



Make Invisible Risks Visible



User Manual

Radon Alarm

XR0B-SR

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Note: Scan the QR code on the left to view the full digital manual.

1 Introduction

! WARNING

1. READ THE INSTRUCTIONS CAREFULLY BEFORE OPERATING OR SERVICING.
2. THIS PRODUCT IS INTENDED FOR USE IN ORDINARY INDOOR LOCATIONS OF FAMILY LIVING UNITS. DO NOT USE OUTDOORS.
3. DO NOT DISASSEMBLE THE DEVICE YOURSELF. IT CONTAINS SENSITIVE COMPONENTS THAT HAVE BEEN CAREFULLY CALIBRATED BEFORE LEAVING THE FACTORY. DISASSEMBLY MAY LEAD TO DISTORTED DETECTION RESULTS!
4. Rechargeable batteries are not allowed, as they may negatively impact operation.
5. Different types of batteries or new and used old batteries are not to be mixed. Do not mix batteries of different manufacturers, capacities, or sizes.
6. Batteries must be inserted with the correct polarity. Replacement of a battery with an incorrect type can defeat the safeguard. There will be a risk of fire or explosion if a battery is replaced with an incorrect type.
7. Use only batteries specified in the marking. Use of a different battery may have a detrimental effect on alarm operation.

What is Radon

Radon is a cancer-causing, radioactive gas.

You can't see radon. And you can't smell or taste it. But it may be a problem in your home. Radon is estimated to cause many thousands of deaths each year. That's because when you breathe air containing

radon, you can get lung cancer. Only smoking causes more lung cancer deaths. If you smoke and your home has high radon levels, your risk of lung cancer is particularly high.

2 Get to Know Your Device

2.1 What's Inside the Box



Radon Alarm

(Pre-installed removable AA battery × 3)



User Manual



Date Sticker

(5 pieces; manually filled with the start time of detection)



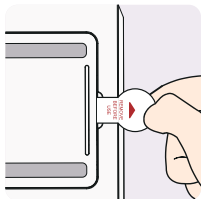
Indicator Label

(Avoid side air intake area)

2.2 How to Use

Just 3 steps to get started—simple and effective.

1 Power On



2 Wait Patiently (Recommended over 7 days)

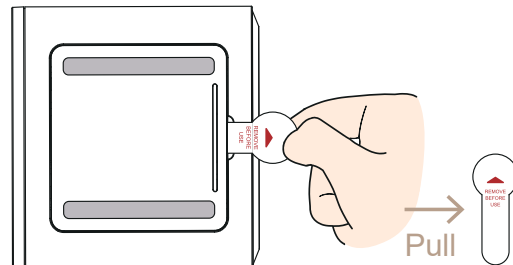


3 Check for Abnormal Readings



2.2.1 How to Power On/Off

Power On: After the battery is installed or the insulating film is removed, the device powers on automatically. The LCD briefly displays all segments while the indicator flashes red and yellow alternately. The device then performs a self-check and displays “CAL” with an increasing value. If a fault is detected, an error code is shown (see **Troubleshooting**). If no issues are found, the device enters standby mode and starts monitoring.

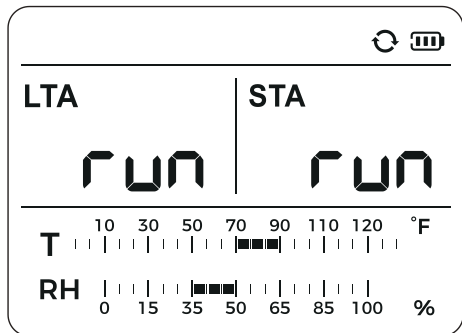


Remove the insulating film.



After initial power-on or a data reset, both the long-term and short-term averages display “run”, indicating that the device is collecting initial stable data. The first reading will be shown within 4–24 hours, depending on ambient radon concentrations.

NOTE: In most household environments, the first reliable reading comes in 24 hours. Please be patient. The higher the radon concentration, the shorter the time for the first stable reading.



LCD After the First Power-On or Data Reset

Power Off: The device powers off automatically when the battery is removed or depleted. All records are temporarily saved. After power is restored and the self-test is completed, recording resumes from the last saved data.

All data can be cleared only by pressing and holding the **Reset** button.

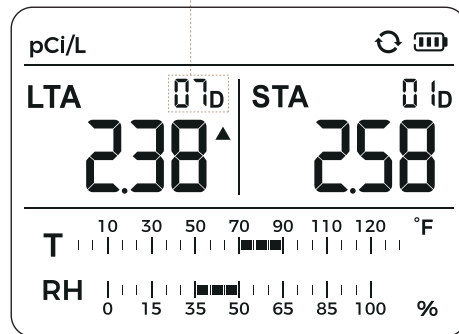
NOTE: It is not recommended to power off for more than 4 hours, as the detection data may become distorted. In such cases, a retest is required.

2.2.2 How to Test

Ready to use right out of the box, no setup required. Due to the unstable nature of radon, a single monitoring period of more than 7 days is recommended to ensure accurate readings.

NOTE: Don't worry, the health threat posed by radon comes from long-term (several years) exposure to high concentrations of radon. High concentrations of radon do not pose an immediate health threat.

Recommended ≥ 7 Days



Recommended Placements as Follows:

1. Measurements are recommended in the basement or on the lowest livable floor, where radon most commonly enters and accumulates. Other frequently used areas may also be tested.
2. Areas under construction that are intended for future use (such as a workspace, game room, or bedroom) should also be tested.

- If the heating system is not operating during the test, results may be inaccurate. For best accuracy, perform the test while the heating system is running.
- Place it at least 3 ft (90 cm) from the nearest door, window or air vent.

Do not use in the following situations:

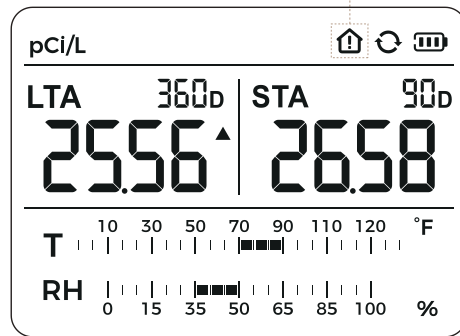
- Inside closets, cabinets, sumps, crawl spaces, or nooks within the building foundation.
- Near heat sources, such as on appliances, radiators, fireplaces, or in direct sunlight.
- Near drafts caused by fans or heating and air conditioning vents or in enclosed areas of high air velocity, such as mechanical/furnace closets.
- Within enclosed areas of high humidity exceeding 85%, such as bathrooms, laundry rooms, and kitchens that are isolated from large open areas by partitions or other enclosures.
- Do not use outdoors.

NOTES:

- Avoid placing the radon alarm on or near areas that may produce radiation, such as natural stone (e.g., rock collections, granite counter tops, hearths, or slate pool tables).*
- During testing, do not block the side air intake areas, and keep the device stationary.*

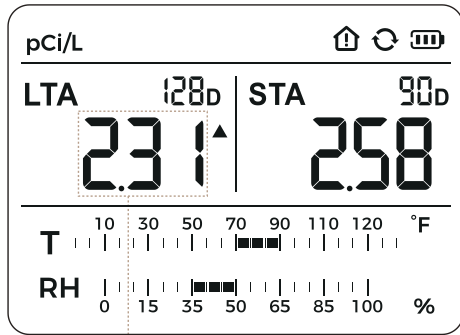
2.2.3 How to Interpret the Data

"Maintenance Recommended" Icon



When the **"Maintenance Recommended"** icon (🏠) appears and the LCD flashes, accompanied by flashing red once every 10 seconds and beeping, the radon concentration has exceeded the threshold, and the built-in alarm is triggered. You can consult local professionals or authorities to reduce indoor radon levels.

NOTE: The flashing screen and the icon will automatically deactivate once radon levels drop, requiring no manual intervention.



Refer to this value and compare it with the table below.

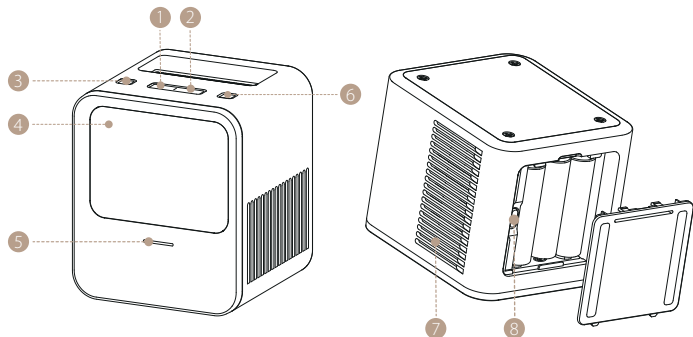
Due to differences in testing conditions and usage, not all warning scenarios can be covered. If the **"Maintenance Recommended"** icon (house with exclamation mark) does not appear but concerns remain, check the long-term average and refer to the table below (The long-term average is meaningful only after at least 7 days of monitoring, and its accuracy improves over time):

NOTE: Each radon warning lasts for 24 hours. During the warning mode, you can press the "Peak Level/Silence" button once to mute the device. The mute can remain active until the current radon warning ends.

Monitoring Period	Concentration	Recommended Actions
Long-Term Average	≥ 4 pCi/L (150 Bq/m ³)	It is recommended to consult a professional to assess the next steps.
	2-4 pCi/L (75-150 Bq/m ³)	Ventilation and monitoring.
	≤ 2 pCi/L (75 Bq/m ³)	No obvious problems found.

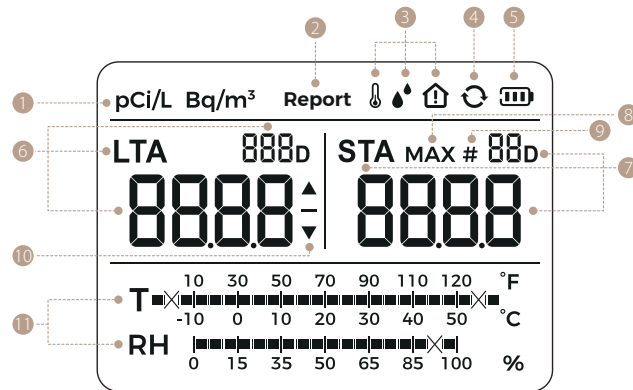
NOTE: Any exposure to radon carries some level of risk. There is no completely safe level of radon, and health risks still exist even when radon levels are below 4 pCi/L (150 Bq/m³).

2.3 Understanding the Buttons and Screen Interface

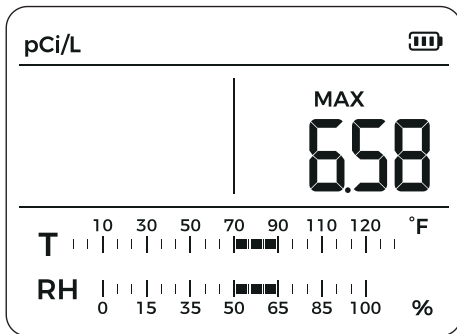


- 1 & 2 “Left” Button & “Right” Button:** In normal operation, press the button to enter the built-in report mode (if reports are available), and use the Left and Right buttons to switch between reports. In settings mode, you can also use the buttons to switch the setting items.
- 3 “Peak Level/Silence” Button:** Press once to view the maximum radon concentration in the current interval and the interval’s average temperature and humidity. If radon or temperature/humidity warnings occurred, the corresponding icons are displayed. The display remains on for 5 seconds. While the peak value is shown, press and hold (≥ 3 seconds) to clear the current peak value and start a new interval (only the peak value is cleared; all other radon data remain unchanged). During an active warning, a single press silences the alarm until the warning is cleared.

- 4 LCD:** For detailed information, please refer to the following sections.
- 5 LED:** Provides visual indicators. Yellow indicates a fault or low battery, while red indicates an alarm. For details, please refer to “Troubleshooting”.
- 6 “Report/Settings” Button:** Press once to save the current data and generate a report. Double-press to switch the temperature units (between $^{\circ}\text{C}$ and $^{\circ}\text{F}$). Long-press to enter the settings mode.
- 7 Air Intake Area:** Where radon enters the device. Do not block during operation.
- 8 Reset Button:** Press and hold the button (≥ 3 seconds) to clear all data and restore factory settings (built-in reports are retained). The device will then restart. Use this function with caution and perform it before starting a new monitoring cycle.

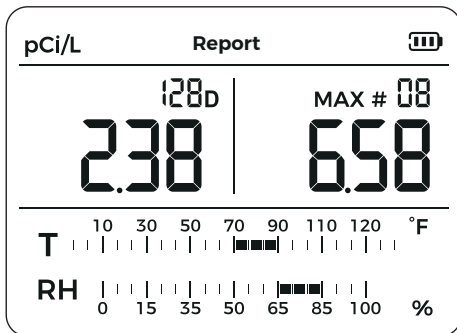


- 1 **Measurement Units:** Double-press the “Peak Level/Silence” button to switch the radon unit between pCi/L and Bq/m³. The recommended standard unit for use in the United States is pCi/L. For use in Europe or Canada, you may switch to Bq/m³.
- 2 **Report Mode Label:** After entering report mode, the icon appears, and press the “Report/Settings” button again or wait 2 minutes to exit report mode.
- 3 **Warning Icons:** Include 3 icons: “” indicates temperature warning, “” indicates humidity warning, and “” indicates radon warning.
- 4 **“Testing” Icon:** Indicates that the device is performing radon detection; if this icon stops flashing, please restart the device or contact us.
- 5 **“Battery” Icon:** Indicates the current battery level of the device. When this icon ( or ) appears, please replace the battery promptly.
- 6 **Long-Term Average Display (the main data):** Displays the average value of all radon monitoring data since power on or data reset, used to determine whether further action is needed. The maximum duration for long-term monitoring is 999 days. **The long-term average is updated every 24 hours.**
- 7 **Short-Term Average Display (the auxiliary data):** Displays short-term variations across multiple intervals. Four rolling intervals are shown, representing average radon levels over the past 1, 7, 30, and 90 days.
- 8 **Peak Level:** Icon for radon peak level. It is displayed after entering peak level mode, shown as below.



LCD Displays Peak Level

- 9 **Report Serial Number:** After entering report mode, it is displayed. The number following “#” indicates the report index. Up to 99 reports can be stored.



NOTES:

1. When the device is about to shut down due to low battery, encounters a fault, or reaches the end of its service life with less than one day remaining, a data report will be automatically saved.
2. The report displays any warning icons (if applicable), indicating that the corresponding warning events occurred during the recorded detection cycle.
3. Operations on the Reset button will not delete built-in reports. Once generated, built-in reports cannot be deleted.

10 Value Change Trend: Indicates the recent fluctuations in radon concentration. "▲" represents a significant increase; "▼" represents a significant decrease; "—" represents no significant fluctuation.

11 Temp/Humidity Ranges: Monitors the ambient temperature and humidity of the operating environment. Only range values are displayed here. A warning icon "⚠" or "💧" will appear when the built-in thresholds are exceeded.

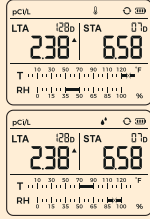
2.4 Technical Specifications

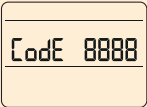
Power Supply	1.5 V (≡) AA alkaline battery × 3 (replaceable)
Battery Life	2 years
Warranty Period	5 years
Sampling Method	Passive diffusion chamber
Measurement Method	Continuous alpha spectrometry

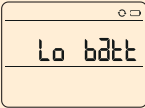
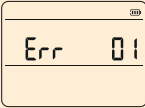
Detection Range	0–500 pCi/L 0–9999 Bq/m ³
Accuracy/Precision (95% Confidence)	< ± 10% @5.4 pCi/L (200 Bq/m ³) after 7 days
Sensor Sensitivity	1.25 cph (counts per hour) per 1 pCi/L (37 Bq/m ³)
Detection Stabilization Time	Reliable data is obtained within 4 to 24 hours (the higher the concentration, the faster the data is available). The longer the testing period, the more accurate the results. It is recommended to perform a single detection for at least 7 days.
Data Update Cycle	1 hour/24 hours (Short-term average and long-term average have different update cycles).
Operating Temperature	14–122°F (-10–50°C)
Operating Relative Humidity	≤ 85% RH (non-condensing)

3 Troubleshooting

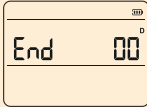
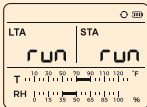
SN	LCD Indicator	Problem	Possible Causes	Solution
1	None.	The device cannot be powered on, and the LCD shows nothing.	The device isn't powering on properly.	Open the battery compartment and remove the battery insulating film; if the batteries run out, please replace them.
2		[LCD Flashing] The LCD displays the "Maintenance Recommended" icon (🏠), and the LED flashes red every 10 seconds accompanied by beeping.	The radon concentration exceeds the threshold, and the device enters radon warning mode.	You may consult local professionals for evaluation.

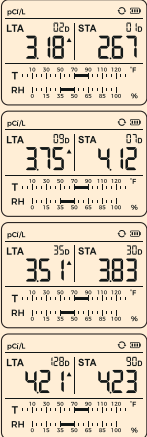
3		The LCD displays the "Temperature Warning" icon (🌡️) or the "Humidity Warning" icon (💧), accompanied by flashing red twice every 20 seconds and beeps.	The device is operating outside the normal temperature and humidity range. Prolonged exposure to abnormal temperature or humidity conditions may cause irreversible damage to the device. NOTE: The temperature and humidity alert icon on the screen will remain visible and will not clear	Check the device status and promptly adjust the ambient temperature and humidity. At this time, the radon data may be inaccurate. Keep the device within the normal operating environment and extend the monitoring duration, or relocate the device and restart a new monitoring cycle.
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			<i>automatically. To clear the alert icon, press and hold the Reset button for 3 seconds or longer.</i>	
4		"Code XXXX" is displayed on the screen, showing a 4-digit number.	The verification code for the online report disappears after 10 seconds and does not indicate a device malfunction.	This is not a device malfunction and requires no operation.

5		The LCD displays "Lo batt," and the LED flashes yellow once every 60 seconds, accompanied by 1 beep.	The device has entered the low-battery mode.	Replace the batteries.
6		The LCD displays "Err 01", "Err 02", or "Err 03", and the LED flashes yellow twice every 60 seconds, accompanied by 2 beeps.	The device has entered the fault mode. NOTE: When the device malfunctions, the screen will not display the temperature and humidity data, and the radon detection will cease.	Restart the device. If the issue persists, please replace the device.

			<i>However, you can still access the peak level interface or the built-in report mode to view historical data and records.</i>	
7		The LCD displays "End" along with a countdown in days, and the LED flashes yellow 3 times every 60 seconds. accompanied by 3 beeps.	The device has started a lifetime countdown. Radon and temperature/humidity data will no longer be detected or displayed. However, you can still enter the peak level interface or	Promptly record and save the detection data and replace the device once it reaches the end of its service life.

			the built-in report mode to view historical data and records.	
8		The LCD displays "End 00", no longer scrolls data, and does not respond to any operations.	The device has reached the end of its service life.	Replace the device.
9		The LCD displays "run" rather than the specific data.	The device has just powered on and is waiting to output the first stable data.	According to the different radon levels, the device will output the first stable data within 4-24 hours. Please wait patiently.

10	None.	After replacing the batteries, the device retains the previous data.	The data retention feature ensures that removing batteries will not erase the data.	If you need to erase the data, please press the Reset button on the device. If you need to shut down the Data Retention Feature, please refer to the section “Settings Mode” .
11	 The screenshots show the device's display at four different time intervals: 02:00, 09:00, 35:00, and 42:00. The display shows temperature (T) and relative humidity (RH) data. The temperature values are 3.18, 3.75, 35.1, and 42.1. The relative humidity values are 26.7, 4.12, 38.3, and 42.3. The display also shows a bar graph representing the data over time.	The short-term average does not fully display all 4 measurement intervals.	The testing duration has not yet reached the required time for the next measurement interval level.	Continue to test: For example, when the device is first powered on, only the “01 D” measurement interval is displayed. Once the testing time exceeds 7 days, both the “01 D” and “07 D” measurement intervals will be shown and

				scroll on the display, and so on.
12	None.	Radon warning mode or temperature/humidity warning mode is triggered, but the device didn't emit beeps or flash red.	The audio and visual indicators have been turned off in the settings mode.	Turn on the audio and visual indicators in the settings mode. For more details, please refer to the section “Settings Mode” .
13	None.	After the device is powered off and turned on again, previous data will not be continued. A new detection cycle will start instead.	The data retention feature has been turned off in the settings mode.	Enable in settings mode. Please refer to the section “Settings Mode” .

4 Other Features

4.1 Report Generation Feature

You can open the web interface by scanning the QR code at the back of the device or manually entering the

URL: <https://radon.x-sense.com/report>

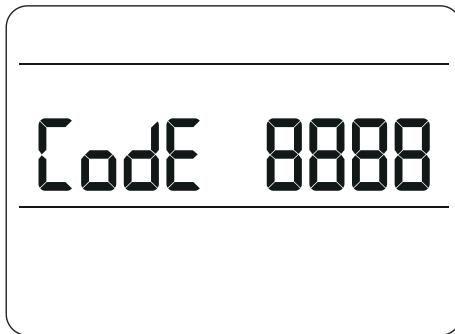
On this interface, follow the instructions to manually enter the relevant parameters and data, which will generate a PDF report that can be downloaded to your phone or PC.

NOTES:

1. Please save the data report promptly at the end of each testing cycle.
2. Please ensure the accuracy of the input information, as incorrect data will prevent the report from being generated.



Scan this QR code



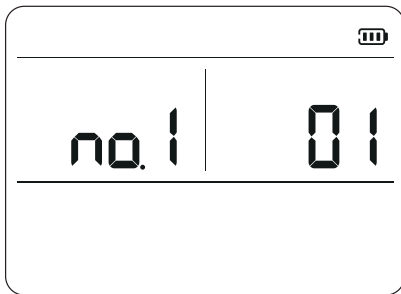
Verification Code

NOTE: The report interface requires a 4-digit verification code. To obtain the verification code, simultaneously press the Peak Level/Silence button and the Report/Settings button.

4.2 Settings Mode

In standby mode, long-press (≥ 3 seconds) the Report button to enter the settings mode. There are 2 setting items available. Double-click the Report button to switch between the items and use the "Left" button or "Right" button to adjust the parameters. Long-press (≥ 3 seconds) the Report button again to save and exit the settings mode. If no operation is performed within 1 minute in settings mode, the device will automatically exit without saving any changes.

Setting No. 1: Set the audio and visual indicators to ON/OFF in radon warning mode and temperature/humidity warning mode. "00" indicates OFF while "01" indicates ON. Default: "01" (ON).



Setting No. 2: Configure whether data is retained after a power-off or shutdown. "00" indicates OFF while "01" indicates ON. Default: "01" (ON). If you set "00" (OFF), all data (except for built-in reports) will be cleared when the device is powered off, and the data retention feature will be unavailable. **(*Please proceed with caution, as this may result in data loss.)**



NOTE: It is recommended to keep the default settings to avoid data loss.

5 Daily Maintenance

To keep your alarm in good working order, you should adhere to the following steps:

1. Vacuum the alarm cover once every three months to remove any accumulated dust.
2. Never use detergents or solvents to clean the alarm. Chemicals can permanently damage or temporarily contaminate the sensor.
3. Avoid spraying air fresheners, hair spray, paint, or other aerosols near the alarm.
4. Do not paint the unit. Paint may clog the openings to the sensing chamber and prevent the unit from operating properly.

! WARNING

1. DO NOT TAMPER WITH THE APPARATUS, AS THERE IS A RISK OF ELECTRIC SHOCK OR MALFUNCTION.
2. USING THE DEVICE IN EXCESSIVELY HUMID ENVIRONMENTS MAY CAUSE INTERNAL SENSOR CONTAMINATION, LEADING TO IRREVERSIBLE DAMAGE.

6 Statement

FCC Statement

1. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference.
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Note: This equipment has been tested and found to comply with the limits for a Class B digital device. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
3. Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

4. The distance between user and products should be no less than 20 cm.

Environmental Protection

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with the Local Authority or retailer for recycling advice.



7 Manufacturer and Service Information

X-Sense Electronics Co., Ltd.

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