



Test report issued under the responsibility of:
EMITECH MONTPELLIER laboratory
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RF EXPOSURE TEST REPORT

KDB 447498 D01 V06
RSS-102 - Issue 5, March 2015

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

Test item description. : **NFC card reader evaluation board**
Trade Mark. : STMICROELECTRONICS
Manufacturer..... : STMICROELECTRONICS
Model/Type reference..... : STEVAL-25R200SA
FCC ID..... : YCPR200AD1
IC. : 8976A-R200AD1
Ratings..... : 5 VDC

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

Report Reference No...... : **RE-EVE-24C933-2A**
Test procedure. : FCC IC Verification
Diffusion..... : Mr DAUBOIS
Applicant's name. : STMICROELECTRONICS
Date of issue..... : October 18, 2024
Total number of pages..... : 11
Revision. : 0
Compiled by..... : Olivier HEYER
Approved by (+ signature). : David MONTAULON (Lab 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	October 18, 2024	/	Creation

1. GENERAL INFORMATION

This document submits the results of Radio tests performed on the equipment **NFC demo board STEVAL-25R200A** (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			
Address.		145 rue de Massacan 34740 VENDARGUES FRANCE			
Test procedure.		FCC IC Verification			
Tested by		Morgan PATEY			
Test supervisor		None			
Date of receipt of test item		N/A			
Date (s) of performance of tests		From May 30 th to 31 st of 2024			
APPLICANT'S GENERAL INFORMATION:					
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 DAUBOIS			
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
OATS	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

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 5, March 2018

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

RR-EVE-24C933-4A

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

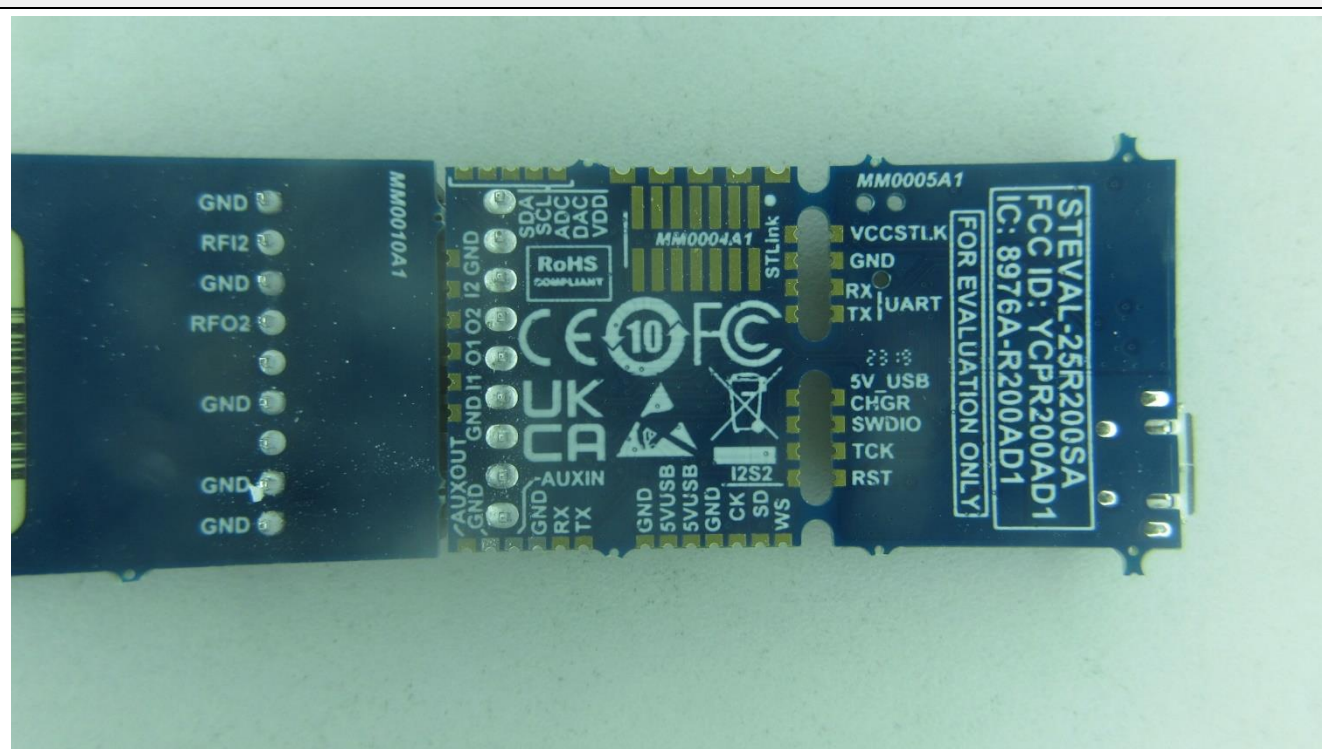
3.1. Test Conditions

Test item description. : NFC card reader evaluation board
Model/Type reference..... : STEVAL-25R200SA
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)..... : NFC demo board
Manufacturer name. : STMICROELECTRONICS
Address. : 776 RUE ALBERT CAQUOT
SKY SOPHIA BAT B
06410 BIOT
FRANCE

General product information:

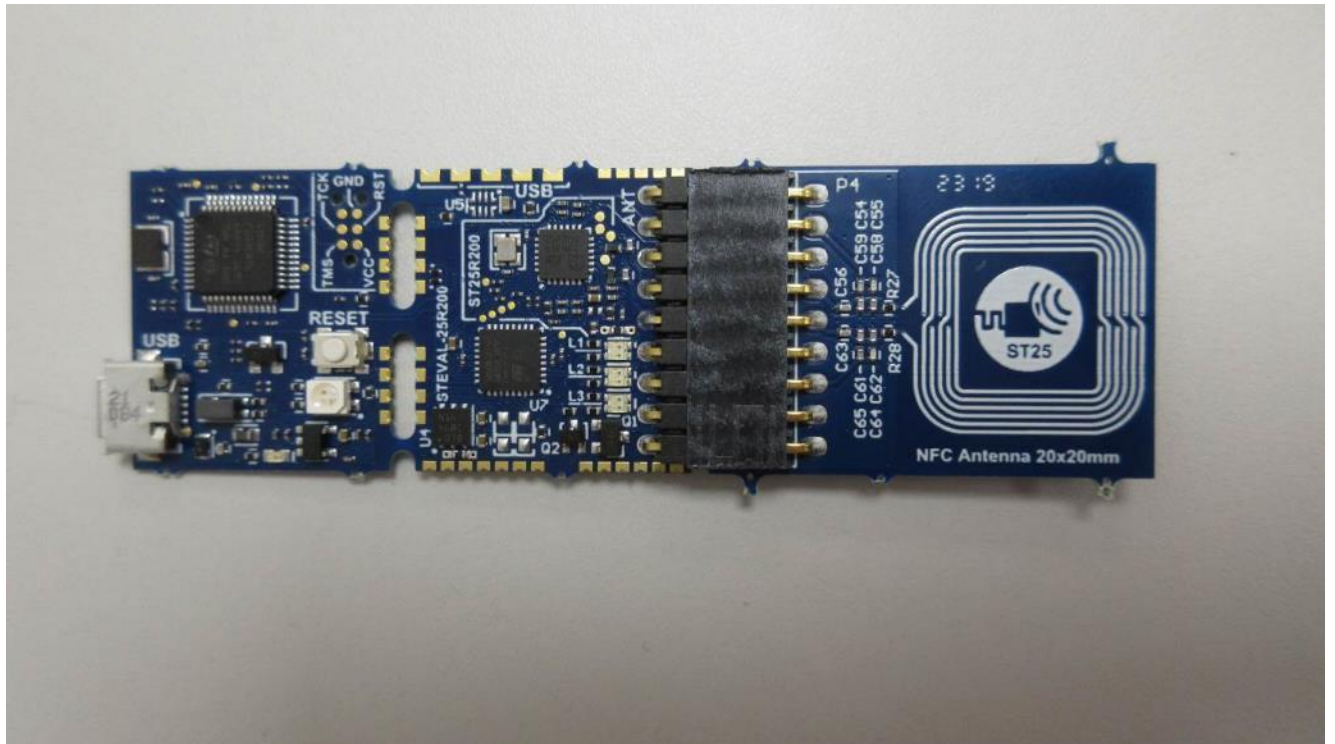
N/A

3.2. EUT Marking plate

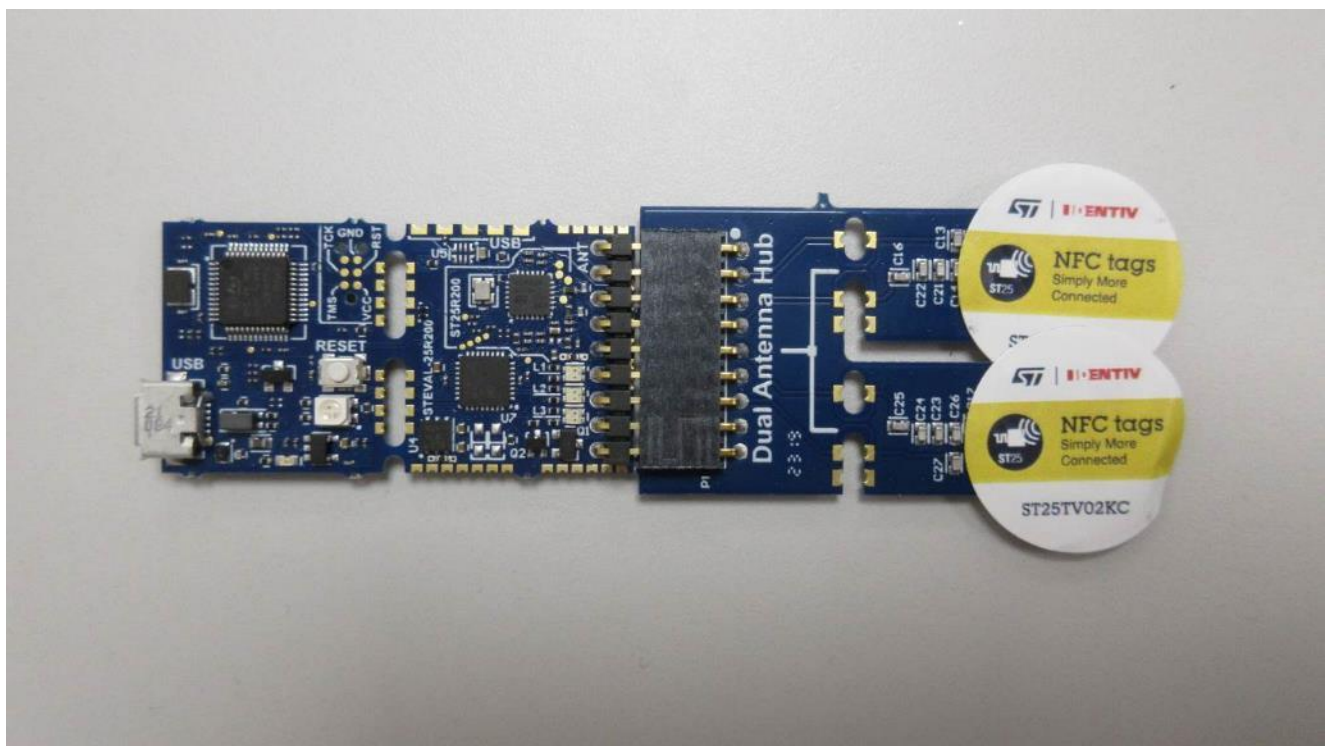


3.3.E.U.T. General view

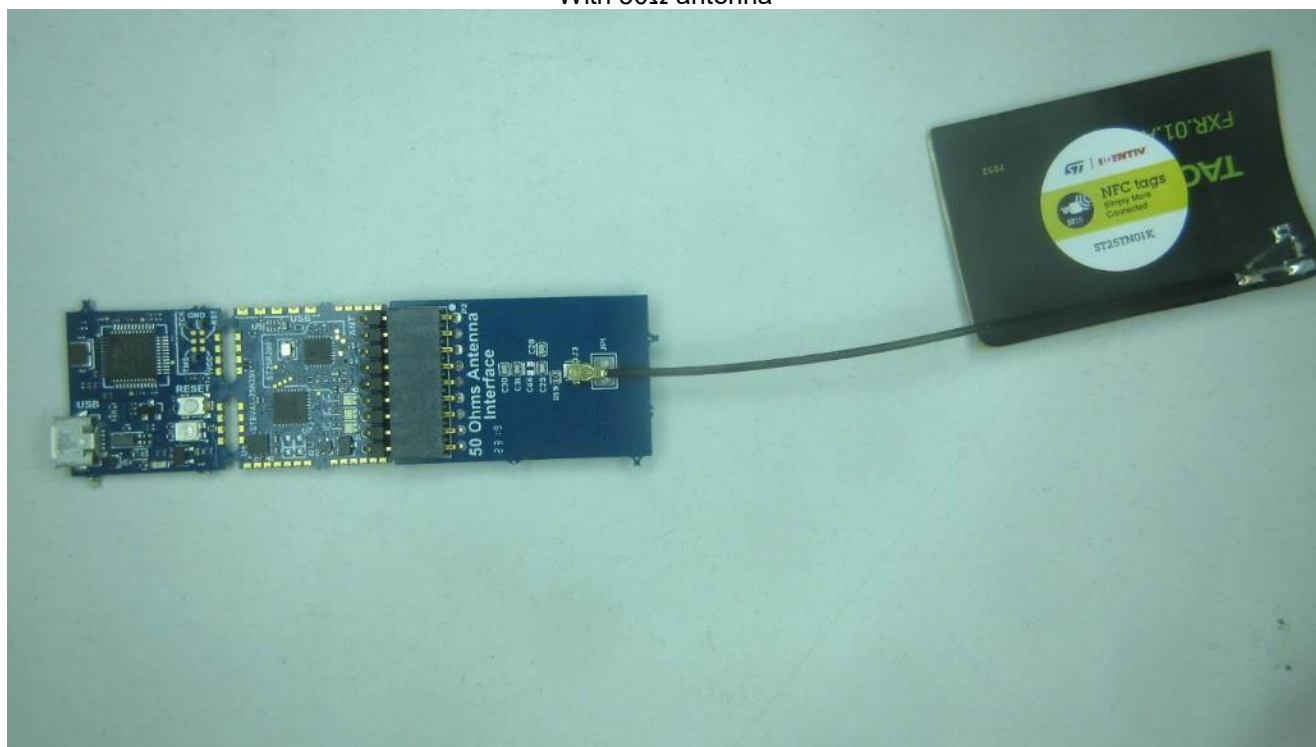
With Main antenna



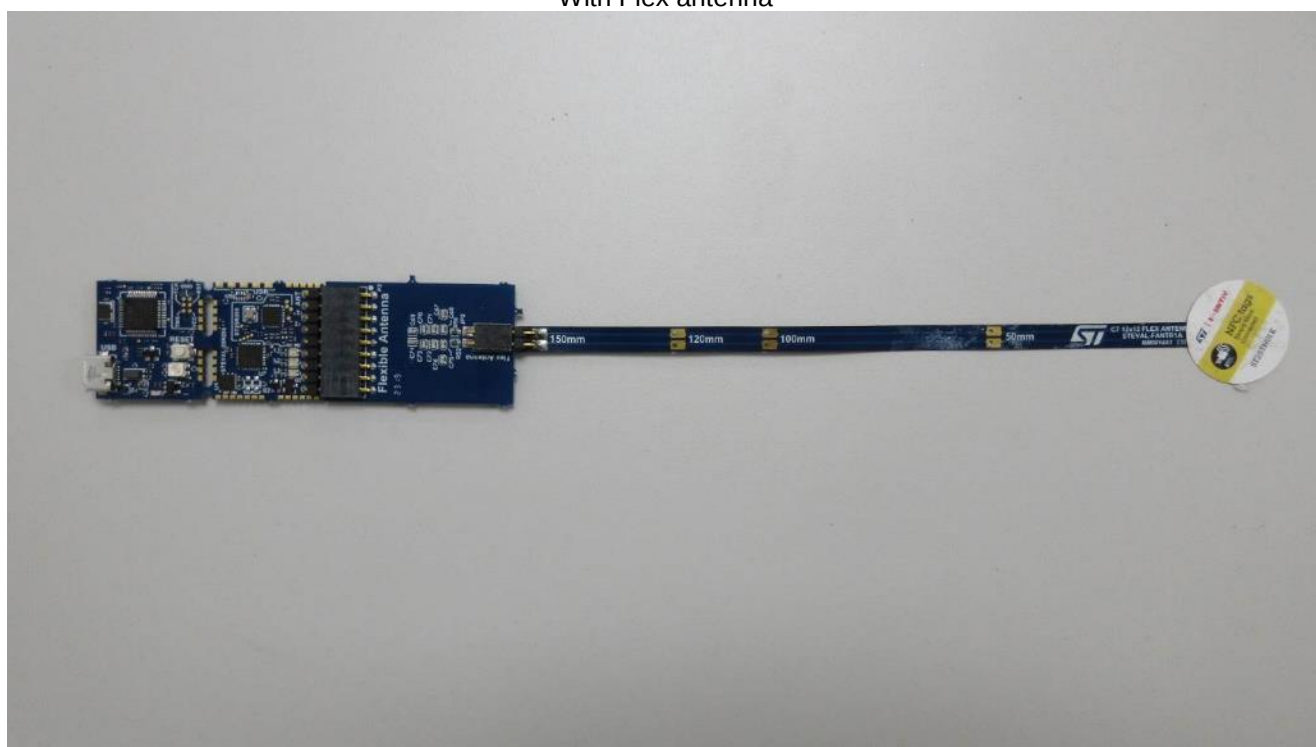
With Dual antenna



With 50Ω antenna



With Flex antenna



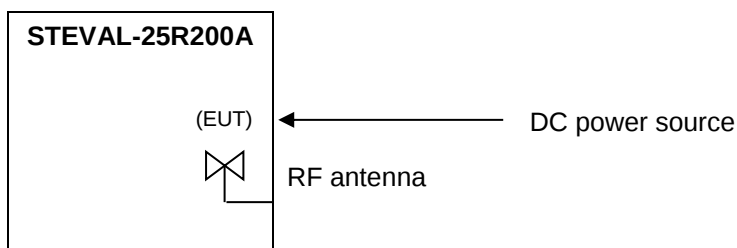
3.4. EUT Mechanical and Electrical Design

Power supply. : 5 VDC
Power supply range..... : 5 VDC
Power type..... : USB
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). : +10 to +40
Ground bounding strap..... : No

Comments:

N/A

3.5. EUT Input/Output ports



PORT	NAME	TYPE	LENGTH	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	N/A	PCB
1	DC power source	USB	<3m	+/-	5VDC
2	RF antenna	RF	N/A	N/A	PCB

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. Supporting Equipment Used During Test

Sample subject to the tests was tested with following equipment.

PRODUCT TYPE	MANUFACTURER	MODEL	N°EMITECH / COMMENTS
NFC TAG Power Bank	STMICROELECTRONICS Xindao B.V.	ST25TV02KC P324.25	Used for NFC communications. Provide the 5Vdc to the demo board

NFC TAG (AE)



POWER BANK (AE)



3.7. 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>+10°C to +40°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>AM</i>
Duty cycle	<i>100%</i>
Tested frequency.....	<i>13.56 MHz</i>
c) RECEIVER PARAMETERS (Rx)	
Frequency bands.....	<i>13.553 MHz to 13.567 MHz</i>

4. RF EXPOSURE

Maximum Radiated magnetic field = 0.36 dB μ A/m (1.04 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 = 0.51×10^{-3} mW

For USA

In accordance with KDB 447498 D01 Appendix C, as EIRP is lower than 459 mW at 13.56 MHz, SAR exemption for FCC can be considered for a distance ≤ 5 mm.

Then it is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

For Canada

In accordance with RSS-102, Issue 5, Section 2.5.1., as EIRP is lower than 71 mW at 13.56 MHz, SAR exemption for ISED can be considered for a distance ≤ 5 mm.

Then it is therefore not necessary to carry out measurements to assess human exposure to radiofrequencies.

●●● End of test report ●●●