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Applicant:	Aruba Networks, Inc.
FCC ID	Q9DAP70SDR
Correspondence Reference Number	33780
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Question:

1) If not in filing already, as part of op desc exhibit, please describe transmit operations of each antenna configuration option (location and type for all antenna elements, diversity, beamforming, MIMO, etc)

Response:

1) The Aruba Model AP-70 is shipped from the factory with four integral antennas. These antennas are located in the articulating section shown in Figure 1.



Figure 1: Integrated Articulating Antennas

The factory default setting is for the integrated antennas to be enabled. When operating as a dual radio access point, 2 antennas are assigned to 802.11BG operation and 2 antennas are assigned to 802.11A operation. When using the integrated antennas, the antennas operate in diversity mode with no other modes or antenna assignments possible.

The access point also has four RP-SMA connectors, which allow connection of up to 4 external Aruba antennas as described in the filing. When operating as a dual radio access point, 2 of the external antennas are assigned to 802.11BG operation and 2 external antennas are assigned to 802.11A operation. When using the external antenna RP-SMA connectors, the integrated antennas in the articulating panel are disabled. The antennas operate in diversity mode with no other modes or antenna assignments possible.

Question:

2) RF exposure exhibit indicates distances closer than 20 cm - note that FCC RF ! exposure limits at closer than 20 cm are in terms of SAR not field strength or power density. Please revise RF exposure exhibit accordingly.

Response:

2) The RF exposure exhibit in the test report indicates calculation distances closer than 20cm. However in the same page of the report under Note: in the Specification, Maximum Permissible Exposure Limits it specifies that the “minimum separation distance is 20cm”, see highlighted area below.

Specification
Maximum Permissible Exposure Limits

Devices are subject to the radio frequency radiation exposure requirements specified in §1.1307 (b), 2.1091 and 2.1093 as appropriate. All equipment shall be considered to operate in a “general population/uncontrolled” environment.

Limit S = 1mW / cm² from 1.310 Table 1

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

It is understood that this presentation may be subject to misinterpretation and therefore MiCOM Labs will amend how it reports the 20cm limit.

Question:

3) Submit an expanded plot of the Channel Closing Transmission Time. The scale should not exceed 600 ms. The purpose of this is to show that all data packets stop within 200 ms. The second requirement is that the control signals must not exceed 60ms total over the 10 second period after the radar signal ends. Your plot meets this requirement but I cannot distinguish between packets and control signals without the expanded plot.

Response:

The plot identifying the Channel Closing Transmission Time in Section 6.2.5 In-Service Monitoring etc. is only to be used as back-up information as this does not provide sufficient information. The digitized data extracted from the plot identifying the exact on/off time during the Channel Closing Time is real time and precise. Should control and data packets be required to be differentiated this can be achieved through the data provided. Not sure how control and data signals can be differentiated, if this is possible please advise.

The NTIA were satisfied with MiCOM Labs DFS test and reporting methodology and this has not changed.