

## RF Exposure Report

**Report No.:** SABDGE-WTW-P20080267

**FCC ID:** E2K-DWRFID2001

**Test Model:** DWRFID2001

**Received Date:** Aug. 14, 2020

**Test Date:** Aug. 23 ~ Sep. 10, 2020

**Issued Date:** Sep. 10, 2020

**Applicant:** DELL INC.

**Address:** One Dell Way Round Rock, Texas 78682 United States

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, TAIWAN

**FCC Registration /** 788550 / TW0003  
**Designation Number:**



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### Release Control Record

Issue No.	Description	Date Issued
SABDGE-WTW-P20080267	Original release	Sep. 10, 2020

## 1 Certificate of Conformity

**Product:** RFID13.56MHz Wireless Module

**Brand:** DELL

**Test Model:** DWRFID2001

**Sample Status:** Engineering sample

**Applicant:** DELL INC.

**Test Date:** Aug. 23 ~ Sep. 10, 2020

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

**References Test** KDB 447498 D01 General RF Exposure Guidance v06

**Guidance:** IEEE C95.3-2002

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 :** Polly Chien , **Date:** Sep. 10, 2020  
Polly Chien / Specialist

**Approved by :** Bruce Chen , **Date:** Sep. 10, 2020  
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) · ( $f(\text{MHz})/150$ )] 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  $\leq 6$  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:

Antenna	Frequency (MHz)	Field Strength (dBuV/m)@ 30m	Field Strength (dBuV/m)@ 3m	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value <sup>(NOTE)</sup>	1-g extremity SAR test exclusion thresholds	Result
P104F:								
WNC	13.56	24.6	64.6	0.000865	5	0.000865	442.974	Pass
Speed	13.56	23.9	63.9	0.0007362	5	0.0007362	442.974	Pass
P138G:								
WNC	13.56	31.8	71.8	0.004539	5	0.004539	442.974	Pass
Speed	13.56	28.6	68.6	0.002173	5	0.002173	442.974	Pass
P139G:								
WNC	13.56	33.7	73.7	0.007031	5	0.007031	442.974	Pass
Speed	13.56	33.3	73.3	0.006412	5	0.006412	442.974	Pass

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Calculate SAR test exclusion thresholds from condition "3" formulas.
3. Max Power (dBm) = Field Strength of Fundamental (dBuV/m@3m) – 95.23,  
Max Power (mW) =  $10^{(\text{Max power (dBm)}/10)}$
4. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

### 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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