

FCC SAR Exclusion Report



Product name : BLESTM32VE
Applicant : Victron Energy
FCC ID : 2A2XGBLESTM32VE
IC : 27461-BLESTM32VE

Test report No. : P000301224 007 Ver 2.0

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).

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The Industry Canada company number for Kiwa Nederland B.V. is: 4173A. The CABID is NL0001.

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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 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	14-01-2025	First draft	TK
v1.00	07-02-2025	Final release	TK
V2.00	25-02-2025	Adjustment of hardware release	TK

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1 General Description

1.1 Applicant

Client name:	Victron Energy B.V.
Address:	De Paal 35
Zip code:	1351 JG Almere
Country:	The Netherlands
Telephone:	+31 36-535 97 00
E-mail:	ngalanos@victronenergy.com

1.2 Manufacturer

Manufacturer name:	Victron Energy B.V.
Address:	De Paal 35
Zip code:	1351 JG Almere
Country:	The Netherlands
Telephone:	+31 36-535 97 00
E-mail:	ngalanos@victronenergy.com

1.3 Tested Equipment Under Test (EUT)

Product name:	BLESTM32VE
Brand name:	Victron Energy
FCC ID:	2A2XGBLESTM32VE
IC:	27461-BLESTM32VE
Product description:	VE Bluetooth module
Variant model(s):	--
Batch and/or serial No.	--
Software version:	v1
Hardware version:	SSC BLE B
Date of receipt:	05-08-2024
Tests started:	12-08-2024
Testing ended:	21-11-2024

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 Nederland 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 : Tom Keltjens, BaSc

Review of assessment methods and report by:

Name : ing. Maaz. H. Khan

The above conclusions have been verified by the following signatory:

Date : 25-02-2025

Name : ing. M.H. Khan

Function : Test Engineer

Signature : 

2 SAR exclusion Evaluation

2.1 Transmitter specifications

Transmitter 1

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	3.09	P
Time-averaged output power ERP (mW)	3.09	P _{ERP}
Operating frequency range (MHz)	2440	f
Separation distance (cm)	20	d
Separation distance (m)	0.2	R

2.2 Evaluation calculations

Transmitter 1

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

Method B:

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

Where:

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

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

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} = 3060 mW

P or P_{ERP} = 3.09 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 (defined in 47 CFR 1.1310 e) (ii)), no additional mitigation actions are required.

<<END OF REPORT>>