

## RF Exposure Report

**Report No.:** SA181224C17

**FCC ID:** W23-JWW6051

**Test Model:** JWW6051

**Received Date:** Dec. 24, 2018

**Date of Evaluation:** Feb. 18, 2019

**Issued Date:** Feb. 23, 2019

**Applicant:** jjPlus Corporation

**Address:** 13F., No.120-3, Qiaohe Rd. Zhonghe Dist., New Taipei City 23584 Taiwan  
(R.O.C.)

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan,  
R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City  
33383, Taiwan (R.O.C)

**FCC Registration /**  
**Designation Number:** 427177 / TW0011



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### Release Control Record

| Issue No.   | Description      | Date Issued   |
|-------------|------------------|---------------|
| SA181224C17 | Original Release | Feb. 23, 2019 |

## 1 Certificate of Conformity

**Product:** 11ac wave2/abgn 2T2R WIFI & BT4.2 M.2 Combo Module

**Brand:** jjPlus

**Test Model:** JWW6051

**Sample Status:** Engineering Sample

**Applicant:** jjPlus Corporation

**Date of Evaluation:** Feb. 18, 2019

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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.

**Prepared by :**



**Date:**

Feb. 23, 2019

Ivonne Wu / Supervisor

**Approved by :**



**Date:**

Feb. 23, 2019

Dylan Chiou / 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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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 20cm away from the body of the user.  
So, this device is classified as **Mobile Device**.

## 2.4 Calculation Result of Maximum Conducted Power

| Band | Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|------|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| WLAN | 2412-2462            | 27.51           | 6.01               | 20            | 0.447                               | 1.00                        |
|      | 5180-5240            | 16.9            | 8.01               | 20            | 0.062                               | 1.00                        |
|      | 5260-5320            | 17.98           | 8.01               | 20            | 0.079                               | 1.00                        |
|      | 5500-5700            | 18.37           | 8.01               | 20            | 0.086                               | 1.00                        |
|      | 5745-5825            | 17.89           | 8.01               | 20            | 0.077                               | 1.00                        |
| BT   | 2402-2480            | 6.29            | 3                  | 20            | 0.002                               | 1.00                        |

NOTE:

2.4GHz: Directional gain = 3 dBi + 10log(2) = 6.01 dBi

5.0GHz: Directional gain = 5 dBi + 10log(2) = 8.01 dBi

### Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN + BT = 0.447 + 0.002 = 0.449

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

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