

# American Telecommunications Certification Body Inc.

6731 WHITTIER AVE, MCLEAN, VA 22101

RE: Teletronics International Inc.  
FCC ID: MFMSAMP24S

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

- 1) The sample label shows the labeling placed on the amplifier. The labeling shall be placed on the "main control unit" as specified by 15.19(a)(4). Due to the nature of the system we would still recommend placing the label on the amplifier as well. Please provide additional information showing for the "main control unit". Please note that the FCC ID placed on the access point is no longer considered valid once the amplifier has been added to the system.

Response: The FCC ID label will be placed on the amplifier and the access point, the main control unit. Please refer to the updated Label and Label Location exhibit uploaded with this response.

- 2) Please provide a rear photograph of internal board within the DC injector.

Response: Photograph has been uploaded with this response.

- 3) The information supplied for the antennas appears to include an 8.5 panel/patch antenna which does not appear to be tested or included in this filing. Please confirm that this antenna is not part of this filing.

Response: The 8.5 dBi patch antenna is not part of this filing and was included in error. Please refer to the revised Antenna Specifications uploaded with this response.

- 4) Please provide information for the cable between the access point and the DC injector. Is this cable a standard length? What type of cable was this?

Response: The unit was tested with the worst case cable length between the DC injector and the amplifier(3 and 250 feet). The measurement can be found in the main report for the 3 foot cable and in the additional testing appendix for the 250 foot length cable.

- 5) It appears that the minimum and maximum channels built into the Cisco PCMCIA cards were not used. Please comment on this. Since selection of channels will affect compliance of the unit with the FCC's rules, explain what precautions are built into the system to keep the end user from adjusting the power output levels. For example adjustment of this feature is only allowed by passwords used by the installers, etc. (reference 15.15(b)). Please explain if the settings may be adjusted remotely, or only be trained installers on site. If the settings may be changed remotely, what precautions are built into the system to ensure the device continues to comply with 15.15(b)).

Response: Please refer to the cover letter from the applicant uploaded with this response, stating that the unit must be professionally installed and will be set only to the authorized channels, 3 through 9.

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- 6) Please provide test configuration photos for conducted emissions testing performed.

Response: Please excuse this oversight. The conducted emissions testing configuration photographs are included in the revised Test Set Up Photos Exhibit uploaded with this response.

- 7) The second RF port appears to not have been connected. Please comment on if this port is disabled (as mentioned in the users manual). Assuming this is for RX diversity only, if it did not have a proper antenna attached to it but is considered active, then compliance with 15.111(a) should be shown. Please comment.

Response: Part 15.111(a) is applicable only for receivers up to 960 MHz.

- 8) Please confirm if the conducted emissions results given in the test are from the access point or the DC injector. Were both these tested for AC power line conducted measurements.

Response: The two units (DC injector and AP) have been tested for the AC conducted emissions. Please see the revised test report uploaded with this response..

- 9) All radiated spurious emissions given in the test report are for the vertical polarity. This test is to measure the emissions that emanate from the all cables, amplifier, DC injector, access point, etc. Please confirm that the device was also checked in the horizontal polarity.

Response: The antennas have been tested in the vertical and horizontal polities.

- 10) The test equipment for radiated spurious emissions does not provide an antenna for 12.4 – 18 GHz (section 6.3). Please comment.

Response: The 12.4-18 GHz horn antenna was inadvertently deleted from the equipment list. This error was corrected and is reflected in the revised test report uploaded with this response.

- 11) Measurements within tables 6-2, 6-5, 6-8, & 6-11 contain values that exceed the limit. Are this emissions incorrectly labeled as AVG? Tables 6-17 & 6-20 appear to have a similar problem, but the measurements do not exceed the limit.

Response: This error was corrected and is reflected in the revised test report uploaded with this response.

- 12) Please provide information to show compliance with the antenna requirements of 15.203. Professional installation must be used if standard connectors are applied (i.e. use of a standard connector is not allowed if professional installation "may" be required or a possible option). Please note that professional installation will require a cover letter addressing the following 3 points:

- a) Application (or intended use) of the device
- b) Installation requirements
- c) Method of marketing the device.

Response: Please find the requested information in the cover letter from the applicant, uploaded with this response.

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- 13) Please confirm that this device will only be sold as a system as covered by this application (Access point +PCMCIA Card and Amplifier).

Response: Please find the requested information in the cover letter from the applicant, uploaded with this response.

- 14) The amplifier used with this system is an 0.5 Watt AGC amplifier. The test configuration photographs show the amplifier always used a standard length cable between the access point and the DC injector (see question 4) and a 3' cable between the DC injector and the amplifier. AGC amplifiers must be investigated for maximum and minimum gain conditions. It appears that only the minimum gain condition only has been investigated. Please provide test data that shows that the system still meets with the AGC amplifier under a maximum gain condition. Please note the input to the amplifier should be reduced via additional (i.e. add attenuation before the amplifier to create 0 dBm condition specified by users manual)) until the output power at the output is seen to start to drop. This is typically the point at which the following 2 conditions occur:
- a) the maximum gain from the amplifier
  - b) the maximum RF input to the amplifier exists for the condition where the amplifier gain is maximized.

Response: Please find, in the appendix concerning the additional testing, the results of the power output of the amplifier depending of the level injected at the input. The results show that the maximum amplification is produced for 0.5 dBm at the input of the amplifier.

- 15) The power output test section 8.1 states that the measurement was done using a substitution method while the test equipment appears to be for antenna conducted methods. Please note that if antenna conducted measurements are possible, then this method should be applied for spread spectrum requirements. Please explain. Also, if the measurements were made antenna conducted.

Response: The measurement was performed at the output port of the amplifier to have the worst case power listed.

- 16) At what point in the system were antenna conducted measurements made. Please explain.

Response: The antenna conducted measurements were performed at the output of the amplifier to have the worst case.

- 17) The maximum exposure separation distance given in the RF exposure exhibit does not match the distance as given in the users manual & test report. Please comment and provide corrected exhibits as appropriate. Note that warnings in the users manual mention 20 cm for the patch antenna.

Response: The distance in the RF exposure exhibit has been modified and uploaded.

- 18) The users manual mentions both a 500 mW and 1 W amplifier. Please note that this application only covers the 500 mW version.

Response: The manual can be used for either the 1 W or the 500 mW amplifiers.

- 19) The users manual does not appear to include prohibition against co-location.

Response: The user's manual has been modified and uploaded.

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20) Information regarding 15.247(b)(3)(iii) should be included in the users manual.

Response: The user's manual has been modified and uploaded.

21) The users manual mentions Cisco Aironet 350 Series products include the AIR-LMC-352 PC Card, AIR-WGB-352R Work Group Bridge unit, AIR-AP352E2R-A-K9 Access Point unit, and the AIRBR352R-A-K9 Bridge units. This application only covers the specific system (access point w/ PCMCIA Card and amplifier +DC injector as specified in the application. Please address this issue.

Response: Please find the name of the products that should be used in conjunction with the DC Injector and the amplifier as a system, in the cover letter uploaded with this response.