# RF Exposure Report

**Report No.:** FCC_RF_SL19040901-ROK-004_RF Exposure

**FCC ID:** TC2-R1028

**Test Model:** RC-EL1

**Series Model:** N/A

**Received Date:** 12/17/2019

**Test Date:** 12/30/2019/-01-28/2020

**Issued Date:** 01/29/2020

**Applicant:** Roku, Inc.

**Address:** 150 Winchester Circle, Los Gatos CA 95032

**Manufacturer:** Roku, Inc.

**Address:** 150 Winchester Circle, Los Gatos CA 95032

**Issued By:** Bureau Veritas Consumer Products Services, Inc.

**Lab Address:** 775 Montague Expressway, Milpitas, CA 95035

**Test Location (1):** 775 Montague Expressway, Milpitas, CA 95035

**FCC Registration / Designation Number:** 540430

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**Release Control Record**

| Issue No. | Description | Date Issued |
|---|---|---|
| FCC_RF_SL19040901-ROK-004_RF Exposure | Orignal Release | 01/29/2020 |
| | | |

## 1   Certificate of Conformity

|  |  |
|---|---|
| **Product:** | WiFi Remote Control |
| **Brand:** | Roku, Inc. |
| **Test Model:** | RC-EL1 |
| **Series Model:** | N/A |
| **Sample Status:** | Engineering sample |
| **Applicant:** | Roku, Inc. |
| **Test Date:** | 12/30/2019/-01/28/2020 |
| **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, Inc., Milpitas 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:**   01/29/2020
Deon Dai / Test Engineer

**Approved by :** _____ ,   **Date:**   01/29/2020
Chen Ge / Engineer Reviewer

## 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:

   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

   ➢ □f(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(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(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 ½ 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

| Mode | Frequency (GHz) | Max. Power (dBm) | Max. Power (mW) | Tune-Up Tolerance | Min. test separation distance (mm) | SAR test exclusion calculation value[NOTE 2] | 1-g SAR test exclusion thresholds | Result |
|------|-----------------|------------------|-----------------|-------------------|------------------------------------|----------------------------------------------|-----------------------------------|--------|
| 2.4G WLAN | 2412 | 8.80 | 7.59 | ±1dB | 5 | 2.97 | 3 | Pass |
| 5G WLAN | 5240 | 7.12 | 5.15 | ±1dB | 5 | 2.97 | 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 2.9 dBi gain for 2.4G band, 2.8 dBi gain for UNII-1 Band and 4.4 dBi for UNII-3 Band.

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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