

## RF Exposure Report

**Report No.:** SA190114E10

**FCC ID:** QVHDBWIFIABLE00

**Test Model:** DBWIFIABLE02

**Series Model:** DBWIFIABLE03

**Received Date:** Jan. 14, 2019

**Test Date:** Mar. 18, 2019

**Issued Date:** Nov. 06, 2019

**Applicant:** Dyson Technology Ltd

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

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Taiwan.

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan.

**FCC Registration /  
Designation Number:** 723255 / TW2022

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### Release Control Record

Issue No.	Description	Date Issued
SA190114E10	Original release.	Nov. 06, 2019

## 1 Certificate of Conformity

**Product:** DBWIFIABLE02

**Brand:** Dyson

**Test Model:** DBWIFIABLE02

**Series Model:** DBWIFIABLE03

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Dyson Technology Ltd

**Test Date:** Mar. 18, 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 EMC characteristics under the conditions specified in this report.

**Prepared by :** Wendy Wu, **Date:** Nov. 06, 2019  
Wendy Wu / Specialist

**Approved by :** May Chen, **Date:** Nov. 06, 2019  
May Chen / 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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<sup>2</sup>

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**.

## 2.4 Antenna Gain

WLAN				
Ant. No.	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connector Type
1	2	2.4~2.4835	PCB	NA
	5	5.15~5.85		
Bluetooth				
Ant. No.	Ant. Net Gain (dBi)	Freq. range (GHz)	Ant. Type	Connector Type
1	2	2.4~2.4835	PCB	NA

## 2.5 Calculation Result of Maximum Conducted Power

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4GHz	2437	277.332	2.00	20	0.08744	1
WLAN 5GHz	5200	61.944	5.00	20	0.03897	1
Bluetooth	2402	1.954	2.00	20	0.00062	1

### 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

$$\text{WLAN 2.4GHz} + \text{Bluetooth} = 0.08744 / 1 + 0.00062 / 1 = 0.08806$$

$$\text{WLAN 5GHz} + \text{Bluetooth} = 0.03897 / 1 + 0.00062 / 1 = 0.03959$$

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

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