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SAR EXEMPTION REPORT

Manufacturer: Deister Electronic GmbH
11 Hermann Bahlsen Str
Barsinghausen D-30890
GERMANY

Applicant: Deister Electronics USA, Inc.
8576 Wellington Road
Manassas, Virginia 20109 USA

Product Name: PRDi/5

Product Description: RFID reader compatible with Key Management Terminals for the reading of both 125 KHz and 13.56 MHz security credentials.

Model(s): PRDi/5*
**Denotes actual model tested as worst-case representative of product family that includes models PRDi/5 and PRDi/5 SEOS.*

FCC ID: IXLPRDI5

Standard(s):

- KDB447498 D04 Interim General RF Exposure Guidance v01
- FCC Rule Part 1.1307(b)(3)(i)(a)

Report Constructed by:

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1 ADMINISTRATIVE INFORMATION

1.1 Measurement Location:

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

1.2 Document History

Document Number	Description	Issue Date	Approved By
F2P33253A-03E	First Issue	2025-01-17	K. Littell



2 SUMMARY OF RESULTS

	Standard(s)	Results
SAR Exemption	- KDB447498 D04 Interim General RF Exposure Guidance v01 - FCC Rule Part 1.1307(b)(3)(i)(a)	Complies

Modifications Made to the Equipment
None



3 ENGINEERING STATEMENT

This report has been prepared on behalf of Deister Electronics USA, Inc., to provide documentation for the SAR Exemption herein. This equipment has been tested and found to comply with the SAR Exemption levels listed in FCC Rule Part 1.1307(b)(3)(i)(a).

(3) Determination of exemption.

(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);”

The minimum distance from the antenna used inside of the PRDi/5 RFID Reader, is 5mm.

The maximum Field Strength of the 13.56 MHz transmitter was 21.93dBμV/m at 3m which converts to -73.30 dBm, or 0.0000000468 mW.

$$P(\text{dBm}) = E(\text{dBuVm}) + 20\text{LOG}(d) - G - 104.77$$

$$21.93 + 9.542425 + 0 - 104.77 = -73.30 \text{ dBm}$$

$$P(\text{dBm}) = -73.30 \text{ which is } 0.0000000468 \text{ mW or } 0.00005 \text{ μW}$$

$$0.0000000468 \text{ mW} / 1 \text{ mW} = \text{a ratio of } 0.0000000468 \text{ mW}$$

The maximum Field Strength of the 125 kHz transmitter was 21.80dBμV/m at 1m which converts to -82.97 dBm, or 0.000000005 mW.

$$21.80 + 0 + 0 - 104.77 = -82.97 \text{ dBm}$$

$$P(\text{dBm}) = -82.97 \text{ which is } 0.000000005 \text{ mW}$$

$$0.000000005 \text{ mW} / 1 \text{ mW} = \text{a ratio of } 0.000000005 \text{ mW}$$

Combined Power is far less than 1mW and the combined Ratio is far less than 1; therefore, the device is exempt from the RF Exposure at any distance.



4 EUT INFORMATION AND DATA

4.1 Equipment Under Test:

Product: RFID Reader

Model(s): PRDi/5*

**Denotes actual model tested as worst-case representative of product family that includes models PRDi/5 and PRDi/5 SEOS.*

Serial No(s): 3262201035

Firmware Version: F41

Hardware Version: A

FCC ID: IXLPRDI5

4.2 Trade Name:

Deister Electronics USA, Inc.

4.3 Power Supply:

12VDC from external power supply

4.4 Applicable Rules:

KDB447498

4.5 Antenna:

Integral

4.6 Accessories:

Device	Manufacturer	Model Number	Serial Number
DC Supply*	BK Precision	1685B	346F17303

**Denotes F2 Labs-supplied equipment.*