RF Exposure Report

Report No.:	FCC_RF Exposure_SL20103001-KRO-111
FCC ID:	P5W-8610K009
Test Model:	InTouch DX with Legic
Part Numbers:	8610000-009, 8610000-109, 8610000-409
Received Date:	11/20/2020
Test Date:	11/25/2020-12/12/2020
Issued Date:	05/03/2021
Applicant:	Kronos, Inc
Address:	900 Chelmsford Street, Lowell MA 01851
Manufacturer:	Kronos, Inc
Address:	900 Chelmsford Street, Lowell MA 01851
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

ACCREDITED
TESTING CERT # 2742-01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FCC_RF Exposure_SL20103001-KRO-111	Orignal Release	05/03/2021

1 Certificate of Conformity

Product:	Legic Card Reader
Brand:	Kronos, Inc
Test Model:	InTouch DX with Legic
Part Numbers:	8610000-009, 8610000-109, 8610000-409
Sample Status:	Engineering sample
Applicant:	900 Chelmsford Street, Lowell MA 01851
Test Date:	1/25/2020-12/12/2020
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 : Gary Chou , **Date:** 05/03/2021

Gary Chou / Compliance Engineer

Approved by : Deon , **Date:** 05/03/2021

Deon Dai / 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 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
EMI Test Receiver ROHDE & SCHWARZ	ESW 44	100179	08/30/2020	08/30/2021
Passive Loop Antenna (9k-30MHz)	6512	49120	11/25/2020	11/25/2021
Hybrid Antenna SUNAR	JB6	A111717	03/09/2020	03/09/2021
Preamplifier RF-BAY	LNA-150	12170607	02/16/2020	02/16/2021

4 SAR Test Exclusion Thresholds

Mode	Frequency (MHz)	Max. Power (mW)	Tune-Up Tolerance	Min. test separation distance (mm)	SAR test exclusion calculation value	1-g SAR test exclusion thresholds	Result
RFID	13.56	0.01362	±1dB	5	0.000399	3	Pass

Power Level in EIRP(dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance in meters.

76.6+20log (3)-104.8= -18.6575

SAR test exclusion calculation value

= [(0.01362 (mW)+1dB)/5] ·[√f(GHz)]

=0.000399

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The antenna type is PCB Loop antenna.
3. Calculate SAR test exclusion thresholds from condition “1” formulas.

5 Conclusion

The SAR evaluation is not required.

--- END ---