



RF Exposure Evaluation

FOR

Sensorfact B.V.

Sensorfact EnOcean Gateway 902MHz

Test Model: GW-ENOC-902

Prepared for : Sensorfact B.V.
Address : Nicolaas Beetstraat 216-222, Utrecht, 3511 HG, Netherlands

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
Address : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei,
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Date of receipt of test sample : March 08, 2026
Number of tested samples : 2
Sample No. : A260302076-1, A260302076-2
Serial number : Prototype
Date of Test : March 08, 2026 ~ May 06, 2026
Date of Report : May 06, 2026



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**RF Exposure Evaluation****Report Reference No. : LCSA03116079EF**

Date of Issue..... : May 06, 2026

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, ChinaTesting Location/ Procedure : Full application of Harmonised standards ■
Partial application of Harmonised standards □
Other standard testing method □**Applicant's Name : Sensorfact B.V.**

Address..... : Nicolaas Beetstraat 216-222, Utrecht, 3511 HG, Netherlands

Test SpecificationStandard : 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-214 A/0

TRF Originator : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

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Test Item Description..... : Sensorfact EnOcean Gateway 902MHz

Trade Mark : Sensorfact Gateway

Test Model : GW-ENOC-902

Ratings..... : Please Refer to Page 6

Result : Pass**Compiled by:**

Jack Liu/ Administrators

Supervised by:

Kevin Huang/ RF Manager

Approved by:

Gavin Liang/ Manager



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RF Exposure Evaluation

Test Report No. : LCSA03116079EF	<u>May 06, 2026</u> Date of issue
----------------------------------	--------------------------------------

Test Model.....	: GW-ENOC-902
EUT.....	: Sensorfact EnOcean Gateway 902MHz
Applicant	: Sensorfact B.V.
Address.....	: Nicolaas Beetstraat 216-222, Utrecht, 3511 HG, Netherlands
Telephone.....	: /
Fax.....	: /
Manufacturer	: Sensorfact B.V.
Address.....	: Nicolaas Beetstraat 216-222, Utrecht, 3511 HG, Netherlands
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.



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Revision History

Report Version	Issue Date	Revision Content	Revised By
000	May 06, 2026	Initial Issue	---





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1. Product Information

EUT	: Sensorfact EnOcean Gateway 902MHz
Test Model	: GW-ENOC-902
Ratings	: Input: 12.0V $\pm$ 1.25A For Adapter Input:100-240V~, 50/60Hz, 0.4A Output: 12.0V $\pm$ 1.25A, 15.0W
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	: External Antenna, 8.4dBi(Max.)
WIFI(2.4G Band)	:
Frequency Range	: 2412MHz~2462MHz
Channel Spacing	: 5MHz
Channel Number	: 11 Channels for 20MHz bandwidth (2412~2462MHz)
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	: External Antenna, 8.4dBi(Max.)
2G	:
Support Band	: ☒ GSM 850 (U.S.-Band) ☒ PCS 1900 (U.S.-Band) ☒ GSM 900 (EU-Band) ☒ DCS 1800 (EU-Band)
Release Version	: R99
GPRS Class	: Class 12
EGPRS Class	: Class 12
Type Of Modulation	: GMSK for GSM/GPRS; GMSK/8PSK for EGPRS
Antenna Description	: External Antenna 1.9dBi (max.) For GSM 850 3.0dBi (max.) For PCS 1900
3G	:
Support Band	: ☒ WCDMA Band I(Non U.S.-Band) ☒ WCDMA Band II (U.S.-Band) ☒ WCDMA Band IV (U.S.-Band) ☒ WCDMA Band V (U.S.-Band) WCDMA Band VIII (Non U.S.-Band)
Release Version	: R13
Type Of Modulation	: QPSK/16QAM
Antenna Description	: External Antenna 3.0dBi (max.) For WCDMA Band II 3.4dBi (max.) For WCDMA Band IV 1.9dBi (max.) For WCDMA Band V
LTE	:
Support Band	: ☒ E-UTRA Band 2(U.S.-Band) ☒ E-UTRA Band 4(U.S.-Band) ☒ E-UTRA Band 5(U.S.-Band) ☒ E-UTRA Band 12(U.S.-Band) ☒ E-UTRA Band 13(U.S.-Band)



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☒ E-UTRA Band 14(U.S.-Band)
☒ E-UTRA Band 25(U.S.-Band)
☒ E-UTRA Band 26(U.S.-Band)

LTE Release Version : R13

Type Of Modulation : QPSK/16QAM

Antenna Description : External Antenna

3.0dBi (max.) For E-UTRA Band 2
3.4dBi (max.) For E-UTRA Band 4
1.9dBi (max.) For E-UTRA Band 5
1.7dBi (max.) For E-UTRA Band 12
1.7dBi (max.) For E-UTRA Band 13
1.7dBi (max.) For E-UTRA Band 14
3.4dBi (max.) For E-UTRA Band 25
1.9dBi (max.) For E-UTRA Band 26

Power Class : Class 3

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.



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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



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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

[BLE]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
BLE 1M	0	2402	-1.07
	19	2440	1.4
	39	2480	0.44

[2.4G WIFI]

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
11B	1	2412	6.17
	6	2437	6.89
	11	2462	6.04
11G	1	2412	5.47
	6	2437	5.98
	11	2462	5.73
11N20 SISO	1	2412	4.45
	6	2437	4.78
	11	2462	4.38

6. Manufacturing Tolerance

[BLE1M]

BT LE (Peak)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	-1.0	1.0	0
Tolerance ±(dB)	1.0	1.0	1.0

[2.4G WIFI]

11B (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	6.0	6.0	6.0
Tolerance ±(dB)	1.0	1.0	1.0
11G (Peak)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	5.0	5.0	5.0
Tolerance ±(dB)	1.0	1.0	1.0
11N20 (Peak)			



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Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

[GSM Max Average Power]

Test Mode	Channel	Frequency (MHz)	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
GSM 850	LCH	824.2	32.41	32.0 $\pm$ 1.0
	MCH	836.6	32.39	32.0 $\pm$ 1.0
	HCH	848.8	32.38	32.0 $\pm$ 1.0
PCS 1900	LCH	1850.2	29.43	29.0 $\pm$ 1.0
	MCH	1880.0	29.45	29.0 $\pm$ 1.0
	HCH	1909.8	29.47	29.0 $\pm$ 1.0

[WCDMA Max Average Power]

Test Mode	Channel	Frequency (MHz)	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
WCDMA Band II	Low	1852.4	23.41	23.0 $\pm$ 1.0
	Middle	1880	23.50	23.0 $\pm$ 1.0
	High	1907.6	23.35	23.0 $\pm$ 1.0
WCDMA Band IV	Low	1712.4	23.06	23.0 $\pm$ 1.0
	Middle	1732.6	23.20	23.0 $\pm$ 1.0
	High	1752.6	23.37	23.0 $\pm$ 1.0
WCDMA Band V	Low	826.4	23.27	23.0 $\pm$ 1.0
	Middle	836.4	23.19	23.0 $\pm$ 1.0
	High	846.6	23.28	23.0 $\pm$ 1.0

[LTE Max Average Power]

Test Mode		Channel	Max Average Power (dBm)	ANT Max. Tune Up Power (dBm)
LTE	Band 2	LCH	22.95	22.0 $\pm$ 1.0
		MCH	23.25	23.0 $\pm$ 1.0
		HCH	22.98	22.0 $\pm$ 1.0
	Band 4	LCH	22.75	22.0 $\pm$ 1.0
		MCH	22.9	22.0 $\pm$ 1.0
		HCH	22.76	22.0 $\pm$ 1.0
	Band 5	LCH	24.21	24.0 $\pm$ 1.0
		MCH	24.2	24.0 $\pm$ 1.0
		HCH	24.11	24.0 $\pm$ 1.0
	Band 12	LCH	24.31	24.0 $\pm$ 1.0
		MCH	24.19	24.0 $\pm$ 1.0
		HCH	24.33	24.0 $\pm$ 1.0
	Band 13	LCH	24.21	24.0 $\pm$ 1.0
		MCH	24.08	24.0 $\pm$ 1.0
		HCH	24.09	24.0 $\pm$ 1.0
	Band 14	LCH	24.17	24.0 $\pm$ 1.0
		MCH	24.11	24.0 $\pm$ 1.0
		HCH	24.08	24.0 $\pm$ 1.0
	Band 25	LCH	23.11	23.0 $\pm$ 1.0
		MCH	23.04	23.0 $\pm$ 1.0
		HCH	22.88	22.0 $\pm$ 1.0
	Band 26-1	LCH	24.15	24.0 $\pm$ 1.0
		MCH	24.12	24.0 $\pm$ 1.0
		HCH	24.14	24.0 $\pm$ 1.0



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	Band 26-2	LCH	24.18	24.0±1.0
		MCH	24.19	24.0±1.0
		HCH	24.19	24.0±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)	MPE ratios1
	dBm	mW					
GFSK	2.0	1.5849	8.4	6.9183	0.0022	1.0000	0.0022

[2.4G WIFI]

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios1
	dBm	mW					
IEEE 802.11b	7.0	5.0119	8.4	6.9183	0.0069	1.0000	0.0069

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)	MPE ratios2
	dBm	mW					
GSM 850	23.97	249.4595	1.9	1.5488	0.0769	0.5493	0.1400
PCS 1900	20.97	125.0259	3.0	1.9953	0.0496	1.0000	0.0496
WCDMA Band II	24.0	251.1886	3.0	1.9953	0.0997	1.0000	0.0997
WCDMA Band IV	24.0	251.1886	3.4	2.1878	0.1094	1.0000	0.1094
WCDMA Band V	24.0	251.1886	1.9	1.5488	0.0774	0.5493	0.1409
LTE Band 2	24.0	251.1886	3.0	1.9953	0.0997	1.0000	0.0997
LTE Band 4	23.0	199.5262	3.4	2.1878	0.0869	1.0000	0.0869
LTE Band 5	25.0	316.2278	1.9	1.5488	0.0975	0.5493	0.1775
LTE Band 12	25.0	316.2278	1.7	1.4791	0.0931	0.4660	0.1998
LTE Band 13	25.0	316.2278	1.7	1.4791	0.0931	0.5180	0.1797
LTE Band 14	25.0	316.2278	1.7	1.4791	0.0931	0.5253	0.1772
LTE Band 25	24.0	251.1886	3.4	2.1878	0.1094	1.0000	0.1094
LTE Band 26	25.0	316.2278	1.9	1.5488	0.0975	0.5427	0.1797

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.
4. For GSM, Duty cycle=1/8.



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7.2 Simultaneous Transmission MPE Evaluation

The sample support one BLE&2.4GWLAN, another one GSM&WCDMA&LTE transmit antenna, so need consider simultaneous transmission; Bluetooth and WIFI cannot transmit simultaneously.

Simultaneous transmission MPE

According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

$$TER = \sum_{k=1}^{N_f} \left(\frac{SAR_k}{SAR_{lim}} \right) + \sum_{k=1}^{N_f} \left(\frac{MPE_{field,k}}{MPE_{field,lim}} \right)^2 + \sum_{k=1}^{N_{PD}} \left(\frac{MPE_{PD,k}}{MPE_{PD,lim}} \right)$$

$\sum \sum$ of MPE ratios ≤ 1.0

Max MPE ratios1	Max MPE ratios2	$\sum$ MPE ratios	Limit	Results
0.0069	0.1998	0.2067	1.000	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&2.4GWLAN/GSM/WCDMA/LTE:

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-----



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