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

November 20, 2003

RE: FCC ID: Q3N-8061BL_ATCB000930
Attention: Ellis Wu
I have a few comments on this Application.

1. Please note that while you have provided schematics for the terminal, you have not provided the schematics for the Bluetooth transmitter. Please provide the Bluetooth transmitter schematics.
2. Please note that event though you have provided an overall block diagram of the terminal, you have not provided the block diagram for the Bluetooth transmitter. Please provide the block diagram of the Bluetooth transmitter – please make sure that the Bluetooth block diagram meets the requirements of 2.1033.
3. Please note that you have elected to use 15.249 instead of 15.247 for this Bluetooth terminal. As such it is imperative that the manufacturer understand that he is limited to 94dBuV field strength and cannot advertise or otherwise indicate that the device can operate at power levels that would exceed this 94dBuV field strength limit. Please note that the manual indicates that this device is capable of 100mW under the Bluetooth Class 1 specifications. Please understand that this is not possible. Please remove any reference to power levels that by their very nature would exceed 15.249 limits. Alternately, please re-file under 15.247 rules.
4. Please note that the 731 form says this is a 4mW device. Please note that this also is not possible as it would violate 15.249 field strength limits (an EIRP of 1mW with a 0dBi antenna would exceed 15.249 limits). Please correct the 731 to show compliance with 15.249. Alternately please file this Bluetooth transmitter under 15.247 rules.
5. If this device is to be marketed under 15.249, please explain how the manufacturer will prevent this device from exceeding 15.249 limits (how are the inherent power level capabilities of a Bluetooth transmitter over ridden to prevent exceeding 15.249 limits? – What power limiting circuitry is in the device to prevent exceeding 15.249 field strengths? – [i.e. how do you control the voltage and current capabilities in the final power amplification stage so the device does not produce power levels exceeding 15.249 limits?]) Alternately, please re-file under 15.247 rules.
6. Please provide evidence that the portable terminal was tested in all three orthogonal planes.
7. Please note that 15.249 does not have “bandedge” limits. The band edge limits of 20dB below the fundamental are limits contained in 15.247, not 15.249. In 15.249 ALL emissions outside the operating band except harmonics MUST be 50dB below the fundamental or they must meet the limits of 15.209. In any case, no spurious emission can exceed the limits of 15.209 (i.e. the maximum allowed field strength below 1GHz is 94dBuV. 50 dB below this is 54dBuV or the 500uV/m below 1GHz). Please correct your report to reflect the rules found in 15.249, not 15.247 (see page 26 and 27 sections 4.8.1, 4.83 and 4.86 of the report – they are incorrect as they refer to a limit other than 15.249).
8. Please provide an antenna conducted power measurement and the gain of the antenna used. This will assist in showing compliance to 15.249.
9. Please provide an attestation or letter from the manufacturer that no antenna and power level at the antenna terminal combination will be used that exceeds 15.249 limits.

Dennis Ward
mailto:dward@AmericanTCB.com

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.