

RF Exposure Evaluation Report

Client: Korelock, Inc.

Address: 7100 E. Bellevue Ave. Suite 203
Greenwood Village, CO 80111 USA

Model: KIC Select series locks

Test Report No.: RFE20240322-70-M1B

Approved By: 
Fox Lane,
EMC Test Engineer

Date: October 25, 2024

Total Pages: 6

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Revision Page

Rev. No.	Date	Description
Original	9 September 2024	Issued by FLane Prepared by FLane
A	18 October 2024	Added NFC's contribution to Exposure Changed environment controlled to uncontrolled – FL
B	18 October 2024	Corrected Environment Setting – FL

1 Regulatory Requirements:

FCC Part 1.1310, 2.1091, 2.1093
KDB 447498 D01

Summary:

The purpose of this report is to evaluate the EUT's transmitter for exemption from routine SAR testing.

EUT:

Model:

KIC Select series locks

FCC ID:

2BBNS-KLKIC

IC:

HVIN:

MPE Lab

Nebraska Center for Excellence in Electronics

MPE Labs FCC Cab Designation:

US1060

MPE Labs ISED Cab Designation:

US0177

2 FCC

FCC Limits, Part 1.1310

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

Occupational/Controlled	☐
General Population/uncontrolled	☒

FCC Power Density Calculations

Freq.	Conducted Power	Antenna Gain	Peak Power EIRP	Peak Power EIRP +10% for Tolerance	Power Density	Limit at specified distance	% of limit	Result
MHz	mW	numerical	mW	mW	mW/cm ²	mW/cm ²	%	
2402.00	6.000	1.17	7.02	7.72	0.002	1.00	0.154	PASS
2440.00	6.000	1.17	7.02	7.72	0.002	1.00	0.154	PASS
2480.00	6.000	1.17	7.02	7.72	0.002	1.00	0.154	PASS
2412.00	81.000	3.00	243.00	267.30	0.053	1.00	5.318	PASS
2437.00	81.000	3.00	243.00	267.30	0.053	1.00	5.318	PASS
2462.00	81.000	3.00	243.00	267.30	0.053	1.00	5.318	PASS
13.56	0.0000028*	1.00	0.0000028	0.00000307	0.000	0.20	0.0000031	PASS

*Measured radiated power was used for NFC portion

Distance (d)	20	cm
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$S = (P \times G)/(4 \times \pi \times d^2)$ – used to calculate exposure at "d" cm

$EIRP = P \times G$, measured as field strength

$d = \sqrt{(S/(P \times G) \times 4 \times \pi)}$ – used to calculate minimum distance to meet limits

S = power density (mW/cm²)

P = transmitter conducted power (in mW)

G = antenna numeric gain (Numerical)

d = distance to radiation center (cm)

Results:

Total % of limit = 5.318 + 0.154 + 0.0000031 = 5.472%, shows compliance.

Complies**Note:**

The user's manual will stipulate that a 20cm distance from the user is to be maintained.

EIRP values in mW were multiplied by 1.1 to account for a 10% tolerance.

REPORT END