RF Exposure Report

Report No.:	SA200210E09
FCC ID:	NKR-LS02
Test Model:	SKP3R0-01
Received Date:	Feb. 10, 2020
Test Date:	Feb. 26, 2020
Issued Date:	May 20, 2020
Applicant:	Wistron NeWeb Corp.
Address:	20 Park Avenue II, Hsinchu Science Park,Hsinchu 308, 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
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA200210E09	Original release.	May 20, 2020

1 Certificate of Conformity

Product:	Keypad
Brand:	ADT
Test Model:	SKP3R0-01
Sample Status:	ENGINEERING SAMPLE
Applicant:	Wistron NeWeb Corp.
Test Date:	Feb. 26, 2020
Standards:	FCC Part 2 (Section 2.1093) IEEE C95.1-1992
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 EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** May 20, 2020

Joyce Kuo / Specialist

Approved by : _____ , **Date:** May 20, 2020

Clark Lin / Technical 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 ≤ 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

BT-LE Avg. Power Table

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	1.122	0.50
19	2440	1.127	0.52
39	2480	1.132	0.54

For BT-LE SAR Test Exclusion Thresholds

Frequency (MHz)	Max Avg. Power (dBm)	Max Avg. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value(NOTE 1)	10-g SAR test exclusion thresholds	Result
2402 ~ 2480	0.54	1.132	5	0.357	7.5	Pass

Note:
1. Calculate SAR test exclusion thresholds from condition “1” formulas.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

DECT Avg. Power Table

Frequency (MHz)	Maximum Power (dBm)	Source Based Time-Average Power (dBm)	Source Based Time-Average Power (mW)
1921-1928	19.26	5.46	3.516

Note:
1. Calculations for RF Exposure compliance in the DECT are base on the maximum source based time-average power obtained from 1-Slot operation. The resulting duty cycle factor is 1/24, or 13.8dB.

For DECT SAR Test Exclusion Thresholds

Frequency (MHz)	Source Based Time-Average Power (dBm)	Source Based Time-Average Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value(NOTE 1)	10-g SAR test exclusion thresholds	Result
1921-1928	5.46	3.516	5	0.975	7.5	Pass

Note:
1. Calculate SAR test exclusion thresholds from condition “1” formulas.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Simultaneous Transmission Evaluation:

This device contains transmitters that may operate simultaneously. Therefore simultaneous transmission analysis is required.
When standalone SAR is not required to be measured, per FCC KDB 447498 D01 V06 4.3.2 b), the following equations must be used to estimate the standalone 10-g SAR, respectively, for simultaneous transmission assessment involving that transmitter.

Estimated SAR = $\frac{\sqrt{f(GHz)}}{18.75} * \frac{(\text{Max Power of channel, mw})}{\text{Min. Separation Distance,mm}}$

Mode	Frequency (GHz)	Maximum Allowed Power (mW)	Separation Distance (mm)	Estimated SAR (W/kg)
BT-LE	2.402	1.132	5	0.019
DECT	1.921	3.516	5	0.052

Mode	BT-LE SAR (W/kg)	DECT SAR (W/kg)	$\sum$SAR (W/kg)	SAR test exclusion thresholds (W/kg)	Result
Simultaneous Transmission Scenario	0.019	0.052	0.071	0.4	Pass

4 Conclusion

Since above numerical summed SAR result for simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01 V06.

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