

## RF Exposure Report

**Report No.:** SA160511E07

**FCC ID:** JNZNR0012

**Test Model:** N-R0012

**Received Date:** May 11, 2016

**Test Date:** May 18, 2016

**Issued Date:** May 25, 2016

**Applicant:** LOGITECH FAR EAST LTD.

**Address:** #2 Creation Rd. 4, Science-Based Ind. Park Hsinchu Taiwan, R.O.C.

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

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

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### Release Control Record

| Issue No.   | Description       | Date Issued  |
|-------------|-------------------|--------------|
| SA160511E07 | Original release. | May 25, 2016 |

## 1 Certificate of Conformity

**Product:** Button

**Brand:** Logitech

**Test Model:** N-R0012

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** LOGITECH FAR EAST LTD.

**Test Date:** May 18, 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.

**Prepared by :**



**Date:**

May 25, 2016

Wendy Wu / Specialist

**Approved by :**



**Date:**

May 25, 2016

May Chen / 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) [Threshold at 50 mm in step 1) + (test separation distance - 50mm)  $\cdot$  (f(MHz)/150)] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)  $\cdot$  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 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

| Antenna Gain (dBi) | Frequency range (GHz to GHz) | Antenna Type        | Connector Type |
|--------------------|------------------------------|---------------------|----------------|
| 3.8                | 2.4-2.4835                   | PCB printed Antenna | NA             |

#### 4 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

| Frequency<br>(MHz) | Max. Power<br>(dBm) | Max. Power<br>(mW) | Min. test<br>separation<br>distance<br>(mm) | SAR test<br>exclusion<br>calculation<br>value <sup>(NOTE 2)</sup> | 10-g extremity<br>SAR test<br>exclusion<br>thresholds | Result |
|--------------------|---------------------|--------------------|---------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------|--------|
| 2402 ~ 2480        | 6.19                | 4.159              | 5                                           | 1.28915583                                                        | 7.5                                                   | Pass   |

**NOTE:** 1. The antenna type is PCB printed Antenna with 3.8dBi gain.  
2. Calculate SAR test exclusion thresholds from condition "1" formulas.

#### 5 Conclusion

Since max power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

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