Hi Mike,

After our review of this application we have identified the following issues,

1. Please clarify the intention of this application. Is the application for the LAN access point (Model RBTRC-MZ) with the external antenna (RBTBH-IA) or for the RBTBH-R2W radio card with the external antenna to be used in different hosts. The latter requires a modular (or limited modular) certification application.

This application is for the LAN card only.

2. Assuming the application is for the host LAN access point as a whole, the label must be placed outside the chassis. A placement photo of this label will be needed and it should also include the compliance statements (15.19(a)(3)) on it. Please supply a revised label with placement photo. n/a

3. The antenna specification document for the external antenna, does not address the connector type on it. Please supply closer views of the MMCX antenna connector on the transmitter board and the antenna cable. Antenna connector specs attached.

4. Please supply the test setup photos. Attached.

5. Please clarify if radiated emissions tests were done with the external antenna attached/detached or both. Please also clarify which configuration (external antenna attached/detached) produces more antenna gain to the radio. Radiated emissions was tested with the range extender both on and off. The internal antennas have higher gain than the range extender.

6. Have all the modulations of 802.11a/b/g been investigated for both radiated and conducted (antenna terminal) tests for testing? Are the results in the report the worst cases recorded? Please clarify.CCK and OFDM are the available modulations for the 2.4GHz range, and only OFDM is available for the 5GHz range. All modulation types were measured and the worst case data reported.

7. Please specify the test method used for peak output power measurements at the antenna terminal during 802.11b/g configuration. (Pg 8 of the report) The output power was measured with the HP 435B power meter with the radio operating in CW mode.

8. The plot on Pg 11 of the report appears to be a duplicate of the 3rd plot on Pg 10. Please supply high band-edge (Ch11, CCK 1MBps) plot again. Updated report attached.

9. Please supply a channel allocation list from the grantee for the 802.11a configuration. The report mentions some channel changes on some of the data tables that were realized later during the test. Highest and lowest operating channel frequencies must be specified and the grantee must declare that the operation will be restricted within those channels only.Channel allocation list has been added to revised Install guide. (attached)

10. For radiated spurious emissions tests of both 802.11a and b/g configurations, have emissions been checked when the radios are transmitting on at least 3 different channels (top, middle, bottom). Please clarify. After a prescan, spurious emissions were checked only on the worst case channel. This data has been provided.

11. Have EIRP levels of the 802.11a configuration complied with the limits of 15.407(b)(1)-(4)? Please clarify. Yes. The section U-NII - Conducted Band Edges on page 22 addresses this.

12. Has the external antenna position been adjusted to maximize emissions during radiated spurious tests? Yes. This is addressed in the Test Methodology section.

13. The grantee must clarify how the device complies with 15.407(c). Description of compliance to 15.407c attached.

14. The grantee must also clarify how the device will meet the internal antenna requirement for 5.15-5.25 GHz band operation as required by 15.407(d) and how this will be ensured when marketed to the users. Description of compliance to 15.407d attached.

15. The user manual must warn the users about the indoor use requirement of the device within 5.15-5.25GHz band. Please point out the section in the manual where this was addressed. Statement placed below 802.11a channel allocation table in revised install guide. (attached)

16. The document supplied as "Manual 1" suggests portable installation conditions for RF exposure on Pg 3. These statements must be removed as they require SAR evaluations. The installation conditions with both the external and the internal antenna configurations must meet the 20cm requirement and the warning must be very clear on this in that section. SAR statements removed and 20cm warning for both integral and external antenna in revised install guide.(attached)

17. The grantee must clarify how the co-location issues will be handled within 2 radios. Pg 5 of the same document suggests that if one radio is configured for 802.11a and the other for b/g, then external antenna use is not needed. In this case the radiating structures will be closer than 20cm and co-located exposure calculations will be necessary. However if there's always and extender with one of the radios, then 20cm separation can be demonstrated. Please clarify with what kind of options (radio card - antenna combinations) is device planned to be marketed. This application is for the card only.

18. The same section of the document (Pg 5) also suggests that 2 radios of the same type can be used with an extender on one of them. For this case it must be justified how the EMC test data for one radio will be representative of both operating at the same time at the same frequency. Clarifications will be needed. Points 16, 17 and 18 will need clear instructions in the manual to avoid any confusion.
This application is for the card only.

19. The RF exposure calculations must address both the "internal antenna only" and "external antenna attached" cases for both 802.11a and b/g configurations. Please revise the calculations. A note has been added to the attached MPE Calculations stating that the highest antenna gain is used in the calculation.

Best Regards,
Yunus Faziloglu
Reviewing Engineer
Curtis-Straus TCB