FCC SAR Exclusion Report

Product name : MT-HV

Applicant : Hella Gutmann Solutions GmbH

FCC ID : 2AEOK015266081

Test report No. : P000276508 003 Ver 2.00

Laboratory information

Accreditation

Kiwa Nederland B.V. complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2017. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L248 and is granted by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

Kiwa Nederland B.V. is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001.

Kiwa Nederland B.V. is a Wireless Device Testing laboratory recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.
The Industry Canada company number for Kiwa Nederland B.V. is: 4173A. The CABID is NL0001.

Kiwa Nederland B.V. is a registered Conformity Assessment body (CAB) under the Japan-EC MRA (Agreement on Mutual Recognition between Japan and the European Community). The registration number is: 201.

Documentation

The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Kiwa Nederland B.V.

Testing Location

Test Site	Kiwa Nederland B.V.
Test Site location	Wilmersdorf 50 7327 AC Apeldoorn The Netherlands Tel. +31 88998 3393
Test Site FCC	NL0001
CABID	NL0001

Revision History

Version	Date	Remarks	By
v0.50	21-06-2023	First draft	R.T
v1.00	21-06-2023	Final release	R.T
V2.00	10-10-2023	Revised Update FCC ID	R.T

Table of Contents

1 General Description

1.1 Applicant

Client name:	Hella Gutmann Solutions GmbH
Address:	Am Krebsbach 2, Ihringen, Germany
Zip code:	79241
Telephone:	49 7668 9900-0
E-mail:	Juergen.Ruf@hella-gutmann.com
Contact name:	Jürgen Ruf

1.2 Manufacturer

Manufacturer name:	Hella Gutmann Solutions GmbH
Address:	Am Krebsbach 2, Ihringen, Germany
Zip code:	79241
Telephone:	49 7668 9900-0
E-mail:	Juergen.Ruf@hella-gutmann.com
Contact name:	Jürgen Ruf

1.3 Tested Equipment Under Test (EUT)

Product name:	MT-HV
Brand name:	Hella Gutmann Solutions GmbH
FCC ID:	2AEOK015266081
IC:	Not applicable
Product type:	Measurement device
Model(s):	-
Batch and/or serial No.	-
Software version:	-
Hardware version:	-
Date of receipt	11-04-2023
Tests started:	11-04-2023
Testing ended:	18-04-2023

1.4 Applicable standards

47 CFR § 1.1307 (b)(1)(i)(A)

1.5 Conclusions

The sample of the product showed **NO NON-COMPLIANCES** to the specifications stated in paragraph 1.4 of this report.

The results of the test as stated in this report, are exclusively applicable to the product items as identified in this report. Kiwa Netherland B.V. accepts no responsibility for any properties of product items in this test report, which are not supported by the tests as specified in paragraph 1.4 *"Applicable standards".*

Assessment is performed by:

Name : Raoul Tolud, MSc.

Review of assessment methods and report by:

Name : Koray Korum, MSc

The above conclusions have been verified by the following signatory:

Date : 24-10-2023

Name : ing. R. van Barneveld

Function : Test Engineer

Signature :

2 SAR exclusion Evaluation

2.1 Transmitter specifications

Transmitter 1

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	**11.48**	**P**
Time-averaged output power ERP (mW)	**11.48**	**P_{ERP}**
Operating frequency range (MHz)	**2440**	**f**
Separation distance (cm)	**20**	**d**
Separation distance (m)	**20**	**R**

Note: Values are derived from the JODY W164 module, manufactured by u-blox AG.

2.2 Evaluation calculations

Transmitter 1
Transmitter 1 is evaluated according to method B of KDB 447498 D04 v01

Method B:

$$P_{th}(mW) = \begin{cases} ERP_{20cm}\left(\frac{d}{20cm}\right)^{x} & d \le 20\ cm \\ ERP_{20cm} & 20\ cm < d \le 40\ cm \end{cases}$$

Where:

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

$$ERP_{20cm}(mW) = \begin{cases} 2040 * f & 0.3\ GHz \le f < 1.5\ GHz \\ 3060 & 1.5\ GHz \le f \le 6.0\ GHz \end{cases}$$

Filling in the values of d (cm) and f (GHz) as reported in clause 2.1 in the equations above gives the result:
P_{th} = 819.9 mW
P or P_{ERP} = 11.48 mW which is less than the calculated P_{th} so the EUT complies with the SAR based exemption requirement.

2.3 Conclusion

Since the EUT does not cause exposure in excess of the general population limit, no additional mitigation actions are required.