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

December 3, 2008

RE: ATCB006734 – Original Equipment

FCC ID: DD4UR1HA for Shure Inc.

I have a few comments on this Application. Please do not put confidential information in your responses to these questions because the response letter will not be held confidential by the FCC. Depending on your answers there may be more questions.

EMC concerns

1. The MPE analysis for this device has the following problems:

   (a) MPE analysis uses ERP measured by the substitution method in horizontal polarity which yields results 6 dB higher than the vertical polarity results. TIA 603C does not require horizontal polarity results for the substitution method on the fundamental emission. You are punishing the applicant by using horizontal results which are 6 dB higher than necessary. (This is the same problem mentioned in FCC ID: DD4SLX2A for Shure).

   See updated RF Exposure Statement and updated Test Report.

   (b) MPE results are based on point source radiated emissions or EIRP not ERP. You must convert the ERP results from the substitution method to EIRP results for use in the formula $S=PG/4\Lambda R^2$ (where PG is the higher of the EIRP or conducted power times the numeric gain of the antenna and R is the 20 cm distance commonly used for RF safety compliance). EIRP is equal to ERP times 1.64 (power in milliwatts times 1.64) or ERP+2.14 dB (power in dBm plus 2.14 dB). Please provide an MPE analysis for the wideband dipole antenna that complies with these requirements.

   See updated RF Exposure Statement and updated Test Report.

SAR concerns

2. It does not appear that the phantom was big enough to encompass the entire antenna and DUT at the same time. Were additional positions investigated to ensure additional hot spots on the DUT or along the antenna were not missed?

   The FCC has dismissed some similar applications and issued concerns such as the following on other recent SAR measurements:

   (a) SAR plots for all positions indicate the complete antenna has not been included in the SAR measurement. The DUT positions need to be repeated with substantially larger area scans to include both the device antenna and the DUT. If the DUT and its antenna are too large to cover with one plot, multiple plots may be necessary to show all hot spots. When there are multiple hot spots, multiple zoom scans are needed. (I note that Tim has provided a PDF slide of recent SAR training from the TCB council training sessions demonstrating exactly what our concerns are on these measurements).

   (b) Body phantom is smaller than the DUT and its antenna; therefore, you may need to adjust DUT & its antenna so that both are toward the center of phantom away from the phantom side walls when conducting SAR measurements.

   The unit was evaluate further up the antenna; however, due to the angle of the antenna moving further away from the phantom, the SAR value was much lower.

3. It was not clear from the SAR test setup photos provided if the microphone was attached during SAR testing. Despite the text of the SAR test report (page 13) which states it was attached, the SAR test setup photos do not appear to support this. The microphone is expected to be attached during SAR testing as it is an accessory that does contain metal and can affect the results. Please provide a photo showing the microphone connected during SAR testing.

   The accessory was attached for all tests. The microphone was in the picture, but it is located on the other side of the antenna. The small black bump below the antenna is part of the microphone connector.

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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.