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MOCREO LS1

MOCREO LS1 Waterproof Thermometer Instruction Manual

Model: LS1

1. Introduction

Thank you for choosing the MOCREO LS1 Waterproof Thermometer. This device is designed for accurate and reliable temperature monitoring in various environments, including refrigerators, freezers, greenhouses, and warehouses. It provides real-time data and alerts when paired with the MOCREO H5Pro LoRa Hub and the MOCREO Smart App. This manual provides detailed instructions for setup, operation, and maintenance to ensure optimal performance.

2. Product Overview

2.1 Key Features

- **Upgraded Waterproofing:** IP66 rated for use in humid environments like refrigerators, measuring from -0.4°F to 131°F with ±0.9°F accuracy.
- **Long Range Connectivity:** Requires MOCREO H5Pro LoRa Hub (sold separately, ASIN B0DRHQT24P) for an open-air range of up to 1,640 ft (500m). Not compatible with H5Lite, H1B, H2 hubs.
- **Instant Alerts:** Provides app notifications, email alerts, and an 80dB hub beep for critical temperature changes. Includes smart settings for low battery and anti-false alarms.
- **Extended Battery Life:** Powered by three replaceable AAA batteries, offering up to 2 years of operation.
- **2 Years Data Logging:** No subscription required. View clear charts online and export up to 2 years of data in CSV format for analysis.

2.2 Package Contents

- 1 MOCREO LS1 Wireless Thermometer (three AAA batteries included)

2.3 Product Components

Image 1: The MOCREO LS1 Waterproof Thermometer sensor, a compact white device with a silver button and yellow accent.

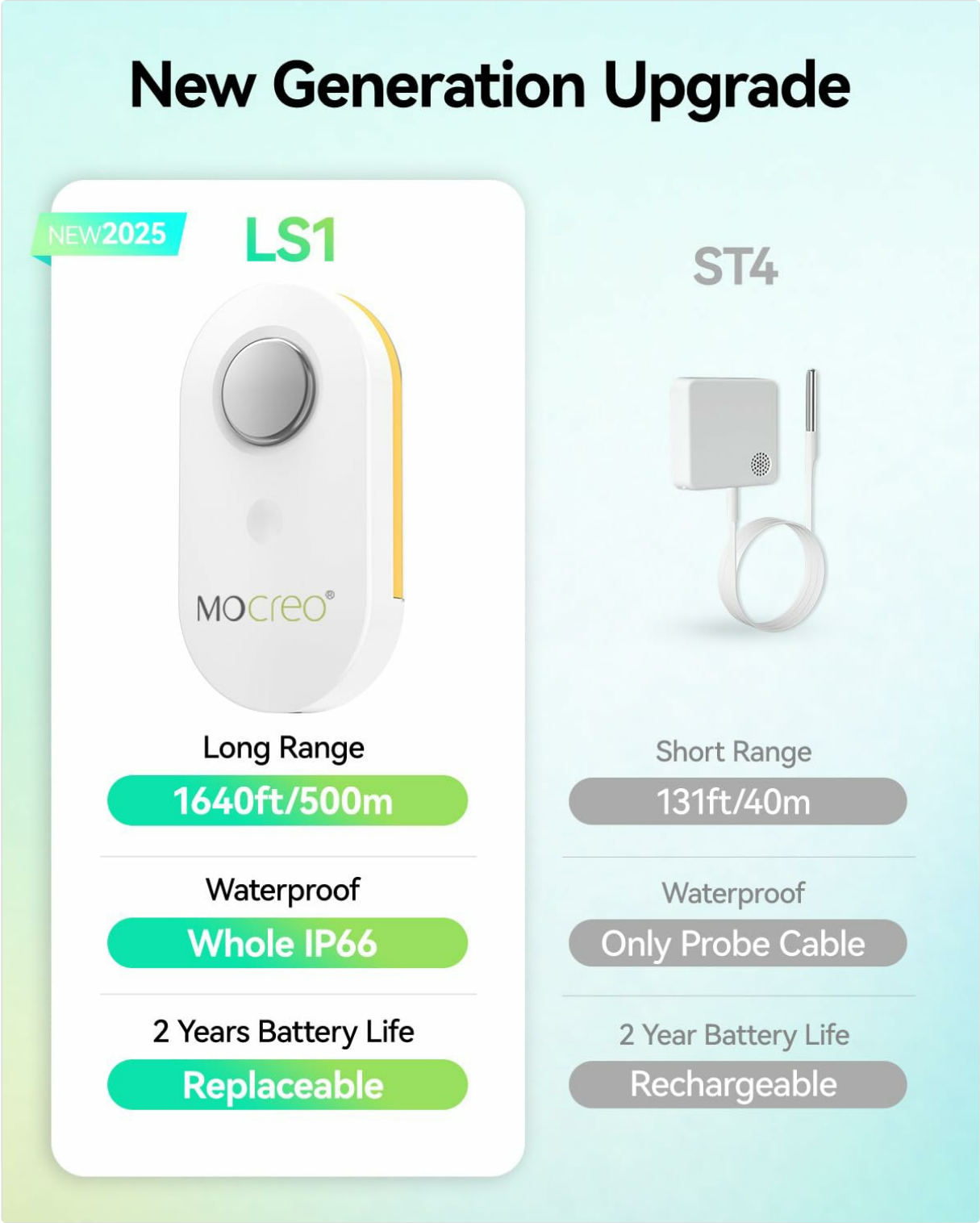


Image 2: Comparison of MOCREO LS1 and ST4 models, highlighting LS1's long range (1640ft/500m), whole IP66 waterproofing, and 2-year replaceable battery life.

Image 3: Visual representation of the LS1 sensor's IP66 waterproof rating, showing it resistant to water splashes, ideal for humid environments.

Image 4: An internal view of the MOCREO LS1, illustrating the three AAA replaceable batteries that provide up to 2 years of operation.

3. Setup Instructions

3.1 Before You Begin

- Ensure you have the MOCREO H5Pro LoRa Hub (ASIN B0DRHQT24P) as it is required for the LS1 sensor to function.
- Download the MOCREO Smart App from your device's app store.
- Ensure your H5Pro Hub is powered on and connected to your network.

3.2 Battery Installation

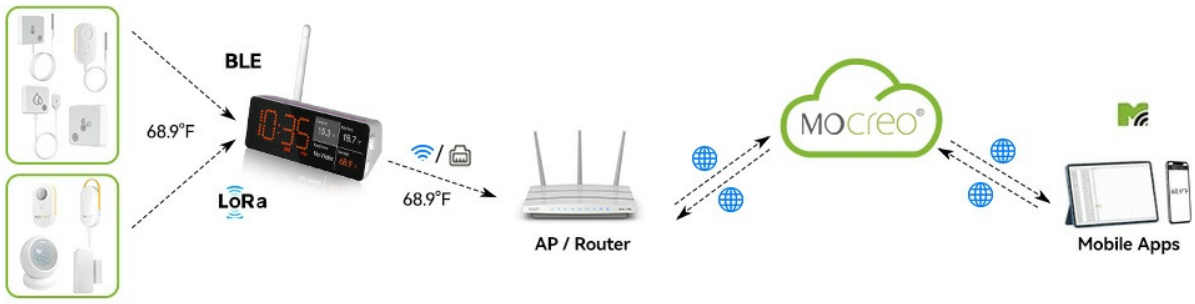
1. Gently open the LS1 sensor casing to access the battery compartment.
2. Insert the three included AAA batteries, ensuring correct polarity (+/-).
3. Close the casing securely to maintain its IP66 waterproof rating.

3.3 Pairing with H5Pro Hub

1. Open the MOCREO Smart App on your smartphone.
2. Follow the in-app instructions to add a new device.
3. Select the LS1 sensor from the list of available devices. The app will guide you through the pairing process with your H5Pro Hub.
4. Once paired, you can name the sensor and assign it to a specific location (e.g., 'Kitchen Fridge', 'Greenhouse').

Image 5: Diagram illustrating the long-range monitoring capability of the MOCREO LS1 sensors connecting wirelessly to the LoRa H5-Pro Hub over a wide area.

Image 6: An apartment building with multiple MOCREO sensors connected to a single H5Pro Hub, demonstrating the ability to add up to 100 sensors for comprehensive monitoring.



H5-Pro Hub Compatible Sensor Models			
Smart Sensors	BLE Sensors	Temperature Sensor	ST5, ST8, ST10, MS1
		Temperature & Humidity Sensor	ST6, ST9, MS2
		Water Leak Deteactor	SW2
	Long Range Sensors	Temperature Sensor	LS1, LS2
		Water Leak Deteactor	LW1
		PIR Sensor	LM1
		Door Sensor	LD1

Image 7: A table listing various MOCREO smart sensors compatible with the H5-Pro Hub, categorized by BLE and Long Range sensors, including the LS1 and LS2 temperature sensors.

4. Operating Instructions

4.1 Real-time Monitoring

- Once paired, the LS1 sensor will begin transmitting temperature data to your H5Pro Hub, which then sends it to the MOCREO Smart App.
- Open the app to view real-time temperature readings for all your connected sensors.
- The app displays current temperatures and historical data in clear charts.

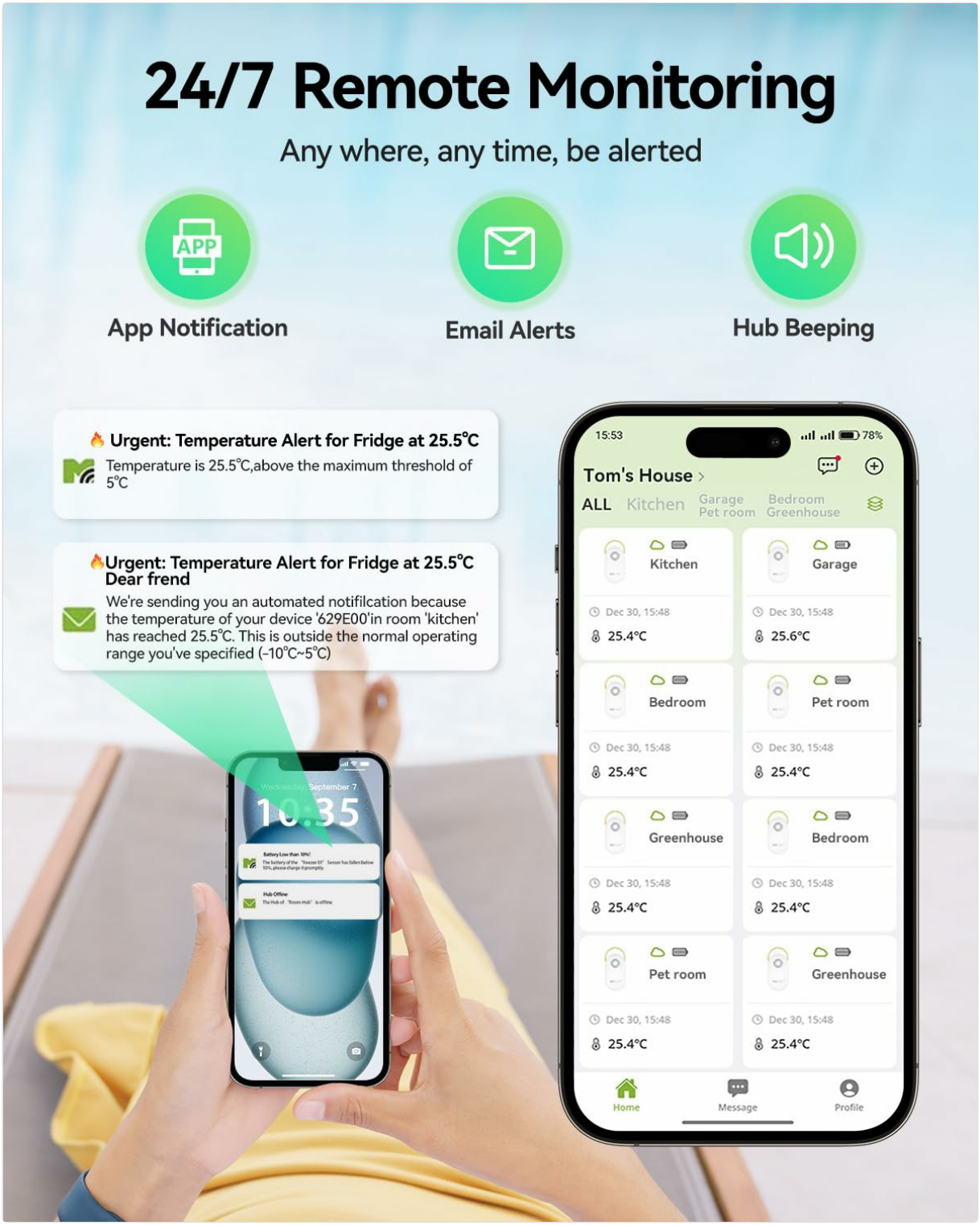


Image 8: A smartphone screen displaying the MOCREO Smart App interface, showing real-time temperature monitoring for multiple locations and alert notifications.

4.2 Alert System

- Configure temperature thresholds within the MOCREO Smart App for each sensor.
- When the temperature exceeds or falls below your set limits, you will receive instant alerts via:
  - **App Notifications:** Push notifications directly to your smartphone.
  - **Email Alerts:** Notifications sent to your registered email address.
  - **Hub Beep:** An 80dB audible alarm from the H5Pro Hub.
- Utilize smart settings like "low battery alert" and "anti-false alarm" to enhance monitoring reliability.

Image 9: A user viewing urgent temperature alerts on their smartphone via the MOCREO Smart App, indicating a temperature deviation in a monitored area.

4.3 Data Logging and Export

- The LS1 sensor automatically logs temperature data for up to 2 years.
- Access historical data and charts directly within the MOCREO Smart App.
- Export data in CSV format for in-depth analysis by selecting the desired date range within the app.

Image 10: A smartphone screen showing the MOCREO Smart App's data export function, allowing users to select a date range and export temperature data in CSV format.

5. Maintenance

5.1 Battery Replacement

- When the low battery alert is triggered, replace the three AAA batteries.
- Follow the steps in Section 3.2 for battery installation, ensuring the casing is sealed properly after replacement to maintain waterproofing.

5.2 Cleaning

- Wipe the sensor with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the sensor is dry before placing it back in its monitoring environment.

6. Troubleshooting

6.1 Common Issues

- **No Data in App:**
  - Ensure the LS1 sensor has fresh batteries and is powered on.
  - Verify the H5Pro Hub is online and connected to your network.
  - Check the distance between the sensor and the hub; reduce obstacles if possible.
  - Re-pair the sensor with the hub via the MOCREO Smart App.
- **Alerts Not Triggering:**
  - Confirm that temperature thresholds are correctly set in the app.
  - Check app notification settings on your smartphone.
  - Verify email address for alerts is correct and check spam folders.
- **Inaccurate Readings:**
  - Ensure the sensor is placed in a location that accurately reflects the environment you wish to monitor.
  - Avoid placing the sensor near heat sources or direct sunlight unless intended.

7. Specifications

7.1 Technical Specifications

Feature	Specification
Model Number	LS1
Temperature Range	-0.4°F to 131°F (-18°C to 55°C)
Temperature Accuracy	±0.9°F (±0.5°C)
Waterproof Rating	IP66
Power Source	3 x AAA Batteries (included)
Battery Life	Up to 2 years
Connectivity	LoRa (requires MOCREO H5Pro Hub)
Wireless Range	Up to 1,640 ft (500m) in open air
Data Logging	2 years, exportable in CSV format

Alert Types	App Notification, Email Alert, 80dB Hub Beep
Dimensions	5.2 x 2.44 x 1.54 inches
Weight	4.66 ounces
Color	White

8. Warranty and Support

8.1 Warranty Information

- **90-Day Satisfaction Guarantee:** MOCREO offers a 90-day 100% satisfaction guarantee, including money-back and free returns.
- **1-Year Warranty:** The MOCREO LS1 Waterproof Thermometer is covered by a 1-year warranty from the date of purchase.

8.2 Customer Support

- For technical assistance, troubleshooting, or warranty claims, please contact MOCREO customer support.
- **Online Support:** 24/7 online support is available. Refer to the MOCREO Smart App or the official MOCREO website for contact details.

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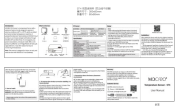
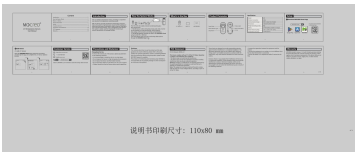
Related Documents - LS1

	Mocreo ST5 Temperature Sensor User Manual User manual for the Mocreo ST5 Temperature Sensor, detailing setup, installation, operation, troubleshooting, and specifications. This wireless sensor monitors temperature in real-time with alerts via email and app notifications.
	Mocreo LS1 Temperature Sensors User Manual User manual for the Mocreo LS1 wireless temperature sensor, detailing system operation, setup, specifications, precautions, FCC compliance, and warranty information for temperature monitoring in homes, laboratories, and storage facilities.
	Mocreo ST4 Temperature Sensor User Manual User manual for the Mocreo ST4 Temperature Sensor, providing detailed instructions on setup, installation, operation, troubleshooting, and specifications for remote temperature monitoring in various environments.
	MOCREO ST5 Temperature Sensor Kit User Manual and Setup Guide Comprehensive user manual for the MOCREO ST5 Temperature Sensors Kit, detailing setup, installation, app usage, troubleshooting, and warranty information for real-time temperature monitoring.

	MOCREO ST5-H2 Wireless Temperature Sensor Kit User Manual User manual for the MOCREO ST5-H2 Wireless Temperature Sensor Kit, detailing setup, specifications, features like email/app alerts, and troubleshooting for monitoring temperature in refrigerators, freezers, and other environments.
	MOCREO ST4 Temperature Sensor User Manual and Specifications User manual for the MOCREO ST4 temperature sensor, detailing its features, specifications, setup, installation, and troubleshooting. Includes information on its waterproof probe, cloud connectivity, and operating range.

Documents - MOCREO – LS1



Mocreo LS1 Temperature Sensors User Manual

User manual for the Mocreo LS1 wireless temperature sensor, detailing system operation, setup, specifications, precautions, FCC compliance, and warranty information for temperature monitoring in homes, laboratories, and storage facilities.

lang:en score:42 filesize: 1.09 M page_count: 1 document date: 2024-11-08

MOCREO PTE. LTD.

Product Similarity Declaration

Product name:Wireless Sensors

Model name: LS1, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1

FCC ID: 2BFZL-LS1

We (MOCREO PTE. LTD.) hereby state that all the models are electrical identical including the same software parameter and hardware design (i.e., circuit design, PCB Layout, RF module/circuit, antenna type(s) and antenna location, components on PCB, etc.), same mechanical structure and design (including product enclosure, materials, etc.), the only difference is the model number.

Signature:

Name:Tang Komi
Title: Manager
Place, date:SINGAPORE , 2024.11.27

[pdf] Decleration of Conformity

Model difference doc Administrator Family declaration MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

MOCREO PTE. LTD. Product Similarity Declaration Product name:Wireless Sensors Model name: **LS1**, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1 FCC ID:2BFZL-**LS1** We MOCREO PTE. LTD. hereby state that all the models are electrical identical including th...

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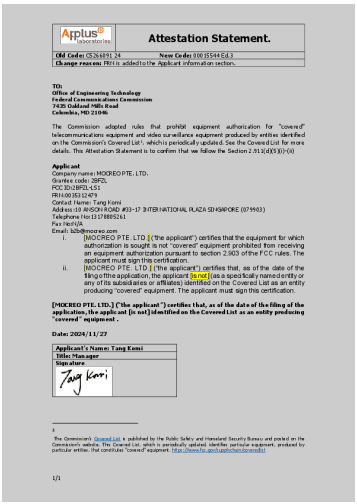

Attestation Statement.

Old Code: C5266091 24 New Code: 00015544 Ed.3
Change reason: FRN is added to the Applicant information section.

TO:
Office of Engineering Technology
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

The Commission adopted rules that prohibit equipment authorization for "covered" telecommunications equipment and video surveillance equipment produced by entities identified on the Commission's Covered List[1], which is periodically updated. See the Covered List for more details. This Attestation Statement is to confirm that we follow the Section 2.911(d)(5)(i)-(ii)

Applicant
Company name: MOCREO PTE. LTD.
Grantee code: 2BFZL
FCC ID:2BFZL-LS1
FRN:0035312479
Contact Name: Tang Komi
Address:10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE (079903)
Telephone No:13718885261
Fax No:N/A
Email: b2b@mocreo.com

i. [MOCREO PTE. LTD.] ("the applicant") certifies that the equipment for which authorization is sought is not "covered" equipment prohibited from receiving an equipment authorization pursuant to section 2.903 of the FCC rules. The applicant must sign this certification.

ii. [MOCREO PTE. LTD.] ("the applicant") certifies that, as of the date of the filing of the application, the applicant [is not] (as a specific name identity or any of its subsidiaries or affiliates) identified on the Covered List as an entity producing "covered" equipment. The applicant must sign this certification.

[MOCREO PTE. LTD.] ("the applicant") certifies that, as of the date of the filing of the application, the applic ant [is not] identified on the Covered List as an entity producing "covered" equipment .

Date: 2024/11/27

Applicant's Name: Tang Komi
Title: Manager
Signature

[pdf]

Microsoft Word 00015544 Annex docx Attestation Statement MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

Attestation Statement. Old Code: C5266091 24 New Code: 00015544 Ed.3 Change reason: FRN is added ... n 2.911 d 5 i - ii Applicant Company name: MOCREO PTE. LTD. Grantee code: 2BFZL FCC ID:2BFZL-**LS1** FRN:0035312479 Contact Name: Tang Komi Address:10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGA...

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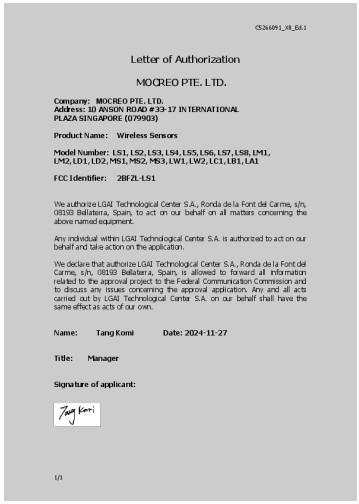

C5266091_X8_Ed.1

Letter of Authorization

MOCREO PTE. LTD.

Company: MOCREO PTE. LTD.
Address: 10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE (079903)

Product Name: Wireless Sensors

Model Number: LS1, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1

FCC Identifier: 2BFZL-LS1

We authorize LGAI Technological Center S.A., Ronda de la Font del Carme, s/n, 08193 Bellaterra, Spain, to act on our behalf on all matters concerning the above named equipment.

Any individual within LGAI Technological Center S.A. is authorized to act on our behalf and take action on the application.

We declare that authorize LGAI Technological Center S.A., Ronda de la Font del Carme, s/n, 08193 Bellaterra, Spain, is allowed to forward all information related to the approval project to the Federal Communication Commission and to discuss any issues concerning the approval application. Any and all acts carried out by LGAI Technological Center S.A. on our behalf shall have the same effect as acts of our own.

Name: Tang Komi **Date:** 2024-11-27

Title: Manager

Signature of applicant:

1/1

[pdf]

C5266091 X8 Letter of Authorization Agent v1 docx Administrator MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

C5266091_X8_Ed.1 Letter of Authorization MOCREO PTE. LTD. Company: MOCREO PTE. LTD. Address: 10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE 079903 Product Name: Wireless Sensors Model Number: **LS1**, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1 FC...

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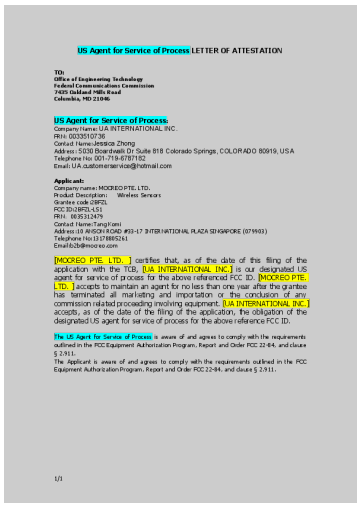


US Agent for Service of Process LETTER OF ATTESTATION

TO:
Office of Engineering Technology
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

US Agent for Service of Process:
Company Name: UA INTERNATIONAL INC.
FRN: 0035107736
Contact Name: Jessica Zhong
Address: 5030 Boardwalk Dr Suite 818 Colorado Springs, COLORADO 80919, USA
Telephone No: 001-719-6787182
Email: UA.customerservice@hotmail.com

Applicant:
Company name: MOCREO PTE. LTD.
Product Description: Wireless Sensors
Grantee code: 2BFZL
FCC ID:2BFZL-LS1
FRN: 0035312479
Contact Name:Tang Komi
Address:10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE (079903)
Telephone No:13178885261
Email:b2b@mocreo.com

[MOCREO PTE. LTD.,] certifies that, as of the date of this filing of the application with the TCB, [UA INTERNATIONAL INC.] is our designated US agent for service of process for the above referenced FCC ID. [MOCREO PTE. LTD.,] accepts to maintain an agent for no less than one year after the grantee has terminated all marketing and importation or the conclusion of any commission related proceeding involving equipment. [UA INTERNATIONAL INC.,] accepts, as of the date of the filing of the application, the obligation of the designated US agent for service of process for the above reference FCC ID.

The US Agent for Service of Process is aware of and agrees to comply with the requirements outlined in the FCC Equipment Authorization Program, Report and Order FCC 22-84, and clause § 2.911.
The Applicant is aware of and agrees to comply with the requirements outlined in the FCC Equipment Authorization Program, Report and Order FCC 22-84, and clause § 2.911.

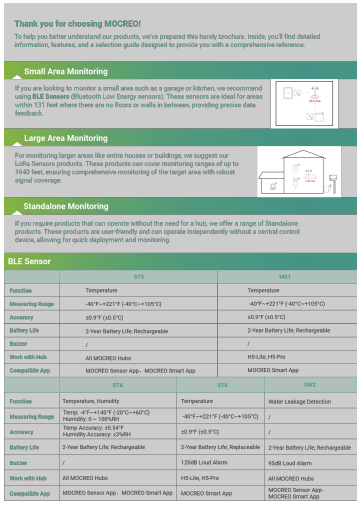
1/1

[pdf]

C5266091 X23 Ed2 US Agent docx Administrator MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

US Agent for Service of Process LETTER OF ATTESTATION TO: Office of Engineering Technology Federal C ... ompany name: MOCREO PTE. LTD. Product Description: Wireless Sensors Grantee code:2BFZL FCC ID:2BFZL-**LS1** FRN0035312479 Contact Name:Tang Komi Address:10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE ...

lang:en score:31 filesize: 206.83 K page_count: 2 document date: 2024-11-29



Thank you for choosing MOCREO!

To help you better understand our products, we've prepared this handy brochure. Inside, you'll find detailed information, features, and a selection guide designed to provide you with a comprehensive reference.

Small Area Monitoring

If you are looking to monitor a small area such as a garage or kitchen, we recommend using BLE Sensors (Bluetooth Low Energy sensors). These sensors are ideal for areas within 131 feet where there are no floors or walls in between, providing precise data feedback.

Large Area Monitoring

For monitoring larger areas like entire houses or buildings, we suggest our LoRa Sensors products. These products can cover monitoring ranges of up to 1640 feet, ensuring comprehensive monitoring of the target area with robust signal coverage.

Standalone Monitoring

If you require products that can operate without the need for a hub, we offer a range of Standalone products. These products are user-friendly and can operate independently without a central control device, allowing for quick deployment and monitoring.

BLE Sensor

	ST5	MS1
Function	Temperature	Temperature
Measuring Range	-40°F~122°F (-40°C~+105°C)	-40°F~221°F (-40°C~+105°C)
Accuracy	±0.9°F (±0.5°C)	±0.9°F (±0.5°C)
Battery Life	2-Year Battery Life; Rechargeable	2-Year Battery Life; Rechargeable
Buzzer	/	/
Work with Hub	All MOCREO Hubs	H5-Lite, H5-Pro
Compatible App	MOCREO Sensor App、MOCREO Smart App	MOCREO Smart App

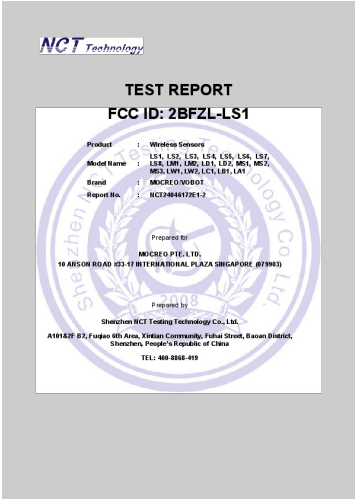
	ST6	ST8	SW2
Function	Temperature, Humidity	Temperature	Water Leakage Detection
Measuring Range	Temp: -4°F~+140°F (-20°C~+60°C) Humidity: 0 ~ 100%RH	-40°F~+221°F (-40°C~+105°C)	/
Accuracy	Temp Accuracy: ±0.54°F Humidity Accuracy: ±3%RH	±0.9°F (±0.5°C)	/
Battery Life	2-Year Battery Life; Rechargeable	2-Year Battery Life; Replaceable	2-Year Battery Life; Rechargeable
Buzzer	/	120dB Loud Alarm	95dB Loud Alarm
Work with Hub	All MOCREO Hubs	H5-Lite, H5-Pro	All MOCREO Hubs
Compatible App	MOCREO Sensor App、MOCREO Smart App	MOCREO Smart App	MOCREO Sensor App、MOCREO Smart App

[pdf] Guide Decleration of Conformity Borchure

MOCREO Product Comparison v1 0 doc mocreo â¹ resources product comparison How t Ensuring Vaccine Safety Advanced Monitoring for Optimal Storage Temperature Controller ST7 CL 16 3 2025 — If you are looking to monitor a small area such as garage or kitchen we recommend using BLE Sensors Bluetooth Low Energy sensors Thank choosing MOCREO! To help better understand our products 39 ve prepared this handy brochure Inside ll find detailed information features and selection guide designed provide with comprehensive reference Always Connected LoRa Hub H5 Pro Can You Verify if the Freezer s Automatic Defrost Feature Is Working Properly ST5 MS1 Large Area Standalone handy |||

Thank you for choosing MOCREO To help you better understand our products, we ve prepared this handy ... 200C 1.8F 2-Year Battery Life; Rechargeable / All MOCREO Hubs MOCREO Sensor AppaMOCREO Smart App **LS1** Temperature -0.4F- 131F -18- 55C 0.9F 0.5C 2-Year Battery Life;Replaceable H5-Pro MOCREO Sma...

lang:en score:31 filesize: 2.48 M page_count: 2 document date: 2025-03-14


NCT Technology

TEST REPORT

FCC ID: 2BFZL-LS1

Product : Wireless Sensors

Model Name : LS1, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1

Brand : MOCREO/VOBOT

Report No. : NCT24046172E1-2

Prepared for

MOCREO PTE. LTD.

10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE (079903)

Prepared by

Shenzhen NCT Testing Technology Co., Ltd.

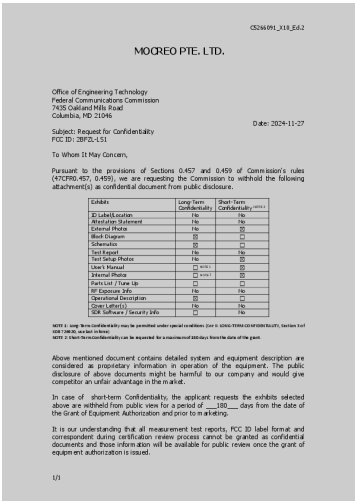
A101&2F B2, Fuqiao 4th Area, Xintian Community, Fuhai Street, Baoan District, Shenzhen, People's Republic of China

TEL: 400-8868-419

[FCC Test Report for MOCREO/VOBOT Wireless Sensors (FCC ID: 2BFZL-LS1)]

This document is an FCC test report for MOCREO/VOBOT Wireless Sensors, model LS1 and series models, FCC ID: 2BFZL-LS1. It details conducted and radiated emissions, bandwidth, and frequency tolerance tests performed by Shenzhen NCT Testing Technology Co., Ltd.

lang:en score:29 filesize: 1.18 M page_count: 29 document date: 2024-12-03


C5266091_X10_Ed.2

MOCREO PTE. LTD.

Office of Engineering Technology
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

Date: 2024-11-27

Subject: Request for Confidentiality
FCC ID: 2BFZL-LS1

To Whom It May Concern,

Pursuant to the provisions of Sections 0.457 and 0.459 of Commission's rules (47CFR0.457, 0.459), we are requesting the Commission to withhold the following attachment(s) as confidential document from public disclosure.

Exhibits	Long-Term Confidentiality	Short-Term Confidentiality NOTE 2
ID Label/Location	No	No
Attestation Statement	No	No
External Photo	No	☒
Block Diagram	☒	☐
Schematics	☒	☐
Test Report	No	No
Test Setup Photos	No	☒
User's Manual	☐ NOTE 1	☒
Internal Photos	☐ NOTE 1	☒
Part List / Tune Up	☐	☐
RF Exposure Info	No	No
Operational Description	☒	☐
Cover Letter(s)	No	No
SDR Software / Security Info	☐	No

NOTE 1: Long Term Confidentiality may be permitted under special conditions (see 0.459(b)(7)(ii)(A)(1)(iii)(B)(1)(i)(ii), Section 5 of KDB 726830, and last bullet below).
NOTE 2: Short-Term Confidentiality can be requested for a maximum of 180 days from the date of the grant.

Above mentioned document contains detailed system and equipment description are considered as proprietary information in operation of the equipment. The public disclosure of above documents might be harmful to our company and would give competitor an unfair advantage in the market.

In case of short-term Confidentiality, the applicant requests the exhibits selected above are withheld from public view for a period of ___180___ days from the date of the Grant of Equipment Authorization and prior to marketing.

It is our understanding that all measurement test reports, FCC ID label format and correspondent during certification review process cannot be granted as confidential documents and those information will be available for public review once the grant of equipment authorization is issued.

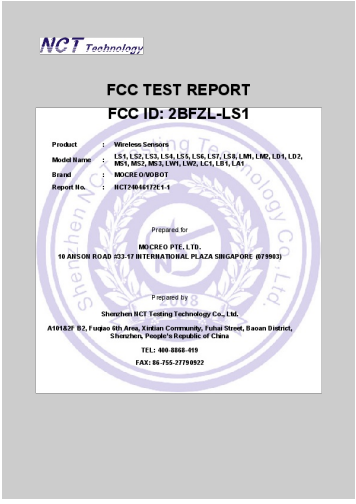
1/1

[pdf] Confidentiality Request Letter

C5266091 X10 Ed2 Request for Confidentiality1 Long docx Administrator Confidentiality MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

MOCREO PTE. LTD. C5266091_X10_Ed.2 Office of Engineering Technology Federal Communications Commission 7435 Oakland Mills Road Columbia, MD 21046 Subject: Request for Confidentiality FCC ID: 2BFZL-**LS1** Date: 2024-11-27 To Whom It May Concern, Pursuant to the provisions of Sections 0.457 and 0.459...

lang:en score:29 filesize: 158.54 K page_count: 2 document date: 2024-11-29


NCT Technology

FCC TEST REPORT

FCC ID: 2BFZL-LS1

Product : Wireless Sensors

Model Name : LS1, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1

Brand : MOCREO/VOBOT

Report No. : NCT24046172E1-1

Prepared for

MOCREO PTE. LTD.

10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE (079903)

Prepared by

Shenzhen NCT Testing Technology Co., Ltd.

A101&2F B2, Fuqiao 4th Area, Xintian Community, Fuhai Street, Baoan District, Shenzhen, People's Republic of China

TEL: 400-8868-419

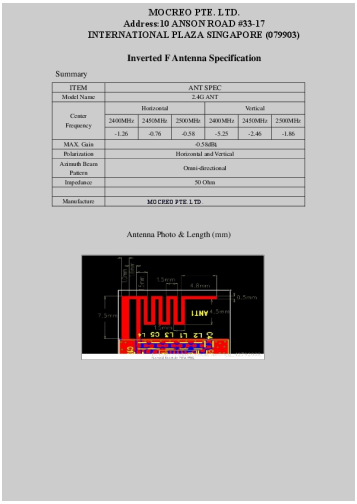
FAX: 86-755-27790922

[pdf] Decleration of Conformity Test Report

NCT24046172E1 1 FCC ID BLE report doc Administrator Test MOCREO PTE LTD LS1 Wireless Sensors 2BFZL 2BFZLLS1 ls1

FCC TEST REPORT FCC ID: 2BFZL-**LS1** Product Model Name Brand Report No. : Wireless Sensors : **LS1**, LS2, LS3, LS4, LS5, LS6, LS7, LS8, LM1, LM2, LD1, LD2, MS1, MS2, MS3, LW1, LW2, LC1, LB1, LA1 : MOCREO/VOBOT : NCT24046172E1-1 Prepared for MOCREO PTE. LTD. 10 ANSON ROAD #33-17 INTERNATIONAL PLAZA...

lang:en score:28 filesize: 815.68 K page_count: 31 document date: 2024-12-03



MOCREO PTE. LTD.
Address:10 ANSON ROAD #33-17
INTERNATIONAL PLAZA SINGAPORE (079903)

Inverted F Antenna Specification

Summary

ITEM	ANT SPEC					
Model Name	2.4G ANT					
Center Frequency	Horizontal			Vertical		
	2400MHz	2450MHz	2500MHz	2400MHz	2450MHz	2500MHz
	-1.26	-0.76	-0.58	-5.25	-2.46	-1.86
MAX. Gain	-0.58dBi					
Polarization	Horizontal and Vertical					
Azimuth Beam Pattern	Omni-directional					
Impedance	50 Ohm					
Manufacture	MOCREO PTE LTD					

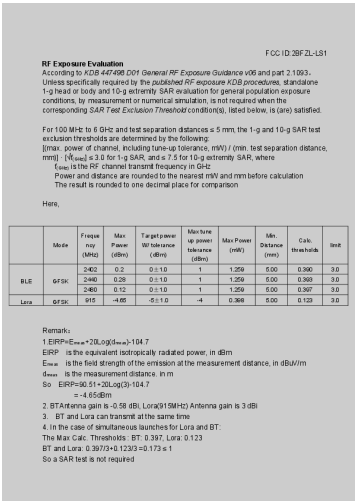
Antenna Photo & Length (mm)

[pdf] Specifications Decleration of Conformity

Microsoft Word Inverted F Antenna Specification doc Administrator MOCREO PTE LTD LS1 Wireless Sensors 2BFZL 2BFZLLS1 ls1

MOCREO PTE. LTD. Address:10 ANSON ROAD #33-17 INTERNATIONAL PLAZA SINGAPORE 079903 Summary ITEM Model Name Center Frequency MAX. Gain Polarization Azimuth Beam Pattern Impedance Inverted F Antenna Specification ANT SPEC 2.4G ANT Horizontal Vertical 2400MHz 2450MHz 2500MHz 2400MHz 2450MHz 250...

lang:fr score:25 filesize: 1.63 M page_count: 3 document date: 2024-12-04



FCC ID:2BFZL-LS1

RF Exposure Evaluation

According to *KDB 447498 D01 General RF Exposure Guidance v06* and part 2.1093, Unless specifically required by the *published RF exposure KDB procedures*, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding *SAR Test Exclusion Threshold* condition(s), listed below, is (are) satisfied.

For 100 MHz to 6 GHz and test separation distances ≤ 5 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · $[\sqrt{f_{GHz}}]$ ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where
f_{GHz} is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison

Here,

	Mode	Frequency (MHz)	Max Power (dBm)	Target power W/ tolerance (dBm)	Max tune up power tolerance (dBm)	Max Power (mW)	Min. Distance (mm)	Calc. thresholds	limit
BLE	GFSK	2402	0.2	0 ± 1.0	1	1.259	5.00	0.390	3.0
		2440	0.28	0 ± 1.0	1	1.259	5.00	0.393	3.0
		2480	0.12	0 ± 1.0	1	1.259	5.00	0.397	3.0
Lora	GFSK	915	-4.65	-5 ± 1.0	-4	0.398	5.00	0.123	3.0

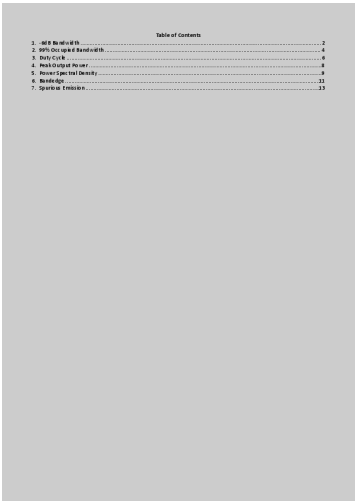
Remark:
1.EIRP=E_{max}*20Log(d_{max})-104.7
EIRP is the equivalent isotropically radiated power, in dBm
E_{max} is the field strength of the emission at the measurement distance, in dBuV/m
d_{max} is the measurement distance, in m
So EIRP=90.51+20Log(3)-104.7
= -4.65dBm
2. BTAntenna gain is -0.58 dBi, Lora(915MHz) Antenna gain is 3 dBi
3. BT and Lora can transmit at the same time
4. In the case of simultaneous launches for Lora and BT:
The Max Calc. Thresholds : BT: 0.397, Lora: 0.123
BT and Lora: 0.397/3+0.123/3=0.173 ≤ 1
So a SAR test is not required

[pdf] Decleration of Conformity SAR Rating

FCC MPE doc Administrator MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

FCC ID:2BFZL-**LS1** RF Exposure Evaluation According to KDB 447498 D01 General RF Exposure Guidance v06 and part 2.1093 Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by ...

lang:en score:20 filesize: 121.73 K page_count: 1 document date: 2024-12-04



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3. Duty Cycle 6
4. Peak Output Power 8
5. Power Spectral Density 9
6. Bandedge 11
7. Spurious Emission 13

[pdf]

NCT24046172E1 1 FCC ID BLE report Appendix data docx Administrator MOCREO PTE LTD LS1 Wireless Sensors 2BFZL 2BFZLLS1 ls1

Table of Contents 1. -6dB Bandwidth ....13 FCC ID:2BFZL-**LS1** FCC_BLE Part15.247 Test Data 1. -6dB Bandwidth Condition NVNT NVNT NVNT Antenna ANT1 ANT1 AN...

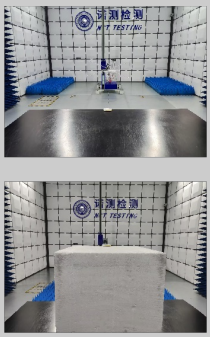
lang:en score:18 filesize: 971.61 K page_count: 15 document date: 2024-11-29

[pdf] Decleration of Conformity Product Photos

External EUT photos doc Administrator MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

External Photos ...

lang:en score:14 filesize: 785.13 K page_count: 3 document date: 2024-11-29

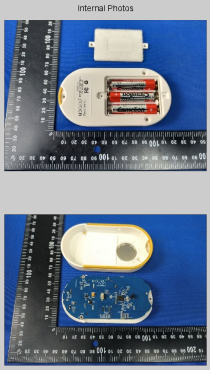


[pdf] Decleration of Conformity

Test Photo doc Administrator photo MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

...

lang:en score:14 filesize: 492.05 K page_count: 1 document date: 2024-11-29

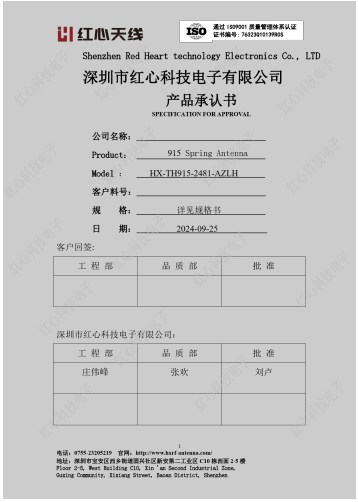


[pdf] Decleration of Conformity Product Photos Teardown

Internal EUT photos doc Administrator MOCREO PTE LTD LS1 2BFZL 2BFZLLS1 ls1

Internal Photos BLE Antenna LoRa Antenna ...

lang:en score:14 filesize: 826.13 K page_count: 2 document date: 2024-11-29



红心天线

Shenzhen Red Heart technology Electronics Co., LTD

深圳市红心科技电子有限公司

产品承认书

SPECIFICATION FOR APPROVAL

公司名称：

Product： 915 Spring Antenna

Model ： HX-TH915-2481-AZLH

客户料号：

规　　格： 详见规格书

日　　期： 2024-09-25

客户回签：

工 程 部	品 质 部	批 准

深圳市红心科技电子有限公司：

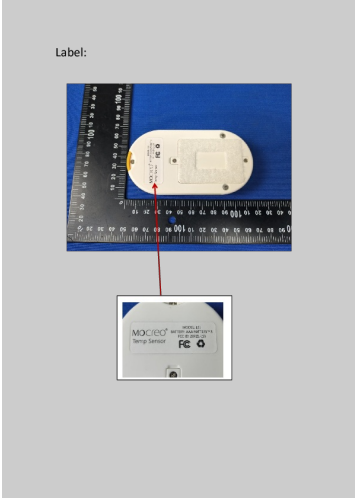
工 程 部	品 质 部	批 准
庄伟峰	张欢	刘卢

电话：0755-23205219 官网：http://www.hxrf-antenna.com/
地址：深圳市宝安区西乡街道固兴社区新安第二工业区 C10 栋西面 2-5 楼
Floor 2-5, West Building C10, Xin'an Second Industrial Zone,
Guxing Community, Xixiang Street, Baoan District, Shenzhen

[Shenzhen Red Heart Technology Electronics Co., LTD - 915 Spring Antenna Specification]

Product specification for the 915 Spring Antenna (Model: HX-TH915-2481-AZLH) from Shenzhen Red Heart Technology Electronics Co., LTD. Includes technical parameters, performance data, and dimensional drawings.

lang:en score:14 filesize: 1.83 M page_count: 5 document date: 2024-12-04



[pdf] Label

Label docx Administrator ID label and location MOCREO PTE LTD LS1 Wireless Sensors 2BFZL 2BFZLLS1 ls1

Label: ...

lang:en score:13 filesize: 189.52 K page_count: 1 document date: 2024-11-29