



Test report

Number T251-0095/23

Project file: C20211681

Date: 2023-02-17

Pages: 7

Product: Contactless reader

Type reference: CLRD730

Ratings: 5 Vdc; 450 mA
Protection class: III

Trademark: NXP

Applicant: NXP Semiconductors Austria GmbH
Mikron - Weg 1, 8101 Gratkorn, Austria

Manufacturer: Četrta pot, d.o.o., Kranj
Planina 3, SI-4000 Kranj, Slovenia

Place of manufacture: Četrta pot, d.o.o., Kranj
Planina 3, SI-4000 Kranj, Slovenia

Summary of testing

Testing method: 47 CFR FCC Part 2.1091(b) in conjunction with Part 1.1310(e)(1) and KDB 447498 D01 General RF Exposure Guidance v06

Testing location: SIQ Ljubljana
Mašera-Spasičeva ulica 10, SI-1000 Ljubljana, Slovenia

Remarks: Date of receipt of test items: 2023-02-17
Number of items tested: 1
Date of performance of tests: 2023-02-17
The test results presented in this report relate only to the items tested.
The test items were tested in the condition as received.
The product complies with the requirements of the testing methods.

Tested by: Nik Vončina

Approved by: Luka Tosetto

The report shall not be reproduced except in full.



CONTENTS		page
1	<u>GENERAL</u>	3
1.1	EQUIPMENT UNDER TEST	3
2	<u>ASSESSMENT PROCEDURE</u>	4
3	<u>MEASUREMENTS / CALCULATIONS</u>	5
4	<u>USED TEST EQUIPMENT</u>	7

1 GENERAL

History sheet			
Date	Report No.	Change	Revision
2023-02-17	T251-0095/23	Initial Test Report issued.	--

1.1 Equipment under test

Contactless readerType: **CLRD730**

Environment: Uncontrolled / General Public

Assessment distance: 20 cm

FCC ID: **OWRCLRD730**



2 ASSESSMENT PROCEDURE

According to 2.1091(b):

Determine that they qualify for the exemption with the exposure limits in 1.1310(e)(1) of this chapter:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/ <u>f</u>	2.19/ <u>f</u>	*(180/ <u>f</u> ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			<u>f</u> /1500	<30
1,500-100,000			1.0	<30

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

KDB 447498 D01 General RF Exposure Guidance v06 Clause 4.3.1. Standalone SAR test exclusion considerations

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. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

For frequencies below 100 MHz, the following may be considered for SAR test exclusion:

- For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right] \leq 3.0$$
 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR
- For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\{ [\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \}$$
 mW, for 100 MHz to 1500 MHz
- For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f(\text{MHz}))]$

3 MEASUREMENTS / CALCULATIONS

According to 2.1093(c)(1):

Operation mode	Frequency (MHz)	Average measured H-field @ 20 cm (A/m)	Measurement time (min)	Limit (A/m)
With card	13.56	0.056	6	0.161
Without card	13.56	0.049	6	0.161

NOTE: transmission time was 100 ms, idle time was 1500 ms.

KDB 447498 D01 General RF Exposure Guidance v06 Clause 4.3.1:

Frequency (MHz)	Maximum measured E-field @ 3 m (dBuV/m)	Calculated output power (dBm)	Limit (dBm)
13.56	60.27	-34.96	39.84

Conclusion: PASS

There is no simultaneous transmission between any other transmitter.

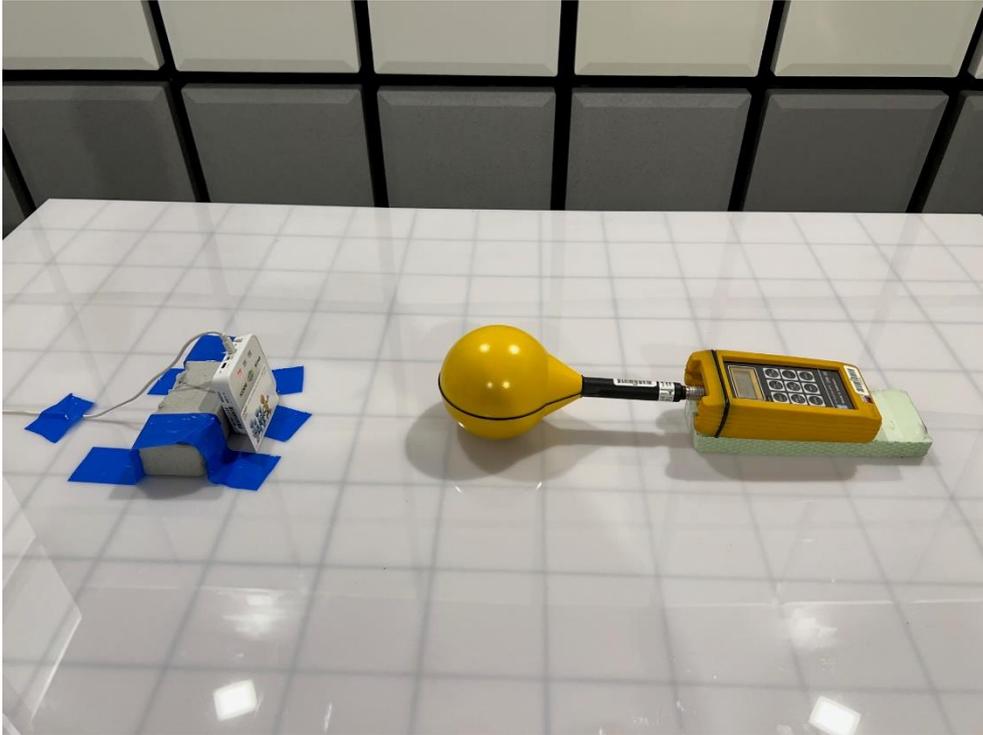


Figure 1: test setup with card

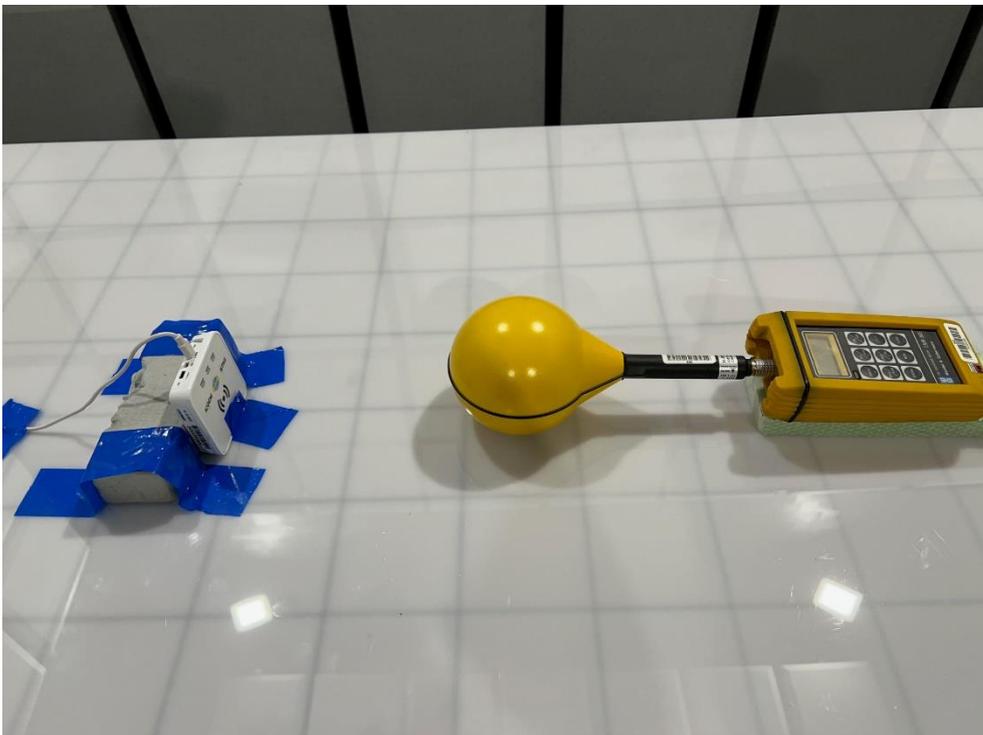


Figure 2: test setup with card

4 USED TEST EQUIPMENT

Manufacturer & Description	Model No.	SIQ No.	Used	Calibrated until
Comtest Engineering, SAC 1	SAC 3m	109070	X	2025-05
Comtest Engineering, SAC 2	SAC 3m	109071	/	2025-05
W&G, E/H field measuring instrument	EMR-300	103446	X	2024-04
W&G, Magnetic field probe (300kHz - 30MHz)	Type 12.1	/	X	With instrument EMR-300