

## RF Exposure Report

**Report No.:** SA180425D01

**FCC ID:** 2ALJ3AP211H

**Test Model:** AP211H

**Received Date:** Apr. 25, 2018

**Test Date:** May 4 ~ Jun. 27, 2018

**Issued Date:** Jul. 5, 2018

**Applicant:** HAN Networks Co., Ltd.

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

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**FCC Registration /  
Designation Number:** 198487 / TW2021



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### Release Control Record

| Issue No.   | Description       | Date Issued  |
|-------------|-------------------|--------------|
| SA180425D01 | Original release. | Jul. 5, 2018 |

## 1 Certificate of Conformity

**Product:** HAN Access Point

**Brand:** HAN

**Test Model:** AP211H

**Sample Status:** Engineering sample

**Applicant:** HAN Networks Co., Ltd.

**Test Date:** May 4 ~ Jun. 27, 2018

**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 :**

*Annie Chang*

**Date:**

Jul. 5, 2018

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**Approved by :**

*Rex Lai*

**Date:**

Jul. 5, 2018

Rex Lai / Associate Technical Manager

## 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 |                               |                               |                                     |                        |
| 300-1500                                              | ...                           | ...                           | F/1500                              | 30                     |
| 1500-100,000                                          | ...                           | ...                           | 1.0                                 | 30                     |

F = Frequency in MHz

### 2.2 MPE Calculation Formula

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

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 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) | Max Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462            | 25.57           | 7.01               | 25            | 0.2306                              | 1                           |
| 5180-5240            | 25.91           | 9.31               | 25            | 0.4236                              | 1                           |
| 5745-5825            | 26.21           | 9.31               | 25            | 0.4538                              | 1                           |

**NOTE:**

2.4GHz Directional gain = 4dBi + 10log(2) = 7.01dBi

5.0GHz Directional gain = 6.3dBi + 10log(2) = 9.31dBi

**Conclusion:**

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.2306 + 0.4538 = 0.6845

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

**--- END ---**