

## RF Exposure Report

**Report No.:** SA161110D17

**FCC ID:** C3K1780

**Test Model:** 1780

**Received Date:** Oct. 21, 2016

**Test Date:** Oct. 21 ~ Nov. 25, 2016

**Issued Date:** Nov. 25, 2016

**Applicant:** MICROSOFT CORPORATION

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

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### Release Control Record

Issue No.	Description	Date Issued
SA161110D17	Original release.	Nov. 25, 2016

## 1 Certificate of Conformity

**Product:** Keyboard

**Brand:** Microsoft®

**Test Model:** 1780

**Sample Status:** Engineering sample

**Applicant:** MICROSOFT CORPORATION

**Test Date:** Oct. 21 ~ Nov. 25, 2016

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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.

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**Approved by :** Rex. Lai , **Date:** Nov. 25, 2016  
Rex Lai / Assistant 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  $\leq 50$  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)  $[\text{Threshold at } 50 \text{ mm in step 1)} + (\text{test separation distance} - 50\text{mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$ , at 100MHz to 1500 MHz
- b)  $[\text{Threshold at } 50 \text{ mm in step 1)} + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW}$  at  $> 1500 \text{ MHz}$  and  $\leq 6 \text{ GHz}$

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:

Frequency (GHz)	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value <sup>(NOTE 2)</sup>	1-g SAR test exclusion thresholds	Result
2.402 ~ 2.480	1.250	5	0.387	3	Pass

**NOTE:** 1. The antenna type is PIFA antenna with 0.32dBi gain.  
2. 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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