RF Exposure Report

Report No.: SA170323D03

FCC ID: 2ALJ3AP23X

Test Model: AP231, AP231e

Received Date: Oct. 28, 2016

Test Date: Mar. 29 ~ Jul. 13, 2017

Issued Date: Aug. 3, 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.)

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA170323D03	Original release.	Aug. 3, 2017

1 Certificate of Conformity

Product:	HAN Access Point
Brand:	HAN
Test Model:	AP231, AP231e
Sample Status:	Engineering sample
Applicant:	HAN Networks Co., Ltd.
Test Date:	Mar. 29 ~ Jul. 13, 2017
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 EMC characteristics under the conditions specified in this report.

Prepared by : Annie Chang , **Date:** Aug. 3, 2017

Annie Chang / Senior Specialist

Approved by : Rex. Lai , **Date:** Aug. 3, 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				
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/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 35cm 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	27.68	6.52	35	0.1709	1
5180-5240	18.18	10.37	35	0.0465	1
5745-5825	29.79	10.37	35	0.6740	1

NOTE:
2.4GHz Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$ / 4] = 6.52dBi
5.0GHz Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$ / 4] = 10.37dBi
The Max Power = Max tune up power

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 = 0.1709 + 0.6740 = 0.8449

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

--- END ---