

## RF Exposure Report

**Report No.:** SABEDV-WTW-P21060340

**FCC ID:** E2K-DWRFID2021

**Test Model:** DWRFID 2021

**Received Date:** Jun. 09, 2021

**Test Date:** Jun. 11 ~ Jun. 16, 2021

**Issued Date:** Jun. 28, 2021

**Applicant:** Dell Inc.

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

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
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**FCC Registration /** 788550 / TW0003  
**Designation Number:**



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## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 Evaluation Result</b> .....	<b>5</b>
<b>3 SAR Test Exclusion Thresholds</b> .....	<b>6</b>
<b>4 Conclusion</b> .....	<b>6</b>

### Release Control Record

Issue No.	Description	Date Issued
SABEDV-WTW-P21060340	Original release	Jun. 28, 2021

## 1 Certificate of Conformity

**Product:** RFID 13.56MHz Wireless Module

**Brand:** DELL

**Test Model:** DWRFID 2021

**Sample Status:** Engineering sample

**Applicant:** Dell Inc.

**Test Date:** Jun. 11 ~ Jun. 16, 2021

**Standards:** FCC Part 2 (Section 2.1091)

**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 :** Celine Chou , **Date:** Jun. 28, 2021  
Celine Chou / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Jun. 28, 2021  
Bruce Chen / Senior 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)  $\cdot$  ( $f(\text{MHz})/150$ )] 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 SAR Test Exclusion Thresholds

Maximum measured transmitter power:

Frequency (MHz)	Max. Field Strength (dBuV/m)@30m	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value <sup>(NOTE )</sup>	1-g SAR test exclusion thresholds	Result
13.56	9.5	0.00002673	5	0.00002673	1107.433774	Pass

Note:

1. Calculate SAR test exclusion thresholds from condition "3" formulas.
2. Field Strength(dBuV/m)@3m = Field Strength(dBuV/m)@30m + 40\* log(30/3)
3. Output power (dBm) = Field Strength (dBuV/m)@3m - 95.23, Output power (mW) =  $10^{(\text{Max power (dBm)}/10)}$
4. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 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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