ATTACHMENT #1

Inertial Measurement Unit (IMU) Detailed Requirements

In order to be considered "Technically Acceptable", all offers providing an "Equal" product must meet the requirements listed below.

1. The IMU shall weigh less than 0.2 Kg with a volume of 100 cc maximum
2. The IMU shall consume less than 5 W of power
3. The IMU shall operate over a temperature range of -30 to 70 C
4. The IMU shall operate within a vibration range specified by Mil-Std 801D.
5. The IMU shall operate over an air pressure range of 100 – 760 Torr.
6. The IMU shall measure angular rates up to 200 degrees per second.
7. The IMU shall support g measurements to a minimum of 8 g.
8. The IMU shall provide an accuracy of at least 0.3 degrees in the pitch/roll axis (1 sigma) with GPS support.
9. The IMU shall provide an accuracy of at least 0.7 degrees for heading (1 sigma) with GPS support.
10. The IMU shall provide an accuracy of at least 0.7 degrees in the pitch/roll axis (1 sigma) with extended GPS outage.
11. The IMU shall provide an accuracy of at least 1.3 degrees for heading (1 sigma) with extended GPS outage and magnetic compass input.
12. The IMU shall support an update rate of 50 Hz minimum.
13. The IMU shall support an altitude measurement range of -1000 ft to 40,000 feet minimum with an accuracy of 200 feet over the entire measurement range.
14. The IMU shall support airspeed measurement of at least 100 knots with an accuracy of better than 3 knots.
15. The IMU shall operate from a DC input power of 11-16 VDC.
16. The IMU shall support an RS232 and RS422 serial interface for data output.
17. The IMU must use Micro-Electro-Mechanical Systems (MEMS) technology.