

FCC RF Exposure Exemption report
for

Smart Home Alarm System

Model No.: HSGW-MAX-CatM-DT32

FCC ID: GX9HSGWM8M1ZB

of

Applicant: CLIMAX TECHNOLOGY CO., LTD.
Address: No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114,
Taiwan (R.O.C.)

Tested and Prepared

by

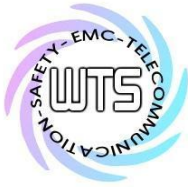
Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634



Report No.: W6M22603-25061-EE

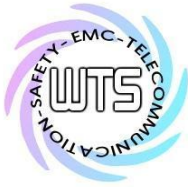


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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

Laboratory disclaimer-

1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.
4. Antenna gain is provided by applicant and laboratory issue relevant data and results.

Tester:

May 13, 2026

Sora Kuo

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

May 13, 2026

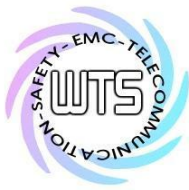
Kevin Wang

Date

WTS

Name

Signature



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1.2 Testing laboratory

1.2.1 Location

10m OATS

No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber

No. 99, Sec. 1, Balian Rd., Xizhi Dist.,
New Taipei City 221032, Taiwan (R.O.C.)

Worldwide Testing Services (Taiwan) Co., Ltd.

6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,

Taipei City 114, Taiwan (R.O.C.)

Tel: 886-2-6606-8877

1.2.2 Details of accreditation status

Accredited testing laboratory

FCC filed test laboratory Reg. No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634

Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name: ./.

Accredited no.: ./.

Street: ./.

Town: ./.

Country: ./.

1.3 Application details

Approval holder

Name: CLIMAX TECHNOLOGY CO., LTD.

Street: No. 258, Sinhu 2nd Rd., Neihu District,

Town: Taipei City 114,

Country: Taiwan (R.O.C.)

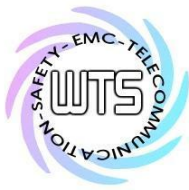
Manufacturer: (if applicable)

Name: ./.

Street: ./.

Town: ./.

Country: ./.



Registration number: W6M22603-25061-EE

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Date of receipt of test item: March 27, 2026

Date of test: from March 30, 2026 to May 11, 2026

1.4 General information of Test item

Type of test item: Smart Home Alarm System

Model no.: HSGW-MAX-CatM-DT32

Multi-listing model no.: ./.

Brand name: ./.

Power supply: Adapter (I/P: 100-240V~50/60Hz 0.30A Max
O/P: 12.0V=1.0A 12W)

Battery 7.2V, 1100mA

Type of antenna: 433.82MHz/WLAN/Bluetooth/LTE: Monopole Antenna

Zigbee: PCB Antenna

Antenna gain: 433.82MHz: -6.51 dBi

WLAN/Bluetooth: 2.78 dBi

LTE:

Part 2/22/24/27

Band 2: 3.31 dBi 、 Band 4: 1.73 dBi 、

Band 5: 1.39 dBi 、 Band 12: 1.22 dBi 、 Band 13: 2.09 dBi 、

Band 26: 1.39 dBi 、 Band 66: 1.73 dBi

Part 90: Band 26: 1.46 dBi

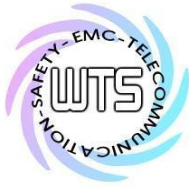
Zigbee:

Mode 1: 3.61 dBi

Mode 2: 0.94 dBi

Technical data:

433.82MHz
Conducted Power (dBuV/m / dBm)
80.63 / -14.60



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WLAN		
Mode	Channel	Conducted Power (dBm)
802.11b	Ch 1 : 2412 MHz	16.27
	Ch 6 : 2437 MHz	16.60
	Ch 11 : 2462 MHz	16.67
802.11g	Ch 1 : 2412 MHz	14.45
	Ch 6 : 2437 MHz	14.72
	Ch 11 : 2462 MHz	14.96
802.11n 20MHz	Ch 1 : 2412 MHz	13.79
	Ch 6 : 2437 MHz	14.15
	Ch 11 : 2462 MHz	14.27

Bluetooth			
Band	Mode	Channel	Power(dBm)
2.4GHz	BR	Ch 0 : 2402 MHz	9.61
		Ch 39 : 2441 MHz	9.70
		Ch 78 : 2480 MHz	9.93
	EDR	Ch 0 : 2402 MHz	9.66
		Ch 39 : 2441 MHz	9.87
		Ch 78 : 2480 MHz	9.95
	Low energy	Ch 0 : 2402 MHz	6.47
		Ch 19 : 2440 MHz	6.45
		Ch 39 : 2480 MHz	6.38

LTE		
Band	Channel/Frequency(MHz)	EIRP/ERP (dBm)
Band 2	18900/1880	24.11
Band 4	19965/1711.5	22.94
Band 5	20415/825.5	21.67
Band 12	23017/699.7	21.26
Band 13	23205/799.5	22.05
Band 26	26797/824.7	21.07
Band 66	131997/1712.5	22.85
Band 26 (Part 90)	26715/816.5	21.26



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Zigbee		
Mode	Channel	Conducted Power (dBm)
Mode 1 (Module)	Ch 1 : 2405 MHz	13.57
	Ch 8 : 2440 MHz	13.64
	Ch 15 : 2475 MHz	14.06
Mode 2 (Matter)	Ch 1 : 2405 MHz	13.57
	Ch 8 : 2440 MHz	14.70
	Ch 15 : 2475 MHz	15.66

Operation modes: Duplex

Modulation type: Zigbee & WLAN & Bluetooth:

O-QPSK 、DSSS/OFDM 、GFSK 、 $\pi/4$ DQPSK 、8DPSK

LTE: QPSK, 16QAM

Sample no.: #02

Classification:

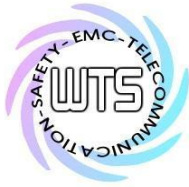
Fixed Device	☒
Mobile Device (Human Body distance > 20cm)	☐
Portable Device (Human Body distance < 20cm)	☐

1.5 Test standards

47 CFR FCC Part 1 Subpart I, section 1.1310

FCC KDB Publication

447498 D01 General RF Exposure Guidance v06



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2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.49 dB

The decision rule is: Measurement uncertainty is not included in the calculation of test results.

2.3 Test Equipment List

Max Output Power

433.82MHz

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2025/9/10	2026/9/9
ETSTW-RE 177	TRILOG Broadband Antenna	VULB 9168&EMCI-N-6-06	01380&AT-06007	SCHWARZBECK&EMC	2026/4/17	2027/4/16
ETSTW-Cable 077	SMA type cable (10m)	EMC104-SM-SM-10000	230511	EMCI	2025/7/11	2026/7/10
ETSTW-Cable 084	SMA type cable (1m)	SF104-11SMA-1000	816477/4	HONOVA	2025/7/11	2026/7/10
ETSTW-Cable 089	SMA type cable (2m)	SF104-11SMA-2000	SN 811889/4	HUBER+SUHNER	2025/7/11	2026/7/10
WTSTW-SW 002	EMI TEST SOFTWARE	EZ EMC	None	Farad	Version ETS-03A1 Version EMEC-3A1+	

WLAN/Bluetooth/LTE/Zigbee

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2026/2/13	2027/2/12
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2026/3/12	2027/3/11
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2026/2/13	2027/2/12
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2026/2/13	2027/2/12



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3 Equivalent Isotropic Radiated Power (EIRP)

3.1 Exemption Limits for Routine Evaluation

according to 47 CFR FCC Part 1 Subpart I, section (1.1310)

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 1 Subpart I, section 1.1310 this device has been defined as a mobile device whereby a distance of 20 cm normally can be maintained between the user and the device.

MPE Calculation Method

(A) Limits 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) Limits 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

f = frequency in MHz

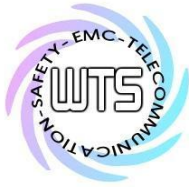
*Plane-wave equivalent power density

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2} \quad \text{mW/cm}^2.$$



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433.82MHz

Frequency (MHz)	Max output power (dBuV/m / dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
433.82	80.63 / -14.60	-6.51	0	0.2892	0

WLAN

Band	Frequency (MHz)	Max output power (dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
802.11b	2462	16.67	2.78	0.0175	1	0.0175

Bluetooth

Band	Frequency (MHz)	Max output power (dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
EDR	2480	9.95	2.78	0.0037	1	0.0037
Low energy	2402	6.47	2.78	0.0017	1	0.0017

LTE

Band	Frequency (MHz)	Max output power (dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
Band 2	1880	20.80	3.31	0.0513	1	0.0513
Band 4	1711.5	21.21	1.73	0.0392	1	0.0392
Band 5	825.5	21.67	1.39	0.0402	0.55	0.0731
Band 12	699.7	22.19	1.22	0.0436	0.47	0.0928
Band 13	799.5	22.11	2.09	0.0523	0.53	0.0987
Band 26	824.7	21.83	1.39	0.0418	0.55	0.0760
Band 66	1712.5	21.39	1.73	0.0408	1	0.0408
Band 26 (Part 90)	816.5	21.95	1.46	0.0436	0.54	0.0807



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Zigbee

Mode	Frequency (MHz)	Max output power (dBm)	Antenna Gain (dBi)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio
1	2475	14.06	3.61	0.0116	1	0.0116
2	2475	15.66	0.94	0.0091	1	0.0091

From the peak EUT RF output power, the minimum mobile separation distance, $d = 20$ cm, as well as the gain of the used antenna, the RF power density can be obtained.

Simultaneous evaluation-

0.0175 (WLAN) + 0.0116 (Zigbee) + 0.0987 (LTE) = $0.1278 < 1$