



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

December 11, 2003

RE: Airespace

FCC ID: QTZWN1200ABG

I have a few comments on the above referenced Application.

General

- 1) The application is for an 802.11 A/B/G Radio, but the parts list only mentions A/B. Please comment/correct as necessary.
- 2) The authorization letter appears to contain an incorrect manufacturer. Please provide a new authorization letter.
- 3) Given that the device may accept an AC adapter or POE power according to the users manual, the AC line conducted emissions should be checked to determine which method of supplying power is worse case. Only one set of data appears to be provided. Please provide further information regarding whether both modes of providing power were checked to ensure the worse case results are provided.
- 4) The external photographs appear to show standard screws for the access door which contradicts the fact that the end user should not have simple access to the antenna connectors located in the device to ensure compliance with 15.407(d). Please comment.
- 5) Please verify that the device has been properly tested to for Part 15, Class A limits as previously mentioned.

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- 6) The spectral density data appears to be provided for 2 modulations, but it is not clear. Please clearly label all plots or provide an additional table.
- 7) Information provided on the external antennas for 2.4 GHz shows gains up to 9 dBi, while the report mentions the gain of the external antennas are less than the internal antennas (2.4 GHz internal = 7.8 dBi). Please explain.
- 8) The values listed for power on page 22 of the 802.11b/g report appears lower than the measured power. Please provide an explanation.
- 9) Please provide an explanation of the high emissions seen below the fundamental on page 23 of the 802.11b/g report. These emissions could be seen as above the limit.
- 10) The bandedge plots do not appear to follow the method given. Please review and adjust as necessary. (see QTZWNAP1200B)
- 11) Please note that radiated emissions in restricted bands are considered to be any emission caused by the transmitter being turned on, not strictly the harmonics. This includes such emissions as LO's, intermod products, frequencies as part of any multiplication stages, etc. However radiated emissions only appear to be performed for > 4800 MHz. Please comment.
- 12) The conducted emissions state that the device was tested from 150 kHz to 30 MHz using the new EN55022 harmonized limits. The results shown are only around 25-30 MHz. Please confirm the frequency range tested.

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- 13) Information regarding 15.407(g) mentions that the transmit frequency fundamental did not drift out of band. Please confirm that this includes all of the occupied bandwidth within 26 dB of the fundamental, and not just the center frequency.
- 14) The power measurement diagram does show the splitter and takes this into consideration in the calculations. However, the diagram does not appear to show the switch for the 5 GHz path. It is therefore uncertain if this was factored in as shown in the 2.4 GHz data. Additionally the switch only appears to be in one of the 5 GHz paths. (See Block Diagram). Please explain.
- 15) Based on how information was presented in the report for power, the RF exposure calculations may incorrectly forget to take into consideration the RF splitter and/or switch. Please review, explain and correct the RF exposure calculations if necessary.
- 16) The power measurements mention the use of method 3, while the plots appear to show method 2. Please clarify. Additionally, please note that method 3 stipulates 100 traces, while not all traces show this.

- 17) Due to the power measurement at channel 5260 MHz exceeding the +17 dBm threshold stipulated for the channels just below this point, please provide power measurements at the 5240 MHz channel to show compliance to the +17 dBm requirement. Note that the power considered is before the splitter due to the fact this power may be accessible to the external connector (without the splitter) in future models.
- 18) Please explain if this device contains a "Turbo" mode of operation. If so, was this feature tested?
- 19) The second paragraph of page 19 does not appear to be correct. Please review.
- 20) The antenna gain given on page 23 & 41 and the limit associated with it do not appear correct unless this takes into consideration the switch mentioned above. Please review.
- 21) The bandedges (near 5.15, 5.35, 5.715, 5.835) shown on page 25, 28, 31, 33, 36, & 39 do not clearly show compliance with the -27dBm/MHZ EIRP limit. Please provide further data/information as necessary to show compliance at these edges. Note that compliance in the 10 MHz band just below/above 5725-5825 to -17 dBm/MHz EIRP has been shown.
- 22) Page 47 shows restricted bands. Please note that emissions above 38.6 GHz are also considered restricted bands.
- 23) Please note that radiated emissions in restricted bands are considered to be any emission caused by the transmitter being turned on, not strictly the harmonics. This includes such emissions as LO's, intermod products, frequencies as part of any multiplication stages, etc. Please comment and/or provide further data as necessary.
- 24) The bandedge plots do not appear to follow the method given. Please review and adjust as necessary.
- 25) The conducted emissions shown are to the old Part 15 limits and not the new EN55022 requirements. Please correct.



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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.