



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

February 10, 2005

RE: Strix Systems, Inc.

FCC ID: RFMACCESS-ONE-IE

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

- 1) Please update the 731 form to show DTS and NII as the equipment code.
- 2) The block diagram should show the frequencies of all oscillators in the TX device (CFR 2.1033(a)(5)), unless this portion of the device is an OEM part. Please provide either the block diagram for the TX portion, or alternatively provide a parts list that shows that this part is provided by another manufacturer.
- 3) For internal photographs of the top and bottom of the TX board (mini-PCI Card) must be provided, including photographs with the shield(s) removed. Please provide.
- 4) The internal photographs appear to only show one module, while the application appear to suggest 2 modules were present. If there are any internal differences which can be seen between the modules, additional photographs should be provided.
- 5) The label shows the FCC ID as RFM-ACCESS-ONE. This appears to contain an additional dash and missing the -IE shown on the 731. Which ID is correct? Please correct all necessary exhibits as necessary.
- 6) It appears that the label is being placed on the antenna portion of the system. The label must be placed on the main TX portion of the system.
- 7) Due to the size of the device, the 2 part FCC statement should be on the device itself (15.19(a)(3)). Please update the label.
- 8) In the internal photographs, please explain which antennas are for 2.4 GHz, and which are for the 5 GHz band by placing labels on the photograph(s) provided.
- 9) Frequency band in the users manual for 802.11B appears to start at 2.4 GHz, not 2.412 GHz. Please correct.
- 10) It is uncertain what the model AMEA module is shown in several of the system description breakdown. Please provide further details
- 11) Please explain compliance to 15.203 for the external antennas.
- 12) It is uncertain if each 802.11a/b/g module contains the same radio. Please explain. If they contain the same radio, what defines which type of device it is (a/b/g)? Is the difference hardware or software? What is the model of the radio used in each?
- 13) Please provide a separate test configuration photograph exhibit.
- 14) Please provide a schematic of the Wireless portion of the device.
- 15) It is uncertain how the antennas are shared, etc., when the radios are stacked. Please provide further information (block diagram, photos, etc.) to adequately explain this. If 2 802.11 modules are used, how are the antennas utilized? Are antennas shared?
- 16) The test report mentions the device is also a PC peripheral. However the labeling does not support this. Additionally, the information in the users manual does not appear to provide the information necessary for DoC authorizations. Please explain/correct as necessary.
- 17) AC line conducted results for both 802.11b/g and 802.11a are provided for average only. Note that compliance must also be shown to the peak/QP limit using the correct detector as well. These appear to not be provided.
- 18) Page 27 of the test report mentions that radiated average measurements were made using a 3 Hz VBW. The FCC test methodologies from the FCC specify a 10 Hz RBW. Please review and correct as necessary. Note that given the margins of the results, if they average measurements

were made using 3 Hz, they will likely not pass using higher VBW settings. Additionally, it appears the device may not have been in continuous TX during the test. If this is the case, it must be confirmed that the VBW is $> 1 / T_{on}$ duty cycle. Please provide information to support this as necessary.

- 19) Please document the length of cables utilized on the external antennas. Note that these cable lengths will be considered minimum cable lengths allowed on the external antennas they are utilized with.
- 20) Please explain why the plots on pages 34-35 show much lower values than the tables on page 33. Note this same problem appears to exist throughout the report.
- 21) It appears that for > 1 GHz only average measurements are shown (this applies to both the 2.4 and 5 GHz to be certified under 15.247). It is required to also provide peak readings which have a limit that is 20 dB higher than the average limit (74 dBuV/m). Also, please note earlier concern with the VBW setting possibly being too low.
- 22) The correction factors > 1 GHz appear to only be whole numbers. Given the margins of hundredths of a dB, it appears that correction factors are rounded and could cause failures of up to 0.5 dB in excess of the limit. Note most labs take the correction factors to a tenth of a dB. Note that other testing shown in the report appear to also take the correction factors to a tenth of a dB.
- 23) The plot on page 45 only lists one channel transmitting while the plot appears to show 2 channels. Please explain.
- 24) One of the margins on page 53 appears to be miscalculated.
- 25) The spectral density should have been tested for a low, middle, and high channel for 2.4 GHz.
- 26) Please explain the 54 and 64 dBuV/m limits used for radiated bandedge testing at 2.4 GHz. Normally the peak limit is 20 dB above the average limit. Were these tests done at different distances? Note page 103, 106, 111, and 116 suggests failing results from the margins/limits shown. Note that the 64 dBuV/m limit is also found in other sections of the report as well (in addition to the pages shown above)
- 27) Please confirm which external antenna was used for each band. Note the FCC expects the highest gain antenna of each type to be tested. This would require the single band antenna for 2.4 GHz at 6 dBi, and the dual band antenna for the 5 GHz band at 5 dBi. Please confirm.
- 28) Please explain the limits shown in 5.2.2. Normally -17 dBm EIRP limit equates to 78.3 dBuV/m and -27 dBm EIRP equate to 68.3 dBuV/m. The limits shown here are different (3 different limits listed). Additionally, there is reference to a note 3 which does not appear to be shown.
- 29) For power measurements, please provide measurements at the channel just below 5250 on page 191 to show compliance with the 50 mW limit. This is necessary because the band above shows power in excess of 50 mW (and is subject to a different limit). Additionally, please explain which method was followed from the UNII guidance document.
- 30) Please show power for a low, middle, and high channel in the 5.8 GHz band for page 191 and/or page 267.
- 31) Why do the 54 dBuV limit change above 18 GHz for 5 GHz testing, but the -27 dBm limit does not appear to change? Where different test distances used?
- 32) For peak excursion measurements, the methodology requires that trace one have a VBW ≥ 3 MHz. Additionally, please explain which method for trace 2 was used for the second trace. (see guidance document provided).
- 33) For spectral density, results should be shown for a typical low, middle and high channel in the 5.15 – 5.35 GHz band (pages ?) and the 5.8 GHz band (page 273). Also, please note that not all the plots appear to have a VBW as specified by the procedure. One appears to only have a 1 MHz VBW. Note that the guidance document requires > 1 MHz VBW.
- 34) Section 5.10.3 does not use the correct methodology for spectral density under 15.247. The sweep must be $\geq \text{span} / 3$ kHz.
- 35) The users manual (Quickstart Guide), states the device is tested to comply with Class A or Class B emissions. Which is it? The information must define which actually applies
- 36) The users manual page 46 mentions you can change country code information. Please note that if this is available to devices in the U.S., this violates 15.15 of the rules. Please explain compliance to 15.15.
- 37) The users manual also mentions a Bluetooth module which does not appear to be covered for in this application, or addressed in co-location.

- 38) The users manual mentions there are 3 types of internal antenna modules. One is Bluetooth. The other is 802.11a only and there is also an 802.11b/a combined one. It is uncertain which ones are covered by this application as the application appears to contain both a/b/g data. Please explain. If covered by testing, photographs of all antenna modules covered should be supplied.
- 39) Due to the modular nature of this sytem, a large number of possible combinations are possible. It appears that the application is being submitted only for a single configuration. Please note that if this were a system approval, the device would require a new FCC ID for each configuration as well as the label should be placed on the major host part of the system. Likely the manufacturer is looking for more of a modular approval for this system. In this case, each approval would be required to cover all necessary configurations for EMC purposes (or these may be added via a PC application at a later date), the application would require a modular approval cover letter be submitted with each application (see attached information) and the modules themselves would be labeled. It is likely this will affect the current information submitted depending on the path desired. Additionally I will include in a separate email information that give you and your client an idea of the FCC's opinion on how to approach such systems.
- 40) Co-location for EMC purposes appears to only be addressed for an 802.11b/g combined with an 802.11a. Other combinations such as 2 x 802.11a, 2 x 802.11 b/g, 3 radio combinations, or combined with Bluetooth module listed in the manual do not appear to be addressed. These may be addressed through a Permissive change application at a later date, but the manufacturer must be aware that these combinations are not yet approved and therefore should not be available to the consumer.
- 41) Please note that it is uncertain what type of frequency control the user has for channels other than specified in section 3.2 of the report. The user may not have access to other channels (such as the extended UNII frequencies) until such time these are approved. Please explain compliance of this to 15.15 of the rules.
- 42) FYI....Please note that due to the concerns regarding how to handle this approval, and many of the report issues presented above, a careful review of the application will still need to be performed once the above issues are addressed.



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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.