

Test Report No:
23C0650R-RFUSV17S-A

RF EXPOSURE EVALUATION DECLARATION

Product Name	Base Station
Brand Name	SimpliSafe
Model No.	SSBS3
FCC ID	U9K-BS3010
Applicant's Name / Address	SimpliSafe, Inc. 100 Summer Street, Suite 300, Boston, Massachusetts 02110, United States
Manufacturer's Name / Address	Cal-Comp Electronics (Thailand) Public Company Limited 138 Moo 4 Petchkasem Rd., Sarpang, Khao Yoi, Phetchaburi 76140, Thailand.
Test Method Requested, Standard	FCC CFR Title 47 Part 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.
Verdict Summary	IN COMPLIANCE
Documented By	 Amelia Wu
Approved By	 Rueyyan Lin
Date of Receipt	Dec. 19, 2023
Date of Issue	Feb. 27, 2024
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Feb. 27, 2024

1. General Information

1.1. EUT Description

RF General Information				
Evaluation Mode	Operating Frequency (MHz)		Modulation Type	
WiFi 2.4 GHz	2412 ~ 2462		802.11b: DSSS 802.11g/n: OFDM	
433.42 MHz	433.42		FSK	
Evaluation Mode	Band	Uplink Frequency (MHz)	Downlink Frequency (MHz)	Modulation Type
WWAN 4G	LTE Band 5	824 ~ 849	869 ~ 894	Cat-M1: QPSK / 16QAM

Note: The above EUT information is declared by the manufacturer.

1.2. Testing Location Information

Testing Location Information		
Test Laboratory : DEKRA Testing and Certification Co., Ltd.		
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.		

2. RF Exposure Evaluation

2.1. Test Limit

(A) Test Limit for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Test Limit for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

Note: f = frequency in MHz; *Plane-wave equivalent power density

Power Density (S) is calculated by the following formula:

$$S = (P \cdot G) / 4\pi R^2$$

where:

S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

π = 3.1416

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

2.2. Test Result of RF Exposure Evaluation

Exposure Environment: General Population / Uncontrolled Exposure

For WLAN / WWAN 4G:

Evaluation Mode	Maximum Conducted Output Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WiFi 2.4 GHz	16.62	2.00	18.620	72.778	0.014	1.000
LTE Cat-M1 Band 5	22.00	3.00	25.000	316.228	0.063	0.549

For 433.42 MHz:

Evaluation Mode	Field Strength (dBuV/m@3m)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)
433.42 MHz	80.40	-10.100	0.0977	0.00001944	0.2889

Distance (cm): 20 for Maximum Permissible Exposure.

E.I.R.P (dBm) = Field Strength (dBuV/m@3m) - 95.2 + ground reflection factor

Ground reflection factor to the EIRP (6 dB for frequencies ≤ 30 MHz; 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive; and 0 dB for frequencies > 1000 MHz).

Co-location
<p>Conclusion:</p> <p>The formula of calculated the MPE is:</p> <p>CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1</p> <p>CPD = Calculation power density</p> <p>LPD = Limit of power density</p> <p>WWAN LTE Cat-M1 + WiFi 2.4GHz + 433.42 MHz = 0.11452+0.0144+0.00007=0.12907, therefore the maximum calculations of above situations are less than the "1" limit.</p>

Note:

1. The above EUT information is declared by the manufacturer.
2. The results are evaluated using the maximum power.