



RF - TEST REPORT

- Human Exposure -

Type / Model Name : HVIN 5E904029

Product Description : Transponder Reader MIFARE USB
RFID 13.56 MHz

Applicant : B&R Industrial Automation GmbH

Address : B&R Straße 1
A- 5142 Eggelsberg

Manufacturer : B&R Industrial Automation GmbH

Address : B&R Straße 1
A- 5142 Eggelsberg

Test Result according to the standards
listed in clause 1 test standards:

POSITIVE

Test Report No. : **80268456-05 Rev_2**

07. August 2026
Date of issue



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1 TEST STANDARDS

The tests were performed according to following standards:

KDB 447498 D04 v01

RF Exposure procedures and equipment authorisation policies for mobile and portable devices, November 29, 2021.

ANSI C95.1: 2005

IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz

ETSI TR 100 028 V1.3.1: 2001-03,

Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the Measurement of Mobile Radio Equipment Characteristics—Part 1 and Part 2

2 EQUIPMENT UNDER TEST

2.1 Information provided by the Client

Please note, we do not take any responsibility for information provided by the client or his representative which may have an influence on the validity of the test results.

2.2 Sampling

The customer is responsible for the choice of sample. Sample configuration, start-up and operation is carried out by the customer or according to his/her instructions.

2.3 Photo documentation of the EUT

Detailed photos see ATTACHMENT A and ATTACHMENT B

ATTACHMENT A: External views

ATTACHMENT B: Internal views

2.4 Equipment type

RFID device, fixed equipment (fixed installed device)

2.5 Short description of the equipment under test (EUT)

The EUT is a transponder reader which will be powered over USB - Port.
RFID technology 13.56 MHz

The EUT is tested together with a TAG.

Number of tested samples: 1
Serial number: 367A0168429

2.6 Operation frequency and channel plan

The operating frequency of the RFID is 13.553 MHz to 13.567 MHz on 1 channel.

2.7 Transmit operating modes

RFID:

Continuous reading mode (13.56 MHz)

The EUT is tested together with a TAG.

2.8 EUT configuration

The following peripheral devices and interface cables were connected during the measurements:

- | | |
|------------------------|---------------------------------------|
| - HP Laptop | Model: CSA-ID.: 02-01/01-15-009 |
| - Power adapter Laptop | Model: HP Part No.: 677774-003 |
| - TAG | Model: B&R Industrial Automation GmbH |

2.9 Power supply system utilised

Power supply voltage, V_{nom} : 5 V DC $\pm 20\%$ (powered over USB)

All tests were carried out with a supply voltage of 5 V DC unless otherwise stated. Exceptions are described in the detailed test conditions.

3 TEST RESULT SUMMARY

FCC Rule Part	Description	Result
KDB 447498, 2.1.2	1-mW Test Exemption	passed

3.1 Revision history of test report

Test report No	Rev.	Issue Date	Changes
80268456-05	0	20 November 2025	Initial test report
80268456-05	1	05 May 2026	Application "Blanket 1 mW Blanket Exemption"
80268456-05	2	07 August 2026	Change Type/Model Name: HVIN 5E904029 Change Calculation from EIRP to ERP (page (8/8))

The test report with the highest revision number replaces the previous test reports.

3.2 Final assessment

The equipment under test fulfills the requirements cited in clause 1 test standards.

Date of receipt of test sample : acc. to storage records

Testing commenced on : 22 October 2025

Testing concluded on : 22 October 2025

Checked by:

 **Klaus
Gegenfurtner**
2026.08.07
12:42:49 +02'00'

Klaus Gegenfurtner
Team Lead Radio

Tested by:

 Digital signiert von Markus
Friedl
DN: cn=Markus Friedl
Grund: I am the author of
this document
Datum: 2026.08.07
12:04:32 +02'00'

Markus Friedl
Radio Team

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

**CSA Group Bayern GmbH
Straubinger Straße 100
94447 Plattling
GERMANY**

4.2 Environmental conditions

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

Temperature: 15 - 35 °C

Humidity: 30 - 60 %

Atmospheric pressure: 86 - 106 kPa

4.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. It is noted that the expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$. The true value is located in the corresponding interval with a probability of 95 %. The measurement uncertainty was calculated for all measurements listed in this test report on basis of the ETSI Technical Report TR 100 028 Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1 and Part 2. The results are documented in the quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

4.4 Conformity Decision Rule

The applied conformity decision rule is based on ILAC G8:09/2019 clause 4.2.1 Binary Statement for Simple Acceptance Rule ($w = 0$).

Details can be found in the procedure CSA_B_V50_29.

5 HUMAN EXPOSURE

5.1 RF Exposure Test Exemptions for Single Source

5.1.1 Applicable standard

RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices

5.1.2 1-mW Test Exemption

Per § 1.1307(b)(3)(i)(A), a single RF source is exempt RF device (from the requirement to show data demonstrating compliance to RF exposure limits, as previously mentioned) if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

This exemption applies to all operating configurations and exposure conditions, for the frequency range 100 kHz to 100 GHz, regardless of fixed, mobile, or portable device exposure conditions. This is a standalone exemption, and it cannot be applied in conjunction with any other test exemption.

$$\text{ERP[dBm]} = \text{E[dB}\mu\text{V/m]} + 20 \log_{10}(\text{d[m]}) - 106.92$$

where:

- E is the field strength in dB μ V/m;
- d is the measurement distance in m;
- ERP is the effective radiated power in dBm.

Frequency [MHz]	Measured Field Strength [dB μ V/m @ 3m]	Calculated ERP [dBm]	Calculated ERP [mw]	RF Exposure Limit [mW]	Result
13.56	45.2	-52.2	0.00001	1	passed

The requirements are **FULFILLED**.

Remarks: The result was taken from the test report of CSA Group Bayern GmbH "80268456-04 Rev_2".

Conclusion: SAR evaluation is not needed.