

RF Exposure Report

Report No.: SABHJS-WTW-P20100055

FCC ID: PD5-NSE1000

Test Model: NSE1000

Received Date: Aug. 24, 2020

Test Date: Oct. 08 ~ Oct. 21, 2020

Issued Date: Dec. 29, 2020

Applicant: Delta Electronics, Inc.

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

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



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Release Control Record

Issue No.	Description	Date Issued
SABHJS-WTW-P20100055	Original release.	Dec. 29, 2020

1 Certificate of Conformity

Product: Wireless Access Point

Brand: Nile Global

Test Model: NSE1000

Sample Status: Engineering sample

Applicant: Delta Electronics, Inc.

Test Date: Oct. 08 ~ Oct. 21, 2020

Standards: FCC Part 2 (Section 2.1091)

References Test Guidance: KDB 447498 D01 General RF Exposure Guidance v06

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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Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 29, 2020
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				
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/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 21cm 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 Average Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN: CDD Mode					
2412-2462	27.92	5.54	21	0.400	1
5180-5240	23.83	7.31	21	0.235	1
5260-5320	23.90	7.31	21	0.238	1
5500-5720	23.82	7.31	21	0.234	1
5745-5825	27.37	7.31	21	0.530	1
WLAN: Beamforming Mode					
2412-2462	27.22	5.54	21	0.341	1
5180-5240	22.56	7.31	21	0.175	1
5260-5320	22.55	7.31	21	0.175	1
5500-5720	22.47	7.31	21	0.172	1
5745-5825	27.37	7.31	21	0.530	1
BT LE					
2402-2480	8.37	2.42	21	0.002	1

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

* The power value of 2.4GHz Band, 5180-5240MHz, 5745-5825MHz and BT LE were copy from BV CPS report no.: SABHJS-WTW-P20080454

Note:

1. Directional gain:

2.4GHz: Directional Gain = $10 \log[(10^{G^1/20} + 10^{G^2/20} + \dots + 10^{G^N/20})^2/2] = 5.54\text{dBi}$

5.0GHz: Directional Gain = $10 \log[(10^{G^1/20} + 10^{G^2/20} + \dots + 10^{G^N/20})^2/2] = 7.31\text{dBi}$

BT LE: Antenna gain: 2.42dBi

2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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

1. BT LE + WLAN 5G = $0.002 / 1 + 0.530 / 1 = 0.532 < 1$

2. WLAN 2.4G+ WLAN 5G = $0.400 / 1 + 0.530 / 1 = 0.930 < 1$

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

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