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RE: Crossbow Technology
FCC ID: SHU001MPR2400V01

1.) Kindly refer to page 7 of the Manual. Within the FCC rules a device cannot be both Class A and Class B. The digital portion of a device can indeed be Class A, but the radio board and any unintentional emissions generated specifically by the radio board and its associated circuitry must be Class B, except as provided elsewhere in Part 15. Please reword the manual statements accordingly.

Response: Manual has been revised to reflect that the statements only referring to a Class A device.

2.) The equipment appears larger than the palm of the hand. Therefore the two-part labeling statement of 15.19(a)(3) applies. If the applicant feels the device meets the restrictions of 15.19(a)(5), kindly justify.

Response: The device can be separated into two sections to allow the user access to install sensors into the device. This prohibits fixing a label to the sides of the device. The base of the device cannot accommodate a label, because of the battery compartment. The top of the device cannot accommodate the label because it has windows for sensors and LED's, as well as the company logo.

3.) Required statements of 15.21 appear to be missing from the Manual. Please check.

Response: Manual has been revised and uploaded

4.) Page 9 of the Test Report makes reference to ANSI C63.4-1992. Please be advised that there are newer editions of this standard which should be followed.

Response: Understood. We will change our reports to reflect 2003.

5.) I see no data to support compliance to 15.205. Please review. I do note that you state that emissions are more than 30dBc. However this is not satisfactory to show compliance with all the restricted bands. Your Test Report shows ~90dBuV as the radiated signal using a 1MHz RBW at the fundamental frequency. If we take 30dBc from this value we find that we are still considerably over the limit for 15.205.

Response: I am not sure what you mean that no data is present to show compliance to Section 15.205. Pages 5 to 9 of 21 (Exhibit 2) shows radiated data taken for emission falling in section 15.205 restricted bands.

The device in nature is not on 100%. The device will only transmit every so often. Due to this a – 17.9 dB duty correction is applied to the emissions.

90 – 30 = 60 dBuV/m Peak

60 – 17.9dB = 42.1 dBuV/m Average

6.) Can this device attach to the AC mains for the purposes of battery charging?

Response: The unit can only run from a battery source. The internal photos will show that there are no other ports that will allow an external AC adaptor to be connected to the radio board (As described in section 2.2 (Table) of the manual). The other models have capability of external power sources (As described in section 3.2 & 4.3 (Table) of the manual).

7.) Was radiated emissions testing performed in three orthogonal planes?

Response: the unit is not handheld or body worn. Tests were performed with the EUT antenna oriented vertically and horizontally. The device is a mote, used as part of a wireless network of motes which collect data and transmit the data through the network to a base station. Data is transferred from one mote to the next based on which mote is nearest; if one mote is removed, a different path is then found through the remaining motes. Data collected is determined by the user's particular application (e.g., barometric, magnetic, vibration, acoustic, or infra-red sensing). The devices are small to achieve low-profile form factors, thereby maximizing the number of applicable uses, yet remaining within the width and length of two-AA batteries.

Regards,

A handwritten signature in blue ink that reads "Mark Briggs". The signature is fluid and cursive, with "Mark" on the top line and "Briggs" on the bottom line.

Mark Briggs