

## RF Exposure Report

**Report No.:** MFBEMX-WTW-P22010730 R1

**FCC ID:** C3K2032

**Test Model:** 2032

**Received Date:** 2022/4/26

**Test Date:** 2022/4/28 ~ 2022/5/10

**Issued Date:** 2022/6/20

**Applicant:** MICROSOFT CORPORATION

**Address:** ONE MICROSOFT WAY REDMOND, WA 98052-6399, U.S.A

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**FCC Registration /  
Designation Number:** 198487 / TW2021



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## Table of Contents

|                                           |   |
|-------------------------------------------|---|
| Release Control Record .....              | 3 |
| 1     Certificate of Conformity .....     | 4 |
| 2     Evaluation Result .....             | 5 |
| 3     SAR Test Exclusion Thresholds ..... | 6 |
| 4     Conclusion .....                    | 6 |

### Release Control Record

| Issue No.               | Description                                    | Date Issued |
|-------------------------|------------------------------------------------|-------------|
| MFBEMX-WTW-P22010730    | Original release.                              | 2022/6/14   |
| MFBEMX-WTW-P22010730 R1 | Modify the statement of test report on page 1. | 2022/6/20   |

## 1 Certificate of Conformity

**Product:** Adaptive Button

**Brand:** Microsoft

**Test Model:** 2032

**Sample Status:** Engineering sample

**Applicant:** MICROSOFT CORPORATION

**Test Date:** 2022/4/28 ~ 2022/5/10

**Standards:** FCC Part 2 (Section 2.1093)

**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 :** Jessica Cheng , **Date:** 2022/6/20  
Jessica Cheng / Senior Specialist

**Approved by :** Jeremy Lin , **Date:** 2022/6/20  
Jeremy Lin / Project Engineer

## 2 Evaluation Result

Following FCC KDB 447498 D01 "General SAR test exclusion guidance"

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:  
$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$
$$\leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
  - $f(\text{GHz})$  is the RF channel transmit frequency in GHz.
  - Power and distance are rounded to the nearest mW and mm before calculation.
  - The result is rounded to one decimal place for comparison. The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.
- 2) At 100 MHz to 6 GHz and for test separation distances  $> 50$  mm, the SAR test exclusion threshold is determined according to the following:
  - a) [Threshold at 50 mm in step 1) + (test separation distance - 50mm) · ( $f(\text{MHz})/150$ )] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at  $> 1500$  MHz and  $\leq 6$  GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
  - a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$  for test separation distances  $> 50$  mm and  $< 200$  mm.
  - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$  for test separation distances  $\leq 50$  mm.
  - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

### 3 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

| Function | Frequency (GHz) | AV Max. Power (mW) | Min. test separation distance (mm) | SAR test exclusion calculation value <sup>(NOTE 3)</sup> | 10-g extremity SAR test exclusion thresholds | Result |
|----------|-----------------|--------------------|------------------------------------|----------------------------------------------------------|----------------------------------------------|--------|
| BT LE    | 2.402-2.480     | 0.6295             | 5                                  | 0.195                                                    | 7.5                                          | Pass   |

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The antenna type is Chip antenna with 0.65dBi gain.
3. Calculate SAR test exclusion thresholds from condition "1" formulas.

### 4 Conclusion

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

--- END ---