Subject: FCC ID: MAU030

Dear Tim,

Here are our answers,

1)Ideally the authorization letter should clearly define who at ISL may act on the applicants behalf, or state that anyone at ISL may act on their behalf.   Please note the following from the attached information: An authorized agent is further defined as any individual or entity designated by the applicant / grantee, or by a designated authorized agent. If <u>a group "entity" is designated</u> as the authorized agent, the letter of authorization <u>must identify those individuals within the group</u> who are authorized to take action on the application; <u>or alternatively a statement must be provided indicating that as the authorized agent, any individual within the group "entity" is authorized to act on behalf of the applicant / grantee and take action on the application.</u>

  Ans: The letter was modified.

2)      System Block Diagram shows a Bluetooth, but this does not appear to be part of this application. Please clarify/correct/review as necessary.

  Ans: The System Block Diagram was modified.

3)External photos mention Bluetooth, but this does not appear to be part of this application. Please clarify/correct/review as necessary.

  Ans: The file for External photos was modified.

4)Operational Description for the system also shows Bluetooth, but this does not appear to be part of this application.   Please clarify/correct/review as necessary.

  Ans: The operational description was modified.

5)The block diagram should show the frequencies of all oscillators in the TX portion of the device (CFR 2.1033(a)(5)).   Please update.

  Ans: The block diagram was modified.

6)Kindly provide appropriate photographs or similar information of the internal antennas

Ans: The photo for antenna was added in the internal photo.

7)MPE is missing information regarding 5725 – 5850 MHz Band.

Ans: modified

8)Please update 731 for lowest/highest tunable frequency for 5150 – 5350 MHz and 5725 – 5850 MHz band, and not just the band of use.

Ans: modified

9)Users manual does not restrict to indoor us for United States for 5150-5250 MHz as stated in 15.407(e).

Ans: modified

10)FYI….System block diagram should only show the block diagram and not include the schematic. In the future, kindly only upload the necessary block diagram.

Ans: Thanks for the info

11)Information presented in MPE mentions TX operating continuously, but at about 87%. Please note that when the FCC uses the term continuously, they mean 100% duty factor. Therefore it appears TX did not operate continuously as the FCC would expect.  Additionally, plots for power (DTS Report) do show that a duty cycle was present.   Additionally, please note that the power method used (Option 2, method 1) explicitly states: a) Sweep time is < T.   Plots support that sweep time is >> T b) Method #1 may be used only if it results in averaging over intervals during which the transmitter is operating at its maximum power control level; intervals during which the transmitter is off or is transmitting at a reduced power level must not be included in the average.)   Plots also support this did not occur Please correct.   Note that generally Option 2, method 3 would appear to apply. Note: this concern may affect previously reported 731

form and MPE results as well.

Ans: Modified the output power used ( Option2, method 1) with the other spectrum, and re-evaluated with TX 802.11a / 6Mbps, 802.11b / 6Mbps, 802.11g / 6Mbps.
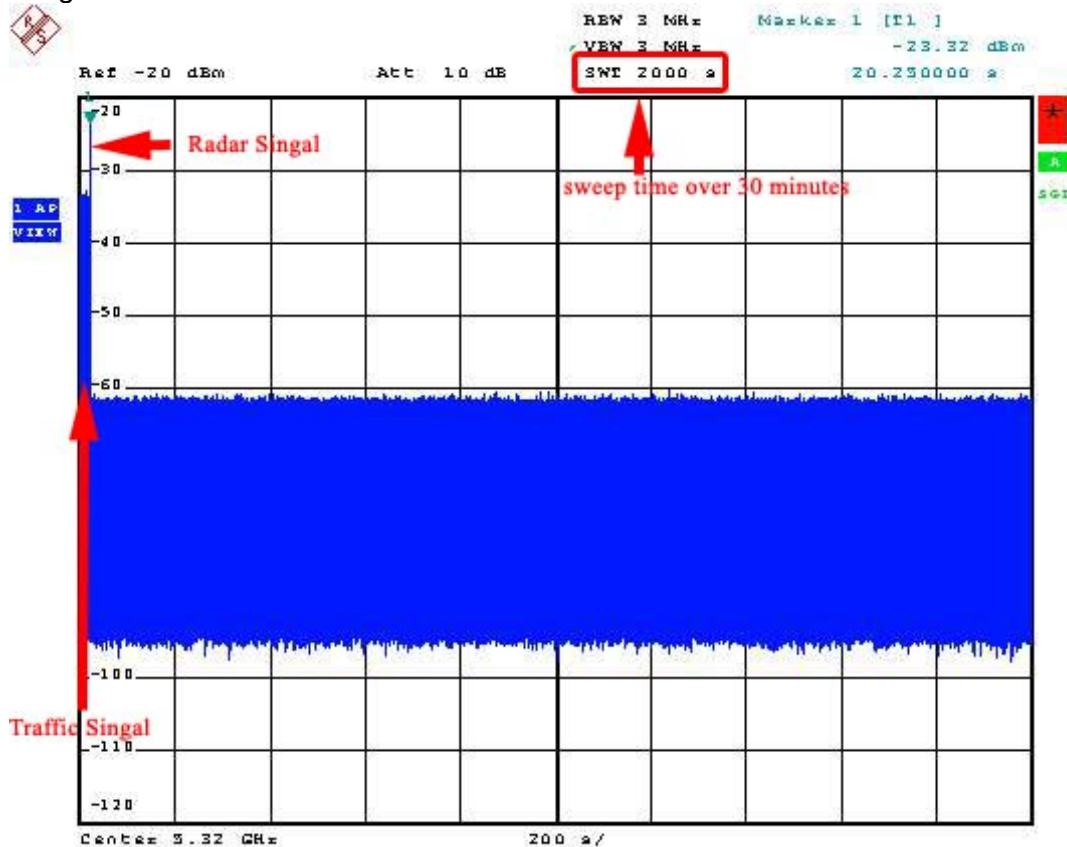
12)Plots for 5725 – 5850 MHz DTS power were not provided. However given the same power procedure were used, it is likely the same concern given in 11) above is applicable to this band as well.

Ans: modified

13)For DTS results in the 2.4 GHz band, please note that if the TX was not on with 100% duty factor, average results for radiated emissions would normally be done with VBW > 1/Ton time and not 10 Hz. It appears that average results would need to be re-evaluated.  Note that for spurious emission all peak readings met with average limits, in this case further evaluation will not be necessary for spurious emissions.   However, fundamental measurements for AVG used for bandedge for 2.4 GHz may require evaluation.   Please review.

Ans: According to VBW > 1/Ton time , we set the VBW=100Hz for 802.11b average test, VBW=1KHz for 802.11a/g average test (802.11b/1Mbps/98% Ton time=12.5ms, 802.11ag/6Mbps/91% Ton time=2.06ms)

14)How the DFS software/firmware protected to ensure users do not have access to DFS settings.  Additionally, for USA, devices may not have country selection as this would not be allowed under 15.15.  Please explain and also clarify how users are prevented from disabling DFS and/or transmitting in frequencies not authorized in United States?

Ans: We modified the WLAN module information in EUT description (Intel, Model: WM3945ABG MOW1 Driver: V.11.1.1.1). hardware version : MOW1 for U.S. used. It will ensure the above issue could not occur.

15)Testing must use NTIA approved Matlab-based program, hopping sequence file, and media file:  (http://ntiacsd.ntia.doc.gov/dfs/) or NTIA/FCC approved alternative test software. Information is not provided to support configurations used.

Ans: We modified the necessary information in "Description of Support Equipment" of report.

16)Testing must define master used for DFS testing, and it's FCC ID.  Additionally, the master must already show as approved for DFS as a master on the FCC's database. This information could not be determined.

Ans: We modified the necessary information in "Description of Support Equipment" of report.

17) FCC has recently been asking for the following additional test: Client devices   - Test client devices to ensure that they comply with the 30 minute non-occupancy requirement for a channel after moving off of a channel when radar is detected. Some clients will send beacons on a channel that is supposed to be cleared for 30 minutes. This non-occupancy test was not required in the original test procedure as published.   FCC is requiring the test to be conducted effectively immediately (August 14, 2007 TCB Conference Call). TCBs must check for this requirement before grant.      This test does not appear to be performed.

Ans: We take a image capture from spectrum for sweep time 2000 seconds (Image 1) to monitor the connection. The device was complied with the 30 minute non-occupancy requirement for a channel after moving off of a channel when radar is detected. And we prepare the other image (Image 2) capture from web form of the support access point (Cisco 1240AG) for your reference.

18) Please provide information regarding compliance to 15.407(c).   If this information has already been provided, kindly show where this information is located. 15.407(c):   (c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

Ans: Since Intel's module has got a modular approval in FCC, it must be met the requirement. I really want to provide the info to you if I have, but Intel doesn't provide this to us.

19) Information presented in MPE mentions TX operating continuously, but at about 87%. Please note that when the FCC uses the term continuously, they mean 100% duty factor. Therefore it appears TX did not operate continuously as the FCC would expect. Additionally, plots for power (UNII Report) do show that a duty cycle was present. Additionally, please note that the power method used (Method 1) explicitly states: a) Sweep time is < T. Plots support that sweep time is >> T b) Method #1 may be used only if it results in averaging over intervals during which the transmitter is operating at its maximum power control level; intervals during which the transmitter is off or is transmitting at a reduced power level must not be included in the average.) Plots also support this did not occur Please correct. Note that generally method 3 would appear to apply. Note: this concern may affect previously reported 731 form and MPE results as well.

Ans: Modified the output power used ( Option2, method 1) with the other spectrum, and re-evaluated with TX 802.11a / 6Mbps, 802.11b / 6Mbps, 802.11g / 6Mbps.

21) Given 13 above, it would appear that a few spurious emissions for UNII may require re-evaluation (page 38, 39, and 41).
Ans: It has been re-evaluated, please refer to our modified report.

22)Given 13 above, it would appear that the average bandedge may need to be re-evaluated
Ans: It has been re-evaluated, please refer to our modified report.

Image 1



Date: 18.MAR.2008   19:16:18

Image 2



Please review again.
Thanks

Daphne