

Accreditation:

FCC test firm accreditation expiration date: 2025-09-19
MRA US-EU, FCC designation number: DE0010
Test firm registration number: 997268
FCC Registration Number (FRN): 0032245045
BNetzA-CAB-02/21-02/7 Valid until 2028-11-26

Location of Testing:

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1 Summary of test results

<i>FCC standard</i>	<i>Requirement</i>	<i>Result</i>	<i>Page</i>
Part 1, § 1.1310(e)(1)	Maximum permissible exposure, except WPT, calculation	Passed	8

Straubing, June 5, 2025



Tested by
Konrad Graßl
Department Manager Radio



Approved by
Christian Kiermeier
Reviewer

2 Test regulations

<i>Standard</i>	<i>Title</i>
Part 1, Subpart I, Section 1.1310 October 2024	Radiofrequency radiation exposure limits
ANSI C63.10 September, 2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3 Equipment under Test

All Information in this clause is declared by customer.

3.1 General information

Product type:	RFID reader		
Model name:	HFM 6x Gen2.0 Reader		
Serial number(s):	250HAG36915		
Applicant:	HERMOS AG		
Manufacturer:	HERMOS AG		
Hardware version:	HFM6xS_RevB		
Software version:	HFM6x_SE12		
Short description:	The EUT is a RFID reader operating at the frequency 13.56 MHz.		
Additional modifications:	None		
FCC ID:	2AP5OHFM6X		
Power supply:	DC supply		
	Nominal voltage:	24 V	
	Minimum voltage:	18 V	
	Maximum voltage:	30 V	
Temperature range:	0 °C to +50 °C (customer defined)		
Device type:	☐ Portable	☒ Mobile	☐ Fixed

3.2 Radio specifications

System type:	RFID Reader		
Application frequency band:	13.110 MHz – 14.010 MHz		
Operating frequencies:	13.56 MHz		
Number of RF channels	1		
Highest internal frequency:	100 MHz		
Modulation	ASK		
Antenna:	Type:	Loop antenna with C-Network	
	Outer dimension:	188 x 152 mm	
	Inductance	0.2 μ H	
	Width of wire	7.5 mm	
	Turns:	1	
	Connector:	☒ external	☐ internal
		☐ temporary	☐ none (integral antenna)

3.3 Human exposure specifications

Exposure tier:	Body
Separation distance:	> 20 cm
Evaluated against exposure limits:	General public use
Simultaneous transmissions:	no

3.4 Photographs of EUT

See Annex B of test report 250046-AU01+W01 of test laboratory Element Materials Technology Straubing GmbH.

4 Test results

This clause gives details about the test results as collected in the summary of test results on page 4.

4.1 Maximum permissible exposure, except WPT, calculation

Requirement: Part 1, § 1.1310(e)(1)

Reference: ---

Performed by:	Konrad Graßl	Date of test:	May 22, 2025
Result:	☒ Limits kept ☐ Limits not kept		

4.1.1 Requirements and limits maximum permissible exposure

According to §1.1310(e)(1):

Table 1 to § 1.1310(e)(1) sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

<i>Frequency range (MHz)</i>	<i>Electric field strength (V/m)</i>	<i>Magnetic field strength (A/m)</i>	<i>Power density (mW/cm²)</i>	<i>Averaging time (minutes)</i>
1.34-30	824/f	2.19/f	180/f ² (see note 2)	<30
300-1500	---	---	f/1500	<30
1500-100000	---	---	1.0	<30

Table 1: Table 1 to §1.1310(e)(1) Limits for Maximum Permissible Exposure (MPE) for General Population/Uncontrolled Exposure

Notes:

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

4.1.2 Results

The following data are based on applicants document: Test report 250046-AU01+W01 of the test laboratory Element Materials Technology Straubing GmbH

Operation frequency: 13.56 MHz
Field strength: 68.0 dB μ V/m at 30 m

Information related to Exposure:

Tune-up tolerance (according to the manufacturer): 0 dB
Separation distance: 20 cm
Exposure: general public
Power averaging over time: not applied

Operation frequency (MHz)	EIRP + tune-up tolerance (dBm)	Power density (mW/cm ²)	Limit (mW/cm ²)	Ratio of limit	Result
13.56	-7.2	0.000038	0.978933	0.00004	Passed

Table 2: Result of evaluation of compliance

EIRP is calculated using the formula of ANSI C63.10, clause 11.12.2.2:

$$\text{EIRP} = E + 20\log(d) - 104.8$$

Where: EIRP = equivalent isotropically radiated power in dBm
E = electric field strength in dB μ V/m
d = measurement distance in meters (m)

5 Revision history

<i>Revision</i>	<i>Date</i>	<i>Issued by</i>	<i>Description of modifications</i>
0	2025-06-05	Konrad Graßl	First edition

Template: RF_FCC_IC_Human Exposure_V1.10