

April 13, 2009

RE: ATCB007493 – Original Equipment/Single Certification Applications
FCC ID: GQ4-42R & IC: 1470A-14R for TRW Inc.

The following is in response to the comments made on the above referenced application.

1. Please demonstrate that the peak level of emissions from this receiver above 1000 MHz comply with the limit of 74 dBuV/m @ 3m in Section 15.35(b) of the FCC Rules. The test report only provided the average level of emissions above 1000 MHz.

As noted in the test report, the only detectable RF emissions from the device were those of the LO or 2 x LO, which are CW emissions (for which peak and average detection are equivalent) and are well below noise floor level at prescribed receiver bandwidth settings. Digital emissions are exempt as this device is permanently affixed within a motor vehicle.

2. Please describe how average detector measurements above 1000 MHz were performed. Was a reduced video bandwidth (VBW = 10 Hz) used or was an average detector function on the measuring instrument used?

As depicted in Figure 6.2 b, video bandwidth was reduced to 10 kHz above 1000 MHz. While this is not a true average measurement, the emissions in question are CW as noted above.

3. Please confirm that the EUT was rotated 360 degrees and the measurement antenna was raised and lowered between 1 and 4 meters to maximize radiated emissions from this device. The FCC is no longer accepting a statement that the test procedures followed are those contained in ANSI C63.4-2003. It would be helpful to add a sentence to your test report format in Section 5.2 right after the statement about testing in 3 different axes to clarify the procedures used to maximize radiated emissions.

The test report has been updated to further detail the test procedures employed.

4. I do not think the Canadian representative attestation letter is acceptable because the Canadian representative is listed as Mr. Bob Millett on the IC application form but Mr. Scott Relf has signed the Canadian representative attestation letter. Further the address on the Canadian representative attestation letter does not agree with the address on the IC application form for the Canadian representative. You can either provide me with another Canadian representative attestation letter or merely state that you are willing to wait for IC to contact the Canadian representative before listing this device on the REL in Canada. (See the sample Canadian representative letters attached). Please let me know how you wish to proceed.

The attestations and application forms have been updated to reflect Mr. Scott Relf as the Canadian representative.

5. For Your Information - The frequency band 225 - 399.9 MHz is allocated for Government of Canada usage. There are different types of operations in different parts of this band of frequencies, including communications with aircraft and operations using high power transmitters. Besides avoiding the frequency bands of Table 1 of RSS-210 Issue 7 dated June 2007, designers of low power devices are strongly recommended to so avoid wherever possible the entire 225-399.9 MHz band.

6. For Your Information – Item number one can be handled in the future by testing the peak level of emissions above 1000 MHz and comparing them to the average limit. If all peak levels comply with the average limit, you have shown compliance with both the peak and average limits with one test. If any of the peak levels are above the average limit but comply with the peak limit, retest only those emissions with an average detector and compare them to the average limit. If all the emissions that were over the average limit with a peak detector now comply with the average limit since an average detector was used, you have shown compliance with both limits. If you have any questions about this process or my poor explanation, please call me at 703-635-2881. University of Michigan has one of the best test reports that I've ever seen and I'd like to help keep it that way.

For very low level CW emissions (as described in this report) a reduced video bandwidth or average detection more accurately reflects the true emission level (i.e. it reduces the receiver noise floor showing a greater margin of compliance.) However, the method you outline above does demonstrate compliance more clearly without the need to identify the emissions in question. We will consider modifying our procedure in the future. Thank you.