

TEST REPORT

Product Name : All-in-one Wireless Presence Sensor
Model Number : LWR02
FCC ID : 2AFIW-LWR02

Prepared for : GL Technologies (Hong Kong) Limited
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Report Number : EDG2512310300E00403R
Date of sample receipt : Mar 04, 2026
Date(s) of Tests : Mar 04, 2026 to Apr 22 2026
Date of issue : Apr 23 2026

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1. TEST RESULT CERTIFICATION

Applicant : GL Technologies (Hong Kong) Limited

Address : Unit 601, Building 5W, Hong Kong Science Park, Shatin, N.T., Hong Kong

Manufacturer : GL Technologies (Hong Kong) Limited

Address : Unit 601, Building 5W, Hong Kong Science Park, Shatin, N.T., Hong Kong

Factory : Shenzhen Guanglianzhitong Tech Co., Ltd.

Address : Room 305-306, Skyworth Digital Bulding, Songbai Road, Shiyan Street, Baoan District, Shenzhen, China

EUT : All-in-one Wireless Presence Sensor

Model Name : LWR02

Trademark : Lafaer

Measurement Procedure Used:

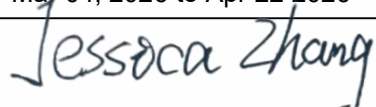
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1091	PASS

The above equipment was tested by EMTEK (DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2020+Cor.1-2023) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1091. The test results of this report relate only to the tested sample identified in this report

Date of Test :

Mar 04, 2026 to Apr 22 2026

Prepared by :


Jessica Zhang /Editor

Reviewer :


Warren Deng /Supervisor

Approve & Authorized Signer :


Sam Lv / Manager



Modified History

Version	Report No.	Revision Date	Summary
	EDG2512310300E00403R	/	Original Report



2. EUT SPECIFICATION

Characteristics	Description
Product:	All-in-one Wireless Presence Sensor
Model Number:	LWR02
Sample:	1#
Modulation:	GFSK for BLE O-QPSK for Thread FMCW for 24G Radar
Operating Frequency Range(s) :	BLE:2402-2480MHz Thread:2405-2480MHz 24G Radar:24GHz-24.25GHz
Number of Channels:	BLE:40 channels Thread:16 channels 24G Radar:1 channel
Transmit Power Max:	BLE:2.34 dBm(0.001714W) Thread:8.21 dBm(0.006622W)
Max Field Strength	24G Radar: 99.526 dBuV@3m
Antenna Type:	BLE/Thread:FPC Antenna 24G Radar:PCB Antenna
Antenna Gain:	BLE/Thread:1.45 dBi 24G Radar: 4.78 dBi
Power supply:	DC 3.0V (AAA 1.5V*2)from battery
Evaluation applied:	☒ MPE Evaluation ☐ SAR Evaluation

3. TEST REQUIREMENT:

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

R =20, distance between observation point and center of the radiator in cm

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

BLE/Thread :Antenna gain: 1.45 dBi

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	2.34	2±1	3	1.995	1.45	1.40	0.0006	1
2440		1.59	1±1	2	1.585	1.45	1.40	0.0004	1
2480		1.71	1±1	2	1.585	1.45	1.40	0.0004	1
2405	O-QPSK	8.21	8±1	9	7.943	1.45	1.40	0.0022	1
2445		7.30	7±1	8	6.310	1.45	1.40	0.0018	1
2480		7.76	7±1	8	6.310	1.45	1.40	0.0018	1

24G Radar :Antenna gain:4.78 dBi

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
24000	FMCW	-0.488	0±1	1	1.259	4.78	3.01	0.00075	1

Summary of MPE: BLE + Thread + 24G Radar:

Transmitter	FCC MPE Result (mW/cm ²)	FCC Limit (mW/cm ²)	Ratio FCC
Ble	0.0006	1	0.0006
Thread	0.0022	1	0.0022
24G Radar	0.00075	1	0.00075
Sum of Ratios			0.00355

Rounding up the sum of the ratios per FCC RF exposure policies, the sum of the ratios must be <1.

The sum of ratios for both FCC = 0.00355<1

Thus, the EUT meets the uncontrolled exposure limit at 20 cm when all transmitters transmit simultaneously and does NOT require MPE measurement for FCC .

*** End of Report ***