

RF Exposure Report

Report No.: SA181129C36A

FCC ID: 2ASXXPA2200

Test Model: PA2200

Received Date: Oct. 01, 2019

Test Date: Oct. 29 ~ Nov. 04, 2019

Issued Date: Nov. 11, 2019

Applicant: Plasma Cloud Limited

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



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Release Control Record

| Issue No. | Description | Date Issued |
|--------------|------------------|---------------|
| SA181129C36A | Original release | Nov. 11, 2019 |

1 Certificate of Conformity

Product: PA2200

Brand: PLASMA CLOUD

Test Model: PA2200

Sample Status: Engineering sample

Applicant: Plasma Cloud Limited

Test Date: Oct. 29 ~ Nov. 04, 2019

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
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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Approved by : Bruce Chen , **Date:** Nov. 11, 2019
Bruce Chen / 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 ²) | Average Time (minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| Limits For General Population / Uncontrolled Exposure | | | | |
| 300-1500 | ... | ... | F/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

F = Frequency in MHz

2.2 MPE Calculation Formula

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

where

Pd = power density in mW/cm²

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| CDD Mode | | | | | |
| 2412-2462 | 23.37 | 7.63 | 20 | 0.250 | 1 |
| 5180-5240 | 22.38 | 8.95 | 20 | 0.270 | 1 |
| 5745-5825 | 23.21 | 9.00 | 20 | 0.331 | 1 |
| Beamforming Mode | | | | | |
| 2412-2462 | 19.44 | 7.63 | 20 | 0.101 | 1 |
| 5180-5240 | 19.37 | 8.95 | 20 | 0.135 | 1 |
| 5745-5825 | 20.20 | 9.00 | 20 | 0.165 | 1 |

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2412-2462MHz: Directional gain = 4.62dBi + 10log(2) = 7.63dBi

5180-5240MHz: Directional gain = 5.94dBi + 10log(2) = 8.95dBi

5745-5825MHz: Directional gain = 5.99dBi + 10log(2) = 9.00dBi

Conclusion:

WLAN 2.4GHz (Radio 1) & WLAN 5GHz (Radio 2) & WLAN 5GHz (Radio 3) can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz (Radio 1) + WLAN 5GHz (Radio 3) + WLAN 5GHz (Radio 2) = 0.250 / 1 + 0.270 / 1 + 0.331 / 1 = 0.851

Therefore the maximum calculations of above situations are less than the "1" limit.

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