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

January 17, 2006

RE: Brady Worldwide, Inc

FCC ID: NUC-IPSERIES

After a review of the submitted information, I have a few comments on the above referenced Application.

1) Please provide a separate test configuration photograph exhibit.
2) Labeling is missing information required by 15.19(a)(3).
3) Is confidentiality required on any exhibits that are proprietary (i.e. schematics, block diagram, operational description)? We did not receive a cover letter regarding a confidentiality request. Note the request should be signed by the contact on record with the FCC (i.e. Peter Scharpf).
4) For internal photographs, only the electronics of the TX have been shown. For unlicensed devices, 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.
5) It appears that most radiated data are 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.
6) 379.68 & 406.8 MHz (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 emission).
7) This device appears to be capable of TX out 3 different antennas. It is not clear if the test report covers the various TX configurations. Please review.
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 the 13.56 TX crystal.
9) The IC portion has not been review as Marianne stated that you feel you may not need a TAC in Canada and may want to clarify first. Note that RSS-210, Issue 6 section 2.6 and tables 1 – 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.
10) FYI….due to the above concerns, the EMC report will require to be reviewed again once the above issues have been addressed.

Timothy R. Johnson
Examining Engineer

mailto: tjohnson@AmericanTCB.com

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.

From: Generic Office of Engineering Technology [mailto:oetech@fccsun27w.fcc.gov]
Sent: Thursday, June 15, 2006 1:33 PM
To: marianne@atcb.com
Subject: Response to Inquiry to FCC (Tracking Number 788802) - harmonic levels of intentional radiator - beyond 10th

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 harmonics beyond the 10th?

Response:
Yes, this includes harmonics beyond the tenth harmonic. The field strength of the unwanted radiated emissions (harmonic emissions in this case) may not exceed that of the fundamental.