

SAR EXEMPTION EXHIBIT

FCC

APPLICANT

Onity Inc

MODEL NAME

Trillium 2.0 Lock, BLE, RFID

FCC ID

R32-10108567P1

ISED ID

5058A -10108567P1

REPORT NUMBER

HA2507-0188-R04

TEST REPORT

Date of Issue
August 28, 2025

Test Site
HCT America, Inc.
840 Yosemite Way, Milpitas, CA 95035, USA

Applicant	Onity Inc
Applicant Address	Onity Inc. 4001 Fairview Industrial Drive SE, Fairview Industrial, Salem OR 97302, USA
FCC ID	R32-10108567P1
ISED ID	5058A -10108567P1
Model Name	Trillium 2.0 Lock, BLE, RFID
EUT Type	Doorlock
FCC Classification	Digital Transmission System (DTS)
FCC Rule Part(s)	47 CFR §2.1091
Test Procedure	KDB 447498 D01 v06

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures required. The results of testing in this report apply only to the product which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT America, Inc. certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By



John Park

Test Engineer

Reviewed By



Sunwoo Kim

Technical Manager

REVISION HISTORY

The revision history for this document is shown in table.

TEST REPORT NO.	DATE	DESCRIPTION
HA2507-0188-R04	August 28, 2025	Initial Issue

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1. EUT DESCRIPTION

Product Name (PMN)	Trillium 2.0 Lock, BLE, RFID
Model number (HVIN)	10108567P1
Product Commercial Model Number (CMN)	10108587P1
Power Supply	6.0 V d.c. (1.5 V d.c., x 4 AA battery, Serial connection)
RF Specification	Bluetooth 5.0 LE (1M/2M), RFID (13.56 MHz)
Transmitter Chain	1
Antenna Specification ¹⁾	Antenna Type : Chip Antenna Peak Gain : 1.5 dBi
Operating Environment	Indoor & Outdoor
Operating Temperature	-20 °C ~ +55 °C

Note :

1. Antenna information is based on the document provided.

2. INTRODUCTION

2.1. LIMIT

The RF exposure from portable device, as defined by FCC, must be evaluated with respect to limits for SAR in accordance with 47 CFR §2.1093.

If no other RF exposure testing or reporting are required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for SAR test exclusion.

FCC SAR Test Exclusion Thresholds

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table, Appendix A,B and C, KDB 447498 D01 v06, 'General RF Exposure Guidance'.

- SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm (Appendix A)

MHz	5	10	15	20	25	30	35	40	45	50	mm
150	39	77	116	155	194	232	271	310	349	387	(mW)
300	27	55	82	110	137	164	192	219	246	274	
450	22	45	67	89	112	134	157	179	201	224	
835	16	33	49	66	82	98	115	131	148	164	
900	16	32	47	63	79	95	111	126	142	158	
1500	12	24	37	49	61	73	86	98	110	122	
1900	11	22	33	44	54	65	76	87	98	109	
2450	10	19	29	38	48	57	67	77	86	96	
3600	8	16	24	32	40	47	55	63	71	79	
5200	7	13	20	26	33	39	46	53	59	66	
5400	6	13	19	26	32	39	45	52	58	65	
5800	6	12	19	25	31	37	44	50	56	62	

- SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and > 50 mm (Appendix B)

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	(mW)
150	387	397	407	417	427	437	447	457	467	477	487	497	507	517	527	
300	274	294	314	334	354	374	394	414	434	454	474	494	514	534	554	
450	224	254	284	314	344	374	404	434	464	494	524	554	584	614	644	
835	164	220	275	331	387	442	498	554	609	665	721	776	832	888	943	
900	158	218	278	338	398	458	518	578	638	698	758	818	878	938	998	
1500	122	222	322	422	522	622	722	822	922	1022	1122	1222	1322	1422	1522	
1900	109	209	309	409	509	609	709	809	909	1009	1109	1209	1309	1409	1509	
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	
3600	79	179	279	379	479	579	679	779	879	979	1079	1179	1279	1379	1479	
5200	66	166	266	366	466	566	666	766	866	966	1066	1166	1266	1366	1466	
5400	65	165	265	365	465	565	665	765	865	965	1065	1165	1265	1365	1465	
5800	62	162	262	362	462	562	662	762	862	962	1062	1162	1262	1362	1462	

- SAR Test Exclusion Thresholds for < 100 MHz and < 200 mm (Appendix C)

MHz	<50	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	(mW)
50	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738	
10	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135	
1	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702	
0.1	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837	

Note(s) : 10-g Extremity SAR Test Exclusion Power Threshold are 2.5 times higher than the 1g SAR Test Exclusion Threshold indicated above. These thresholds do not apply, by extrapolation or other means, to occupational exposure limits.

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following equation according to 4.3.1 a), KDB 447498 D01 v06 :

- 1-g SAR Test Exclusion Thresholds

$$\frac{(\text{max. power of channel, including tuneup tolerance, mW})}{(\text{min. test separation distance, mm})} \times [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR}$$

- 10-g SAR Test Exclusion Thresholds

$$\frac{(\text{max. power of channel, including tuneup tolerance, mW})}{(\text{min. test separation distance, mm})} \times [\sqrt{f(\text{GHz})}] \leq 7.5 \text{ for 10-g Extremity SAR}$$

3. RESULT

3.1. SAR Exemptions Calculation

RFID(13.56 MHz)				
Frequency	0.013 560	GHz		
Separation Distance	5	mm		
Exposure limit _k	3.000	1-g SAR		
Max Conducted Output Power	-39.5	dBm	0.000 112	mW
Evaluated _k	0.000 003	-		
Evaluated _k / Exposure limit _k	0.000 001			

BLE(1M/2M)				
Frequency	2.480	GHz		
Separation Distance	5	mm		
Exposure limit _k	3.000	1-g SAR		
Max Conducted Output Power	3.000	dBm	2.000	mW
Evaluated _k	0.628	-		
Evaluated _k / Exposure limit _k	0.209 476			

Note :

1. Maximum conducted output power including tune-up tolerance
2. The minimum separation distance has been indicated in the user manual.

Sample Calculation (Worst case) :

(max. power of channel including tune-up tolerance in mW) / (min. test separation distance) x SQRT(frequency in GHz)
= (2.000 mW) / (5 mm) x SQRT(2.480 GHz) = 0.209 476 ≤ 3.0

3.2. SUMMARY OF RESULTS

Mode	Frequency Range (GHz)	Exposure limit _k	Evaluated _k	Evaluated _k / Exposure limit _k
BLE(1M/2M)	2.400 – 2.480	3.000	0.628	0.209 476
RFID(13.56 MHz)	0.013 560	3.000	0.000 003	0.000 001

Since BLE and RFID is operating simultaneously, the sum of calculated (Evaluated_k) / (Exposure limit_k) is 0.209 477, which is less than 1.0, therefore SAR evaluation is not required for the EUT.

END OF TEST REPORT