

FCC SAR Exclusion Report



Product name : FRE-220-NEMA-T-NB1-M1-G

Applicant : Flashnet SA

FCC ID : 2A7FA-NEMATNB1M1G

Test report No. : P000489917 001 Ver 1.0

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).

Kiwa Nederland B.V. is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001.

Kiwa Nederland B.V. is a Wireless Device Testing laboratory recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements.
The Industry Canada company number for Kiwa Nederland B.V. is: 4173A. The CABID is NL0001.

Kiwa Nederland B.V. is a registered Conformity Assessment body (CAB) under the Japan-EC MRA (Agreement on Mutual Recognition between Japan and the European Community). The registration number is: 201.

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
v0.5	29-04-2025	First draft	PvW
v1.0	12-05-2025	Final release	PvW
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1 General Description

1.1 Applicant

Client name:	Flashnet SA
Address:	Fundatura Harmanului Street, Brasov, Romania, 500240
Telephone:	--
E-mail:	--
Contact name:	--

1.2 Manufacturer

Manufacturer name:	Flashnet SA
Address:	Fundatura Harmanului Street, Brasov, Romania, 500240
Telephone:	--
E-mail:	--
Contact name:	--

1.3 Tested Equipment Under Test (EUT)

Product name:	FRE-220-NEMA-T-NB1-M1-G
Brand name:	Flashnet
FCC ID:	2A7FA-NEMATNB1M1G
IC:	Not applicable
Product description:	The EUT is a street light management and control device that can remotely turn on/off and dim a luminaire, while measuring a wide range of electrical parameters and capable of sending alarms in case of fault detection.
Variant model(s):	--
Batch and/or serial No.	0000268951583
Software version:	--
Hardware version:	--
Date of receipt:	Not tested at Kiwa Apeldoorn
Tests started:	Not tested at Kiwa Apeldoorn
Testing ended:	Not tested at Kiwa Apeldoorn

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 : P. van Wanrooij, BASc

Review of assessment methods and report by:

Name : ing. R. van Barneveld

The above conclusions have been verified by the following signatory:

Date : 12-05-2025

Name : ing. R. van Barneveld

Function : Test Engineer

Signature :

A handwritten signature in blue ink, consisting of a stylized 'R' followed by several horizontal strokes.

2 SAR exclusion Evaluation

2.1 Transmitter specifications

LTE/NB-IoT band 5

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	74.1	P
Time-averaged output power ERP (mW)	88.1	P_{ERP}
Operating frequency range (MHz)	824-848	f
Separation distance (cm)	20	d
Separation distance (m)	0.20	R

LTE/NB-IoT band 25

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	69.7	P
Time-averaged output power ERP (mW)	111.7	P_{ERP}
Operating frequency range (MHz)	1850-1914	f
Separation distance (cm)	20	d
Separation distance (m)	0.20	R

LTE/NB-IoT band 12

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	56.9	P
Time-averaged output power ERP (mW)	67.6	P_{ERP}
Operating frequency range (MHz)	700-715	f
Separation distance (cm)	20	d
Separation distance (m)	0.20	R

LTE/NB-IoT band 66

Variable (unit)	Value	Symbol
Conducted time-averaged output power (mW)	70.3	P
Time-averaged output power ERP (mW)	112.7	P_{ERP}
Operating frequency range (MHz)	1710-1780	f
Separation distance (cm)	20	d
Separation distance (m)	0.20	R

2.2 Evaluation calculations

LTE/NB-IoT band 5

Band 5 is evaluated according to method C of KDB 447498 D04 v01

Method C:

Transmitter frequency (MHz)	Threshold ERP (mW)
0.3 – 1.34	$1920 * R^2 * 1000$
1.34 – 30	$3450 * R^2 / f^2 * 1000$
30 – 300	$3830 * R^2$
300 – 1500	$12.8 * R^2 * f$
1500 – 100 GHz	$19200 * R^2$

Filling in the values of R (m) and f (MHz) as reported in clause 2.1 in the threshold calculation equations in the table above gives the result:

$$P_{th} = 421.9 \text{ mW}$$

$P_{ERP} = 88.0 \text{ mW}$ which is less than the calculated P_{th} so the EUT complies with the MPE-based exemption requirement.

LTE/NB-IoT band 25

Band 25 is evaluated according to method C of KDB 447498 D04 v01

Method C:

Transmitter frequency (MHz)	Threshold ERP (mW)
0.3 – 1.34	$1920 * R^2 * 1000$
1.34 – 30	$3450 * R^2 / f^2 * 1000$
30 – 300	$3830 * R^2$
300 – 1500	$12.8 * R^2 * f$
1500 – 100 GHz	$19200 * R^2$

Filling in the values of R (m) and f (MHz) as reported in clause 2.1 in the threshold calculation equations in the table above gives the result:

$$P_{th} = 947.2 \text{ mW}$$

$P_{ERP} = 111.7 \text{ mW}$ which is less than the calculated P_{th} so the EUT complies with the MPE-based exemption requirement.

LTE/NB-IoT band 12

Band 5 is evaluated according to method C of KDB 447498 D04 v01

Method C:

Transmitter frequency (MHz)	Threshold ERP (mW)
0.3 – 1.34	$1920 * R^2 * 1000$
1.34 – 30	$3450 * R^2 / f^2 * 1000$
30 – 300	$3830 * R^2$
300 – 1500	$12.8 * R^2 * f$
1500 – 100 GHz	$19200 * R^2$

Filling in the values of R (m) and f (MHz) as reported in clause 2.1 in the threshold calculation equations in the table above gives the result:

$$P_{th} = 358.0 \text{ mW}$$

$P_{ERP} = 67.6 \text{ mW}$ which is less than the calculated P_{th} so the EUT complies with the MPE-based exemption requirement.

LTE/NB-IoT band 66

Band 5 is evaluated according to method C of KDB 447498 D04 v01

Method C:

Transmitter frequency (MHz)	Threshold ERP (mW)
0.3 – 1.34	$1920 * R^2 * 1000$
1.34 – 30	$3450 * R^2 / f^2 * 1000$
30 – 300	$3830 * R^2$
300 – 1500	$12.8 * R^2 * f$
1500 – 100 GHz	$19200 * R^2$

Filling in the values of R (m) and f (MHz) as reported in clause 2.1 in the threshold calculation equations in the table above gives the result:

$$P_{th} = 875.5 \text{ mW}$$

$P_{ERP} = 112.7 \text{ mW}$ which is less than the calculated P_{th} so the EUT complies with the MPE-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>>