

TEST REPORT

Product Name : Smoke and Carbon Monoxide Alarm
Model Number : XP0J-iA, CB0W-4H, W/HR-SCA-0D
FCC ID : 2AU4DDDD

Prepared for : X-Sense Innovations Co., Ltd.
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Date(s) of Tests : December 05, 2025 to December 25, 2025
Date of issue : December 25, 2025

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1. TEST RESULT CERTIFICATION

Applicant : X-Sense Innovations Co., Ltd.
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Manufacturer : X-Sense Electronics Co., Ltd.
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EUT : Smoke and Carbon Monoxide Alarm
Model Name : XP0J-iA, CB0W-4H, W/HR-SCA-0D
Trademark : X-SENSE

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093	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) 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), § 2.1093.

The test results of this report relate only to the tested sample identified in this report

Date of Test : December 05, 2025 to December 25, 2025

Prepared by :

Yu Xiaolan

Yu Xiaolan /Editor

Reviewer :

Xia Lili

Xia Lili/Supervisor

Wang Li

Approve & Authorized Signer :

Wang Li/Manager



Modified History

Version	Report No.	Revision Date	Summary
	ENS2511120038W01502R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Smoke and Carbon Monoxide Alarm
Model Number:	XP0J-iA, CB0W-4H, W/HR-SCA-0D (Note: Only the model of XP0J-iA was tested, since the electrical circuit design, layout, components used and internal wiring are identical, only the model name.)
Sample:	1#
Data Rate:	BLE: 1Mbps for GFSK modulation BT: 1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation 2.4G WIFI: 802.11b 802.11g 802.11n(20MHz channel bandwidth) 802.11n(40MHz channel bandwidth)
Modulation:	BLE: GFSK BT: GFSK, $\pi/4$ -DQPSK, 8DPSK 2.4G WIFI: DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range(s) :	2402-2480MHz for BLE; 2402-2480MHz for BT; 2412-2462MHz for 2.4G WIFI
Number of Channels:	40 channels for BLE; 79 channels for BT; 11 channels for 2.4G WIFI
Transmit Power Max:	12.74 dBm(0.018793 W) for WiFi 2.4G; -3.02 dBm(0.000499 W) for BLE; -0.04 dBm(0.000991 W) for BT;
Antenna Gain:	3.42 dBi
Power supply:	Input: AC 120V 60Hz, 10mA Max Battery type: DC 3V
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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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 = 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 antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

gain:	3.42	FCC MPE						
Mode	Frequency (MHz)	Output Power(dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)
GFSK	2402	-2.44	0.98	0±1	1	1.26	0.000550	1
	2441	-3.12	0.3	0±1	1	1.26	0.000550	1
	2480	-2.96	0.46	0±1	1	1.26	0.000550	1
pi/4-DQPSK	2402	-0.23	3.19	3±1	4	2.51	0.001098	1
	2441	-1.27	2.15	2±1	3	2.00	0.000872	1
	2480	-1.24	2.18	2±1	3	2.00	0.000872	1
8-DPSK	2402	-0.04	3.38	3±1	4	2.51	0.001098	1
	2441	-0.97	2.45	2±1	3	2.00	0.000872	1
	2480	-0.8	2.62	2±1	3	2.00	0.000872	1

gain:	3.42	FCC MPE						
Mode	Frequency (MHz)	Output Power(dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)
BLE GFSK	2402	-3.02	0.4	0±1	1	1.26	0.000550	1
	2441	-3.63	-0.21	-1±1	0	1.00	0.000437	1
	2480	-3.65	-0.23	-1±1	0	1.00	0.000437	1

gain:	3.42	FCC MPE						
Mode	Frequency (MHz)	Output Power(dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)
802.11b	2412	12.06	15.48	15±1	16	39.81	0.017407	1
	2437	11.14	14.56	14±1	15	31.62	0.013827	1
	2462	11.61	15.03	15±1	16	39.81	0.017407	1
802.11g	2412	10.35	13.77	13±1	14	25.12	0.010983	1
	2437	12.47	15.89	15±1	16	39.81	0.017407	1
	2462	12.74	16.16	16±1	17	50.12	0.021914	1
802.11n20	2412	11.84	15.26	15±1	16	39.81	0.017407	1
	2437	12.53	15.95	15±1	16	39.81	0.017407	1
	2462	10.33	13.75	13±1	14	25.12	0.010983	1
802.11n40	2422	9.68	13.1	13±1	14	25.12	0.010983	1
	2437	9.37	12.79	12±1	13	19.95	0.008724	1
	2452	9.61	13.03	13±1	14	25.12	0.010983	1

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement

*** End of Report ***