

Report on the FCC and IC Testing of the
Novexx Solutions GmbH
RFID-reader module on carrier PCA + heat sink
Model: RFID module
In accordance with FCC 47 CFR Part 1 I and ISCED
RSS-102



Prepared for: Novexx Solutions GmbH
Ohmstr. 3
85486 Eching, Germany

FCC ID: 2AHDWM7ERUMODULE
IC: 33839-M7ERUMODULE

COMMERCIAL-IN-CONFIDENCE

Date: 2026-03-20

Document Number: TR-713388457-01 | Revision 2

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Project Management	Alexander Grill	2026-03-20	 SIGN-ID 1116759
Authorised Signatory	Alex Fink	2026-03-20	 SIGN-ID 1116764

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service document control rules.

Engineering Statement:

This measurement shown in this report were made in accordance with the procedures described on test pages.

All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 1 I and ISCED RSS-102.

The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Alexander Grill	2026-03-20	 SIGN-ID 1116760

Laboratory Accreditation
DAkS Reg. No. D-PL-11321-11-00

Laboratory recognition
Registration No. BNetzA-CAB-16/21-
15

Industry Canada test site registration
3050A-2

Executive Statement:

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 1 I:2025 and ISCED RSS-102:2023

DISCLAIMER AND COPYRIGHT

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see Testing, Certification, Validation and Verification Regulations, chapter A-3.3. © 2026 TÜV SÜD Product Service.

Trade Register Munich
HRB 85742
VAT ID No. DE129484267
Information pursuant to Section 2(1)
DL-InfoV (Germany) at
www.tuvsud.com/imprint

Managing Directors:
Wolfgang Hübl (Sprecher / CEO)
Karl Meier
Patrick van Welij

Phone: +49 (0) 9421 56 82-0
Fax: +49 (0) 9421 56 82-199
www.tuvsud.com

TÜV SÜD Product Service GmbH
Äußere Frühlingstraße 45
94315 Straubing
Germany



Content

1	Report Summary.....	2
1.1	Modification Report.....	2
1.2	Introduction	2
1.3	Brief Summary of Results	3
1.4	Product Information	4
1.5	Test Configuration	5
1.6	Modes of Operation	5
1.7	EUT Modifications Record	5
1.8	Test Location	5
2	Test Details.....	6
2.1	RF Exposure	6
3	Measurement Uncertainty	11



1 Report Summary

1.1 Modification Report

Alternations and additions of this report will be issued to the holders of each copy in the form of a complete document. The current version replaces all previous versions.

Revision	Description of changes	Date of Issue
0	---	2026-02-18
1	Update of ANSI C63.10:2013 to ANSI C63.10:2020	2026-03-11
2	Changed name of column "Exemption Limit" to "Reference Level" for RSS-102 evaluation on page 10.	2026-03-20

Table 1: Report of Modifications

1.2 Introduction

Applicant	Novexx Solutions GmbH Ohmstrasse 3 85386 Eching, Germany
Manufacturer	datakamp System GmbH & Co. KG Brillenburgsweg 29 21614 Buxtehude, Germany
Model Number(s)	RFID module
Serial Number(s)	---
Hardware Version(s)	N104539-000
Software Version(s)	---
Number of Samples Tested	2
Test Specification(s) / Issue / Date	FCC 47 CFR Part 1 I:2023 and ISED RSS-102, Issue 6:2023
Test Plan/Issue/Date	Test sample basic information EMV – filled / 2026-02-10
Order Number	N104539
Date	2025-11-11
Date of Receipt of EUT	2025-12-02
Start of Test	2025-12-17
Finish of Test	2025-12-18
Name of Engineer(s)	Alexander Grill
Related Document(s)	ANSI C63.10:2020



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 1 I and ISED RSS-102 is shown below.

<i>Section</i>	<i>Specification Clause</i>	<i>Test Description</i>	<i>Result</i>
2.1	1.1307	RF Exposure	Pass

Table 2: Results according to FCC 47 CFR Part 1 I

<i>Section</i>	<i>Specification Clause</i>	<i>Test Description</i>	<i>Result</i>
2.1	6.3	RF Exposure	Pass

Table 3: Results according to ISED RSS-102



1.4 Product Information

1.4.1 Technical Description

The EUT is a RFID-reader module on carrier PCA + heat sink.

Supply Voltage: 20 – 50 V DC; 24 V DC nominal
Supply Frequency: N/A
Highest clock frequency: 928 MHz
UHF RFID frequency band: 865.6 – 928 MHz

RFID module
Novexx Solutions GmbH
Ohmstrasse 3, D - 85386 Eching
FCC ID: 2AHDWM7ERUMODULE
IC: 33839-M7ERUMODULE



Label

1.4.2 List of Antennas

Description	Technology	Frequency	Antenna Type	Antenna gain
Antenna 1	UHF RFID	902 – 928 MHz	Patch	-9.9 dBi
Antenna 2	UHF RFID	902 – 928 MHz	Patch	-14 dBi

1.4.3 EUT Ports / Cables identification

Description	Classification	Cable type	Cable length	
			Used	Maximum
24 V DC power supply	DC power	Unshielded	1 m	20 m
Antenna Port	Signal/Control port	Shielded	0.5 m	2 m
RS232/USB	Signal/Control port	Shielded	2 m	20 m

Table 4 Ports and Cables identification



1.5 Test Configuration

The EUT was configured as stand-alone equipment. For radiated Emission tests, two different Antennas were used. See TR-713388457-00 rev0 (FCC15C) Annexe for pictures.

1.6 Modes of Operation

Tests were performed on lowest, middle and highest frequency channel.
Tests regarding the frequency hopping were performed with a continuous read/write mode from/to RFID tag via Softwaretool.

1.7 EUT Modifications Record

The table below details modifications made to the EUT during the test programme.
The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
0	As supplied by the customer	Not Applicable	Not Applicable

Table 5

1.8 Test Location

TÜV SÜD Product Service conducted the following tests at our Straubing test laboratory:

Test Name	Name of Engineer(s)
RF Exposure	Alexander Grill

Office Address:

Äußere Frühlingstraße 45
94315 Straubing
Germany



2 Test Details

2.1 RF Exposure

2.1.1 Specification Reference

FCC 47 CFR Part 1, § 1.1307(b)(3)
RSS-102, Issue 6, 6.3

2.1.2 Equipment under Test and Modification State

RFID module; S/N: ---; Modification state 0

2.1.3 Date of Test

2026-02-05

2.1.4 Environmental Conditions

Ambient Temperature	22 °C
Relative Humidity	34 %

2.1.5 Test Method

Field strength values were taken from test report TR-713388457-00.



2.1.6 Specification Limits

47 CFR, Part 1, § 1.1307(b)(3)

- (i) For single RF sources (i.e. any single fixed RF source, mobile device, or portable device, as defined in paragraph(b)(2) of this section): A single RF source is exempt if:
- (A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);
- (B) Or the available maximum time-averaged power or effective radiate power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by

$$P_{th}(mW) = \begin{cases} ERP_{20cm} (d/20 \text{ cm})^x, & d \leq 20 \text{ cm}; \\ ERP_{20cm}, & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f}} \right); f \text{ in GHz}$$

and

$$ERP_{20cm}(mW) = \begin{cases} 2040 f, & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060, & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the test separation distance (cm);

- (C) Or using the table below and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value described for that frequency. For the exemption in the table to apply, R must be at least $\lambda/2\pi$ where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF source frequency (MHz)	Threshold ERP (Watts)
0.3 – 1.34	$1920 R^2$
1.34 – 30	$3450 R^2 / f^2$
30 – 300	$3.83 R^2$
300 – 1500	$0.0128 R^2 f$
1500 – 100000	$19.2 R^2$

- (ii) For multiple RF sources: Multiple RF sources are exempt if:
- (A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of 2 cm between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).
- (B) In case of fixed RF sources operating in the same time-averaging period, or of multiple or portable RF sources within a device in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation:

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{ExposureLimit_k} \leq 1$$



RSS-102, section 5.3.2

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment). Note that the power density limits specified in these tables apply to whole body exposure conditions.

RF field strength and power density limits for devices used by the general public (uncontrolled environment):

<i>Frequency range (MHz)</i>	<i>Electric field (VRMS/m)</i>	<i>Magnetic field (ARMS/m)</i>	<i>Power density (W/m²)</i>	<i>Reference period (minutes)</i>
10-20	27.46	0.0728	2	6
20-48	58.07 / f 0.25	0.1540 / f 0.25	8.944 / f 0.5	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f 0.3417	0.008335 f 0.3417	0.02619 f 0.6834	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f 1.2
150000-300000	0.158 f 0.5	4.21×10 ⁻⁴ f 0.5	6.67×10 ⁻⁵ f	616000/ f 1.2



2.1.7 Test Results

47 CFR

Evaluation according to 47 CFR, Part 1, § 1.1307(b)(3)(i)(C)

Evaluation distance 20 cm.

Antenna 1:

<i>Frequency (MHz)</i>	<i>Electric Field Strength at 3 m [dBμV/m]</i>	<i>Maximum Output Power [mW]</i>	<i>Exemption Limit [mW]</i>	<i>Margin</i>
902.750	119.08	148	462.208	314.208
915.250	119.10	146.7	468.608	321.908
927.250	118.76	137.8	474.752	336.952

Antenna 2:

<i>Frequency (MHz)</i>	<i>Electric Field Strength at 3 m [dBμV/m]</i>	<i>Maximum Output Power [mW]</i>	<i>Exemption Limit [mW]</i>	<i>Margin</i>
902.750	113.13	37.4	462.208	424.808
915.250	114.38	50.2	468.608	418.408
927.250	113.74	43.3	474.752	431.452



RSS-102

Evaluation according to RSS-102, section 5.3.2

Antenna 1:

<i>Frequency</i>	<i>Electric Field Strength at 3 m [dBμV/m]</i>	<i>S [W/m²]</i>	<i>Reference Level [W/m²]</i>	<i>Margin</i>
902.750	119.08	0.481	≤ 2.786	2.305
915.250	119.10	0.481	≤ 2.802	2.321
927.250	118.76	0.450	≤ 2.818	2.368

Antenna 2:

<i>Frequency</i>	<i>Electric Field Strength at 3 m [dBμV/m]</i>	<i>S [W/m²]</i>	<i>Reference Level [W/m²]</i>	<i>Margin</i>
902.750	113.13	0.122	≤ 2.786	2.664
915.250	114.38	0.164	≤ 2.802	2.638
927.250	113.74	0.141	≤ 2.818	2.677



3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

<i>Radio Interference Emission Testing</i>		
<i>Test Name</i>	<i>kp</i>	<i>Expanded Uncertainty</i>
Conducted Voltage Emission		
9 kHz to 150 kHz (50Ω/50μH AMN)	2	± 3.8 dB
150 kHz to 30 MHz (50Ω/50μH AMN)	2	± 3.4 dB
100 kHz to 200 MHz (50Ω/5μH AMN)	2	± 3.6 dB
Discontinuous Conducted Emission		
9 kHz to 150 kHz (50Ω/50μH AMN)	2	± 3.8 dB
150 kHz to 30 MHz (50Ω/50μH AMN)	2	± 3.4 dB
Conducted Current Emission		
9 kHz to 200 MHz	2	± 3.5 dB
Magnetic Fieldstrength		
9 kHz to 30 MHz (with loop antenna)	2	± 3.9 dB
9 kHz to 30 MHz (large-loop antenna 2 m)	2	± 3.5 dB
Radiated Emission		
30 MHz to 300 MHz	2	± 4.9 dB
300 MHz to 1 GHz	2	± 5.0 dB
1 GHz to 6 GHz	2	± 4.6 dB
Test distance 10 m		
30 MHz to 300 MHz	2	± 4.9 dB
300 MHz to 1 GHz	2	± 4.9 dB
The expanded uncertainty reported according to CISPR16-4-2: 2011 + A1 + A2 + Cor1 is based on a standard uncertainty multiplied by a coverage factor of $k_p = 2$, providing a level of confidence of $p = 95.45\%$		

Table 6 Measurement uncertainty based on CISPR 16-4-2



<i>Radio Interference Emission Testing</i>		
<i>Test Name</i>	<i>kp</i>	<i>Expanded Uncertainty</i>
Occupied Bandwidth	2	± 5 %
Conducted Power		
9 kHz ≤ f < 30 MHz	2	± 1.0 dB
30 MHz ≤ f < 1 GHz	2	± 1.5 dB
1 GHz ≤ f ≤ 40 GHz	2	± 2.5 dB
1 MS/s power sensor (TS8997)	2	± 1.5 dB
Occupied Bandwidth	2	± 5 %
Power Spectral Density	2	± 3.0 dB
Radiated Power		
25 MHz – 6 GHz	1.96	±4.4 dB
1 GHz – 18 GHz	1.96	±4.7 dB
18 GHz – 40 GHz	1.96	±4.9 dB
40 GHz – 325 GHz	1.96	±6.1 dB
Conducted Spurious Emissions	2	± 3.0 dB
Radiated Spurious Emissions	2	± 6.0 dB
Voltage		
DC	2	± 1.0 %
AC	2	± 2.0 %
Time (automatic)	2	± 5 %
Frequency	2	± 10 ⁻⁷
The expanded uncertainty reported according to ETSI TR 100 028:2001 is based on a standard uncertainty multiplied by a coverage factor of kp = 2, providing a level of confidence of p = 95.45%		

Table 7 Measurement uncertainty based on ETSI TR 100 028

The measurement uncertainty in the laboratory is less than or equal to the maximum measurement uncertainty according to CISPR16-4-2: 2011 + A1 + A2 + Cor1 (U_{CISPR}) and as specified in the test report below. This normative regulation means that the measured value is also the value to be assessed in relation to the limit value.



Test Name	Expanded Uncertainty
Occupied Bandwidth	±5 %
Conducted Power	
9 kHz ≤ f < 30 MHz	±1.0 dB
30 MHz ≤ f < 1 GHz	±1.5 dB
1 GHz ≤ f ≤ 40 GHz	±2.5 dB
1 MS/s power sensor (2.4 / 5 GHz band)	±1.5 dB
Power Spectral Density	±3.0 dB
Radiated Power	
25 MHz – 26.5 GHz	±6.0 dB
26.5 GHz – 66 GHz	±8.0 dB
40 GHz – 325 GHz	±10.0 dB
Conducted Spurious Emissions	±3.0 dB
Radiated Field Strength 9 kHz – 40 GHz	±6.0 dB
Voltage	
DC	± 1.0 %
AC	± 2.0 %
Time (automatic)	± 5 %
Frequency	± 10 ⁻⁷

Table 8 Decision Rule: Maximum allowed measurement uncertainty

End of Test Report