

FCC SAR Exclusion Report

Product name : FU8002-915
Applicant : MEDKONSULT medical technology s.r.o.
FCC ID : 2A8XBFU8002-915V1

Test report No. : P000145994 007 Ver 3.0



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Laboratory information

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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 Telefication Netherlands.

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

Revision History

Version	Date	Remarks	By
v0.50	03-10-2022	First draft	KK
v1.00	12-01-2023	Final version	KK
V2.0	01-09-2023	Added results and details for both internal and external antenna	PvW
V3.0	18-03-2024	Removed references to internal antenna Added equations for calculating gain and P(ERP) Re-calculated P(ERP)	PvW

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1 General Description

1.1 Applicant

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Contact name: Martin Škutek

1.2 Manufacturer

Manufacturer name: MEDKONSULT medical technology s.r.o.
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Telephone: +420771169201
E-mail: martin.skutek@mmtsystems.com
Contact name: Martin Škutek

1.3 Tested Equipment Under Test (EUT)

Product name: FU8002-915
Brand name: MEDKONSULT medical technology s.r.o.
Product type: Build-In Radio module for UROMIC and DANFLOW series of medical devices at 915 MHz communication band
FCC ID: 2A8XBFU8002-915V1
Software version: FW 1.2.0
Hardware version: Schematic rev. 1.2, PCB rev. 1.2, BOM rev. 4.0

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 : P. van Wanrooij, BSc

Review of assessment methods and report by:

Name : ing. M.H Khan

The above conclusions have been verified by the following signatory:

Date : 14/09/2023

Name : ing. M.H Khan

Function : Test Engineer

Signature : 

2 SAR exclusion Evaluation

2.1 Transmitter specifications

External antenna (Model GSM-ANT-FPC02): +3.0 dBi = +0.85 dBd

$$Gain (dBd) = Gain (dBi) - 2.15 dB$$

$$P_{(ERP)} = P (dBm) + Gain (dBd)$$

915.1 MHz transmitter (external antenna)

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	6.85	P
Time-averaged output power ERP (mW)	8.34	P _{ERP}
Operating frequency range (MHz)	915.1	f
Separation distance (cm)	20	d
Separation distance (m)	0.02	R

2.2 Evaluation calculations

915.1 MHz transmitter

The 915.1 MHz transmitter 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:
 $P_{th} = 1867\text{ mW}$

External antenna: $P_{ERP} = 8.34\text{ mW}$ 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.

< End of report >