

RF Exposure Report

Report No.: SABBXY-WTW-P20060146

FCC ID: C3K1954

Test Model: 1954

Received Date: Jun. 29, 2020

Test Date: Jul. 7 to 8, 2020

Issued Date: Jul. 17, 2020

Applicant: MICROSOFT CORPORATION

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Release Control Record

Issue No.	Description	Date Issued
SABBXY-WTW-P20060146	Original release.	Jul. 17, 2020

1 Certificate of Conformity

Product: Bluetooth Keyboard

Brand: Microsoft®

Test Model: 1954

Sample Status: Engineering sample

Applicant: MICROSOFT CORPORATION

Test Date: Jul. 7 to 8, 2020

Standards: FCC Part 2 (Section 2.1093)
IEEE C95.1-1992

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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Rex Lai / Associate Technical Manager

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 ≤ 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 ≤ 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 ≤ 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 ≤ 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 ^(NOTE 3)	1-g extremity SAR test exclusion thresholds	Result
BT LE	2.402-2.480	0.687	5	0.213	3	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 -1.39dBi 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.

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