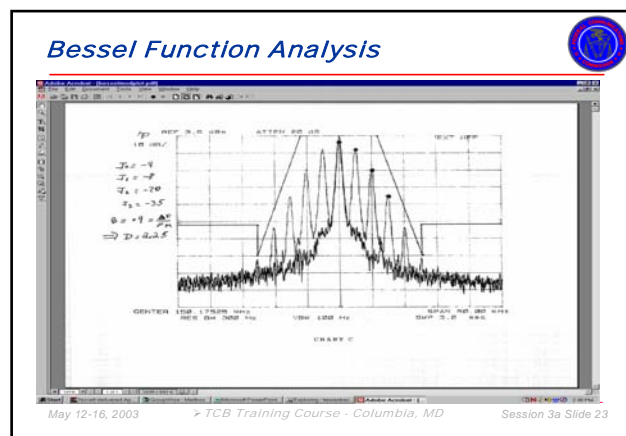


FCC ID: ALH378400

- 1) For internal photographs, only a few photos of circuit boards were provided. Part 2.1033(b)(12) cites photos should include: "sufficient views of the internal construction to define component placement and chassis assembly." (i.e. showing placement of boards in the chassis, shields present, etc.). Typically a few additional photographs are show with the case opened and in such a way to show internal layout/construction. Please provide additional photographs as necessary."
- 2) Please note that IC requires 3 items on the label, (model, applicant, and Certification No. as Certified). Devices not properly labeled are not considered Certified. The model number on the label does not appear to match the model number(s) being certified. By placing the information on 2 lines is misleading and uncertain as to the actual complete model number. Please review/correct.
- 3) Limits for spurious emissions are not correctly calculated. Information on page 16 (labeled 4 of 28) of the report shows:
$$43 + 10 \log (37) = 58.68 \text{ dB}$$
$$43 + 10 \log (36.8) = 58.65 \text{ dB}$$

$$43 + 10 \log (1.230) = 43.9 \text{ dB}$$

- 4) Radiated spurious emissions must follow substitution methods as specified by EIA/TIA 603. A test measurement procedure was not provided for this data nor reference to procedure used. Please update the report.
- 5) Regarding occupied bandwidth, normally a second trace is shown that shows that the top grat. line to show that the 0 dB reference is appropriately set to the total unmodulated carrier power (P). Please confirm or correct as necessary. As an example, note both traces for the following from FCC training:



- 6) FYI...It does not appear that the least stringent masks were applied in cases where the limites are attenuated based on 10 log (P). However device still appears to show compliance.
- 7) For IC, kindly explain which bandwidths utilize which modulations so that REL listing and certificate can be properly done. IC form simply sites 3 types of modulations. Ideally a complete list of emissions designators like on the 731 form should be provided (utilizing appropriate 99% bandwidths).
- 8) Please update the modulation limiting plots with higher resolution or provide separate pages of higher resolution.
- 9) Modulation limiting should be supplied for 12.5 kHz. Please provide.
- 10) It is unsure if this device uses scrambling techniques and subject to 90.212. Additionally, typically bandwidth plots should be provided for both normal and scrambled modes if relevant.
- 11) Pages 42-43 (labeled 27 – 28 of 28) does not appear to match the 731 form for 8KXX emissions. On the 731 some are 8K10 or 8K30, while the report is citing 8K0 or 8K1 for different designators. This information should be consistent. Please correct.
- 12) Use of this type of device under Part 74 is unusual. Please explain compliance and use under Part 74. Additionally, it would appear that only 74 subpart D would possibly apply. 74E doesn't cover the appropriate frequencies and devices exceeds 74H power limitations.
- 13) Part 74 does not appear to allow F7W emissions. Additionally per 74.462 – it appears only a few emissions designators may apply for Part 74. Please comment and explain which emissions designators are requested for Part 74.
- 14) 90.203 attestation listed in report was not found. Please provide.
- 15) The current version of RSS-119 is Issue 9, issued in June 2007. Please review and ensure the device meets this new version. Additionally, please update the IC form for the proper version.
- 16) Operational description cites 136 – 174 MHz. IC form cites 138 – 174 MHz. Please explain compliance to RSS-119, section 3.4.
- 17) Because the Test report itself does not cover RSS-119, even if the requirements are the same – a cross reference showing appropriate FCC sections compared to IC sections should be provided. See following page as an example. Note there are additions in RSS-119 not covered by the report.
- 18) RX spurious emissions (RSS-119 section 5.11) do not appear to have been provided. Please provide.
- 19) The connector appears to contain capability of serial connection. Please explain if this is intended for this device to be able to be used as a data-modem. Note that there are many specific requirements under RSS-119 for data-modems which appear to not have been provided.
- 20) For tests such as power, spurious, etc., it does not appear that RSS-GEN 4.3(g) was followed. Please review/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.

FCC Rule	IC Rule	Description of Test	Result	Section
15.247(a)(1)	A8.1 (2)	Hopping Channel Separation	Pass	5.2
15.247(a)(1)(iii)	A8.1 (4)	Number of Hopping Frequency Used	Pass	5.3
15.247(a)(1)	A8.1 (1)	Hopping Channel Bandwidth	Pass	5.4
15.247(a)(1)(iii)	A8.1 (4)	Dwell Time of Each Frequency	Pass	5.5
15.247(b)(1)	A8.4 (2)	Output Power	Pass	5.6
15.247(c)	A8.5	100kHz Bandwidth of Frequency Band Edges	Pass	5.7
15.207	RSS-Gen 7.2.2	Conducted Emission	Pass	5.8
15.209	2.6	Radiated Emission	Pass	5.9
15.203	A8.4 	Antenna Requirement	Pass	5.10