Proof of Concept Test Demo Sheet[[1]](#footnote-0) (Example)[[2]](#footnote-1)

**TEAM NAME: Ocean’s Seven Test Date & Time:12/08/2016 11.50am**

**Test # and Name (from PoC plan) 1C. 19V Stability Stress Test: Validation Testing Test Type: Power**

1. **Purpose of Test and How it Relates to Project (Brief, concise, but complete, description):**

The 19V conversion circuit reliably outputs 19V during high power flux when the kill switch is tripped. The main CPU used by the CU RoboSub relies on an extremely stable 19V, 3A input.  If the voltage supplied to the CPU varies too much, it can cause the CPU to reset which would delay or prevent completion of the competition course.  Tripping the kill switch can cause fluctuations in voltage and current provided to the conversion circuit.  It must be robust enough to compensate for these fluctuations.

1. **Test Setup, Pre-conditions, and Procedure (Brief, concise, but complete, description):**

1. Preconditions:

A. One voltage source set to 14.8V with a max current draw of 3A

B. One multimeter set to measure up to 50V

2. Testing:

A. Attach the voltage source high and low voltage lines to the input and ground pins, respectively, of the power systems board.  Turn on the voltage source

B. Using the multimeter, measure the voltage difference between the 19V Test point and ground

C. Turn off the voltage source

D. Turn on function generator, vary amplitudes and waveforms

E. Repeat B and D as necessary

1. **Success Criteria (feasibility) / Selection Criteria (alternatives) / Design Info (gathering): (Concise, complete, quantitative):**

A. Maintains 19V +/- 0.5V without noise

B. Maintains 19V +/- 0.5V  with noise f>x Hz,Vpp>x V

C. Max current draw greater than or equal to 3A

1. **Instructional Team Notes:**
2. **Test outcome and what was learned (toward finalizing design):**

1. One sheet for each test of your prototyping plan. So if your team has 5 numbered tests, you will turn in 5 sheets. [↑](#footnote-ref-0)
2. It is not mandatory to follow this exact format (including using color), but each section above must appear in your sheet and in this order. Fill in headings and sections 1-3 in your word processor before the test and before you distribute this sheet to the instructional team. Sections 4 & 5 will be used by the instructors. [↑](#footnote-ref-1)