

## RF Exposure Report

**Report No.:** FCC\_RF\_SL20061801-UTC-002\_MPE\_Rev 1

**FCC ID:** R3210106653P1

**Test Model:** 10106653P1

**Series Model:** N/A

**Received Date:** 01/04/2021

**Test Date:** 01/14/2021 - 01/21/2021

**Issued Date:** 01/27/2021

**Applicant:** Onity, Inc.

**Address:** 4001 Fairview Industrial Dr. SE, Salem, OR 97302

**Manufacturer:** Onity, Inc.

**Address:** 4001 Fairview Industrial Dr. SE, Salem, OR 97302

**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



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### Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20061801-UTC-002_MPE	Original Release	01/27/2021
FCC_RF_SL20061801-UTC-002_MPE_Rev 1	Errors Correction	04/22/2022

## 1 Certificate of Conformity

**Product:** Serene Lock

**Brand:** Onity

**Test Model:** 10106653P1

**Series Model:** N/A

**Sample Status:** Engineering sample

**Applicant:** Onity, Inc.


**Test Date:** 01/14/2021 - 01/21/2021

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

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 :**  , **Date:** 01/27/2021  
Ellen Chu / Test Engineer

**Approved by :**  , **Date:** 01/27/2021  
Deon Dai / Engineer Reviewer

## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
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 <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.  
So, this device is classified as Mobile Device.

### 2.4 Antenna Gain

The antenna type is Chip antenna with 1.5 dBi gain.

## 2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Tune-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2402-2480	3.71	2.35	±1dB	1.5	20	0.000831	1

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 “1” formulas.

## 3 Conclusion

### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

BT\_LE = 0.000660 < 1

**Therefore the maximum calculations of above situations are less than the “1” limit.**

RFID 13.56MHz - Field Strength = 56.7dBuV/m = 0.00008556mW < 1mW exemption limit

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