American Telecommunications Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101

April 30, 2007

RE: Electronic Systems Technology, Inc.

FCC: ENPESTEEM195ES

After a review of the submitted information, I have a few comments on the above referenced Application. Depending on your responses, kindly understand there may be additional comments.

1) The block diagram should show the frequencies of all oscillators in the TX device (CFR 2.1033(a)(5)). Please update.

There appears to be a large number of variances between test data/report and operational description. The majority of the comments deal with these issues as many questions exist.

2) While theory suggests pseudo-random hopping methods, kindly provide a sample hopping list (one for data, one for announce) to show that the method used in the operational description is in compliance with pseudo-random hopping requirements.
3) We are not clear on the explanation regarding equal use on the average, and the possible use of announce channels being lower. Are announce channels different channels than data channels or is it simply dependent on what is transmitted on a particular hop (i.e. as hopping occurs can data be sent on an announce channel on the next time it returns to that channel). If announce and data channels are separate channels, then this may not comply. If announce can occur on any channel (of all 97) and occur as an announce with equal opportunity then the device will likely be alright. In addition the operational description suggests that the announce only hops every 1.6 sec, but then is also suggests moving to an operational hop after an announce hop. It is confusing. In short the announce channels and data channels must be used equally as often. It is unsure how the data vs. announce channels come together and are compliant. See the definition from Part 2 which cites:

> *Frequency Hopping Systems.* A spread spectrum system in which the carrier is modulated with the coded information in a conventional manner causing a conventional spreading of the RF energy about the frequency carrier. The frequency of the carrier is not fixed but changes at fixed intervals under the direction of a coded sequence. The wide RF bandwidth needed by such a system is not required by spreading of the RF energy about the carrier but rather to accommodate the range of frequencies to which the carrier frequency can hop. The test of a frequency hopping system is that the near term distribution of hops appears random, the long term distribution appears evenly distributed over the hop set, and sequential hops are randomly distributed in both direction and magnitude of change in the hop set.

Please provide further detailed information such that compliance can be determined. Depending on the information provided, the FCC may need to be consulted on this issue first.

4) Operational description appears to explain timing for announce channels (< 200 msec) and data (400 msec), while the test report section C/ page 17 appears to be for operational channels. However the test report mentions that data/operational are <200 msec. Additionally, it is uncertain how data rates may affect this test. Please clearly explain timing of each and compliance to the maximum average times of occupancy.
5) Channel separation in the operational description cites 250 kHz, but test report suggests 470 kHz. Please explain/correct or provide more detail as necessary. Note test report must support operational description.
6) Operational description mentions 97 channels, but test data only supports 52. Please explain/correct. Are all channels always used in each hop set? How does announce vs. operational play into these hop sets?
7) Maximum time of occupancy measured only shows 44 msec, and doesn't exactly correspond to maximums expected of 200 and/or 400 msec per transmission given in operational description. Additionally, data does not support how many transmissions occur in 20 or 10 second time periods as given in the rules.

8) Operational description suggests that slower data rates have narrower bandwidth. It is uncertain which data rate was used for tested. If necessary, please provide additional test data for various data rates. Please ensure narrowest bandwidth has been provided. Test data should clearly identify which modes were present for which tests.
9) Generally all ports should be evaluated or filled for testing. It does not appear that all ports were filled during testing. Please review/explain/justify as necessary.
10) Please provide information showing compliance with 15.247(g)/(h).
11) Test report mentions reduction of power for certain antennas. How is this accomplished to assure compliance with 15.15. Is the device sold preconfigured at the factory for certain antennas, etc. Please explain.
12) Kindly provide Appendix A, B, & D of the Users Manual as part of the Users Manual exhibit. This information should include appropriate Part 15 statements, RF exposure statements (20 cm and non-colocation) statements, and information required by RSS-GEN section 7.1.4 and 7.1.5
13) Page 5-9 of the manual suggests operation in the 2.4 GHz band. This does not agree with the remainder of the application. Please explain/correct.
14) Page 5-11/5-12 of the manual suggests different data rates than the operational description. This does not agree with the remainder of the application. Please explain/correct.
15) FYI…Users manual could not be completely reviewed because of certain sections were missing. Please see above.
16) Operational Description mentions operation only between 903 – 927 MHz. However 731/IC forms and test report cite 902.3 – 927.6 MHz. Please explain.
17) The users manual table of contents mentions selection of operational frequencies. Section 15.15(b) prohibits adjustments of any control by the user that will cause operation of a device in violation of the regulations. Accordingly, any proposal to allow the end user to choose extended channels on frequencies outside of an allowable frequency band in the USA is not acceptable. For example, a WLAN device operating according to Section 15.247 on channels 1-11 between 2.4 - 2.483.5 GHz must not have any user controls or software to allow the device to operate on channels 12 and 13 which are outside of the allowed USA band. For instance, the user should not be able to select alternative countries which would allow different channel plans outside of the allowed USA band. Please explain how this device is compliant to this requirement for its operational frequencies for both FCC and IC.
18) Proper formatting for IC labeling should be “IC:” not “Canada:”. Please correct.
19) IC requires testing for the RX portion of the device (including AC powerline conducted and radiated measurements) according to RSS-210. It appears that radiated emissions are included. Please provide AC conducted for RX mode as appropriate.
20) Please confirm the model number to be listed and correct any affected exhibits. For instance, the label cites 195Es, while other documents cite 195ES. Please confirm/correct as necessary so listing can be done properly.
21) The relationship between Electronic Systems Technology Inc. and ESTEEM Wireless Modems is not known. Note IC requires the CN number to match the company name, company trade name, etc on the device and not simply use a product line trade name or OEM reseller. If ESTEEM is not related to Electronic Systems Technology Inc, then labeling should be adjusted to include manufactured by Electronic Systems Technology Inc., or similar information. Another option for ESTEEM may be to perform a multiple listing for ESTEEM (private labeling) but this must use a CN that matches ESTEEM after certifying the device for Electronic Systems Technology Inc.. Currently the IC site shows that CN 2163 = ELECTRONIC SYSTEMS TECHNOLOGY INC. Please call to discuss options if necessary.
22) FYI….The title page of the report should likely cite 15.247, not 5.247.

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The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information may result in application termination. Correspondence should be considered part of the permanent submission and may be viewed from the Internet after a Grant of Equipment Authorization is issued.

Please do not respond to this correspondence using the email reply button. In order for your response to be processed expeditiously, you must submit your documents through the AmericanTCB.com website. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the sender.