

RF Exposure Report

Report No.: SA200616D06 R1

FCC ID: C3K1942

Test Model: 1942

Received Date: Apr. 13, 2020

Test Date: Apr. 30 to Sep. 1, 2020

Issued Date: Sep. 2, 2020

Applicant: MICROSOFT CORPORATION

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration /
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Release Control Record

Issue No.	Description	Date Issued
SA200616D06	Original release.	Jul. 10, 2020
SA200616D06 R1	Change the wireless module to 2T2R and re-test.	Sep. 2, 2020

1 Certificate of Conformity

Product: Media Dongle

Brand: MICROSOFT

Test Model: 1942

Sample Status: Engineering sample

Applicant: MICROSOFT CORPORATION

Test Date: Apr. 30 to Sep. 1, 2020

Standards: FCC Part 2 (Section 2.1091)
IEEE C95.3 -2002

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.

Prepared by :


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Date: Sep. 2, 2020

Approved by :


Rex Lai / Associate Technical Manager

Date: Sep. 2, 2020

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

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

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	3.69	2.17	20	0.0008	1
2412-2472	21.24	5.18	20	0.0872	1
5180-5240	22.10	6.30	20	0.1376	1
5260-5320	22.15	6.30	20	0.1392	1
5500-5700	22.18	7.27	20	0.1753	1
5745-5825	22.20	6.26	20	0.1396	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
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.
3. 2412~2472MHz Directional gain = 2.17dBi + 10log(2) = 5.18dBi.
5180~5240MHz Directional gain = 3.29dBi + 10log(2) = 6.30dBi
5260~5320MHz Directional gain = 3.29dBi + 10log(2) = 6.30dBi
5500~5720MHz Directional gain = 4.26dBi + 10log(2) = 7.27dBi
5745~5825MHz Directional gain = 3.25dBi + 10log(2) = 6.26dBi
4. 2.4GHz & 5GHz technologies cannot transmit at same time.
WLAN & BT technologies cannot transmit at same time.

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