# RF Exposure Report

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|---|---|
| **Report No.:** | SA170508D01 |
| **FCC ID:** | 2ALJ3AP27X |
| **Test Model:** | AP271 |
| **Received Date:** | May 8, 2017 |
| **Test Date:** | May 9 ~ Sep. 20, 2017 |
| **Issued Date:** | Nov. 16, 2017 |
| **Applicant:** | HAN Networks Co., Ltd. |
| **Address:** | 5/F, Building 37, No.8 Dongbeiwang West Road, HaiDian District, Beijing, China |
| **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.) |
| **FCC Registration / Designation Number:** | 198487 / TW2021 |

Testing Laboratory
2021

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## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| SA170508D01 | Original release. | Nov. 16, 2017 |

## 1 Certificate of Conformity

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|---|---|
| **Product:** | HAN Access Point |
| **Brand:** | HAN |
| **Test Model:** | AP271 |
| **Sample Status:** | Engineering sample |
| **Applicant:** | HAN Networks Co., Ltd. |
| **Test Date:** | May 9 ~ Sep. 20, 2017 |
| **Standards:** | FCC Part 2 (Section 2.1091)<br>KDB 447498 D01 General RF Exposure Guidance v06<br>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 EMC characteristics under the conditions specified in this report.

**Prepared by :** Annie Chang , **Date:** Nov. 16, 2017

Annie Chang / Senior Specialist

**Approved by :** Rex. Lai , **Date:** Nov. 16, 2017

Rex Lai / Assistant 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 ($mW/cm^2$) | 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 | ($180/f^2$)* | 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 $mW/cm^2$

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 31cm 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 ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 2412-2462 | 27.49 | 11.32 | 31 | 0.6296 | 1 |
| 5180-5240 | 13.87 | 9.98 | 31 | 0.0201 | 1 |
| 5745-5825 | 26.46 | 9.44 | 31 | 0.3222 | 1 |
| NOTE:<br>2.4GHz Directional gain = 11.32dBi<br>5.180-5.240GHz Directional gain = 9.98dBi<br>5.745-5.825GHz Directional gain = 9.44dBi | | | | | |

The directional antenna gain information is declared by manufacturer and more detailed features description please refer to operation description of antenna specifications exhibit.

**Conclusion:**

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 + WLAN 5GHz = 0.6296 + 0.3222 = 0.9518

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

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