Telemics Inc.
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October 28, 2002

To: American Telecommunications Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101
RE: Telemics Inc.
FCC ID: QC5-09-MSS1

Tim,

Below you will find replies to your questions / comments. Please let me know if anything is unclear or you have any additional concerns.

David Waitt
(Independent Consultant for Telemics Inc.)

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1) Please provide photographs of each antenna listed in this application.
Photos of the two antennas have been uploaded to the ATCB website

2) Please provide a block diagram for the TX portion of the device.
An RF block diagram has been uploaded to the ATCB web site

3) Devices that are modularly approved must meet the non-standard connector requirement (reference FCC da001407). Devices are typically approved as a module so that they may be sold to other companies desiring to integrate them or use them in other devices. Since Telemics Inc. can not control how the device is used or sold by other integrators, the FCC specifies that the device must incorporate non-standard connectors. Please confirm if you still desire to approve the device as a module, or provide information regarding what nonstandard connector will be utilized in the device with the Omni-directional antenna.
This being the case, Telemics has elected NOT to certify the module for use with the antenna in question. References to this antenna have been removed from the certification application documentation.

4) Please provide close up Internal and External photographs of the device.
Photos of the device have been uploaded to the ATCB website

5) The phrase "This device contains Transmitter module FCC ID: QC5-09-MSS1" for the outside of any product the device is installed within should be contained on a single line. Please provide an updated label.
A new label drawing has been uploaded to the ATCB website

6) The FCC warning statements on the label placed external to the end product must match exactly as specified in 15.19. Please provide an updated label
A new label drawing has been uploaded to the ATCB website

7) Please provide a photograph or drawing showing label placement on the device.
Detailed photos of the device showing label placement has been uploaded to the ATCB website

8) The theory of operation states that the time slot is variable. Please explain if this is a single variable setting, or if the packet length is variable during "on the fly". If the time slots are variable "on the fly" please provide further detail on how all channels are used equally on the average.
The Slot time is not variable “on the fly”. The slot time is configurable within the software, but it is not dynamic.

9) Information in the users manual regarding the gain of the dipole antenna does not match the antenna information provided. Please explain.
The information in the manual was incorrect. The manual has been updated with the correct information and has been uploaded to the ATCB site.

10) The RF exposure requirements mentions a 30% duty cycle. In order to use duty cycle for general population RF exposure calculations, it must be "source-based" time-averaging based upon an inherent property or duty cycle of the device. Please either provide detailed information regarding how the duty cycle meets this requirement, or alternatively adjust the calculations assuming a duty cycle of 100% (2.1093(d)(2)). Please note that the device easily meets the 20 cm requirement at 100% duty cycle.
To simplify the process, the MPE has been recalculated using a 100% duty cycle. A new MPE estimate has been uploaded to the ATCB website

11) The users manual states "To ensure compliance, operations at closer than this distance is not recommended." Since this is not classified as a portable device, this phrase should be stated as " ……distance is not allowed."
The manual has been modified to incorporate this change and has been uploaded to the ATCB website

12) The RF exposure statement in the manual are missing co-location information. Specifically the following should be added "This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter".
The manual has been modified to incorporate this change and has been uploaded to the ATCB website

13) Since the device is a transceiver, when the device is in a receive mode of operation, it must meet with the Part 15 Verification requirements for a receiver (these are equivalent to the class B emissions). Please provide this data.
This test has been performed and the data added to the test report.

14) Average measurements above 1 GHz must be made with a RBW = 1 MHz and VBW >= 10 Hz. The test methodology on page 19 of 43 states that the RBW was set to 1 kHz.
Statement of these bandwidths in the report was an error. The measurements were performed using the correct bandwidths.

15) The test methodology for radiated spurious emission on page 18 of 43 states implies that the EUT was hopstopped, while information on page 23 stated that it constantly hopped. Please explain as this test should be performed with the device hop-stopped.
The wording on the lab data is mis-leading. What they are intending to say is that the if the device “hops” 100% of the time on a given channel, it is essentially “hop-stopped”. During the test, the device was indeed transmitting at a 100% duty cycle on the channel being tested. It was not hopping.

16) Please provide information to show compliance with 15.247(g) & (h).

(g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

(h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

The requirements of 15.247(g) & (h) are addresses in the appendix of the test report.

17) FYI, The antenna warning information in the users manual is oddly worded when in mentions tested to 15.203.
The reference to “Testing” for 15.203 compliance has been removed