Please find attached the updated test report with the reduced power for the Sector antenna.

Thanks!
J. Sanchez
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From: Jennifer Sanchez
Sent: Thursday, June 25, 2009 11:25 AM
To: Dusmantha Tennakoon
Cc: Jenn Warnell; Jennifer Sanchez; Shawn McMillen
Subject: RE: Technical Review Request: 81509 Ubiquiti Networks - FCC/IC TCB
Importance: High

Hi Dusmantha,

Please see response below:

3. It appears from figure 1 of the test report that port 2 can only have the omni antenna. So, is it the case that when operating in the 802.11 b/g modes that port 2 will always have the omni and port 1 can have either the omni, sector, panel, or grid antenna? If this is the case then MPE co-location needs to be addressed. For Omni, both ports will have omni. For panel, it is dual-pol, so plugs into both ports still. Only for grid, will we use just port 0
There is no co-location for this device since there is only one radio.

6. I think the RT question was not clear or was not understood correctly. The question was, does the MIMO mode use only the omni directional antennas? Yes, only the Omni antenna is used for MIMO mode.

7. The 120 degree sector antenna is typically not considered a point-to-point antenna. Therefore, the conducted power listed in the test report exceeds the de-facto EIRP limit when using this antenna. The power will be reduced to 20dBm for the Sector antenna.

IC RT:
3. The worst case spurious emissions listed on the IC annex is at 10m and not 3m. The 3 should be changed to a 10. This has been changed, please see revised form attached.

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Certifying the World, One Product at a Time

From: Dusmantha Tennakoon
Sent: Wednesday, June 17, 2009 3:38 PM
To: Jennifer Sanchez
Cc: Jenn Warnell
Subject: RE: Technical Review Request: 81509 Ubiquiti Networks - FCC/IC TCB

FCC RT:

1. Please list the applicant FRN on form 731. I could not find the one that matched the correct applicant name and address listed on 731 for Ubiquiti. This has been corrected – The FRN is **0012268215**.
2. The FCC label appears to be incorrect. There should be a space between the words "FCC ID". This does not appear to be the case. Please provide a label with the correct format. A new label has been provided - label.pdf
3. Please clarify if only one antenna is used for transmitting when operating in the 802.11 b/g modes (i.e. port 1). No, both antennas are transmitting in all modes.
4. When operating in the 802.11n mode, is beam-forming possible in addition to spatial multiplexing? Yes
5. Please clarify if the 25 dBi grid antenna and 18 dBi panel antenna are for point-to-point operation only. Yes, PtP only.
6. Please confirm that only the 6 dBi antenna is used in the 802.11n mode. No, can be used in b/g/n modes
7. The 120 degree sector antenna is typically not considered a point-to-point antenna. Therefore, the conducted power listed in the test report exceeds the de-facto EIRP limit when using this antenna. EUT will operate as Point to Point system only
8. In the test report, under the radiated restricted band edge section there are plots that state lower and higher power for the b/g modes. Please clarify what these mean. The Lower power channels have been identified as channels 1 and 12, while the higher power channels have been identified as 2 and 11 to show that the EUT can comply at full power at channels 2-11 - EMCS81509A-FCC247 Rev 1.pdf
9. The 5m chamber, EMI test receiver, horn antenna, harmonic mixers and transient limiter appear to have been out of calibration during testing. Updated Test Equipment table - EMCS81509A-FCC247 Rev 1.pdf
10. FYI…..please use/state 120 VAC as the voltage for performing CEV in future. Noted.
11. The safe distance stated in the users guide does not correlate with the distances in the MPE calculation. Please address this discrepancy. Customer is working on this…

IC RT:

1. For devices with detachable antennas the following statement is required in the user's manual:
"This device has been designed to operate with the antennas listed below, and having a maximum gain of [x] dB. Antennas not included in this list or having a gain great than [x] db are strictly prohibited for use with this device. The require antenna impedance is [y] ohms".

   The equipment manufacturer shall provide proper values of x and y. Immediately following the above statement, the manufacturer shall provide a list of all antennas acceptable for use with this transmitter. Please provide this information in the user manual.
   Customer is working on this…

2. The 99% bandwidth should be measured using a RBW set to as close to 1% of the selected span as is possible without being below 1% (RSS Gen). The plots provided in the test report appear to show the RBW below 1%. New Plots have been added - EMCS81509A-FCC247 Rev 1.pdf