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To Whom It May Concern:

Following is the original FCC Correspondence with responses featured in red. If there are any other concerns or questions regarding this submission please contact us at [bacl.regulatory@baclcorp.com](mailto:bacl.regulatory@baclcorp.com). Thank you.

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To: John Chan  
From: Steven Dayhoff  
Steven.Dayhoff@fcc.gov  
FCC Equipment Authorization Branch

Re: FCC ID: FDI-09101479-0

Applicant: Buffalo Inc  
Correspondence Reference Number: 38445  
731 Confirmation Number: TC829263  
Date of Original Email: 05/04/2007

Subject: Info Request

**1) If not in filing already, please explain how filing is consistent with Oct05 FCC/TCB Smart Antennas Systems guidelines, specifically: Oct05 FCC/TCB Smart Antenna System (SAS) Guidelines**

Following the 18 steps outlined in Oct05 FCC/TCB Smart Antenna Systems (SAS) Guidelines  
G 1/18: Output power measurements were performed individually at each antenna port (combiner was not used)

G 2/18: This device falls under paragraph 3: Spatial Multiplexing MIMO (without cyclic delay diversity)

G 3-4/18: This device is determined to be a P2MP (Point to multipoint system)

G 5/18: NA

G 6/18: Yes, device is P2MP

G 7/18: Contained within the test report

G 8/18: This device falls under the Spatial Multiplexing MIMO (directional gain = gain of each antenna element + 10log(number of Tx antenna elements)

G 9/18: Contained within the test report

G 10/18: all transmitter outputs were mathematically summed for computing total output power (compliant)

G 11/18: Contained within the test report

G 12/18: Contained within the test report



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- G 13/18: Contained within the test report
- G 14/18: Contained within the test report
- G 15/18: Contained within the test report
- G 16/18: NA
- G 17/18: NA
- G 18/18: Contained within the test report

**2) Indicate whether the system is Phased array, Sectorized or Spatial Multiplexing MIMO. TCBs can only approve these specific systems. - FCC approves all others.**

note: Spatial Multiplexing MIMO systems with or without cyclic delay diversity. Check the operational description to ensure that the device is one of the above systems. Do not rely on marketing literature alone. Only Spatial Multiplexing MIMO systems or Phased array MIMO can be approved. TCBs cannot approve systems using a combination of the above.  
For example, TCBs cannot approve a Phased array Spatial Multiplexing MIMO system.

For sectorized antenna devices, phased array devices, and Spatial Multiplexing MIMO devices, the requirements must be met individually on each transmitter output. In addition, all transmitter outputs that can operate simultaneously must be aggregated through a combiner, and the combined output must also meet the requirement. (The combiner test should be performed on all devices that have multiple simultaneous outputs, but is especially important for devices having simultaneous transmitter outputs on the same frequency channels.)

**Response: The device utilizes only Spatial Multiplexing MIMO.**

**3) Concerning (draft) 802.11n modes, filing should include details about following:**

**a) OFDM implementation, and as compared to 802.11ag standards (maximum code rates, bandwidth, etc.).**

**Response: OFDM implementation, and as compared to 802.11ag standards (maximum code rates, bandwidth, etc.). I've attached the data rate and BW of 802.11n vs. 802.11ag in the spreadsheet #A. Please see Frequency Specification and Characterizations Exhibit.**

**b) transmit beam-forming and diversity parameters and specifications**

**Response: Transmit beam-forming and diversity parameters and specifications**  
This product does not support transmit beam forming. In terms of diversity, they use Maximal Ratio Combining for OFDM Rates. MRC does not affect output power though as this procedure is used for Receive mode.

**c) channel bonding/combining parameters, specifications, and activation/use**

**Response: Channel bonding/combining parameters, specifications, and activation/use**  
Customer adheres to 20MHz and 40MHz operation defined by the IEEE 802.11n Draft 1.10 Clause 11.15. I've attached the channel listings for 20MHz and 40MHz in spreadsheet #C. AP is set to AUTO during power up and will switch automatically depending on the BW the client is connected to.



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**d) frame aggregation parameters and specifications, and effects on output power**

Response: Frame aggregation parameters and specifications, and effects on output power  
AP supports AMSDU aggregation for TX & RX and also AMPDU RX. During RX, AP will determine received packet's aggregation automatically and parse accordingly. The aggregation mechanism does not affect output power.