

# American Telecommunications Certification Body Inc.

6731 Whittier Ave, McLean, VA 22101

December 22, 2004

RE: FCC ID: ATH2425141\_ATCB002026

Attention: Desmond A. Fraser

I have a few comments on this Application. Please note that further comments may arise in response to answers provided to the questions below.

1. Please note that the SAR report has some very large power drifts associated. While you have provided a power drift plot, it would be good if an explanation of why the power drifted so much could be provided. After all, a 70+% change is quite extreme for SAR. Was this also experienced during EMC testing? How did it affect power or spurious emissions measurements during EMC testing? Providing these answers may help to understand the device and how it operates under normal conditions and gives a better understanding of the testing overall and compliance.

SAR Response: We have observed that high power PTT radios in the UHF and VHF bands typically have a more extreme drift during the SAR test than during a bench test. This is due to the fact that the antenna is coupling to the tissue simulating fluid in the phantom and that the phantom itself is insulating the radio. These effects tend to make the radio heat up a lot more than it does on a bench. This heating effect can cause very high drifts during a SAR test. During the Body-Worn SAR test, the antenna is typically at a different distance from the phantom than for the Face-Held test. Experience has shown that this can lead to not only a difference in SAR level but also a difference in drift performance. In addition, it is not uncommon for a speaker-microphone or headset accessory to affect the near-field radiated performance as well as the drift. We cannot see the difference because Body-Worn SAR is not tested without an accessory and a Face-Held test is not tested with an accessory. We can see clearly that the SAR test with the highest drift for this device was the Body-Worn Speaker-Microphone Antenna test at mid channel. The drift was -1.14 dB which translates to a 30% increase in the SAR result according to our scaling method (adding the drift to the SAR result). We have determined that it is an unavoidable consequence of SAR testing a high power PTT radio given the time it takes to measure the volume required for an accurate SAR value.

EMC Response: No power drift was determined during initial power measurements. Although, conducted antenna port measurements were taken using only short transmissions for each measurements as well as radiated measurements. The battery was refreshed often and measurements resumed at the same frequencies to assure no deviations in amplitudes.

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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.