



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

February 16, 2005

RE: FCC ID: SHFWDP318_ATCB002154

Attention: [Art Brennan](#)

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 your procedure on page 9 of the EMC report says that you measured ERP directly from the power meter. Please note that, as the setup photos for ERP measurements on page 14 of the EMC report appear to show that a horn antenna was used and not a dipole as stated in the procedure, this would not be a correct ERP measurement as it does not appear to include the gain of the substitution antenna or cable factors. If the substitution antenna were a dipole with a gain of 0dBd then this measurement might be correct if measured at the antenna and not directly at the signal generator as mentioned in TIA603. However, as there is some ambiguity as to what substitution antenna was actually used and as you have not clearly identified the gain of the substitution antenna it is not possible to determine if you have measured ERP correctly. Please re-measure and/or provide ERP measurement data that is in accordance with TIA603 and accepted antenna substitution methods. Please provide the substitution antenna and cable factors and the formula that was used to determine ERP using these factors.
2. Please note that the data tables on page 19 of the report only show the final numbers. It is not possible to determine if correct factors were used or not. Please provide data on the actual substitution antenna gain factor used in the calculation of EIRP. Please show how these factors have individually been applied to reach the final values stated in the tables.
3. Please note that the ERP values given on pages 80, 81, 84 and 85 of the report may not be correct. Please note that the test procedure on page 77 of the report says that for frequencies above the 4th harmonic you used a horn antenna. Then on page 78 you state that ERP was measured directly from the power meter. This is inaccurate as ERP must by its nature include the gain of an antenna. Please remember that it has not been shown that the gains of the antennae used are 0dBd as no data to this affect has been provided. Since it is not possible to determine if the value of the power meter includes this gain or not (i.e. it would only be true if the substitution antenna gain were 0dBd), it is in itself not an ERP measurement. Also, as your report states that you used a horn above the 4th harmonic, the table is ambiguous and does not clearly indicate that the horn factor or other substitution antenna gain factors have been properly included in the measurement. Please clearly indicate what antenna gain applies to what readings and please provide the power meter reading and the calculated ERP using these substitution antenna factors.
4. Please note that part 24 limits are in EIRP not ERP. Please recalculate the values on pages 82, 83, 86 and 87 for EIRP values. Please be sure to include accurate substitution antenna gain factors and please show the calculations using the measured power meter reading and associated factors.
5. FYI - Please note that in conjunction with section 6.6.2 of the SAR report, the manual should contain a caution statement that accessories for body worn configurations should not contain metal. Please consider adding this caution statement to be in line with OET 65C under the section "RECOMMENDED TEST POSITIONS FOR BODY-WORN AND OTHER CONFIGURATIONS".

Dennis Ward
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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.