



CERTIFICADO DE CUMPLIMIENTO / CERTIFICATE OF COMPLIANCE

PC25020303

**DISPOSITIVO DE PRESEÑALIZACIÓN DE PELIGRO V-16 GEOLOCALIZADO /
V-16 GEOLOCATED HAZARD WARNING DEVICE**

Real Decreto 1030/2022, de 20 de diciembre, por el que se modifica el Real Decreto 159/2021, de 16 de marzo, por el que se regulan los servicios de auxilio en las vías públicas. / Real Decreto 1030/2022 of 20 December amending Real Decreto 159/2021 of 16 March regulating roadside assistance services.

Nombre y dirección del solicitante /
Applicant's name and address

: JBM CAMPLLONG S.L.
CIM LA SELVA Ctra Aeroport km. 1,6 Nave 2.2. 17185 Vilobí
d'Onyar (Girona) ESPAÑA

Nombre y dirección del fabricante /
Manufacturer's name and address

: ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO
LTD
Room 701, NO.1 Building NO. 23 West of Tongji Road, Nantou
town, Zhongshan 528427, Guangdong

Marca comercial / *Trade mark*

: JBM

Modelo / *Model*

: 54735

Informe de ensayo / *Test report*

: PC25020303

Marca de identificación /
Identification marking

: IDIADA PC25020303

CONCLUSIONES / CONCLUSIONS: El dispositivo descrito ha sido ensayado y **CUMPLE** con las prescripciones indicadas en el Real Decreto 1030/2022, de 20 de diciembre, por el que se modifica el Real Decreto 159/2021, de 16 de marzo, por el que se regulan los servicios de auxilio en las vías públicas. / *The device described above has been tested and **FULFILLS** with the requirements of Real Decreto 1030/2022 of 20 December, amending Real Decreto 159/2021 of 16 March, which regulates roadside assistance services.*

L'Albornar, Santa Oliva (Tarragona), 04/03/2025

Realizado por / *Performed by:*



Joan Fonts Sala
INGENIERO DE ENSAYOS
TEST ENGINEER

V. Bº. / *Revised by:*



Ramon Santafè Guiu
JEFE DE DEPARTAMENTO
DEPARTMENT MANAGER



INFORME N° / REPORT No. PC25020303

RELATIVO A LA CERTIFICACIÓN DE DISPOSITIVO DE PRESEÑALIZACIÓN DE PELIGRO V-16
GEOLOCALIZADO SEGÚN EL REAL DECRETO 1030/2022, DE 20 DE DICIEMBRE, POR EL QUE SE
MODIFICA EL REAL DECRETO 159/2021, DE 16 DE MARZO, POR EL QUE SE REGULAN LOS
SERVICIOS DE AUXILIO EN LAS VÍAS PÚBLICAS / *CONCERNING THE CERTIFICATION OF V-16
GEOLOCATED HAZARD WARNING DEVICE ACCORDING TO THE REAL DECRETO 1030/2022 OF 20
DECEMBER AMENDING REAL DECRETO 159/2021 OF 16 MARCH REGULATING ROADSIDE
ASSISTANCE SERVICES.*

Nombre y dirección del solicitante /
Applicant's name and address

: JBM CAMPLLONG S.L.
CIM LA SELVA Ctra Aeroport km. 1,6 Nave 2.2. 17185 Vilobí
d'Onyar (Girona) ESPAÑA

Nombre y dirección del fabricante /
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: 54735

Marca de identificación /
Identification marking

: IDIADA PC25020303

Lugar y fecha de emisión del informe /
Place and date of test report issue

: L'Albornar, Santa Oliva (Tarragona)
04/03/2025

CONCLUSIONES / *CONCLUSIONS*: El dispositivo descrito ha sido ensayado y **CUMPLE** con las prescripciones indicadas en el Real Decreto 1030/2022, de 20 de diciembre, por el que se modifica el Real Decreto 159/2021, de 16 de marzo, por el que se regulan los servicios de auxilio en las vías públicas, según se detalla en el anexo que se adjunta a este informe. / *The device described above has been tested and **FULFILLS** with the requirements of Real Decreto 1030/2022 of 20 December, amending Real Decreto 159/2021 of 16 March, which regulates roadside assistance services, as detailed in the annex to this report.*

Realizado por / *Performed by:*

V. B°. / *Revised by:*



Joan Fonts Sala
INGENIERO DE ENSAYOS
TEST ENGINEER



Ramon Santafè Guiu
JEFE DE DEPARTAMENTO
DEPARTMENT MANAGER

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE

* QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCIÓN PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.
THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN



ANEXO AL INFORME / ANNEX TO THE REPORT

Nombre y dirección del solicitante / <i>Applicant's name and address</i> ⁽¹⁾	: JBM CAMPLLONG S.L. CIM LA SELVA Ctra Aeroport km. 1,6 Nave 2.2. 17185 Vilobí d'Onyar (Girona) ESPAÑA
Nombre y dirección del fabricante / <i>Manufacturer's name and address</i> ⁽¹⁾	: ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO LTD Room 701, NO.1 Building NO. 23 West of Tongji Road, Nantou town, Zhongshan 528427, Guangdong
Marca comercial / <i>Trade mark</i> ⁽¹⁾	: JBM
Modelo / <i>Model</i> ⁽¹⁾	: 54735
Variantes / <i>Variants</i> ⁽¹⁾	: ---
Identificación de las muestras / <i>Sample identification</i>	: HTC-2411/03710
Patrones de destello / <i>Flash patterns</i> ⁽¹⁾	: Destello doble / <i>Double flash</i>
Color / <i>Colour</i>	: Amarillo auto V-16 / <i>Amber V-16</i>
Número y categoría de la(s) fuente(s) luminosa(s) / <i>Light source(s) number and category</i> ⁽¹⁾	: 16 x LED
Alimentación del dispositivo / <i>Supplying system</i> ⁽¹⁾⁽²⁾	: ~~Batería recargable~~ / <i>Rechargeable battery</i> – Pila / <i>Cell</i>

⁽¹⁾ Información proporcionada por el cliente. El laboratorio no se hace responsable de dicha información /
Information provided by the client. The laboratory is not responsible for such information

⁽²⁾ Táchese lo que no proceda / *Strike out what does not apply*

Se adjuntan los siguientes documentos / *The following documents are attached:*

- Anexo I. Servicio de comunicaciones móviles corporativas de banda estrecha para internet de las cosas para balizas V-16. Cumplimiento de requisitos en materia de comunicaciones (CERTIFICADO TELCO) / *Annex I. Narrowband corporate mobile communications service for internet of things for V-16 beacons. Compliance with communications requirements (TELCO CERTIFICATE)*
- Anexo II. Pruebas de conexión de los dispositivos V-16 a la plataforma de coche conectado de la Dirección General de Tráfico, DGT3.0 / *Annex II. Connection tests of V-16 devices to the DGT3.0 connected car platform of the Dirección General de Tráfico.*
- Certificado UCA / *UCA Certificate*: E1 61532401

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.

THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.

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* EL LABORATORIO HA CALCULADO LA INCERTIDUMBRE DE MEDIDA ASOCIADA A LOS RESULTADOS.

MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.


ESPECIFICACIONES GENERALES / GENERAL SPECIFICATIONS

COLOR: dispositivo luminoso de color amarillo auto. / <i>COLOUR: luminous device of amber colour.</i>	CORRECTO / CORRECT
IRRADIACIÓN: el sistema óptico estará diseñado de forma que la luz cubra un campo de visibilidad horizontal de 360 grados y en vertical un mínimo ± 8 grados hacia arriba y hacia abajo. / <i>IRRADIATION: the optical system shall be designed so that the light covers a horizontal visibility field of 360 degrees and vertically, a minimum of ± 8 degrees up and down.</i>	CORRECTO / CORRECT
INTENSIDAD LUMINOSA: la intensidad debe ser en el grado 0 entre 40 y 700 candelas efectivas, y en los grados ± 8 entre 25 y 600 candelas efectivas. En ambos casos, dicha intensidad se mantendrá durante al menos 30 minutos. El tiempo de encendido, "ON time" según se define en el Reglamento CEPE/ONU 65, será como máximo 0.4/frecuencia de destello. El tiempo de apagado, "OFF time" según se define en el Reglamento CEPE/ONU 65, será como mínimo de 0.1 segundos. El tiempo entre destellos inmediatamente consecutivos (Δt) para señales luminosas consistentes en grupos de varios destellos será el definido en el Reglamento ECE 65, Anexo 5. / <i>LUMINOUS INTENSITY: the intensity shall be at 0 degrees between 40 and 700 effective candles, and at grade ± 8 between 25 and 600 effective candles. In both cases, this intensity shall be maintained for at least 30 minutes.</i> <i>The ON time, as defined in UN/ECE Regulation 65, shall be a maximum of 0.4/flash rate.</i> <i>The OFF time as defined in UN/ECE Regulation 65 shall be a minimum of 0.1 seconds.</i> <i>The time between immediately consecutive flashes (Δt) for light signals consisting of groups of several flashes shall be as defined in ECE Regulation 65, Annex 5.</i>	CORRECTO / CORRECT
GRADO DE PROTECCIÓN IP: al menos será IP54. / <i>IP PROTECTION GRADE: at least it shall be IP54.</i>	CORRECTO / CORRECT
ESTABILIDAD: el equipo estará diseñado para quedar estable sobre una superficie plana, no desplazándose frente a una corriente de aire que ejerza una presión dinámica de 180 Pa, en la dirección más desfavorable para su estabilidad. / <i>STABILITY: The equipment shall be designed to remain stable on a flat surface, not moving in front of a current of air that exerts a dynamic pressure of 180 Pa, in the most unfavorable direction for its stability.</i>	CORRECTO / CORRECT
FRECUENCIA DE DESTELLO: entre 0,8 y 2 Hz. / <i>FLASH FREQUENCY: between 0.8 and 2 Hz.</i>	CORRECTO / CORRECT
RESISTENCIA CLIMÁTICA: se garantizará el funcionamiento de la luz a temperaturas de -10 °C y 50 °C. / <i>CLIMATIC RESISTANCE: the operation of the light shall be guaranteed at temperatures of -10 °C and 50 °C.</i>	CORRECTO / CORRECT
ALIMENTACIÓN: será autónoma a través de una pila o batería que deberá garantizar su uso al cabo de 18 meses. Se considerará que los dispositivos que utilicen una batería recargable y siempre que la carga del mismo se pueda realizar en el propio vehículo cumplen con este requisito. / <i>SUPPLYING SYSTEM: it shall be autonomous through a battery that must guarantee its use after 18 months. Devices using a rechargeable battery and provided that the battery can be charged in the vehicle itself shall be deemed to comply with this requirement.</i>	CORRECTO / CORRECT

- * LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.
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MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.


RESULTADOS COLORIMÉTRICOS: AMARILLO AUTO / COLORIMETRIC RESULTS: AMBER ZONE

- Límite hacia el verde / *Limit towards the green*: $y \leq x - 0.120$
- Límite hacia el rojo / *Limit towards the red*: $y \geq 0.390$
- Límite hacia el blanco / *Limit towards the white*: $y \geq 0.790 - 0.670x$

Coordenadas cromáticas (eje de referencia) / <i>Chromatic co-ordinates (reference axis)</i>		
x	0.574	CORRECTO / CORRECT
y	0.422	
z	0.004	

RESULTADOS FOTOMÉTRICOS / PHOTOMETRIC RESULTS

Frecuencia / <i>Frequency</i> (f): $0.8 \text{ Hz} \leq f \leq 2 \text{ Hz}$	f = 0.90 Hz	CORRECTO / CORRECT
Tiempo de encendido / <i>On time</i> : $t_{\text{ON}} \leq 0.4/f$	$t_{\text{ON}} = 198.4 \text{ ms} \leq 0.4/f = 443.0 \text{ ms}$	CORRECTO / CORRECT
Tiempo de apagado / <i>Off time</i> : $t_{\text{OFF}} \geq 100 \text{ ms}$	$t_{\text{OFF}} = 909.2 \text{ ms}$	CORRECTO / CORRECT
Diferencia de tiempo / <i>Time distance measurements</i> : Δt	$\Delta t = 19.2 \text{ ms}$	CORRECTO / CORRECT

Valores mínimos de intensidad luminosa efectiva / *Minimum values of effective luminous intensity* (J_e):

	Medidas tras 1 minuto de encendido / <i>Measures after 1 minute of operation</i> (cd_{ef})		Medidas tras 30 minutos de encendido / <i>Measures after 30 minutes of operation</i> (cd_{ef})	
0° V	$40 \leq J_e \leq 700$	55.6	$40 \leq J_e \leq 700$	55.2
+8° V	$25 \leq J_e \leq 600$	29.7	$25 \leq J_e \leq 600$	29.5
-8° V	$25 \leq J_e \leq 600$	31.1	$25 \leq J_e \leq 600$	30.9

Valor máximo de intensidad luminosa efectiva / *Maximum value of effective luminous intensity* (J_e):

	Medidas tras 1 minuto de encendido / <i>Measures after 1 minute of operation</i> (cd_{ef})		Medidas tras 30 minutos de encendido / <i>Measures after 30 minutes of operation</i> (cd_{ef})	
0° V	$40 \leq J_e \leq 700$	66.4	$40 \leq J_e \leq 700$	66.0
+8° V	$25 \leq J_e \leq 600$	32.5	$25 \leq J_e \leq 600$	32.3
-8° V	$25 \leq J_e \leq 600$	31.8	$25 \leq J_e \leq 600$	31.6

Irradiación / <i>Irradiation</i>	CORRECTO / <i>CORRECT</i>
Intensidad luminosa / <i>Luminous intensity</i>	CORRECTO / <i>CORRECT</i>

Lugar del ensayo / *Test place*: L'Albornar, E-43710 Santa Oliva (Tarragona)

Fecha del ensayo / *Test date*: 28/01/2025 – 03/03/2025



Joan Fonts Sala
INGENIERO DE ENSAYOS
TEST ENGINEER

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ANEXO I

Servicio de comunicaciones móviles corporativas de banda estrecha para internet de las cosas para balizas V-16. Cumplimiento de requisitos en materia de comunicaciones (CERTIFICADO TELCO)

El operador Telefónica IoT & Big Data Tech, S.A.U. de conformidad con lo dispuesto en el Anexo II de la Resolución de 30 de noviembre de 2021, de la Dirección General de Tráfico, por la que se define el protocolo y el formato para el envío de datos desde la señal V-16 al Punto de Acceso Nacional, en el ámbito de la Directiva 2010/40/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, por la que se establece el marco para la implantación de los sistemas de transporte inteligente en el sector del transporte por carretera,

MANIFIESTA

1. Que en fecha **10 de diciembre de 2024**, la entidad **JBM CAMPLLONG S.L.**, (en adelante, el "Cliente"), con C.I.F. ESB17419292 y el operador Telefónica IoT & Big Data Tech, S.A.U., formalizaron un contrato para la prestación del Servicio de Comunicaciones Móviles Corporativas de Banda Estrecha para Internet de las Cosas para balizas conectadas V16 en relación al producto **54735**, versión **R1.10**.
2. Que el alcance del citado Contrato recoge y da cumplimiento a los requisitos que en materia de conectividad han de cumplirse de acuerdo con lo dispuesto en la citada Resolución de 30 de noviembre de 2021, y en concreto:
 - 2.1. Tecnología de comunicaciones. El servicio de conectividad será prestado bajo el uso de tecnología celular en banda licenciada dentro de los estándares 4G/5G LPWA de 3GPP, garantizando de este modo la permanencia en funcionamiento de dicha tecnología durante el transcurso del Contrato, evitando de este modo la obsolescencia temprana.
 - 2.2. Gestión, seguridad y privacidad en las comunicaciones. El servicio será prestado por el operador Telefónica IoT & Big Data Tech, S.A.U.:
 - Bajo un entorno privado y seguro de comunicaciones (APN privado).
 - Sin oportunidad de extracción de la tarjeta SIM del dispositivo.
 - Mediante la provisión automática y desatendida, y ello con objeto de evitar procedimientos de activación intermedios que puedan interferir en el momento de un accidente o avería.
 - Incluyendo una herramienta de gestión de alarmas para el control del fraude por malos usos con posibilidad de bloqueo automático de las comunicaciones.
 - El Cliente y el operador Telefónica IoT & Big Data Tech, S.A.U. ha acordado establecer un plazo de duración en la prestación del servicio de conectividad no inferior a 12 años.

Validación de dispositivo. Con el fin de garantizar los requisitos en materia de validación de los dispositivos se adjuntan como apéndice al presente Anexo los certificados aportados por el fabricante, así como el resultado de las pruebas de laboratorio efectuadas por el operador Telefónica IoT & Big Data Tech, S.A.U. y el porcentaje de cobertura actual y previsto en la tecnología LPWA seleccionada en el territorio nacional.

En Madrid, a **10 de diciembre** del año **2024**

Por
JBM CAMPLLONG S.L.

Por el Operador
Telefónica IoT & Big Data Tech, S.A.U.

Fdo:
D. Jordi Borrell Miquel
IDIADA Automotive Technology, S.A.

N.I.F. A43581610

Fdo:
D. Carlos Carazo Cepedano
Servicio Técnico Designado de Homologación (TS)



Índice de apéndices

- Apéndice I: Certificados de fabricante
- Apéndice II: Informe de pruebas de laboratorio
- Apéndice III: Declaración de cobertura NB-IoT

Validate this report with the security code «NPURMKSW» at: <https://homportal.idiada.com/#/document-verification>
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APENDICE I

CERTIFICACIONES DE FABRICANTE

Validate this report with the security code «NPURMKSW» at: <https://homportal.idiada.com/#/document-verification>
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CERTIFICATION

of Conformity

No.:MTZS24053919

Holder : Zhongshan Jucar Electronic Technology CO., LTD
ROOM 701 ,NO.1 BUILDING,NO 23 WEST OF TONGJI
ROAD,NANTOU TOWN,ZHONGSHAN528427,GUANG DONG
PROVINCE,CHINA

Product Name : Special warning lamp

Model Name : WL806GPS, WL845 GPS,WL807 GPS,WL861 GPS,
WL862 GPS,WL863 GPS,WL864 GPS,WL928 GPS,WL929 GPS

Brand Name : NICAR

Technical Data : DC 6V by Batteries

Report No. : MTEB24050065-E,MTEB24050065-H,MTEB24050065-R,
MTEB24050065-R1,MTEB24050065-S

This certification refers to the conformity of the following Directive(s). It does not exclude the product(s) having to be in compliance with other applicable Directive(s):

According to the Radio Equipment directive (RED) 2014/53/EU.

It is to certify that the product identified above in compliance with the essential requirements of the following standard(s):

ETSI EN 301 489-1 V2.2.3 (2019-11)
ETSI EN 301 489-19 V2.2.1 (2022-09)
ETSI EN 301 489-52 V1.2.1 (2021-11)
ETSI EN 303 413 V1.2.1 (2021-04)

ETSI EN 301 908-1 V15.2.1 (2023-01)
ETSI EN 301 908-13 V13.2.1 (2022-02)
EN 50665:2017/EN IEC 62311:2020
EN 60598-2-4:2018
EN IEC 60598-1:2021+A11:2022

May 13,2024

Date of Issue



Signed by: Yvette Zhou

This certification of conformity is based on an evaluation of the sample(s) of above mentioned product. Technical report and documentation are at the Holder's disposal. The CE marking as shown below can be affixed, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The affixing of the CE marking presumes in addition that the conditions in annexes III and IV of the Directive are fulfilled. The original document contains watermark. Not to be reproduced without the permission of Shenzhen Most Technology Service Co., Ltd.



Shenzhen Most Technology Service Co., Ltd.
East A, 1/F., New Aolin Factory Building, Langshan Erlu, North
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Http://www.szmost.com



Test Report

No.: EGZ2312270166C10201R

Date: Apr. 22, 2024

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Applicant : ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO., LTD
Address : ROOM 701 ,No.1 BUILDING,No. 23 WEST OF TONGJI ROAD,NANTOU TOWN,
ZHONGSHAN528427,GUANG DONG PROVINCE,CHINA

Sample Name : MINI LED WARNING BEACON
Model : See model list
Brand Name : NICAR

Received Date : Apr. 17, 2024
Test Period : Apr. 17, 2024~Apr. 22, 2024

Test Requested : As requested by client, to evaluate the compliance of the submitted sample with EU RoHS Directive 2011/65/EU Annex II and its amendment (EU) 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Test Method : 1. Review was performed for the sample and the related Bill of Materials submitted by the Applicant.
2. a) To refer to the standard IEC 62321-2:2021 ed. 2.0, review was performed for samples disjointed from the submitted articles.
b) To refer to the standard IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report.
c) To refer to the standard IEC 62321-3-1:2013, Screening by XRF Spectroscopy.
d) Wet chemical test
1) to refer to IEC 62321-5:2013, determine the Lead(Pb),Cadmium(Cd) content by ICP-OES.
2) to refer to IEC 62321-4:2013+A1:2017, determine the Mercury(Hg) content by ICP-OES.
3) to refer to IEC 62321-7-1:2015 & IEC 62321-7-2:2017, determine the Hexavalent Chromium(Cr(VI)) content by UV-Vis.
4) to refer to IEC 62321-6:2015, determine the Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl Ethers(PBDEs) by GC-MS.
5) to refer to IEC 62321-8:2017, determine the Bis(2-ethylhexyl) phthalate(DEHP), Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP) and Diisobutyl phthalate(DIBP) by GC-MS.

Test Results : Please refer to next page (s).

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the tests requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Test Report

No.: EGZ2312270166C10201R

Date: Apr. 22, 2024

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Conclusion:

Basing on the test results obtained from the homogeneous materials, the submitted sample **COMPLIES** with EU RoHS Directive 2011/65/EU Annex II and its amendment (EU) 2015/863.



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PC25020303

IDIADA

Prepared by:

Mila

Cheng Zhiying, Mila
Assistant engineer

Reviewed by:

Ethan

Sun Wei, Ethan
Technical supervisor

Approved by:

Jay Yu

Yu Chunhua, Jay Yu
Authorized signatory
Apr. 22, 2024

Signed for and on behalf of
EMTEK(Guangzhou) Co., Ltd.

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Test Report

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Date: Apr. 22, 2024

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Model List

WL806GPS	WL845	WL845WB	WL806	WL806 GPS	WL807	WL807 GPS	WL807L	WL865
WL844	WL844WB	WL861	WL862	WL862WB	WL863	WL864	WL864WB	WL865
WL866	WL867	WL868	WL869	WL806WB	WL807WB	MJDR8820	XWL-2008RC	WL928 GPS

1. 1 Sample List

No.	Sample Number	Sample Name
1	E2312270166102-01	MINI LED WARNING BEACON

1.2 Test Sample List

No.	Sample Description
1.1	Cover-transparent hard plastic
1.2	Battery cover substrate-white hard plastic
1.3	Battery cover coating-black hard plastic
1.4	Magnet-silvery metal
1.5	Viscose-black rubber
1.6	Rubber ring-black rubber
1.7	Rubber ring-white rubber
1.8	Display bar-black soft plastic
1.9	Connecting piece-silvery metal
1.10	Spring-silvery metal
1.11	Connecting piece-silvery metal
1.12	Socket body-black hard plastic
1.13	PCB board
1.14	LED
1.15	Screw plating-silvery plating
1.16	Screw base material-silvery metal
1.17	Base-black hard plastic

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No.	Sample Description
1.18	Hot melt adhesive-black adhesive
1.19	Hot melt adhesive-white adhesive
1.20	PCB board
1.21	Solder-silvery metal
1.22	PCB board
1.23	Connecting piece-silvery metal
1.24	LED
1.25	PCB board
1.26	Cover plate-silvery metal
1.27	Wire jacket-black soft plastic
1.28	Hot melt adhesive-white adhesive
1.29	PCB board
1.30	PCB board
1.31	IC
1.32	SMD capacitor
1.33	Socket body-white hard plastic
1.34	PCB board
1.35	IC
1.36	Cover plate-silvery metal
1.37	Inductor body-black magnet
1.38	Wire jacket-white soft plastic
1.39	Wire jacket-gray soft plastic
1.40	Wire core-silvery metal
1.41	Terminal sheath-white hard plastic

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2.Pb,Cd,Hg,Cr(VI),PBBs,PBDEs Test Results

No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.1	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.2	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.3	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.4	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.5	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.6	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.7	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.8	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.9	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.10	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.11	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.12	Cd	BL	PBBs: ND PBDEs: ND	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	X		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.13	Cd	BL	PBBs: ND PBDEs: ND	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	X		
1.14	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.15	Cd	BL	Cr(VI): Negative	No comment
	Pb	BL		
	Hg	BL		
	Cr	/		
	Br	NA		
1.16	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.17	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.18	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.19	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.20	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.21	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.22	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.23	Cd	BL	Cr(VI): Negative	No comment
	Pb	BL		
	Hg	BL		
	Cr	X		
	Br	NA		
1.24	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.25	Cd	BL	PBBs: ND PBDEs: ND	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	X		
1.26	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.27	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.28	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.29	Cd	BL	PBBs: ND PBDEs: ND	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	X		
1.30	Cd	BL	PBBs: ND PBDEs: ND	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	X		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.31	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.32	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.33	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.34	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.35	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.36	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		

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No.	Restricted substances	Results of EDXRF ⁽¹⁾	Results of Chemical Testing ⁽²⁾ (mg/kg)	Remark ⁽³⁾
1.37	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.38	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.39	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		
1.40	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	NA		
1.41	Cd	BL	---	No comment
	Pb	BL		
	Hg	BL		
	Cr	BL		
	Br	BL		

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3. Phthalates (DBP, BBP, DEHP, DIBP) Test Results

No.	Restricted substances	CAS No.	Results of Wet chem. Test (%)	MDL (%)	Client's Limit (%)
1.1+1.2+1.3	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.5+1.6+1.7	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.8+1.17+1.18	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.12+1.13+1.14	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.19+1.27+1.28	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.20+1.22+1.24	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.25+1.29+1.30	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1

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No.	Restricted substances	CAS No.	Results of Wet chem. Test (%)	MDL (%)	Client's Limit (%)
1.31+1.32+1.34	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.33+1.38	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.35+1.37	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1
1.39+1.41	DBP	84-74-2	ND	0.003	0.1
	BBP	85-68-7	ND	0.003	0.1
	DEHP	117-81-7	ND	0.003	0.1
	DIBP	84-69-5	ND	0.003	0.1

Remark: The samples of No.1.1+1.2+1.3, 1.5+1.6+1.7, 1.8+1.17+1.18, 1.12+1.13+1.14, 1.19+1.27+1.28, 1.20+1.22+1.24, 1.25+1.29+1.30, 1.31+1.32+1.34, 1.33+1.38, 1.35+1.37, 1.39+1.41 were analyzed on behalf of the applicant as mixing sample in one testing. The above results were only given for information purposes.

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Note: (1) ① Results are obtained by XRF for primary screening, and further wet chemical testing by ICP-OES / AAS (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as "X" in below table)(unit: mg/kg).

② OL = Over Limit, BL = Below Limit, X = Inconclusive, NA=Not Applicable.

③The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(2) ① mg/kg = ppm = 0.0001%, ND =Not Detected (Less than method detection limit.)

② Unit and Method Detection Limit (MDL) in wet chemical test.

Test items	Pb	Cd	Hg	Cr(VI)(Non-metal)	PBBs(single)	PBDEs (single)
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	8	5	5

③ According to IEC 62321-7-1:2015, result on Cr(VI) for metal sample is shown as Positive/Negative.

a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13µg/cm².

The sample coating is considered to contain Cr(VI).

b. The sample is negative for Cr(VI) if the Cr(VI) concentration is less than 0.10µg/cm².

The sample is considered a non-Cr(VI) based coating.

c. The result between 0.10µg/cm² and 0.13µg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination.

Storage condition and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

④ According to IEC 62321-3-1:2013, this column represents the results of wet chemical test. And "----" means no need to perform wet chemical test, when the XRF screening results are qualified.

(3) This column represents the exempted decoration of material or other related testing sample's information. And "No comment" means no note

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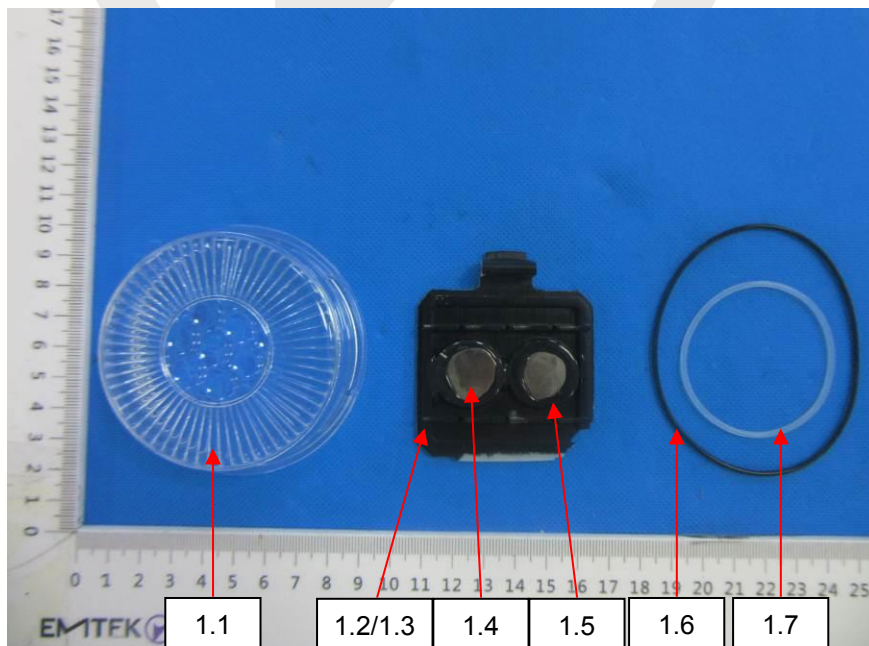
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4. Sample Photos



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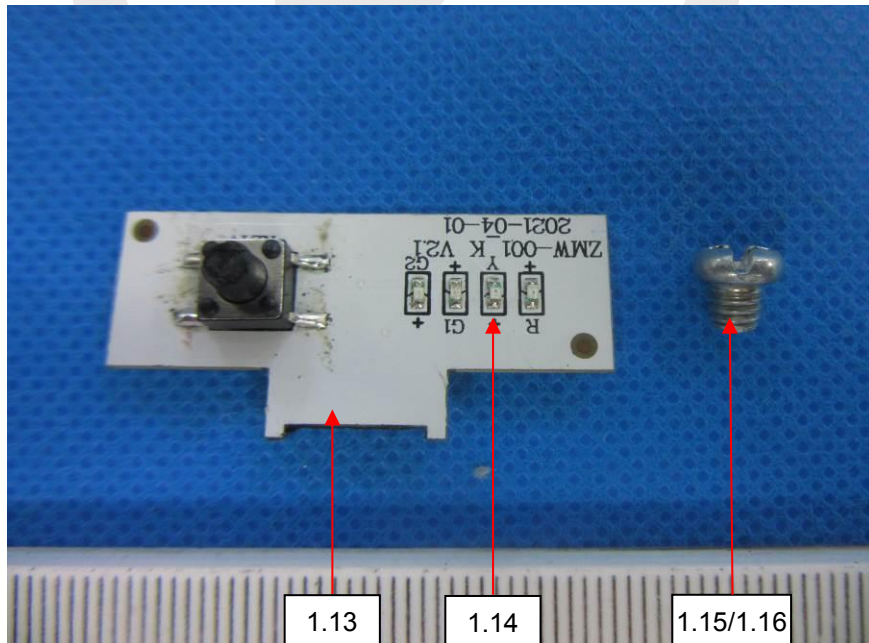
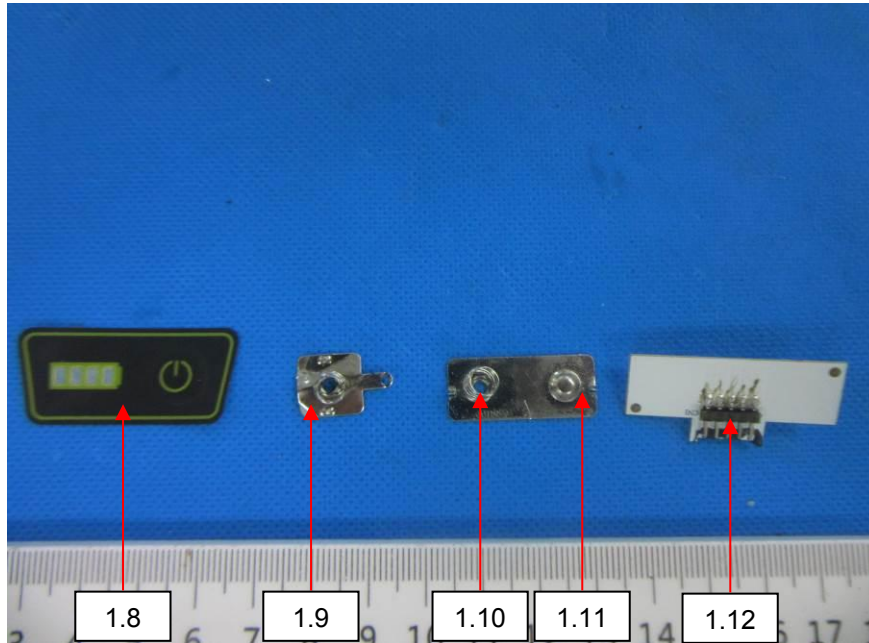


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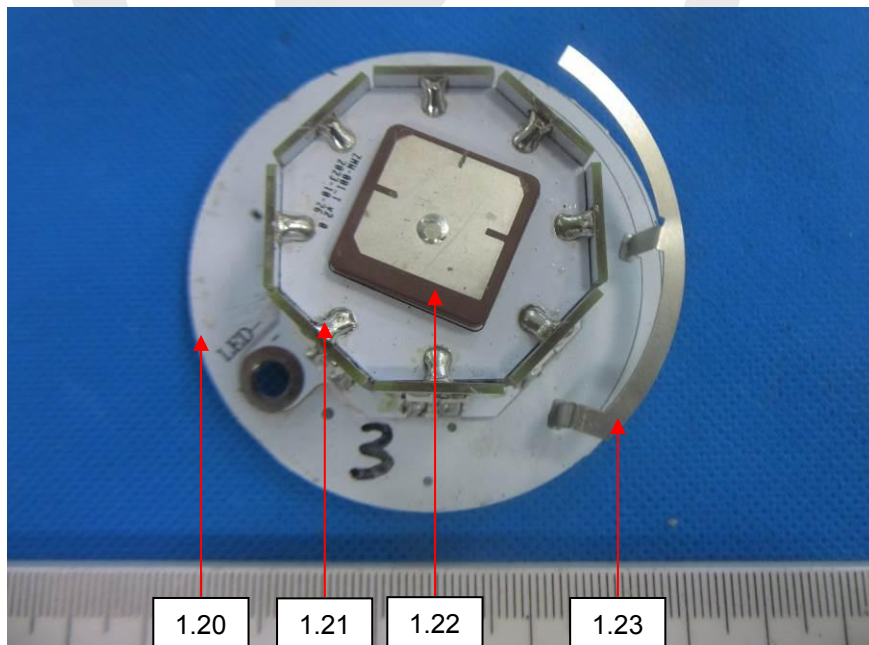
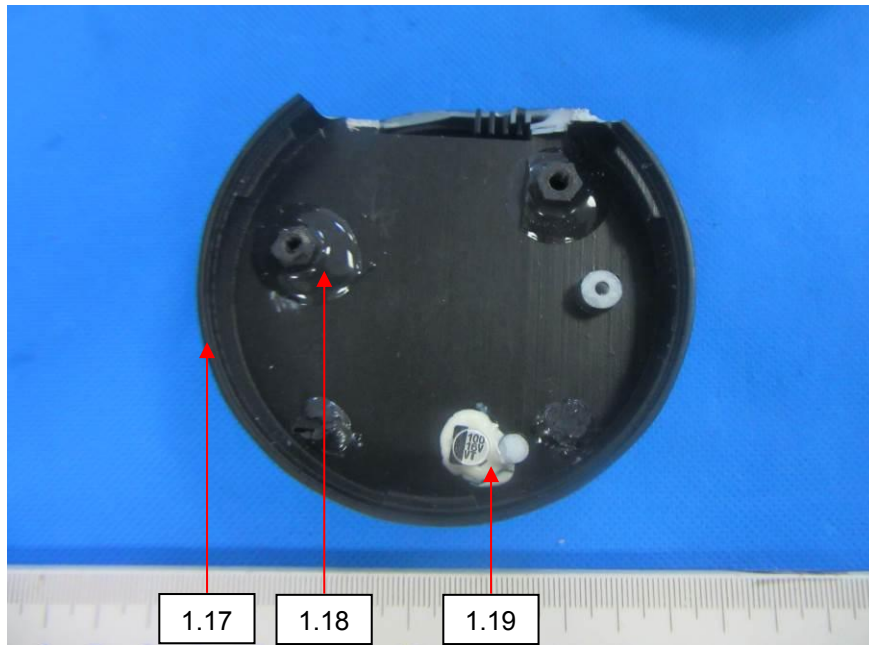


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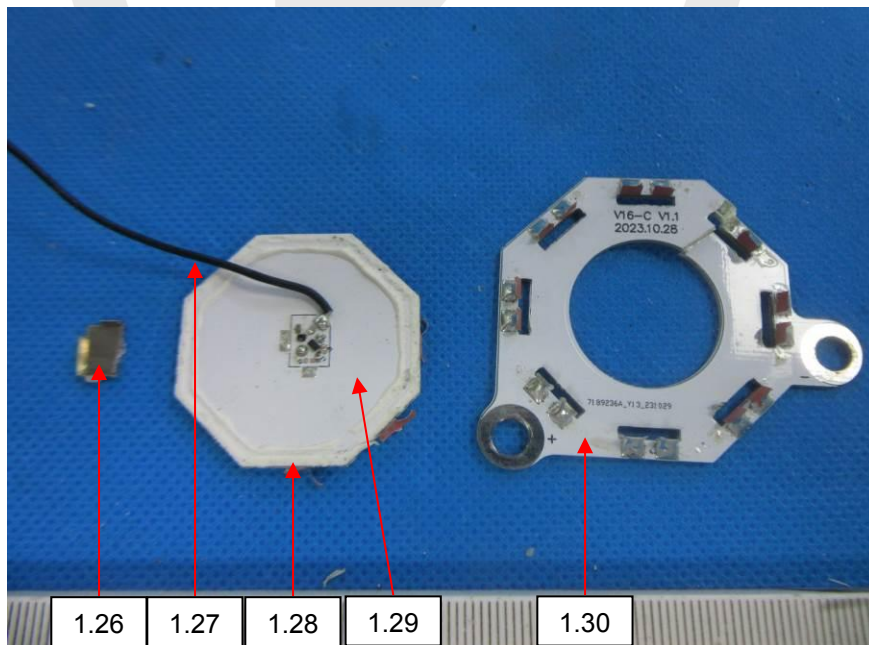
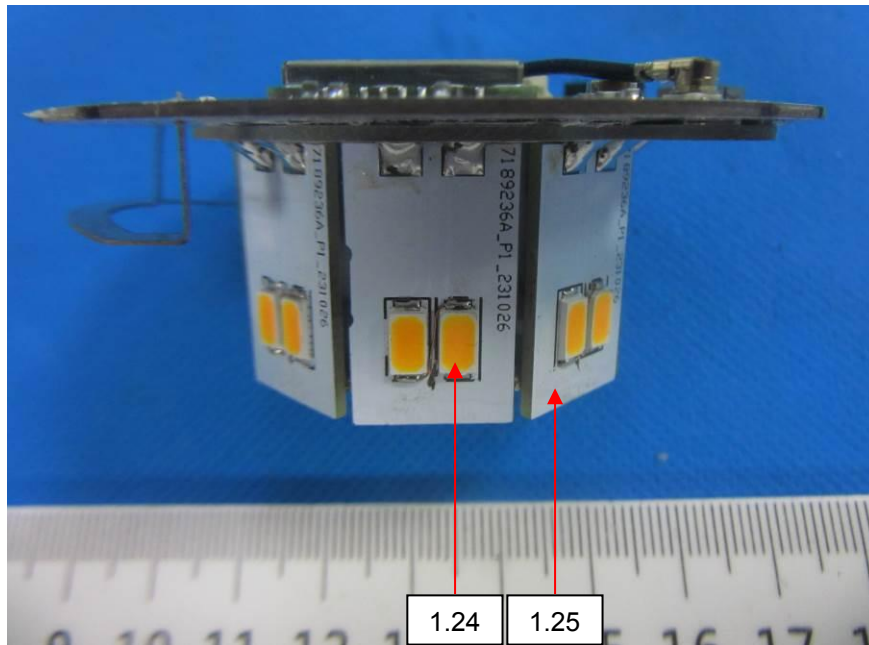


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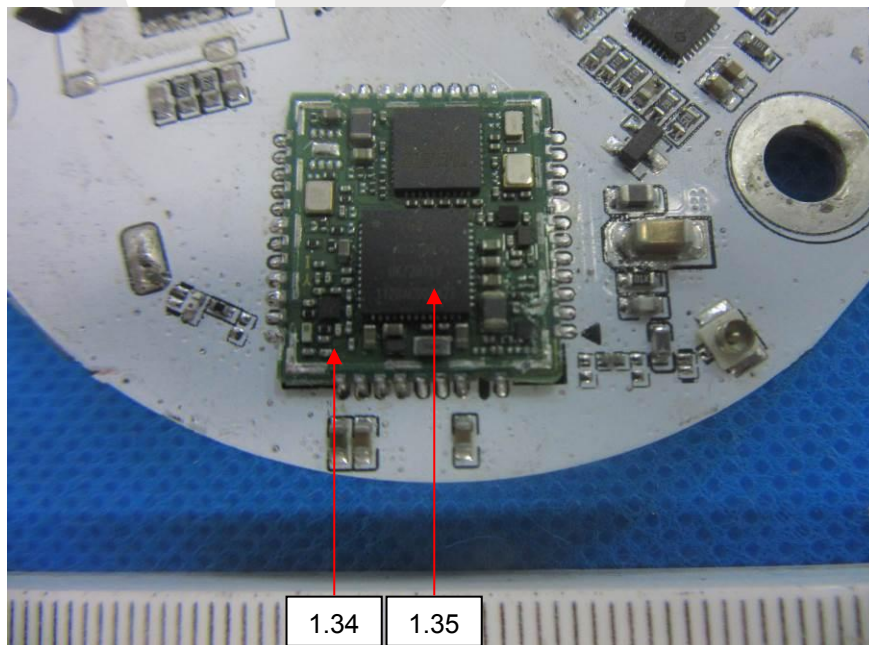
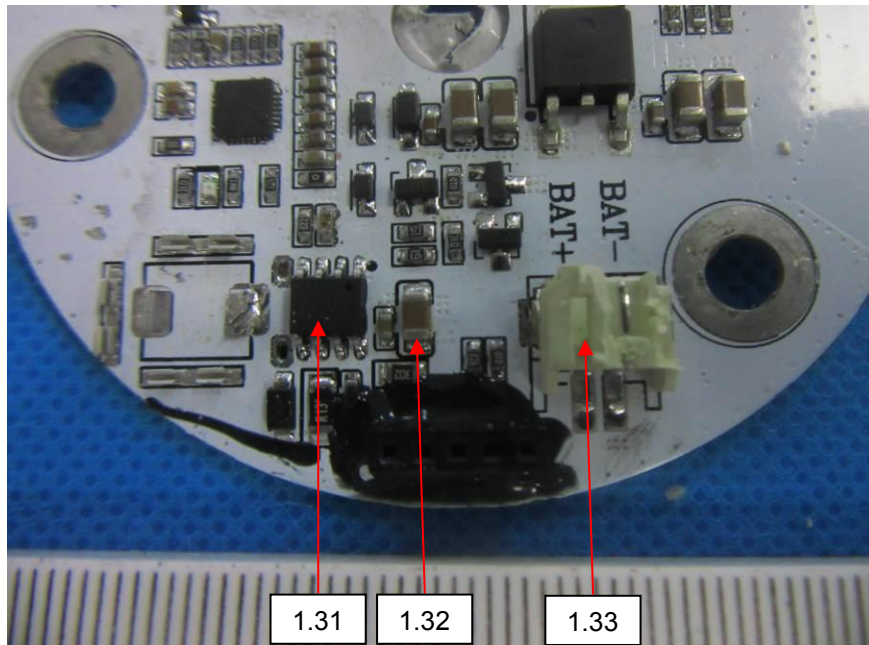


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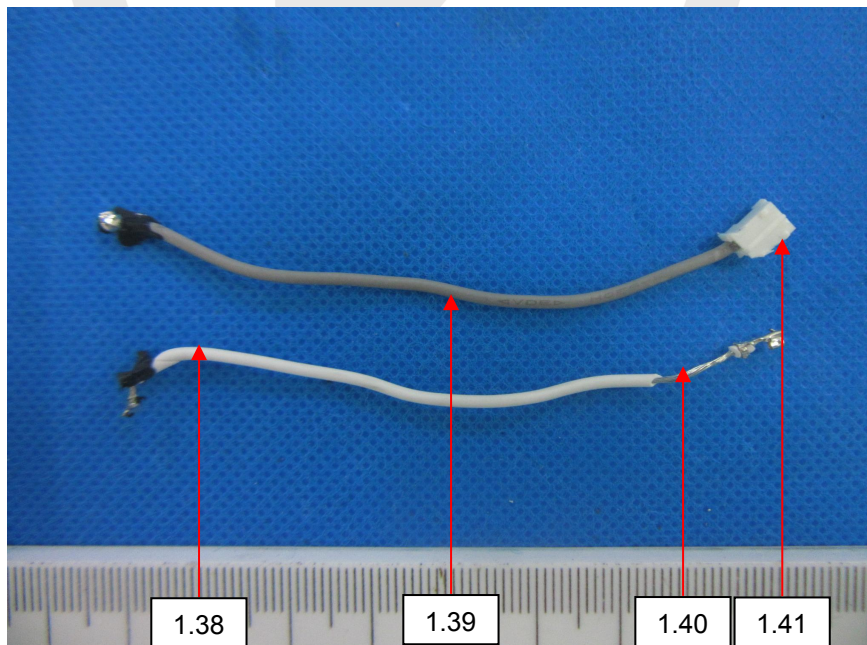
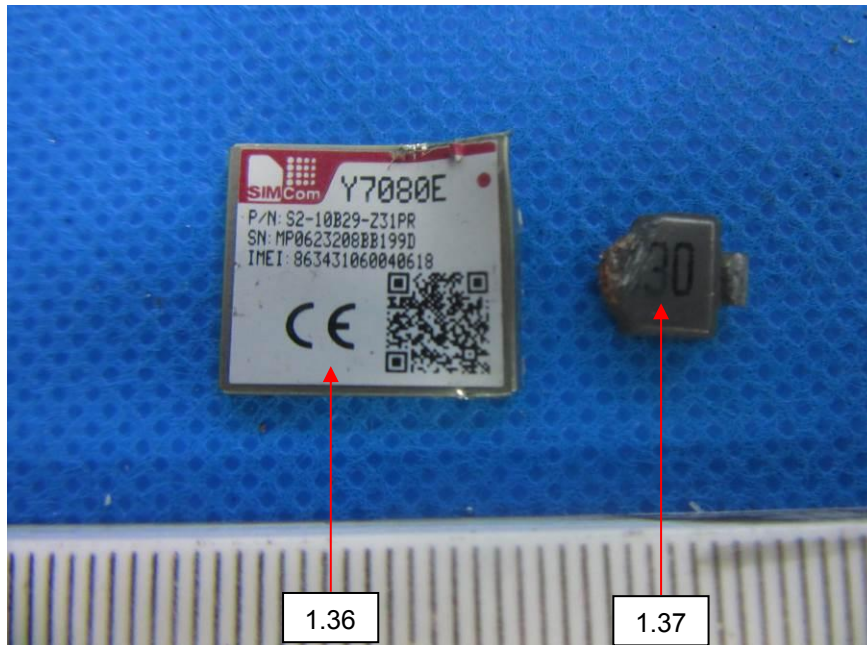


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*** End of Report ***

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ANNEX

RESTRICTED SUBSTANCES LIST

Restricted substances and maximum concentration values tolerated by weight in homogeneous materials

Lead (0.1%)	Mercury (0.1%)
Cadmium (0.01%)	Hexavalent chromium (0.1%)
Polybrominated biphenyls (PBB) (0.1%)	Polybrominated diphenyl ethers (PBDE) (0.1%)
Bis(2-ethylhexyl) phthalate (DEHP) (0.1%)	Butyl benzyl phthalate (BBP) (0.1%)
Dibutyl phthalate (DBP) (0.1%)	Diisobutyl phthalate (DIBP) (0.1%)

ANNEX III EXEMPTION LIST

- 1 Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):
 - 1(f)-1 For lamps designed to emit mainly light in the ultraviolet spectrum: 5 mg (Expires on 24 February 2027)
 - 1(f)-2 For special purposes: 5mg (Expires on 24 February 2025)
- 2(b) Mercury in other fluorescent lamps not exceeding (per lamp):
 - 2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17mm (e.g. T9) (Expires on 24 February 2023; 10 mg may be used per lamp from 25 February 2023 until 24 February 2025)
 - 2(b)(4)-1 Lamps for other general lighting and special purposes (e.g. induction lamps): 15 mg (Expires on 24 February 2025)
 - 2(b)(4)-II Lamps emitting mainly light in the ultraviolet spectrum: 15 mg (Expires on 24 February 2027)
 - 2(b)(4)-III Emergency lamps: 15 mg (Expires on 24 February 2027)
- 3 Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes used in EEE placed on the market before 24 February 2022 not exceeding (per lamp):
 - 3(a) Short length (≤ 500 mm): 3,5 mg (Expires on 24 February 2025)
 - 3(b) Medium length (> 500 mm and $\leq 1\ 500$ mm): 5 mg (Expires on 24 February 2025)
 - 3(c) Long length ($> 1\ 500$ mm): 13 mg (Expires on 24 February 2025)
- 4(a)-I Mercury in low pressure non-phosphor coated discharge lamps, where the application requires the main range of the lamp-spectral output to be in the ultraviolet spectrum: up to 15 mg mercury may be used per lamp (Expires on 24 February 2027)
- 4(b) Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $Ra > 80$: $P \leq 105$ W: 16 mg may be used per burner (Expires on 24 February 2027)
- 4(c) Mercury in other High-Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):
 - 4(c)-I $P \leq 155$ W: 20 mg (Expires on 24 February 2027)
 - 4(c)-II $155\text{ W} < P \leq 405$ W: 25 mg (Expires on 24 February 2027)
 - 4(c)-III $P > 405$ W: 25 mg (Expires on 24 February 2027)
- 4(e) Mercury in metal halide lamps (MH) (Expires on 24 February 2027)
- 4(f)-I Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex (Expires on 24 February 2025)
- 4(f)-II Mercury in high pressure mercury vapour lamps used in projectors where an output ≥ 2000 lumen ANSI is required (Expires on 24 February 2027)
- 4(f)-III Mercury in high pressure sodium vapour lamps used for horticulture lighting (Expires on 24 February 2027)
- 4(f)-IV Mercury in lamps emitting light in the ultraviolet spectrum (Expires on 24 February 2027)
- 5(a) Lead in glass of cathode ray tubes
- 5(b) Lead in glass of fluorescent tubes not exceeding 0.2% by weight
- 6(a) Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight
 - 6(a)-I Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight (Expires on 21 July 2024)
 - 6(a)-II Batch hot dip galvanised steel components containing up to 0,2 % lead by weight (Expires on 21 July 2026)
- 6(b)-I Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling (12 months after the final decision)
- 6(b)-II Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight (18 months after the final decision)
- 6(b)-III Lead as an alloying element in aluminium casting alloys containing up to 0,3% lead by weight provided it stems from lead-bearing aluminium scrap recycling (Expires on 21 July 2026 for all categories)
- 6(b)-IV Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight in gas valves applied in category 1 EEE (large household appliances) (Expires on 31 December 2024)
- 6(c) Copper alloy containing up to 4% lead by weight (Expires on 21 July 2026)
- 7(a) Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead)
- 7(b) Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications

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- 7(c)-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound (Expires on 21 July 2024)
- 7(c)-II Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher (Does not apply to applications covered by point 7(c)-I and 7(c)-IV of this Annex. Expires on 21 July 2026)
- 7(c)-IV Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 7(c)-V Electrical and electronic components containing lead in a glass or glass matrix compound that fulfils the following functions:
- 1) protection and electrical insulation in glass beads of high voltage diodes and glass layers for wafer on the basis of a lead-zinc-borate or a lead-silica-borate glass body, *
 - 2) for hermetic sealings between ceramic, metal and/or glass parts
 - 3) for bonding purposes in a process parameter window for < 500°C combined with a viscosity of 1013,3 dPas (so called "glass-transition temperature")
 - 4) used as resistance materials such as ink, with a resistivity range from 1 Ohms/square to 1 Mega Ohms/square, excluding trimmer potentiometers**
 - 5) used in chemically modified glass surfaces for Microchannel Plates (MCPs), Channel Electron Multipliers (CEMs) and Resistive Glass Products (RGPs). (Expires on 21 July 2026 for all categories)
- 7(c)-VI Electrical and electronic components containing lead in a ceramic that fulfils the following functions (excluding items covered under item 7(c)-II, 7(c)-III and 7(c)-IV of this annex):
- 1) piezoelectric lead zirconium titanate (PZT) ceramics
 - 2) providing ceramics with a positive temperature coefficient (PTC) (Expires on 21 July 2026 for all categories)
- 8(b) Cadmium and its compounds in electrical contacts
- 8(b)-I Cadmium and its compounds in electrical contacts used in:
- circuit breakers,
 - thermal sensing controls,
 - thermal motor protectors (excluding hermetic thermal motor protectors),
 - AC switches rated at:
 - 6 A and more at 250 V AC and more, or
 - 12 A and more at 125 V AC and more,
 - DC switches rated at 20 A and more at 18 V DC and more, and
 - switches for use at voltage supply frequency ≥ 200 Hz.
- 9 Hexavalent chromium as an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75% by weight in the cooling solution (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 9(a)-II Up to 0,75 % hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators:
- designed to operate fully or partly with electrical heater, having an average utilised power input ≥ 75 W at constant running conditions,
 - designed to fully operate with non-electrical heater
- 9(b) Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 13(a) Lead in white glasses used for optical applications
- 13(b) Cadmium and lead in filter glasses and glasses used for reflectance standards
- 13(b)-I Lead in ion coloured optical filter glass types
- 13(b)-II Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex
- 13(b)-III Cadmium and lead in glazes used for reflectance standards
- 15 Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages
- 15(a) Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies:
- a semiconductor technology node of 90 nm or larger;
 - a single die of 300 mm² or larger in any semiconductor technology node;
 - stacked die packages with die of 300 mm² or larger, or silicon interposers of 300 mm² or larger
- 17 Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications

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- 18(b) Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5: Pb)
- 21 Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glass (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 24 Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors
- 25 Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring
- 29 Lead bound in crystal glass as defined in Annex 1 (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC
- 30 Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more
- 31 Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)
- 32 Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes
- 33 Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers
- 34 Lead in cermet-based trimmer potentiometer elements
- 37 Lead in the coating layer of high voltage diodes on the basis of a zinc borate glass body (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 38 Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide
- 39a Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0.2 µg Cd per mm² of display screen area)
- 41 Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council (2)) (Expires on 31 December 2018) (Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11)
- 42 Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment:
 - with engine total displacement ≥ 15 litres; or
 - with engine total displacement < 15 litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications
 (Applies to category 11, excluding applications covered by entry 6(c) of this Annex. Expires on 21 July 2024)
- 43 Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and the concentration value of bis(2-ethylhexyl) phthalate does not exceed:
 - (a) 30 % by weight of the rubber for
 - (i) gasket coatings;
 - (ii) solid-rubber gaskets; or
 - (iii) rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine.
 - (b) 10 % by weight of the rubber for rubber-containing components not referred to in point (a). For the purposes of this entry, "prolonged contact with human skin" means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day
 (Applies to category 11 and expires on 21 July 2024)
- 44 Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council (*1), installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users. (Applies to category 11 and expires on 21 July 2024)
- 45 Lead diazide, lead styphnate, lead dipicramate, orange lead (lead tetroxide), lead dioxide in electric and electronic initiators of explosives for civil (professional) use and barium chromate in long time pyrotechnic delay charges of electric initiators of explosives for civil (professional) use. (Applies to category 11 and expires on 20 April 2026)

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EN 50665:2017/EN IEC 62311:2020

For

Applicant : Zhongshan Jucar Electronic Technology CO., LTD
Address : ROOM 701 ,NO.1 BUILDING,NO 23 WEST OF TONGJI ROAD,NANTOU TOWN,ZHONGSHAN528427,GUANG DONG PROVINCE,CHINA
Product Name : Special warning lamp
Model Name : WL806GPS, WL845 GPS,WL807 GPS,WL861 GPS, WL862 GPS,WL863 GPS,WL864 GPS,WL928 GPS,WL929 GPS
Brand Name : NICAR
Report No. : MTEB24050065-H
Date of Issue : May 11,2024

Issued by : Shenzhen Most Technology Service Co., Ltd.
Address : East A, 1/F., New Aolin Factory Buiding, Langshan Erlu, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China
Tel : 86-755-86026850
Fax : 86-755-26013350



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1. Test Result Certification

Applicant Name:	Zhongshan Jucar Electronic Technology CO., LTD
Address:	ROOM 701 ,NO.1 BUILDING,NO 23 WEST OF TONGJI ROAD,NANTOU TOWN,ZHONGSHAN528427,GUANG DONG PROVINCE,CHINA
Manufacturer Name:	Zhongshan Jucar Electronic Technology CO., LTD
Address:	ROOM 701 ,NO.1 BUILDING,NO 23 WEST OF TONGJI ROAD,NANTOU TOWN,ZHONGSHAN528427,GUANG DONG PROVINCE,CHINA
Equipment Under Test:	Special warning lamp
Brand Name:	NICAR
Model Number:	WL806GPS
Series Model Number:	WL845 GPS,WL807 GPS,WL861 GPS, WL862 GPS,WL863 GPS,WL864 GPS,WL928 GPS,WL929 GPS
Difference description:	Their electrical circuit design, layout, components used and internal wiring are identical, Only the model name and Appearance is different.
Test Standard	EN 50665:2017/EN IEC 62311:2020
Date of Test:	Apr.22- May 10,2024

We, MOST, for compliance with the requirements set forth in the European Standard EN 50665:2017/EN IEC 62311:2020. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested by (+ signature):



Alisa Luo(Engineer)

Apr.22- May 10,2024

Review by (+ signature):



Sunny Deng (Engineer)

May 11,2024



Approved by (+ signature):



Yvette Zhou(Manager)

May 11,2024



2. Technical Information

Note: the following data is based on the information by the applicant.

2.1 EUT Description

Product	Special warning lamp
Trade Name	NICAR
Model Number	WL806GPS
Power Supply	DC 6V by Batteries
Frequency Range	/ FDD Band 8,FDD Band 20
Modulation Type	GPS QPSK,16QAM
Temperature Range	-20°C ~ +50°C
Software version:	R0.95
Hardware version:	V1.0

Note:

1. For more details, please refer to the User's manual of the EUT.
2. The EUT can powered by the Adapter as listed below:

Adapter	
Brand Name	/
Model Number	/
Input	/
Output	/



2.2 Objective

EUT Satisfy RED Directive 2014/53/EU – Article 3.1(a), Ref LVD Directive 2014/35/EU- Article 3, 12.

2.3 Test Standards and Results

The EUT has been tested according to EN 50665:2017/EN IEC 62311:2020

EN 50665:2017/EN IEC 62311:2020	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)
---------------------------------	--

Test items and the results are as bellow:

No	Basic Standard	Test Result
1	EN 50665:2017/EN IEC 62311:2020	PASS



2.4 Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Most Technology Service Co., Ltd.
Address:	East A, 1/F., New Aolin Factory Buiding, Langshan Erlu, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

2.5 Identification of the Responsible Testing Location

Test Site:	Shenzhen Most Technology Service Co., Ltd.
Address:	East A, 1/F., New Aolin Factory Buiding, Langshan Erlu, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China
Description:	There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4 and CISPR 16 requirements. The FCC Registration Number is 490827 . The CNAS Registration Number is CNAS L3573 .

2.6 Description of Test Modes

The EUT had been tested under the operating condition. There are three channels have been tested as following:

Mode	Frequency
LTE	Band 8
LTE	Band 20
GPS	/

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed. The field strength of spurious emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis) with adapter respectively. The worst emission was found in stand-up position (Y axis).



2.7 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 k Pa

2.8 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in Measurement” (GUM) published by ISO.

- Uncertainty of Conducted Emission, $U_c = \pm 1.8\text{dB}$
- Uncertainty of Radiated Emission, $U_c = \pm 3.2\text{dB}$



3. EN 50665/EN IEC 62311 requirements

3.1 Human Exposure to the Electromagnetic Fields

LIMIT

According to EN 50665:2017/EN IEC 62311:2020, the criteria listed in the following table shall be used to evaluate the

environmental impact of human exposure to radio-frequency (RF) radiation as specified 1999/5/EC.

**Reference levels for electric, magnetic and electromagnetic fields
(0 Hz to 300 GHz, unperturbed rms values)**

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\, f^{1/2}$	$0,0037\, f^{1/2}$	$0,0046\, f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Notes:

1. f as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any $68/f^{1.05}$ -minute period (f in GHz).
4. No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.



TEST RESULTS

No non-compliance noted

Since average output power is 24.57dBm (0.286W) for LTE (Band 8), 24.25dBm (0.266W) for LTE (Band 20), which exceed the exempt condition in EN 50665:2017/EN IEC 62311:2020. RF exposure assessment has been performed below to prove that this unit will not generate the harmful EM emission above the reference level as specified in EC Council Recommendation (1999/5/EC).

Conclusion: PASS

3.2 Human Exposure Assessment

EUT Parameter (data form the separate report)	
out put power in Watt (TP)	24.57dBm (0.286W) for LTE (Band 8)
out put power in Watt (TP)	24.25dBm (0.266W) for LTE (Band 20)
Antenna Gain (G)	0.75dBi (Numeric gain:1.19)
Minimum distance in meter (D) (from transmitting structure to the human body)	0.2 m

Exposure evaluation	
Given $E = (\sqrt{30 \cdot G \cdot TP}) / D$ Yield: $E = (\sqrt{30 \cdot 1.19 \cdot 0.286}) / 0.2 = 15.98 \text{ V/m}$	Where: G: Numeric gain of the transmitter gain; TP: Transmitter power in Watts; D: Distance form the transmitting antenna in meter
Given $E = (\sqrt{30 \cdot G \cdot TP}) / D$ Yield: $E = (\sqrt{30 \cdot 1.19 \cdot 0.266}) / 0.2 = 15.41 \text{ V/m}$	Where: G: Numeric gain of the transmitter gain; TP: Transmitter power in Watts; D: Distance form the transmitting antenna in meter
Conclusion: E is significant lower than the 61 V/m. This proves that the unit complies with the EN 50665/EN IEC 62311 for RF exposure requirement.	

GPS: The product power is too low, So don't to be evaluated.



CERTIFICATE

The Global Certification Forum Ltd advises that
SIMCom Wireless Solutions Limited

has successfully demonstrated compliance
with the GCF certification requirements of GCF-CC

For
Y7080E
IoT Module

On
19-Aug-2022

GCF CC Version:
3.85.1

Status:
Published

GCF Ref. Number:
11004

This certificate has been issued by the Global Certification Forum in accordance with the requirements of the GCF PRDs. For the actual status of a device certification, please refer to the GCF web site.

The device manufacturer confirms that they are solely responsible for certifying the product and holds the GCF entirely harmless from any responsibility or liability associated with the product and/or the certification process. All GCF marks and/or certificates are provided "as is" with no representation and GCF expressly disclaims all warranties whatsoever whether express, implied statutory or otherwise. In no event shall GCF be liable for any direct, indirect, consequential or any damages whatsoever in any way connected with the use or performance of any GCF certified product whether based on contract, tort, negligence, strict liability or otherwise.

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APENDICE II

INFORME DE PRUEBAS DE LABORATORIO

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IDIADA PC25020303



ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO.,LTD - WL806GPS

Global Telefonica Device on Boarding Report

Addressed to: JBM CAMPLLONG S.L.

Manufacturer: ZHONGSHAN JUCAR
ELECTRONIC
TECHNOLOGY CO.,LTD

Device Type: IoT/M2M Device

Model: Manufacturer reference:
WL806GPS
Distributor reference:
54735

Technology: NB-IoT

SW Version: R1.10

Date: 25/11/2024

Photo:



ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO.,LTD - WL806GPS end device, in its R1.10 version, **is compatible** with Telefónica IoT/M2M solution according to specific functionalities tested in the mobile networks specified.

Some issues have been detected, they may affect device functionality and it is highly recommended to fix them.

ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO.,LTD shall deliver to Telefonica a solution plan to solve open issues.





APENDICE III

DECLARACIÓN DE COBERTURA NB-IOT

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Declaración de cobertura NB-IoT en territorio nacional

Telefónica IoT & Big Data Tech, S.A.U. en el marco del proyecto de la plataforma DGT 3.0, y como compañía operadora que ofrece servicios de conectividad NB-IoT al dispositivo baliza V-16, regulado en el Real Decreto 159/2021, provee de **cobertura NB-IoT en el 98,5% del territorio nacional español**.

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ANEXO I

Pruebas de conexión de los dispositivos V-16 a la plataforma de coche conectado de la Dirección General de Tráfico, DGT3.0

El responsable de la Subdirección General de Gestión de la Movilidad y Telemática, de la dirección General de Tráfico, de conformidad con lo dispuesto en el Anexo I de la Resolución de 30 de noviembre de 2021, de la Dirección General de Tráfico, por la que se define el protocolo y el formato para el envío de datos desde la señal V-16 al Punto de Acceso Nacional, en el ámbito de la Directiva 2010/40/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, por la que se establece el marco para la implantación de los sistemas de transporte inteligente en el sector del transporte por carretera.

MANIFIESTA

- Que en fecha 12/02/2025, la entidad JBM CAMPLLONG SL (en adelante el "Cliente"), con CIF B17419292 y los responsables de la plataforma de vehículo conectado de la Dirección General de Tráfico (en adelante "DGT3.0") han llevado a cabo las pruebas descritas en dicha Resolución, con el objeto de realizar:
 - ☒ Verificación inicial
 - ☐ Verificación periódica
- Que el Cliente ha satisfecho correctamente los siguientes requisitos recogidos en la citada Resolución de 30 de noviembre de 2021, siendo estos los siguientes:
 - Acceder a la plataforma de gestión del Punto de Acceso Nacional (NAP) mediante certificado digital proporcionado por la Dirección General de Tráfico.
 - Implementar los protocolos e interfaces descritos en esta resolución para el envío de los mensajes generados por la señal V-16.
 - Enviar un mensaje de activación y otro de desactivación del dispositivo por cada o evento.
 - Enviar la señal de activación 100 segundos después del encendido físico del o dispositivo.
 - Mantener una frecuencia de envío de mensajes cada 100 segundos.
 - Proporcionar una precisión inferior a 5 metros en el posicionamiento del dispositivo.
- Que el Cliente ha realizado correctamente las pruebas de conexión mediante los protocolos A y B descritos en el Anexo I de dicha Resolución de 30 de noviembre de 2021, utilizando los interfaces y modelos de datos establecidos en la misma
- Que las pruebas y requisitos anteriormente descritos han sido satisfechos por:

Solicitante: JBM CAMPLLONG SL	Versión del hardware: V1.0
Fabricante: ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO LTD	Versión del software: R1.10
Modelo: 54735	Tecnología de conexión LPWA: NB-IOT

Firmado en Madrid, a _____ de _____ de XXXX

sgmovilidad@dgt.es

C/ JOSEFA VALCÁRCEL, 44
28027 MADRID
Tel.: 917143209

CSV : GEN-61a2-4c59-d1e8-c7d2-7d53-311e-8bd6-9863

DIRECCIÓN DE VALIDACIÓN : <https://sede.administracion.gob.es/pagSedeFront/servicios/consultaCSV.htm>

FIRMANTE(1) : FRANCISCO JOSE RUIZ BOADA | FECHA : 14/02/2025 10:09 | Sin acción específica





FUNDACIÓN PARA EL FOMENTO DE
LA INNOVACIÓN INDUSTRIAL



Certificado Evaluación Inicial N°: **E1 61532401**

CERTIFICADO DE EVALUACIÓN INICIAL PARA LA CERTIFICACIÓN

de dispositivos de preseñalización de peligro V-16 fabricados por:

Solicitante:

JBM CAMPLLONG, S.L.

CIM La Selva, Ctra. Aeroport km. 1,6, Nave 2.2
17185, Vilobí d'Onyar, GIRONA (ESPAÑA)

Fabricante:

Fabricante	Dirección
Zhongshan Jucar Electronic Technology Co., Ltd.	Room 701, No.1 Building, No23 West Tongji Road, 528427, Nantou Town, ZHONGSHAN (CHINA)

Tras los controles realizados por la Unidad de Certificación del Automóvil el 12 de noviembre de 2024, se determina que el sistema de gestión, así como los controles iniciales, planificados y establecidos por el solicitante, cumplen con lo dispuesto en el:

- *Punto 10 de la sección "V-16 Dispositivo de preseñalización de peligro" del anexo XI del Real Decreto 2822/1998, de 23 de diciembre, por el que se aprueba el Reglamento General de Vehículos, en su última actualización.*

UNIDAD DE CERTIFICACIÓN DEL AUTOMÓVIL

FUNDACIÓN PARA EL FOMENTO DE LA INNOVACIÓN INDUSTRIAL

C/ José Gutiérrez Abascal, 2, 28006, Madrid

Fecha de emisión (*): 17.12.2024

(*) la vigencia y el mantenimiento de los requisitos establecidos se asegura, al año de la emisión del presente certificado, con la emisión del Certificado de verificación periódica de la producción.

D. José M^a Martínez-Val Peñalosa
Director F2i2

DOCUMENTACIÓN TÉCNICA /
TECHNICAL DOCUMENTATION

DESCRIPCIÓN TÉCNICA / *INFORMATION FOLDER*

FECHA / *DATE*: 03/03/2025

1. Información técnica / *Specification data*

Modelo / <i>Model</i>	54735	
Marca commercial / <i>Trade mark</i>	JBM	
Variantes / <i>Variants</i>		
Función / <i>Function</i>	V-16 Dispositivo de preseñalización de peligro Dispositivo luminoso (opcional) / <i>V-16 Luminous devices for pre-signalization of danger (optional)</i>	
Reglamento aplicable / <i>Applicable Regulation</i>	Anexo XI “Señales en los Vehículos”, V-16 “Dispositivos de preseñalización de peligro”, Apartado 4 “Dispositivo luminoso” del Real Decreto 2822/1998 del Reglamento General de Vehículos / Annex XI “Señales en los Vehículos”, V-16 “Dispositivos de preseñalización de peligro”, Paragraph 4 “Dispositivo luminoso” of the Real Decreto 2822/1998 of Reglamento General de Vehículos	
Patrón de destello / <i>Flash Pattern</i>	Destello doble / <i>Double flash</i>	
Color / <i>Colour</i>	Amarillo auto V-16 / <i>Amber V-16</i>	
Número y categoría de fuentes luminosas / <i>Number and category of light sources</i>	16pcs 0.5W5730LEDs	
Alimentación del dispositivo / <i>Supplying system</i>	Pila / <i>Cell</i>	
Marca de identificación / <i>Identification marking</i>	Código / <i>Code</i>	IDIADA PC25020303
	Ubicación del marcaje / <i>Location of marking</i>	Marcado en la base / <i>Marked on the bottom</i>

2. Nombre y dirección del fabricante / *Name and address of manufacturer*

ZHONGSHAN JUCAR ELECTRONIC TECHNOLOGY CO LTD

Room 701, NO.1 Building NO. 23 West of Tongji Road, Nantou town, Zhongshan 528427, Guangdong

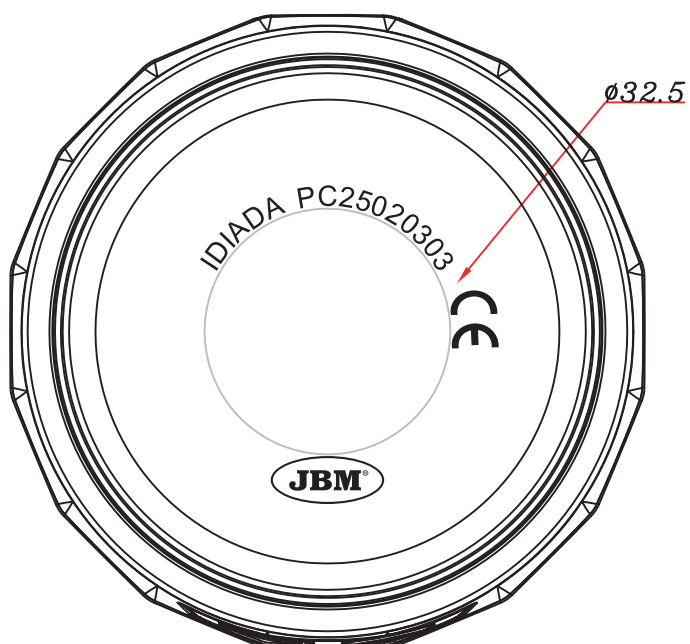
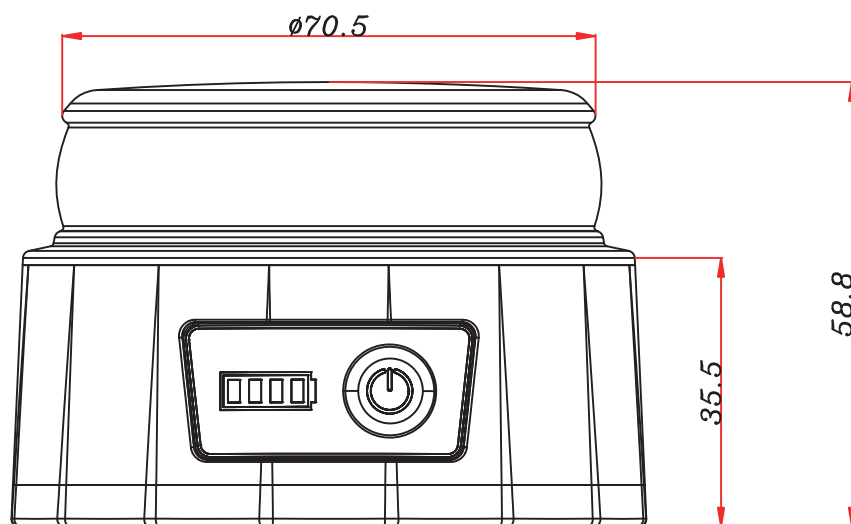
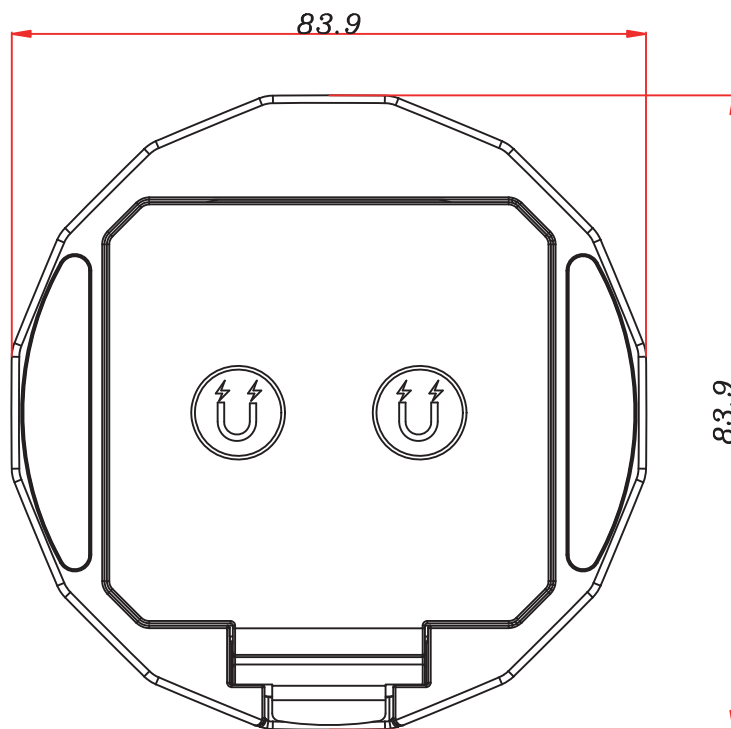
3. Nombre y dirección del solicitante (si aplica) / *Name and address of applicant (if applicable)*

JBM CAMPLLONG S.L.

CIM LA SELVA Ctra Aeroport km. 1,6 Nave 2.2. 17185 Vilobí d'Onyar (Girona) ESPAÑA

NOTA / NOTE: LA MARCA DE IDENTIFICACIÓN SE MUESTRA EN LOS PLANOS ADJUNTOS. / *APPROVAL MARKING IS SHOWN IN THE ATTACHED DRAWINGS.*

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6mm 

Quality Assurance Statement

Our company guarantees that AA LR6 1.5V alkaline battery supplied to Zhongshan Jucar Electronic Technology Co., LTD as following:

1.The battery's OCV (V)>1.5V, CCT(V)>1.40V, SSC(V)>5.0A after they are stored for 18 months at 18-22°C. (Note: the self-discharge rate of the battery is 10%per year if the battery is new and unpacked).

2.The shelf life of the battery is 5 years. (Note: our company will compensate for the battery at a ratio of 1:1 when the defective ratio exceeds 1%if the battery leaks or rusts before unpacking)

SHENZHEN PKCELL BATTERY CO.,LTD

February 21st, 2025

