



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

February 14, 2005

RE: DLP Design, Inc.

IC Number: SX9000RF2

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

- 1) The frequency on the 731 form appears incorrect for the TX. This should be the actual tunable frequency band for Part 15, not band of operation. Please correct.
- 2) The preferred format for the FCC ID on the label is to include a “.” after the term FCC ID. It is recommended to correct this.
- 3) Please explain the use of the FCC DoC label on this device. At first review, this device does not appear to necessitate the need of a DoC label.
- 4) Labeling of this device appears to be on the circuit board and it appears that possibly a modular approval is being desired. However, please note that this device does not appear to qualify for a modular approval. The board does not contain any shielding, which is a requirement for modular approvals. Note the shielding required is necessary not only for spurious emissions radiated from the device, but also to protect the device from nearby interfering coupling that can occur once the device is installed and in use. Please see attached document regarding modular approvals. Note that modular approvals require a cover letter addressing each of the items given in the document.
- 5) If the shielding issue can not be adequately addressed, please provide an external photograph exhibit for this application (i.e. end use device) and updated labeling exhibits.
- 6) Please provide the list of tunable frequencies associated with this device.
- 7) Please provide a separate RF exposure exhibit. Given the power output, it may be possible to use in portable applications as well. Please refer to attachment that provides a sample on how to handle as a portable device as well.
- 8) The FCC specified in the users manual is incorrect.
- 9) The FCC has asked that TX's tested in modular form be positioned such that the antenna is not on the table top, but positioned a small distance above the table top (2-3 cm). This is due to the fact the FCC has seen where positioning of the antenna directly on the table top causes loading of the antenna to be different than actual use and can provide inaccurate data on the TX. Additionally the antenna should be positioned in the polarities expected for use. Please review radiated test data and test configuration photographs as necessary to be in compliance with the FCC's expectations. Also, please see information below from training that mentions this in part (note the coupling and proximity to wood table was mentioned verbally during the training session from the training slide to follow.
- 10) The operational description states that the device has a controllable output power level. Please confirm the device was appropriately set to the maximum power.
- 11) Radiated spurious emissions are required by the FCC to be tested at low, middle and high channels. Section 1.3 of the report implies this did not occur.
- 12) Please confirm the channels the device was on during bandedge testing. For purposes of this test, the device should be tuned to the lowest and highest channels.
- 13) Radiated spurious emissions measurements from 19-25 GHz only show compliance to the peak limits, but are in excess of the average limits. Please provide average measurements as well.
- 14) If this device is being approved as a module, there is no guarantee that the integrator will use batteries only for the module. Therefore, compliance of AC power line conducted emissions should also be shown using a typical AC adapter to show compliance to 15.207. See attached for further information.

- 15) From researching information on Zigbee, it appears that it may be possible for it to transmit up to 15 mS duration, although concise and clear TX protocol information could not be found. Please have the manufacturer provide worse case theory of operation regarding maximum TX duration and duty cycle information. Note this may affect results for average measurements depending on the final worse case information.
- 16) FYI....Please note that while in some limited cases a Limited Modular approval may be done in the U.S., currently IC does not recognize a Limited modular approval, only a full modular approval. Please refer to RSS-210 section 5-18 and further information to be provided in a separate email.
- 17) FYI....In the future, please try to also include plots of the spectral density.



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Examining Engineer

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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.



## **TEST SETUP ERROR**

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➤ Radiated EMC test setup for mini-PCI card on extender-card with monopole diversity-antenna system (Part 15 modular stand-alone setup)

➤ **DO NOT LAY ANTENNAS ON WOOD TABLETOP**

- ▶ Antenna positioning in test setup should represent typical final-product configuration
- ▶ In this example antennas should be supported in vertical position, e.g., using foamed-polystyrene blocks