From: webrobot@americantcb.com <webrobot@americantcb.com>
To: <tjohnson@americantcb.com>
Cc: <whgraff@americantcb.com>,
...snip... <marianne@americantcb.com>
Subject: MESSAGE/Nikki/SX9000RF1_ATCB002145

From: Jeff Lenk (Nikki) mailto:reports@ptitest.com; mroyer@ptitest.com

1) The frequency on the 731 form appears incorrect for the TX. Please correct. Done

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. Manufacturer must reorder stickers. To be done on next run.

3) 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. Immunity was performed on the device. Can we satisfy this requirement with an immunity workaround?

4) 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. N/A

5) Please provide the list of tunable frequencies associated with this device. Done.

6) 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. Done.

7) DXT is not the proper code for this device. Is this device should be considered a DTS device. Please correct the 731 form. Done, however this code does not appear on the list.

8) If modular approval can be adequately pursued given the issues above, the users manual should be further updated for certain FCC issues. Some issues appear to already be covered. If necessary please consider updating the users manual to include any missing information shown on the next page. Done.

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. The device was tested in 3 axis on top of a piece of plastic. The picture supplied was taken while measuring occupied bandwidth, which is a similar setup. While measuring the device in three axis I needed something to hold the sample. This was a clear plastic drawer that the device sat on top of. I no longer have the samples to take photos. Is there a way to satisfy this requirement?

10) 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. There is a note in the report on page 12 that mentions this was done at 10 cm and the limit increased by 29.5 dB.

11) 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. Done.

12) 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. We need a full modular approval.