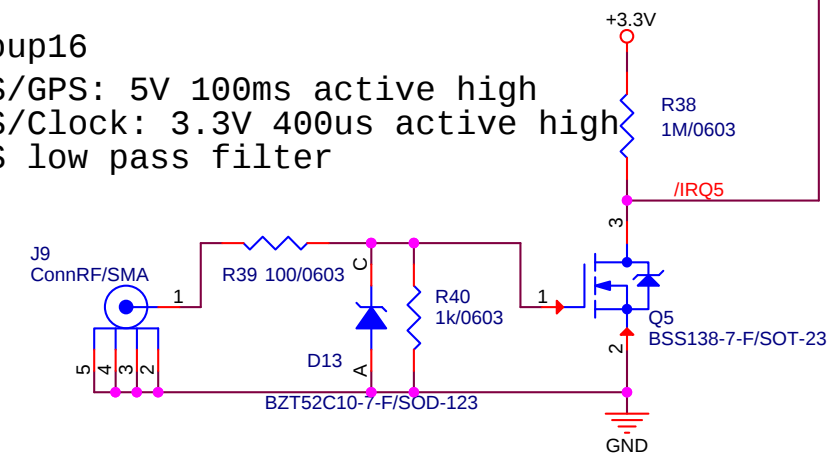
SPI Bus RTC with Integrated Crystal and SRAM
400uA active, 120uA standby

Group18

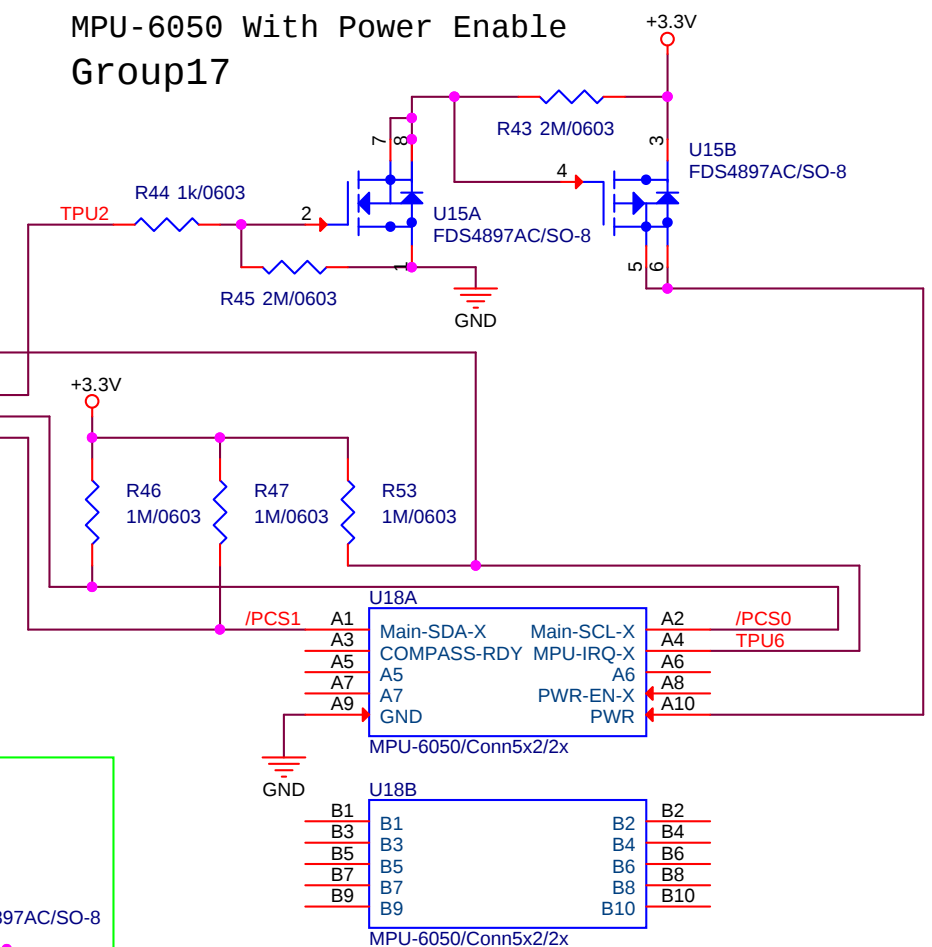


Group16

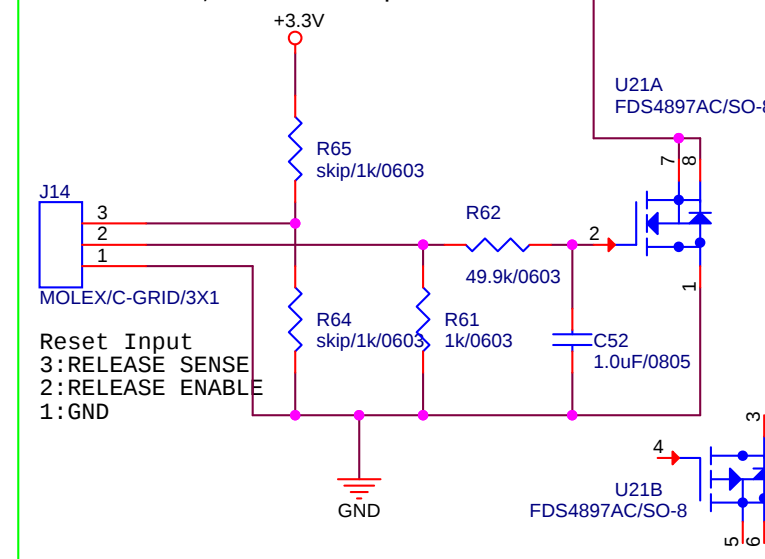
PPS/GPS: 5V 100ms active high
PPS/Clock: 3.3V 400us active high
5nS low pass filter



MPU-6050 With Power Enable
Group17



Reset circuitry using Release Enable
3.3V active, 50mS low pass filter



MOB1 to MOB2 revision:
J11: BU2032-1-ND-G added
R60: 100/0603 added
J13: TE 0.1/3x1 added
J14, R61, R62, R63, R64, R65, U21 added
Rev2 (cont. from Page2): Install J11 (BU2032)
instan of J10 (Keystone/3003)

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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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