



American Telecommunications Certification Body Inc.

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From: Generic Office of Engineering Technology [mailto:oetech@fccsun27w.fcc.gov] **Sent:** Thursday, June 15, 2006 1:32 PM **To:** marianne@atcb.com **Subject:** Response to Inquiry to FCC (Tracking Number: 1088802) - harmonic levels of intentional radiator - beyond 10th

The items indicated above must be submitted before processing can continue on the above referenced FCC DOCUMENTS. 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.

Inquiry: ~~THIS question is regarding the harmonic levels of an intentional radiator. Part 15 indicates that the level of the unwanted emissions shall not exceed the fundamental. Does this also include the level of the unwanted emissions beyond the tenth harmonic? The field strength of the unwanted radiated emissions (harmonic emissions in this case) may not exceed that of the fundamental. Please provide a separate test configuration photograph exhibit.~~

Any questions about the content of this correspondence should be directed to the sender.

Response: Please provide a separate test configuration photograph exhibit.

Response: ~~provided 1/16/2007~~ information required by 15.19(a)(3) (i.e. field strength of the unwanted harmonics beyond the tenth harmonic). The field strength of the unwanted

Response: ~~provided 2/28/2007~~ radiated emissions (harmonic emissions in this case) may not exceed that of the fundamental.

Response: ~~provided only 1/16/2007~~ Notes that Peter Scherf is no longer with the company generally the FCC desires sufficient photographs as to sufficient views of the internal

construction to define component placement and chassis assembly of the entire device. It appears additional internal photographs may be necessary. Please review.

Response: Please review the internal photographs ~~uploaded 3/14/2007~~ harmonics of the 13.56 TX crystal. Note that many

harmonics of the 13.56 MHz are not in compliance with 15.215(b). Assuming a 40 dB roll off, 3

meter results would appear to be around 33.4 dBuV/m for the fundamental. Many harmonics exceed this level. Also, please see attached interpretation on the following page 3 which is

relevant to this. **Response:** There was a measurement error. Please see revised report

~~WYC606529-1 and 40388eMAz~~ (page 8) appears over the Class B levels. Note that this appears to

be a harmonic of the 13.56 and therefore simply applying Class A limits to this frequency would not be applicable as it is a function of the TX and subject to different limits.. Additionally, it

appears these frequencies and many other may be out of compliance with 15.215(b). Note that

Class A levels may only apply to the digital device emissions and not TX emissions (defined as TX

~~spurious~~ transmission). **Response:** There was a measurement error. Please see revised report

~~WYC606529-1 and 40388eMAz~~ TX configurations. Please review.

Response: test report modified to include TX configuration of the three antennas. Please see revised test reports.

8) FYI...Note that the test report also shows failing radiated data without explanation. Generally the test report must adequately address this issue. Failing data should normally not be present in the final compliance report. For instance if Class A was used to pass (i.e. the AC conducted), then final results should be reported against Class A limits. While text states it is

compliant to class A, test data and plots have not been presented to support this. Additionally, the explanation use for AC line conducted will likely not apply to the radiated as all frequencies are

~~multiples of 13.56~~ **Response:** ~~Test report has been updated as per today. Please see WYC606529-1 and 40388eMAz~~

– 3 would be applicable to this device (equivalent to 15.209). Note RSS-GEN cites TAC's are

required for category I equipment, which is applicable to RSS-210 since it covers Category I

devices (see title of the document). If you have information to suggest otherwise, please provide.

Response: due to the above correction, the EMC report will

<http://ulstataegisviewdata.sitesite.com/102476.html#124>

Response: the report is attached. Please review and advise.

Response: and please check RWD if there are any responses.