To the Reviewing Engineer:

In response to your questions regarding FCC ID SEAUBITAG10-U:

1) [We responded to this question in a previous message.]

2) Instructions for adjusting the basestations to ensure indoor-only operation of the tag are contained in the user manual for the basestation unit. The basestation's Section 15.249 radio transmitter has been submitted to the FCC for certification, FCC ID SEAUBISENSOR10. We have also attached a copy of the basestation user manual as part of this response.

3) The original report incorrectly listed the measurements below 960MHz as being average measurements (in the section header). The measurements were actually taken using a Quasi-Peak detector, as described in the measurement description on page 22 of the original report. We have attached a revised report in which the section header has been corrected.

4) There were no detectable emissions in the range 30-960MHz. The test procedure involved adjustment of the receiving antenna height between 1 and 4m. The measurement data below 960MHz indicate the level of the noise floor at test points within that band, and these levels were maximised at 1m. The revised report (attached) clarifies in the caption of Table 7 that all these points represent the noise floor. We have also added a note below Table 7 clarifying the location within the report of the associated test procedure.

5) Where a UWB signal from the device was detectable, a 1ms or less integration time was used (see pages 16-19, 23 and 27 of the test report). The other plots show the noise floor in other regions of the spectrum - any signals visible in those plots were ambient signals, rather than emissions from the device under test.

The test procedure used by MET Laboratories for this device was the same as was used for another certified UWB device, FCC ID QCJSPDR650. The test report for the QCJSPDR650 device also shows noise floor plots taken with longer integration times (e.g. pages 23, 24, and 27-29).

6) The device has only one normal mode of operation. In this mode, the tag device covered by this application (FCC ID SEAUBITAG10-U) first listens for a frame identification signal transmitted by a nearby basestation via its Section 15.249 transmitter (FCC ID SEAUBISENSOR10). The basestation transmit powers are adjusted during installation to ensure that a tag device will only successfully receive a frame identification signal within the building.

If the tag device successfully receives the frame identification signal, it may elect to transmit a burst UWB location signal. Note that the dependence on receiving a valid frame identification signal, and the power adjustment step described above, ensure indoor-only operation of the UWB transmitter. Tag devices can choose to transmit up to ten UWB location signals per second - the actual rate of transmission is determined by a number of factors, including command messages from the basestations and information from a movement sensor on the tag.

Each burst UWB location signal is an unmodulated pulse train, 25.6ms long, with pulse repetition frequency of 12.12MHz. The pulse duration is 2ns. Because the pulse train is unmodulated, another mechanism is used to identify the source of the burst UWB location signal to nearby basestations. The required

identification information is sent by the tag device to nearby basestations, via the tag's Section 15.249 transmitter (now incorporated in FCC ID SEAUBITAG10-U as a composite device application). The tag device sends the identification message just prior to the burst UWB location signal to simplify temporal correlation of the two transmissions - but it is never the case that both the tag's Section 15.249 and UWB transmitters are active simultaneously.

For the purposes of certification testing, the tag device was supplied with a firmware test mode which allowed it to transmit a continuous train of UWB pulses (with the above pulse repetition frequency and pulse duration) for the purposes of accurately measuring the UWB signal characteristics, in accordance with Section 15.521(d).

Please contact me if you have any questions

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