

## RF Exposure Report

**Report No.:** SA200511E13

**FCC ID:** 2AHBN-AP12

**Test Model:** AP12

**Received Date:** May 11, 2020

**Date of Evaluation:** Jul. 27, 2020

**Issued Date:** Jul. 30, 2020

**Applicant:** Juniper Networks, Inc.

**Address:** 1133 Innovation Way Sunnyvale, CA 94089 USA

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, TAIWAN

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA200511E13	Original Release	Jul. 30, 2020

## 1 Certificate of Conformity

**Product:** 802.11ax Wallplate AP

**Brand:** Mist

**Test Model:** AP12

**Sample Status:** Engineering Sample

**Applicant:** Juniper Networks, Inc.

**Date of Evaluation:** Jul. 27, 2020

**Standards:** FCC Part 2 (Section 2.1091)

**References Test** KDB 447498 D01 General RF Exposure Guidance v06

**Guidance :**  
IEEE C95.3 -2002

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

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Lena Wang / Specialist

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**Approved by :** \_\_\_\_\_, **Date:** Jul. 30, 2020  
Dylan Chiou / Senior Project Engineer

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Formula

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

pi = 3.1416

r = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.4 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	TX Function	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
CDD Mode						
2412-2462	1TX	26.02	2.1	25	0.083	1
	2TX	26.68	5.81	25	0.226	1
5180-5240	1TX	18.07	5	25	0.026	1
	2TX	27.11	8.61	25	0.475	1
5745-5825	1TX	19.65	5	25	0.037	1
	2TX	28.54	8.61	25	0.661	1

Frequency Band (MHz)	TX Function	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Beamforming Mode						
2412-2462	2TX	22.80	5.81	25	0.092	1
5180-5240	2TX	27.11	8.61	25	0.475	1
5745-5825	2TX	27.13	8.61	25	0.477	1

Frequency Band (MHz)	TX Function	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Radio 4						
BT LE	-	3.41	-0.6	25	0.0002	1

### Note:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible
- 2.4GHz: Directional gain =  $10\log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT] = 5.81\text{dBi}$   
 5.0GHz: Directional gain =  $10\log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT] = 8.61\text{dBi}$

**Conclusion:**

2.4G & 5G & BT can transmit simultaneously.

The simultaneous operation mode was determined by client as below:

Radio 1: 2.4G + Radio 2: 2.4G & 5G + Radio 3: 5G + Radio 4: BT

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Radio 1: 2.4G + Radio 2: 2.4G & 5G + Radio 3: 5G + Radio 4: BT=0.226 +0.083 + 0.661 + 0.0002=0.9702

**Therefore the maximum calculations of above situations are less than the “1” limit.**

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