

FCC SAR Exclusion Report

Product name	: SmartDrive Basic unit
Applicant	: Ridder Drive Systems
FCC ID	: 2A9Y7-SDBASIC
IC	: 29846-SDBASIC

Test report No. : 210401342 005 Ver 1.00



Report number: 210401342 005 Ver 1.00

Laboratory information

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Documentation

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Testing Location

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



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Revision History

Version	Date	Remarks	By
V0.50	10-06-2022	Draft	KK
V1.00	04-05-2023	Initial release	KK

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1 General Description

1.1 Applicant

Client name: Ridder Drive Systems
Address: Lorentzstraat 32, 3946 AX, Harderwijk, The Netherlands
Telephone: +31621124791
E-mail: v.hoveling@ridder.com
Contact name: Vincent Hoveling

1.2 Manufacturer

Manufacturer name: Ridder Drive Systems
Address: Lorentzstraat 32, 3946 AX, Harderwijk, The Netherlands
Telephone: +31621124791
E-mail: v.hoveling@ridder.com
Contact name: Vincent Hoveling

1.3 Tested Equipment Under Test (EUT)

Product name: SmartDrive Basic unit
Brand name: Ridder Drive Systems
Product type: Electronic limit switch Basic unit
FCC ID: 2A9Y7-SDBASIC
IC: 29846-SDBASIC
Software version: -
Hardware version: -

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. Telefication 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 : Koray Korcum, M.Sc.

Review of assessment methods and report by:

Name : Raoul Tolud, MSc

The above conclusions have been verified by the following signatory:

Date : 27-06-2023

Name : Raoul Tolud, MSc

Function : Test engineer

Signature : 

2 SAR exclusion Evaluation

2.1 Transmitter specifications

Transmitter 1

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	2.052	P
Time-averaged output power ERP (mW)	-	P_{ERP}
Operating frequency range (MHz)	2440	f
Separation distance (cm)	20	d
Separation distance (m)	0.02	R

2.2 Evaluation calculations

Transmitter 1

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

Method B:

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

Where:

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

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

Filling in the values of d (cm) and f (GHz) as reported in clause 2.1 in the equations above gives the result:

$P_{th} = 4978 \text{ mW}$

P or $P_{ERP} = 2.052 \text{ mW}$ 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.