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C.I.F. A29 507 456

Test report No:
NIE: 74836RAN.002

Test report

IEEE Std C95.3-2021
FCC 47 CFR Part 2.1091

(*) Identification of item tested	Lock for lockers
(*) Trademark	Ojmar
(*) Model and /or type reference tested	OTS Batteryless
(*) Other identification of the product	HW Version: 1.3 SW Version: 1.0.1
(*) Features	Features: Mifare Classic, Mifare Desfire and Mifare Ultralight.
(*) Manufacturer	OJMAR S.A Polígono industrial de lerun s/n 20870, Elgoibar, Gipuzkoa, SPAIN
Test method requested, standard	IEEE Std C95.3-2021. FCC 47 CFR Part 2.1091.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Miguel Lacave Antennas Lab Manager  2023.09.27 17:18:13 +02'00'
Date of issue	2023-09-27
Report template No	FAN39_02 (*) "Data provided by the client"

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Competences and guarantees

DEKRA Testing and Certification S.A.U. is a testing laboratory accredited by the National Accreditation Body (ENAC -Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification is a FCC-recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification S.A.U. has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification S.A.U. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification at the time of performance of the test.

DEKRA Testing and Certification S.A.U. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification S.A.U.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification S.A.U. and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification S.A.U. internal documents PODT000 and FAN040.

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested", “Other identification of the product”, “Features” and “Test sample description”).

2. Normal device use conditions and minimum use distance information.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: the client

Samples are composed of the following elements:

Sample	Control Nº	Description	Model	Serial Nº	Date of reception
S/01	74836/013	Lock for locker	OTS Batteryless		2023-05-04
S/01	74836/002	Power supply box			2023-05-04
S/01	74836/008	Card (Mifare classic)			2023-05-04

1. Sample M/01 has undergone the test(s) specified in subclause “Test method requested”.

Test sample description

Description of product ..... :	The sample consists of an Electromechanical lock with RFID proximity communication (13.56MHz) Compatible with Mifare Classic, Mifare Desfire and Mifare Ultralight technologies. The lock is powered by mechanical push action, with a DC motor generator that generates between 2.7 and 9V. The lock also supports 15.56MHz communication for maintenance and identification purposes, and can use an external 4.5V battery connection with three AAA batteries for FW updating or maintenance tasks.		
Software version..... :	1.0.1		
Hardware version ..... :	1.3		
Mounting position ..... :	[ ]	Table top equipment	
	[ ]	Wall/Ceiling mounted equipment	
	[ ]	Equipment used next to the ear	
	[ ]	Hand-held equipment	
	[X]	Other: Door Locker	
Accessories (not part of the test item)..... :	Description	Type	Manufacturer
	Charging adapter	---	
	USB cable	---	

Identification of the client

OJMAR S.A

Polígono industrial de lerun s/n

20870, Elgoibar, Gipuzkoa, SPAIN

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2023-09-12
Date (finish)	2023-09-12

Document history

Report number	Date	Description
74836RAN.002	2023-09-27	First release

Environmental conditions

Date	Max. Temp. ºC	Min. Temp. ºC	Max. Hum. %	Min. Hum. %	Limit
2023-09-12	25.77	24.87	46.33	44.30	15-40 ºC, 20-80%

Remarks and comments

1. The tests have been performed by the technical personnel: Francisco J. Sánchez.
2. The instrumentation utilized to perform the tests covered in this test report is listed in the following table:

DEKRA Control Number	Equipment	S/N
7860	E&H FIELD PROBE - NARDA model EHP200A	170WX91007
5261	LOW DIELECTRIC TRIPOD - MANFROTTO model H-491009-01	-
5780	TEMPERATURE AND HUMIDITY PROBE - HW GROUP model HWg-STE	60038023023

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

FCC 47CFR Part 2.1091	VERDICT			
	N/A	P	F	NM
RFID proximity communication (13.56 MHz)		P		

Appendix A: Test results

RFID Evaluation

Measurements of external E and H field strengths using a commercial sample provided by the manufacturer have been performed from the sides of the device resulting with a minium distance to the user at a separation distance of 20 cm, according to minimum declared used distance, measured from the center of the probe to the edge of the device.

Measurements were performed using the equipment listed in the “Used Instrumentation” paragraph of this document using a commercial sample provided by the manufacturer:

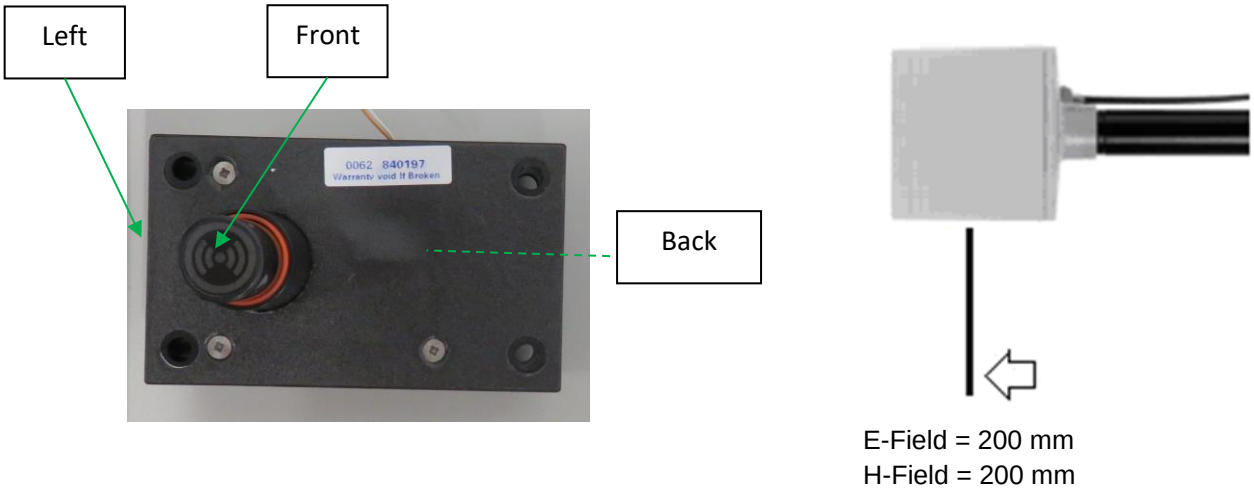


Figure 1: RFID Measurement Setup

The maximum measured values for each transmitting technology are listed in the following tables:

Technology	Test Side	Distance to DUT (cm)	Freq. (MHz)	E-Field (V/m)	Limit (V/m)	% E-Limit	Verdict
RFID	Front	20.0	13.20	1.13	62.42	1.80%	Pass
RFID	Back	20.0	13.20	0.81	62.42	1.30%	Pass
RFID	Left	20.0	13.20	1.14	62.42	1.83%	Pass

Table 1: E-field measurements values

Technology	Test Side	Distance to DUT (cm)	Freq. (MHz)	H-Field (A/m)	Limit (A/m)	% H-Limit	Verdict
RFID	Front	20.0	13.20	0.01	0.17	8.20%	Pass
RFID	Back	20.0	13.20	0.01	0.17	8.98%	Pass
RFID	Left	20.0	13.20	0.01	0.17	8.62%	Pass

Table 2: H-field measurement values

All E-Field and H-Field values are in compliance to values shown into §1.1310, paragraph (e), “Table 1: limits for Maximum Permissible Exposure (MPE).

Appendix B: FCC RF Exposure information

FCC RF Exposure evaluation for mobile devices

A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and the body of the user or nearby persons. In this context, the term “fixed location” means that the device is physically secured at one location and is not able to be easily moved to another location while transmitting. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal desktop computer, are considered to be mobile devices if they meet the 20-centimeter separation requirement.

Evaluation of compliance with the exposure limits in § 1.1310, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is not exempt by the formulas and tables stated into § 1.1310, paragraphs (3), (i), (B) and (C).

According to §1.1310 Radiofrequency radiation exposure limits, paragraph (e), the limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields are:

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*100	6
3.0–30	1842/f	4.89/f	*900/f²	6
30–300	61.4	0.163	1.0	6
300–1,500			f/300	6
1,500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*100	30
1.34–30	824/f	2.19/f	*180/f²	30
30–300	27.5	0.073	0.2	30
300–1,500			f/1500	30
1,500–100,000			1.0	30

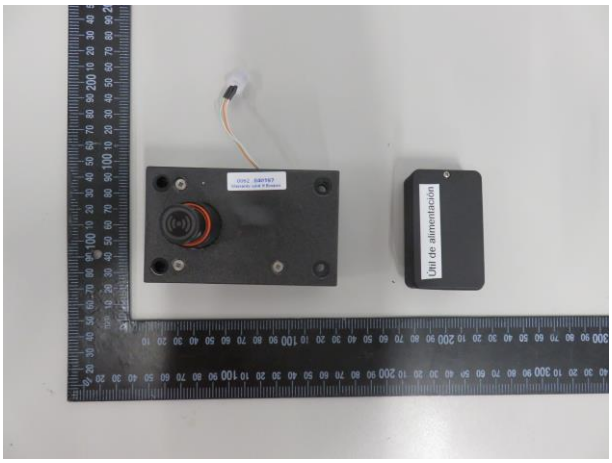
f = frequency in MHz * = Plane-wave equivalent power density

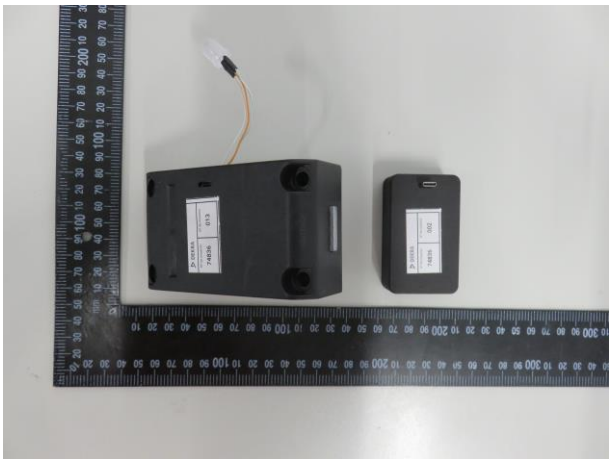
According to TCB Workshop “Part 18 and WPT Updates”, April 27, 2022:

- Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.
- For all RF devices operating below 100 kHz, the provision in KDB 680106 apply, i.e. field strengths not to exceed 83 V/m and 90 A/m, for E and H fields, respectively.

Appendix C: Photographs

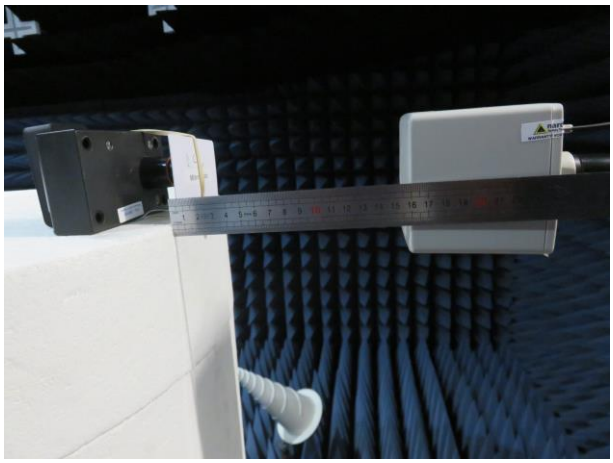
Equipment view



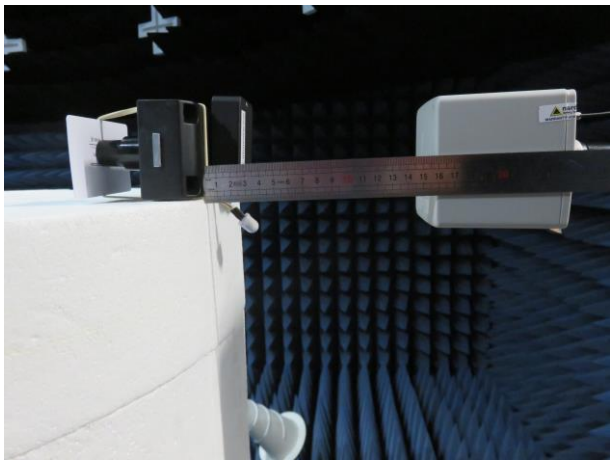


E-Field and H-Field measurement setup views

Front



Back



Left