



TO: Carlos Bonilla
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FCC Equipment Authorization Branch

From: Al Servais
Senior Compliance Engineer
Axxcelera Broadband Wireless

RE: OJB-APC4-365, Correspondence Number 35705, Confirmation Number EA271959

Date: July 09, 2008

Mr. Bonilla,

I commend you on catching these typos in the report. There were numerous errors to the Part 90 report and these few have managed to slip past us. I have attached a document to assist in my explanation of the Antenna Gain and Power Calculation to this letter.

With respect to Question 1 – (Tabular data showed a column for antenna gain minus cable loss, please explain how this column is used for power calculations. Also, there is a reference to note (3) which does not exist on the report).

Axxcelera will have the test report revised to reflect to the correct reference number. In this case the reference to point to Note 2, instead of Note 3. With respect to the data provided, please keep in mind that the table provides information on conducted power measurements. The attachment to this letter helps to explain where we adjust the peak power out of the transmitter to accommodate each particular antenna. You are correct in that the family will incorporate a range of antenna gain, 10 to 16.5 dBi. Again, the report will be corrected to reflect the proper gain.

The formula employed takes into account the overall maximum adjusted output power then the transmitter power is adjusted to one of our recommended antennas per the attached table. The result power output is the calculation taking into account the output power of the transmitter, the gain of the antenna minus the cable loss. This can be seen in the attachment.

Question 2 states (Why is 10 dBi used for antenna gain in the tabular data when it is stated in the report that the antenna manufacturer's reported gain is 10.5 dBi while your power measurements are close to the limit of 1W/1MHz?)

As stipulated in the above response, Axxcelera will have the report revised to reflect the correct antenna gain range. Where the MPE calculation is presented in 5.6.3, the antenna gained stipulated is 10.5 and this is wrong. The gain should state 16.5 for

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worst case. The calculation will be adjusted to reflect the change; however the result will be the same, since the adjustment simply shifts the numbers around.

Axxcelera has also noticed similar issues with the report for the CPE, OJB-SSC7-365, confirmation number EA612369. This unit has a fixed antenna of 10 dBi, and the report shall be changed to reflect this.

Thank you again Carlos and I look forward to your acceptance of our proposals so that I can move forward with the corrections right away in an effort to complete this project.

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CPE Antenna Gain **16 dBi** Integrated, Directional

Channel Spacing: 7MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	16	7	10	13.15	29.15	30	0.85

Channel Spacing: 3.5MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	16	3.5	9	13.9	29.9	30	0.1

AP Antenna Gain **16.5 dBi** External, Sector, 60deg
1 dB Cable loss

Channel Spacing: 7MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	15.5	7	10	14.45	29.95	30	0.05

Channel Spacing: 3.5MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	15.5	3.5	8	14.49	29.99	30	0.01

AP Antenna Gain **14 dBi** External, Sector, 90deg
1 dB Cable loss

Channel Spacing: 7MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	13	7	12	16.95	29.95	30	0.05

Channel Spacing: 3.5MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	13	3.5	10	16.97	29.97	30	0.03

AP Antenna Gain **10 dBi** External, Omni
1 dB Cable loss

Channel Spacing: 7MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	9	7	16	20.95	29.95	30	0.05

Channel Spacing: 3.5MHz

Freq (MHz)	Gant (dBi)	BW (MHz)	TX set (dBm)	PPSD (cond) (dBm/MHz)	PPSD EIRP (dBm/MHz)	PPSD EIRP Limit (dBm/MHz)	Margin dB
3662.5	9	3.5	14	20.97	29.97	30	0.03