



Test report issued under the responsibility of:
EMITECH MONTPELLIER laboratory
MRA US-EU Designation Number: FR0006
Canadian CAB Identifier: FR0003

RF EXPOSURE TEST REPORT

KDB 447498 D01 V06
RSS-102 - Issue 6, December 2023

Company: **STMICROELECTRONICS (Rousset) SAS**
Address.....: 190 AVENUE CELESTIN COQ
13106 ROUSSET
FRANCE

Test item description: **NFC Reader**
Trade Mark: STMICROELECTRONICS
Manufacturer.....: STMICROELECTRONICS
FCC ID.....: YCPNFC12A1
IC: 8976A-NFC12A1
Model/Type reference.....: X-NUCLEO-NFC12A1
Ratings.....: 5Vdc

Testing Laboratory: **EMITECH MONTPELLIER laboratory**
Address.....: 145 rue de Massacan
34740 VENDARGUES
FRANCE

Report Reference No: **RE-EVE-25A212-3A**
Test procedure: FCC IC Certification
Diffusion.....: Mr MAURAN
Applicant's name: STMICROELECTRONICS (Rousset) SAS
Date of issue.....: May 16, 2025
Total number of pages.....: 9
Revision: 0
Compiled by.....: Morgan PATEY
Approved by (+ signature): Olivier HEYER (Deputy Laboratory Manager)



*Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above.
This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of
the whole manufactured products of the tested sample.*

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REVISION HISTORY:

Revision	Date	Modified pages	Modifications
0	May 16, 2025	/	Creation

1. GENERAL INFORMATIONS

This document submits the results of Radio tests performed on the equipment **NFC Reader X-NUCLEO-NFC12A1** (denominated hereafter E.U.T.: equipment under test) according to document(s) listed in §2 of this test report.

TESTING PROCEDURE AND TESTING LOCATION:					
Testing Location : EMITECH MONTPELLIER laboratory & Open Area Test Site in SALINELLES (30) Address. : 145 rue de Massacan 34740 VENDARGUES FRANCE Test procedure. : FCC IC Certification Tested by : Morgan PATEY Test supervisor : None Date of receipt of test item : N/A Date (s) of performance of tests : From January 27 th to 29 th of 2025					
APPLICANT'S GENERAL INFORMATIONS:					
Company name : STMICROELECTRONICS (Rousset) SAS Company address. : 190 AVENUE CELESTIN COQ 13106 ROUSSET FRANCE Person(s) present during the tests. : No representative for company attended the tests. Responsible. : Mr MAURAN					
GENERAL REMARKS:					
The information in <i>italics</i> is declared by the manufacturer and is under his responsibility The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report the decimal separator is point.					
POSSIBLE TEST CASE VERDICTS:					
Test case does not apply to the test object.: N/A Test case not performed.....: N/P Test object does meet the requirement.....: P (Pass) Test object does not meet the requirement. F (Fail) :					
DEFINITIONS AND ABBREVIATIONS:					
E.U.T.	Equipment Under Test	AE	Ancillary Equipment	Pk	Peak detector
RBW	Resolution BandWidth	VBW	Video BandWidth	QP	Quasi-peak detector
FSOATS	Free Space Open Area Test Site	FAR	Full Anechoic Room	Av	Average detector
VP	Vertical Polarization	HP	Horizontal Polarization	RMS	Root Mean Square
RF	Radio Frequency	N.T.R	Nothing To Report	N/C	Not Communicated
SAC	Semi Anechoic Chamber				

2. REFERENCE DOCUMENT(S)

NORMATIVE REFERENCES:

The following referenced documents are necessary for the application of the present test report.

FCC 47 CFR PART 15

Code of federal regulations – Title 47 telecommunication

Part 15- Radio frequency devices

KDB 447498 D01 v06

RF exposure procedures and equipment authorization policies for mobile and portable devices.

RSS-102 - Issue 6, December 2023

Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

RR-EVE-25A212-3A

Radio Test Report Emitech.

Although the product standard uses obsolete technical standards, the latest versions of standards achievable by the laboratory will be used for testing.

INFORMATIVE REFERENCES:

The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

3. EQUIPMENT TECHNICAL DESCRIPTION

3.1. Test Conditions

Test item description. : NFC Reader
Model/Type reference..... : X-NUCLEO-NFC12A1
Trade Mark. : STMICROELECTRONICS
Serial number (S/N)..... : Not communicated
Part number (P/N). : Not communicated
Software version..... : *Not communicated*
Firmware version. : *Not communicated*
Type of sample. : Pre-serial
Function(s)..... : Not communicated
Manufacturer name. : STMICROELECTRONICS
Address. : 776 RUE ALBERT CAQUOT
SKY SOPHIA BAT B
06410 BIOT
FRANCE

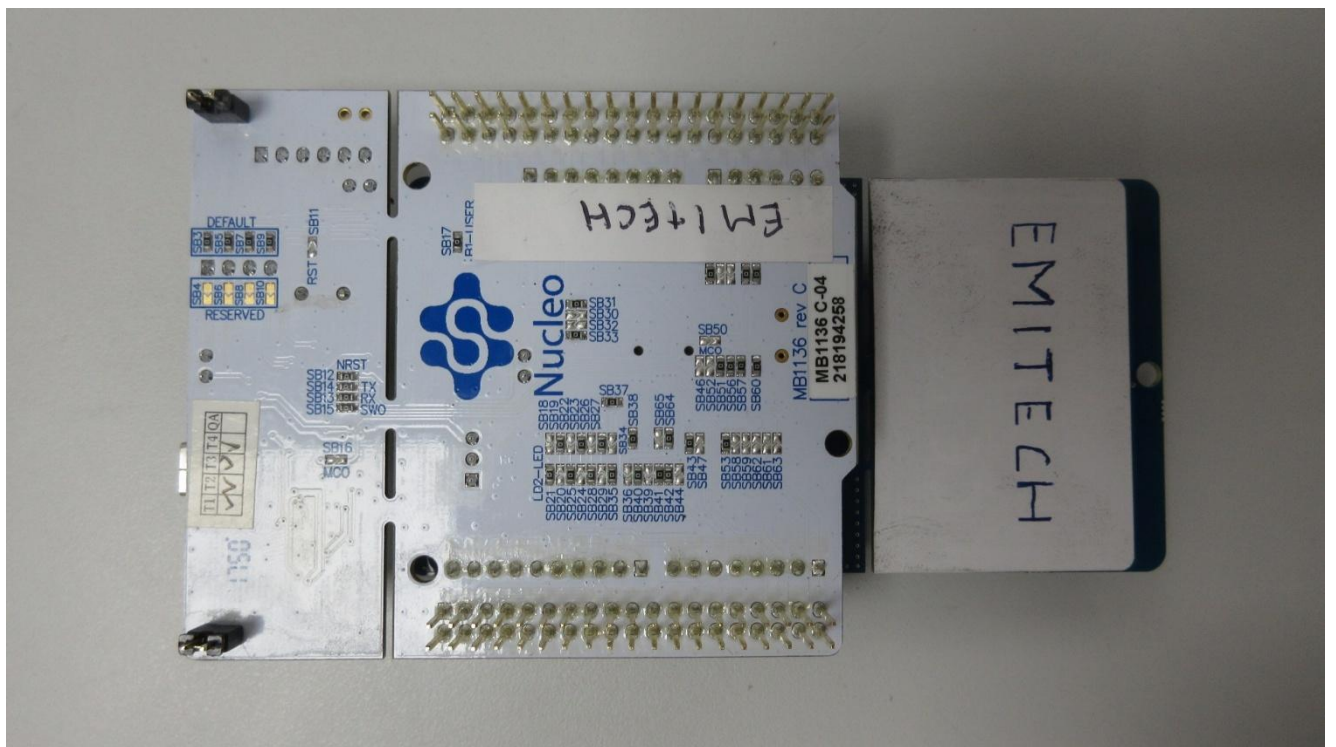
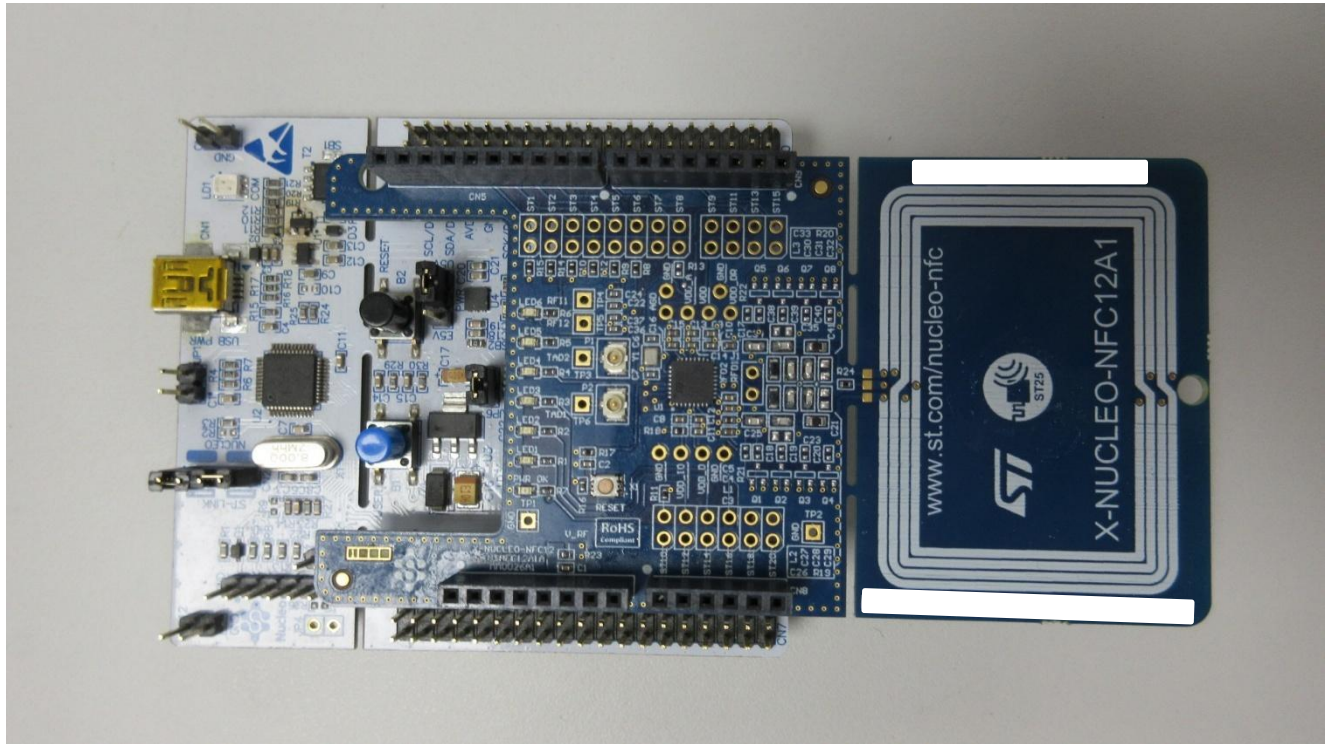
General product information:

N/A

3.2. E.U.T. Marking plate



3.3.E.U.T. General view



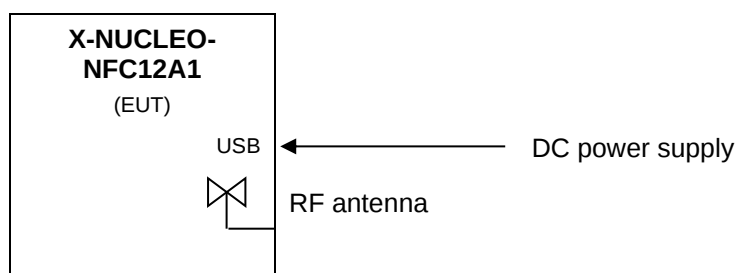
3.4.E.U.T. Mechanical and Electrical Design

Power supply. : 5Vdc
Power supply range..... : 5Vdc
Power type..... : DC
Power (W)..... : Not communicated
Nominal current (A). : Not communicated
Dimensions (L x W x H) (m). : Not communicated
Weight (kg). : Not communicated
Temperature range (°C). : 0 to +60
Ground bounding strap..... : No

Comments:

N/A

3.5.E.U.T. Input/Output ports



PORT	NAME	TYPE	LENGTH	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	PCB	N/A
1	DC power supply	DC	50cm	N/A	5Vdc
2	RF antenna	RF	N/A	PCB	13.56MHz

AC/DC : AC/DC Converter port AC..... : Alternative current port DC..... : Direct current port
I/O : Input or Output port TP : Telecommunication port RF : Radio frequency port
N/E : Non Electrical port

3.6. EUT Radio Specifications

a) GENERAL INFORMATIONS	
According to manufacturer's declarations :	
EUT type.....	<i>Transceiver</i>
Technology	<i>RFID</i>
Environmental profile.....	<i>Data transmissions</i>
Temperature range	<i>0°C to +60°C</i>
Antenna type	<i>PCB</i>
Antenna Gain.....	<i>Not communicated</i>
Comments:	
<i>N/A</i>	
b) TRANSMITTER PARAMETERS (Tx)	
Frequency bands.....	<i>13.553 MHz to 13.567 MHz</i>
RF Power.....	<i>Not communicated</i>
Number of channels / Separation.....	<i>1</i>
Modulation type	<i>Not communicated</i>
Duty cycle	<i>Not communicated</i>
Tested frequency.....	<i>13.56 MHz</i>
c) RECEIVER PARAMETERS (Rx)	
Frequency bands.....	<i>13.553 MHz to 13.567 MHz</i>
Category/Class	<i>Not communicated</i>
Bandwidth	<i>Not communicated</i>

4. RF EXPOSURE

Maximum Radiated magnetic field at 10m = -4.24 dB μ A/m (0.61 μ A/m) at 13.56 MHz (see Radio test report referenced in §2)

From ANSI C63.10 Annexe G.2 : $EIRP = (E \times d)^2/30 = (377H \times d)^2/30$

where

E = electric field strength in V/m

H = magnetic field strength in A/m

D = measurement distance in m

Then equivalent EIRP = 0.18 μ W

For USA

In accordance with KDB 447498 D01 Appendix C, as EIRP is lower than 443 mW at 13.56 MHz, SAR exemption for ISED can be considered for a distance ≤ 50 mm.

For Canada

In accordance with RSS-102, Issue 6, Section 6.3., as EIRP is lower than 45 mW at 13.56 MHz, SAR exemption for ISED can be considered for a distance ≤ 5 mm.

●●● End of test report ●●●