



RF Exposure Evaluation

For

Caelimp SAS

Aroma diffuser

Test Model: SCENT-UP 1

Prepared for : Caelimp SAS
Address : 45, rue du Colombier, 31670, LABEGE, FRANCE

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : March 26, 2025
Number of tested samples : 2
Sample No. : A250320108-1, A250320108-2
Serial number : Prototype
Date of Test : March 26, 2025 ~ May 19, 2025
Date of Report : May 20, 2025



Shenzhen LCS Compliance Testing Laboratory Ltd.

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Scan code to check authenticity



RF Exposure Evaluation	
Report Reference No.	LCSA03265013ED
Date of Issue	May 20, 2025
Testing Laboratory Name	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's Name	Caelimp SAS
Address	45, rue du Colombier, 31670, LABEGE, FRANCE
Test Specification	
Standard	FCC KDB publication 447498 D01 General RF Exposure Guidance v06 FCC CFR 47 part1 1.1310 FCC CFR 47 part2 2.1091
Test Report Form No.	TRF-4-E-215 A/0
TRF Originator	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF	Dated 2011-03
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Test Item Description	Aroma diffuser
Trade Mark	Caelimp
Test Model	SCENT-UP 1
Ratings	Please Refer to Page 6
Result	Pass

Compiled by:

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RF Exposure Evaluation

Test Report No. : LCSA03265013ED	<u>May 20, 2025</u> Date of issue
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EUT.....	: Aroma diffuser
Test Model.....	: SCENT-UP 1
Applicant.....	: Caelimp SAS
Address.....	: 45, rue du Colombier, 31670, LABEGE, FRANCE
Telephone.....	: /
Fax.....	: /
Manufacturer.....	: Caelimp SAS
Address.....	: 45, rue du Colombier, 31670, LABEGE, FRANCE
Telephone.....	: /
Fax.....	: /
Factory.....	: /
Address.....	: /
Telephone.....	: /
Fax.....	: /

Test Result	Pass
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	May 20, 2025	Initial Issue	---





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1. Product Information

EUT	: Aroma diffuser
Test Model	: SCENT-UP 1
Ratings	: Input: DC 5V, 3000mA DC 3.7V by Rechargeable Li-ion Battery, 6000mAh
Hardware Version	: /
Software Version	: /
Bluetooth	:
Frequency Range	: 2402MHz~2480MHz
Channel Number	: 40 channels for Bluetooth V5.0 (DTS)
Channel Spacing	: 2MHz for Bluetooth V5.0 (DTS)
Modulation Type	: GFSK for Bluetooth V5.0 (DTS)
Bluetooth Version	: V5.0
Antenna Description	: Internal Antenna, 1.5dBi(Max.)
WIFI(2.4G Band)	:
Frequency Range	: 2412MHz~2462MHz
Channel Number	: 11 Channels for 20MHz bandwidth (2412~2462MHz)
Channel Spacing	: 5MHz
Modulation Type	: IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Antenna Description	: Internal Antenna, 1.5dBi(Max.)
NFC	:
Operating Frequency	: 13.56MHz
Modulation Type	: ASK
Antenna Description	: Internal Antenna, 0dBi(Max.)
Exposure category	: General population/uncontrolled environment
EUT Type	: Production Unit
Device Type	: Mobile Device
Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.	





2. Evaluation Method

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is ≤ 1.0 . The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

3. Limit

3.1 Refer Evaluation Method

[ANSI C95.1-2019](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz

[FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06](#): Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1091](#): Radiofrequency radiation exposure evaluation: mobile devices.

3.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
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 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Uncontrolled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 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

F=frequency in MHz

*=Plane-wave equivalent power density





4. MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

Where: S=power density

P=power input to antenna

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

R=distance to the center of radiation of the antenna

5. Conducted Power

[BLE1M]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
BLE 1M	0	2402	2.71
	19	2440	5.09
	39	2480	3.52

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
IEEE 802.11b	1	2412	16.07
	6	2437	15.48
	11	2462	15.09
IEEE 802.11g	1	2412	14.33
	6	2437	13.5
	11	2462	13.41
IEEE 802.11n HT20	1	2412	13.71
	6	2437	13.08
	11	2462	12.96

Test Procedure

TX frequency range: 13.56MHz

Device category: Portable device (Distance: 20cm)

Field Strength: 38.97dBuV/m @3m

EIRP=E-104.8+20logD=38.97-104.8+20log3=-56.29dBm

Maximum Conducted Output Power: -56.29dBm

Turn-up: -56±1





6. Manufacturing Tolerance

[BLE1M]

BT LE (Peak)

Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	2.0	5.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

[2.4G WIFI]

IEEE 802.11b (Peak)

Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	16.0	15.0	15.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

IEEE 802.11g (Peak)

Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	14.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

IEEE 802.11n HT20 (Peak)

Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	13.0	13.0	12.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0





7. Measurement Results

7.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

[BLE1M]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
GFSK	6.0	3.9811	1.5	1.4125	0.0011	1.0000

[2.4G WIFI]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
IEEE 802.11b	17.0	50.1187	1.5	1.4125	0.0141	1.0000
IEEE 802.11g	15.0	31.6228	1.5	1.4125	0.0089	1.0000
IEEE 802.11n HT20	14.0	25.1189	1.5	1.4125	0.0071	1.0000

[NFC]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
ASK	-55	0.000003	0	1.9953	0.0000000006	0.9789

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjusted to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.





7.2 Simultaneous Transmission MPE Evaluation

The EUT equipped with one Bluetooth antenna and one WIFI antenna and one NFC antenna, so need consider simultaneous transmission;
According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

Simultaneous Transmission					
BLE Antenna Max MPE ratios	2.4GWIFI Antenna Max MPE ratios	NFC Antenna Max MPE ratios	Σ MPE ratios	Limit	Results
0.0011	0.0141	0.0000000006	0.0152	1.0	Pass

8. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

9. Description of Test Facility

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

Test Firm Registration Number: 254912.

10. Measurement Uncertainty

BLE/2.4GWIFI/NFC:

Test Item	Frequency Range	Uncertainty	Note
Output power	1GHz-40GHz	± 0.57 dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

-----THE END OF REPORT-----

