

|                             |                                                                                                 |               |                                   |                                                  |
|-----------------------------|-------------------------------------------------------------------------------------------------|---------------|-----------------------------------|--------------------------------------------------|
| Report:                     | <b>Electromagnetic compatibility and Radio spectrum Matters</b>                                 |               | Report no:                        | 22CH-01062.R02                                   |
| Product name:               | <b>Partector 2</b>                                                                              |               | Brand name:                       | <b>naneos</b>                                    |
| Serial no:                  | <b>8345</b>                                                                                     | Model number: | <b>Partector 2 / Part No: 171</b> |                                                  |
| Applicant and Manufacturer: | <b>Naneos particle solutions GmbH<br/>Alte Spinnerei 9<br/>CH-5210 Windisch<br/>SWITZERLAND</b> |               | Date of tests:                    | <b>2022-11-15 to 2022-11-17,<br/>2023-11-15*</b> |

\*verification measurements

| Standards                       |                                                                                                                                                                                                                               | Result      |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>47 CFR, Part 15</b>          | Subpart C, Intentional radiators: §§ 15.207/209/247                                                                                                                                                                           | <b>Pass</b> |
| <b>RSS-Gen, RSS-247 issue 2</b> | RSS-Gen, General Requirements and Information for the Certification of Radio Apparatus, RSS-247 — Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Device | <b>Pass</b> |

These results were achieved without modifications of EUT

Test performed by  
C. Clement, K. Ivanov  
EMC Test Engineer

Report prepared by  
K. Ivanov  
EMC Test Engineer

Report controlled and approved by  
F. Wyler  
EMC Test Engineer

*C. Clement* *K. Ivanov* *K. Ivanov*

*F. Wyler*

Rossens, 2023-11-30

(Issue Date)

Main language : English

The present document results from tests on one specimen and does not prejudice to the conformity of all the manufactured products.  
This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.  
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## Contents

|                                                                                     | Page |
|-------------------------------------------------------------------------------------|------|
| 1. SUMMARY OF TEST RESULTS .....                                                    | 3    |
| 1.1 Summary for FCC .....                                                           | 3    |
| 1.2 Summary for ISED .....                                                          | 3    |
| 2. APPLIED STANDARDS .....                                                          | 4    |
| 3. ABBREVIATIONS .....                                                              | 4    |
| 4. APPLICANT .....                                                                  | 5    |
| 5. EQUIPMENT UNDER TEST .....                                                       | 5    |
| 5.1 Identification .....                                                            | 5    |
| 5.2 Technical Radio Data of the RF Wireless Module .....                            | 6    |
| 5.3 Photos of the EUT .....                                                         | 7    |
| 5.4 Classification .....                                                            | 11   |
| 5.5 Transmitter characteristics (according to Naneos particle solutions GmbH) ..... | 11   |
| 5.6 Receiver characteristics (according to Naneos particle solutions GmbH) .....    | 11   |
| 5.7 Ports .....                                                                     | 11   |
| 6. TEST CONDITIONS .....                                                            | 12   |
| 6.1 Climatic conditions, location and date .....                                    | 12   |
| 6.2 Test facility and methodology .....                                             | 12   |
| 6.3 Attendant persons .....                                                         | 12   |
| 6.4 Test configuration .....                                                        | 12   |
| 6.5 Operating conditions .....                                                      | 13   |
| 6.6 Auxiliary equipment .....                                                       | 13   |
| 7. TEST RESULTS .....                                                               | 14   |
| 7.1 AC Conducted Emissions .....                                                    | 14   |
| 7.2 Duty Cycle .....                                                                | 26   |
| 7.3 Maximum Power (Conducted) .....                                                 | 28   |
| 7.4 Band-edge emission (radiated) .....                                             | 31   |
| 7.5 Spurious emission transmit mode – radiated .....                                | 34   |
| 7.5.1 9 kHz to 30 MHz .....                                                         | 34   |
| 7.5.2 30 MHz to 1 GHz .....                                                         | 39   |
| 7.5.3 1 GHz to 6 GHz .....                                                          | 42   |
| 7.5.4 6 GHz to 18 GHz .....                                                         | 47   |
| 7.5.5 18 GHz to 26 GHz .....                                                        | 50   |
| 8. LIST OF TEST EQUIPMENT .....                                                     | 54   |

## 1. Summary of test results

### 1.1 Summary for FCC

| §        | Test Type                                                                                                 | Result                              |
|----------|-----------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>7</b> | <b>Emission</b>                                                                                           | <b>47 CFR Part 15</b>               |
| 7.1      | AC Conducted Emissions CFR 47 § 15.207                                                                    | <b>Pass</b>                         |
| 7.2      | Duty Cycle CFR 47 § 15.35 (c)                                                                             | <b>Pass</b>                         |
| -/-      | Minimum 6 dB bandwidth CFR 47 § 15.247 (a)(2)                                                             | <b>Not applicable<sup>(1)</sup></b> |
| -/-      | Power Spectral Density CFR 47 § 15.247 (e)                                                                | <b>Not applicable<sup>(1)</sup></b> |
| -/-      | Maximum output power (conducted) CFR 47 § 15.247 (b)(1) (3)                                               | <b>Not applicable<sup>(1)</sup></b> |
| 7.4      | Band-edge emission (radiated) CFR 47 § 15.247 (d)<br>CFR 47 § 15.205                                      | <b>Pass</b>                         |
| 7.5      | Spurious emissions – radiated (transmitter) CFR 47 § 15.247 (d)<br>CFR 47 § 15.209 (a)<br>CFR 47 § 15.205 | <b>Pass</b>                         |
| -/-      | Designation of emission FCC 47 §2.201<br>FCC 47 §2.202                                                    | <b>Not applicable<sup>(1)</sup></b> |

Note(s): 1. As per applicant's declaration pre-certified radio module was integrated.

### 1.2 Summary for ISSED

| §        | Test Type                                                              | Result                                                         |
|----------|------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>7</b> | <b>Emission</b>                                                        | <b>CFR 47 ICES-003 RSS-247<br/>issue 2<br/>Industry Canada</b> |
| 7.1      | AC Conducted emission RSS-Gen 8.8                                      | <b>Pass</b>                                                    |
| -/-      | Minimum 6 dB bandwidth RSS-Gen 6.6 / RSS-247 5.1(1)                    | <b>Not applicable<sup>(1)</sup></b>                            |
| -/-      | Power Spectral Density RSS-247 5.2(2)                                  | <b>Not applicable<sup>(1)</sup></b>                            |
| 7.3      | Maximum output power (conducted) RSS-Gen 6.12 / RSS-247 5.4(2)         | <b>Pass</b>                                                    |
| 7.4      | Band-edge emission (radiated) RSS-Gen 6.13 / RSS-247 5.5               | <b>Pass</b>                                                    |
| 7.5      | Spurious emissions – radiated (transmitter) RSS-Gen 6.13 / RSS-247 5.5 | <b>Pass</b>                                                    |

Note(s): 1. As per applicant's declaration pre-certified radio module was integrated.

## 2. Applied standards

47 CFR Part 15 Subpart C

Code of Federal Regulations - Title 47 - Telecommunication, Part 15, Subpart C: "Intentional Radiators"

## 3. Abbreviations

|          |                                                                   |
|----------|-------------------------------------------------------------------|
| AC       | Alternating current                                               |
| AFA      | Adaptive Frequency Agility                                        |
| AM       | Amplitude Modulation                                              |
| AN       | Artificial Network                                                |
| AV       | Average                                                           |
| BB       | Broad Band                                                        |
| BW       | Bandwidth                                                         |
| CDN      | Coupling Decoupling Network                                       |
| CW       | Continuous Wave                                                   |
| DAA      | Detect And Avoid spectrum access technique                        |
| dB       | Decibel                                                           |
| dBi      | Gain in decibels relative to an isotropic antenna                 |
| DC       | Direct current                                                    |
| DL       | Downlink                                                          |
| dmax     | Maximum relative voltage change                                   |
| DS       | Defined State                                                     |
| DSSS     | Direct Sequence Spread Spectrum                                   |
| e.i.r.p. | equivalent isotropic radiated power                               |
| EMC      | ElectroMagnetic Compatibility                                     |
| ESA      | Electrical/electronic sub-assembly                                |
| ESD      | Electro Static Discharge                                          |
| EUT      | Equipment under Test                                              |
| FHSS     | Frequency Hopping Spread Spectrum                                 |
| GRP      | Ground reference plane                                            |
| ISM      | Industrial Scientific Medical (frequency band)                    |
| ITU      | International Telecommunications Union                            |
| ITU-R    | International Telecommunications Union, Radio Sector              |
| ITU-T    | International Telecommunications Union, Telecommunications Sector |
| L1,L2,L3 | Phase                                                             |
| LBT      | Listen Before Talk                                                |
| LISN     | Line impedance stabilization network                              |
| MDS      | Absorbing measuring clamp                                         |
| MU       | Master Unit                                                       |
| N        | Neutral                                                           |
| NB       | Narrow Band                                                       |
| NRI      | National Radio Interfaces                                         |
| N/A      | Not Applicable                                                    |
| PE       | Protective earth                                                  |
| PK       | Peak                                                              |
| PM       | Pulse Modulation                                                  |
| QFE      | Local atmospheric pressure (Field Elevation)                      |
| QP       | Quasi-Peak                                                        |
| RF       | Radio Frequency                                                   |
| RFID     | Radio Frequency Identification                                    |
| RU       | Remote Unit                                                       |
| Rx       | Receiver                                                          |
| SAC      | Semi-Anechoic chamber                                             |
| SCU      | System Control Unit                                               |
| SF-CW    | Step Frequency Continuous Wave (spread spectrum)                  |
| SRD      | Short Range Device                                                |
| THD      | Total Harmonic Distortion                                         |
| Tx       | Transmitter                                                       |
| UL       | Uplink                                                            |
| UWB      | Ultra Wide Band                                                   |
| VSWR     | Voltage Standing Wave Ratio                                       |

Date &amp; Time Format: yyyy-MM-dd, HH:mm

General vocabulary: <http://www.electropedia.org>

**4. Applicant**

|                            |                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------|
| Applicant name and address | Naneos particle solutions GmbH<br>Alte Spinnerei 9<br>CH-5210 Windisch<br>SWITZERLAND |
| Contact Person             | Mr. Dominik Meier,                                                                    |
| Telephone                  | +41 56 560 20 70                                                                      |
| E-mail                     | dominik.meier@naneos.ch                                                               |

**5. Equipment under test****5.1 Identification**

|                               |                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer name and address | Naneos particle solutions GmbH<br>Alte Spinnerei 9<br>CH-5210 Windisch<br>SWITZERLAND                                                                                                                                                                                                                                                                                          |
| Production country            | SWITZERLAND                                                                                                                                                                                                                                                                                                                                                                    |
| Brand name                    | naneos                                                                                                                                                                                                                                                                                                                                                                         |
| Product name                  | Partector 2                                                                                                                                                                                                                                                                                                                                                                    |
| Product description           | The Partector 2 is a hand-held, battery powered instrument to measure the lung deposited surface area (LDSA), the number concentration, the average particle diameter and the size distribution of nanoparticles. It displays the measured data on a graphical display and stores it on a µSD card. The device can communicate with devices that support Bluetooth low energy. |
| Model number                  | Partector 2 / Part No: 171                                                                                                                                                                                                                                                                                                                                                     |
| Serial no                     | 8345                                                                                                                                                                                                                                                                                                                                                                           |
| FCC ID                        | 2BAAF-P2<br>Included FCC ID: QOQBLE113                                                                                                                                                                                                                                                                                                                                         |
| IC ID                         | 30058-P2<br>Included IC: 5123A-BLE113                                                                                                                                                                                                                                                                                                                                          |
| HVIN                          | 3.1.2                                                                                                                                                                                                                                                                                                                                                                          |
| Hardware version              | 3.2                                                                                                                                                                                                                                                                                                                                                                            |
| Software version              | 273                                                                                                                                                                                                                                                                                                                                                                            |
| Lowest Frequency              | 2402 MHz                                                                                                                                                                                                                                                                                                                                                                       |
| Highest frequency             | 2480 MHz                                                                                                                                                                                                                                                                                                                                                                       |
| Supply                        | AC: 100-240V~, 50 – 60 Hz, 1.5A                                                                                                                                                                                                                                                                                                                                                |
| Dimension                     | 8.8 cm x 14.2 cm x 3.4 cm (W x H x D)                                                                                                                                                                                                                                                                                                                                          |
| Weight                        | Approx. 0.4 kg                                                                                                                                                                                                                                                                                                                                                                 |
| Technical                     | None. The equipment is completely identified by the above-mentioned information. Naneos particle solutions GmbH assures the traceability of the documentation and is responsible for the product identification.                                                                                                                                                               |

## 5.2 Technical Radio Data of the RF Wireless Module

|                                   |                                   |                       |                                |
|-----------------------------------|-----------------------------------|-----------------------|--------------------------------|
| Radio technology                  | Bluetooth Low Energie BLE 4.0     |                       |                                |
| Modulation type                   | GFSK                              |                       |                                |
| Channel bandwidth (99 %)          | 1.053868 MHz                      |                       |                                |
| Data Rate                         | 1 Mbit/s                          |                       |                                |
| Operating Frequency               | 2400 MHz to 2483.5 MHz (ISM Band) |                       |                                |
| Number of Channels                | 40                                |                       |                                |
| Channel Spacing                   | 2 MHz                             |                       |                                |
| Rated RF Output Power (conducted) | -44.41 dBm                        |                       |                                |
| Supply voltage                    | 3.3 VDC                           |                       |                                |
| Temperature range                 | -40 °C to +85 °C                  |                       |                                |
| RF Module                         | BLE113                            |                       |                                |
| Manufacturer                      | Silicon Laboratories Finland Oq   |                       |                                |
| Inclucdes FCC ID:                 | QOQBLE113                         |                       |                                |
| Antenna Type                      | Integral Antenna                  |                       |                                |
| Antenna gain                      | 0.5 dB (dBi)                      |                       |                                |
| Antenna details                   | N/A                               |                       |                                |
| Transmit Frequency Range:         | 2402 MHz to 2480 MHz              |                       |                                |
| Transmit Channels Tested:         | <b>Channel ID</b>                 | <b>Channel Number</b> | <b>Channel Frequency (MHz)</b> |
|                                   | Bottom                            | 37                    | 2402                           |
|                                   | Middle                            | 17                    | 2440                           |
|                                   | Top                               | 39                    | 2480                           |

According to information provided by the Applicant and not verified by Eurofins Electric & Electronic Product Testing AG

## 5.3 Photos of the EUT



EUT, Front view

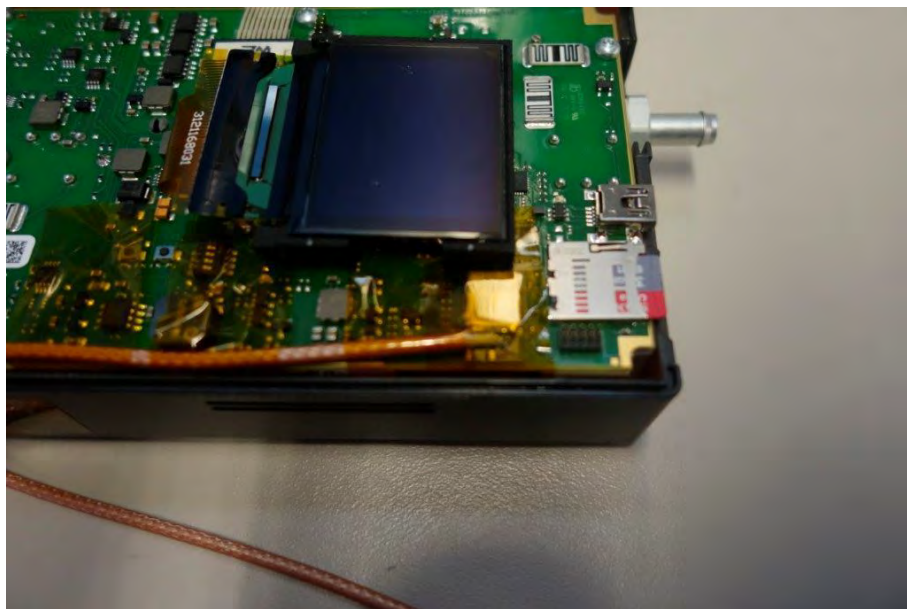


EUT, Side view





EUT, conducted sample open view



EUT, conducted sample open view, close view





Power supply, side view



Power supply, front view



Marking Label of Power Supply

## 5.4 Classification

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CFR 47 Part 15 | <p><input checked="" type="checkbox"/> Intentional radiator (Subpart C), Transmit mode</p> <p><input type="checkbox"/> frequency hopping intentional radiator</p> <p><input checked="" type="checkbox"/> digitally modulated intentional radiator</p> <p><input type="checkbox"/> hybrid system that employs a combination of both frequency hopping and digital modulation techniques</p> <p><input type="checkbox"/> other type of intentional radiator: .....</p> <p><input checked="" type="checkbox"/> The highest fundamental frequency of the EUT is less than 10 GHz (measurement shall be made up to the tenth harmonic or 40 GHz, whichever is lower).</p> <p><input type="checkbox"/> The highest fundamental frequency of the EUT is between 10 GHz and 30 GHz (measurement shall be made up to the fifth harmonic or 100 GHz, whichever is lower).</p> <p><input type="checkbox"/> The highest fundamental frequency of the EUT is above 30 GHz (measurement shall be made up to the fifth harmonic or 200 GHz, whichever is lower).</p> |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 5.5 Transmitter characteristics (according to Naneos particle solutions GmbH)

|                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF technology                                                                                                                                                                                                                                                                                        | BLE transceiver based on BL654                                                                                                                                                                                                                                                                                                                                                                                         |
| Transmitter operating frequency range (OFR)<br>The OFR is the total range of frequencies covered by one type, or by a family of equipment.<br>It is noted that a family of equipment may be capable of covering a wider frequency range than the alignment frequency range of one type of equipment. | 2.402 GHz to 2.480 GHz.                                                                                                                                                                                                                                                                                                                                                                                                |
| Channel separation (if applicable)                                                                                                                                                                                                                                                                   | 2 MHz                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Number of channels (if applicable)                                                                                                                                                                                                                                                                   | 40                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum rated output power <sup>(1)</sup>                                                                                                                                                                                                                                                            | -44.41 dBm (at transmitter RF output connector)                                                                                                                                                                                                                                                                                                                                                                        |
| Variable carrier output                                                                                                                                                                                                                                                                              | <input checked="" type="checkbox"/> Transmitter carrier output is not variable.<br>RF output: $P_{OUT} = 0.00003622 \text{ mW}$<br><input type="checkbox"/> Transmitter carrier output is variable.<br>Max. RF output: $P_{OUT \text{ MAX}} =$<br>Min. RF output: $P_{OUT \text{ MIN}} =$<br><input type="checkbox"/> RF output continuously variable<br><input type="checkbox"/> RF output stepped: ..... dB per step |
| Modulation                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Amplitude<br><input type="checkbox"/> Frequency: Deviation ..... kHz<br><input type="checkbox"/> Phase<br><input type="checkbox"/> Pulse      Pulse repetition frequency .....<br>Duty cycle .....<br><input checked="" type="checkbox"/> Other      DTS, GFSK (Bluetooth Low Energy)                                                                                                         |
|                                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> Transmitter can be operated without modulation (only for EMC tests)<br><input type="checkbox"/> Transmitter can only be operated with modulation                                                                                                                                                                                                                                   |

Note(s): 1. As per applicant's declaration the matching network involves a mismatch between the antenna and the radio module.

## 5.6 Receiver characteristics (according to Naneos particle solutions GmbH)

|                                    |                        |
|------------------------------------|------------------------|
| Receiver operating frequency range | 2.402 GHz to 2.480 GHz |
| Channel separation (if applicable) | 2 MHz                  |
| Number of channels (if applicable) | 40                     |

## 5.7 Ports

| Port | Cable       |      |        | Remark |
|------|-------------|------|--------|--------|
|      | Max. length | Type | Screen |        |
| -/-  | -/-         | -/-  | -/-    | -/-    |

## 6. Test conditions

### 6.1 Climatic conditions, location and date

| Location                                                                                                      | Date                     | Temp.      | Pressure [QFE] | Rel. humidity |
|---------------------------------------------------------------------------------------------------------------|--------------------------|------------|----------------|---------------|
| Eurofins Electric & Electronic<br>Product Testing AG<br>1728 Rossens<br>SWITZERLAND                           | 2022-11-15 to 2022-11-17 | 20 – 26 °C | 920 – 950 hPa  | 40 – 60 %     |
| Eurofins Electric & Electronic<br>Product Testing AG<br>Albisriederstrasse 203a<br>8047 Zürich<br>SWITZERLAND | 2023-11-15               | 20 – 26 °C | 920 – 950 hPa  | 40 – 60 %     |

### 6.2 Test facility and methodology

The test site is accepted by FCC:

- Test Firm Registration Number: 683197
- Designation Number: CH5001
- IC CAB identifier: CH0001

Conducted and radiated measurements are performed according to the ANSI C63.4-2014 and C63.10-2013 procedures.

### 6.3 Attendant persons

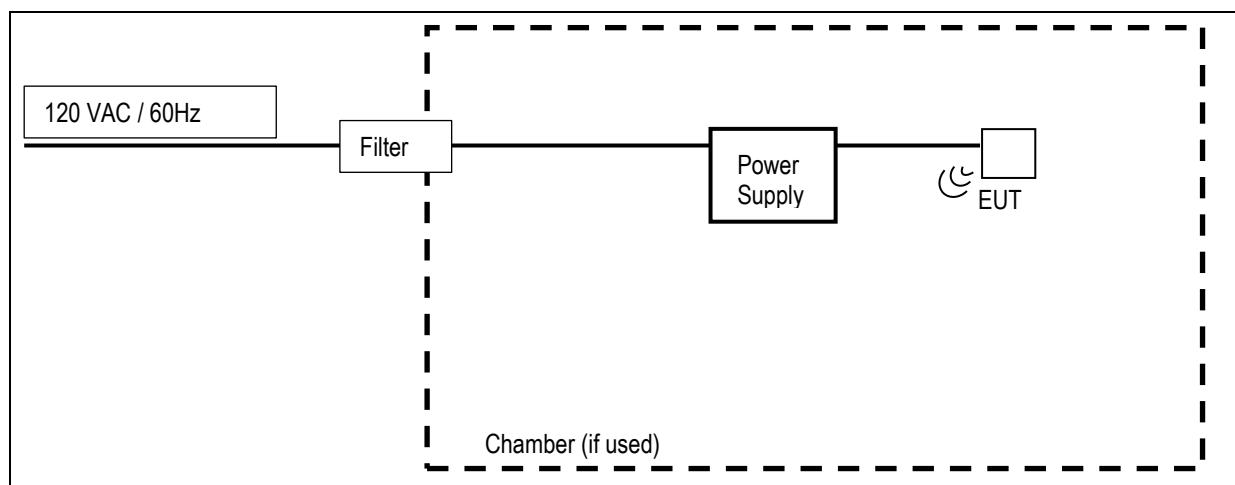
#### Test Engineer(s):

C. Clement, K. Ivanov  
EMC Test Engineer

#### Other(s):

| Name              | Company |
|-------------------|---------|
| Mr. Patrick Kuery | Naneos  |

### 6.4 Test configuration



## 6.5 Operating conditions

- EUT was powered via 120 VAC 60 Hz.
- The customer was on site and set the EUT in the required test modes.
- The EUT was programmed via USB/UART cable.
- The EUT was tested in the following operating mode(s): Continuous transmissions with modulated carrier (PRBS9) & maximum power level 8.
- Before starting final radiated spurious emission measurements "worst case verification" with the EUT in Standing-position & Laying-position was performed by Lab.
- EUT in Standing-position (vertical) was found to be the worst case therefore this report includes relevant results.
- The maximum emission levels above 1 GHz have been found to be at 1.5 m

## 6.6 Auxiliary equipment

The following equipment is used for the monitoring of the EUT or is necessary for the EUT but is not part of the EUT

| Product | Brand | Model No. | ID  | Remark |
|---------|-------|-----------|-----|--------|
| -/-     | -/-   | -/-       | -/- | -/-    |

## 7. Test results

### 7.1 AC Conducted Emissions

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tested by .....                             | C. Clément                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test date .....                             | 2022-11-17                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test location (stand) .....                 | <input type="checkbox"/> SAC3 <input type="checkbox"/> SAC5 <input type="checkbox"/> SAC10<br><input type="checkbox"/> Laboratory <input checked="" type="checkbox"/> Shielded room                                                                                                                                                                                                                                           |
| Applied limit class or environment:         | <input type="checkbox"/> Class A Group 1 according to CISPR 11 – table 2 (or table 3)<br><input type="checkbox"/> Class A Group 2 according to CISPR 11 – table 8<br><input checked="" type="checkbox"/> Class B Group 1 according to CISPR 11 – table 4 (or table 5)<br><input type="checkbox"/> Class B Group 2 according to CISPR 11 – table 9                                                                             |
| Test set-up description .....               | <input checked="" type="checkbox"/> Set-up Type A (40 cm distance to vertical ground plane, 80 cm over ground plane)<br><input type="checkbox"/> Set-up Type B (40 cm distance to horizontal ground plane)<br><input type="checkbox"/> Floor standing equipment set-up (10 cm over ground plane)<br><input type="checkbox"/> Artificial hand applied                                                                          |
| Supplementary test set-up description ..... | The conducted disturbance is measured using a spectrum analyser and a line impedance substitution network (LISN). The measurement of the voltage against the earth is carried out successively. The peak values are recorded continuously on the graph. The values that exceed the limit shall be re-measured with a measuring receiver.                                                                                      |
| Test method applied .....                   | <input checked="" type="checkbox"/> Artificial mains network<br><input type="checkbox"/> Artificial mains network used as voltage probe<br><input type="checkbox"/> Voltage probe<br><input type="checkbox"/> CDN according to IEC 61000-4-6<br><input type="checkbox"/> Current probe and capacitive voltage probe (CVP)<br><input type="checkbox"/> ISN<br><input type="checkbox"/> In situ CDN (150 Ohm and current probe) |
| Mains voltage / frequency during test.....  | 100 VAC / 50 Hz<br>100 VAC / 60 Hz<br>120 VAC / 60 Hz<br>220 VAC / 60 Hz<br>230 VAC / 50 Hz                                                                                                                                                                                                                                                                                                                                   |
| Supplementary information.....              | ---                                                                                                                                                                                                                                                                                                                                                                                                                           |

Test set-up photo.....:



Overview

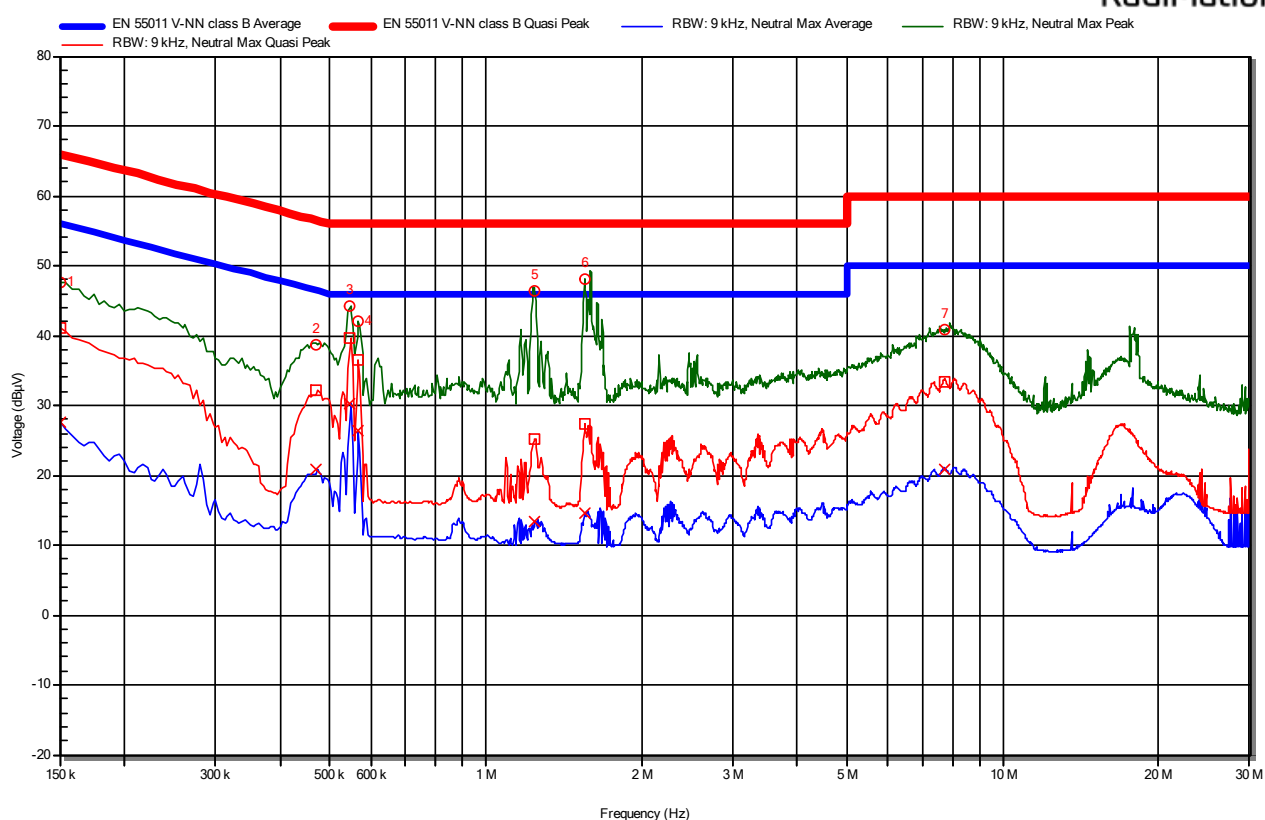


## Results

|             |                                                                                                                                                                                                   |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                              | Test ID  | #10                                                                                                                                                                                                                                                                                                                                 | Date and time | 17.11.2022 14:24:59 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                       | Order    |                                                                                                                                                                                                                                                                                                                                     |               | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: N<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 100 VAC / 50 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                           | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                      |               |                     |          |            |
| Equipment   | Device Type ID<br>Cable preamp -> analyser FAR_CE<br>Spectrum analyser 19-09<br>Cable antenna -> preamp 20-05C<br>LISN 10540                                                                      | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Sweep time: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |               |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



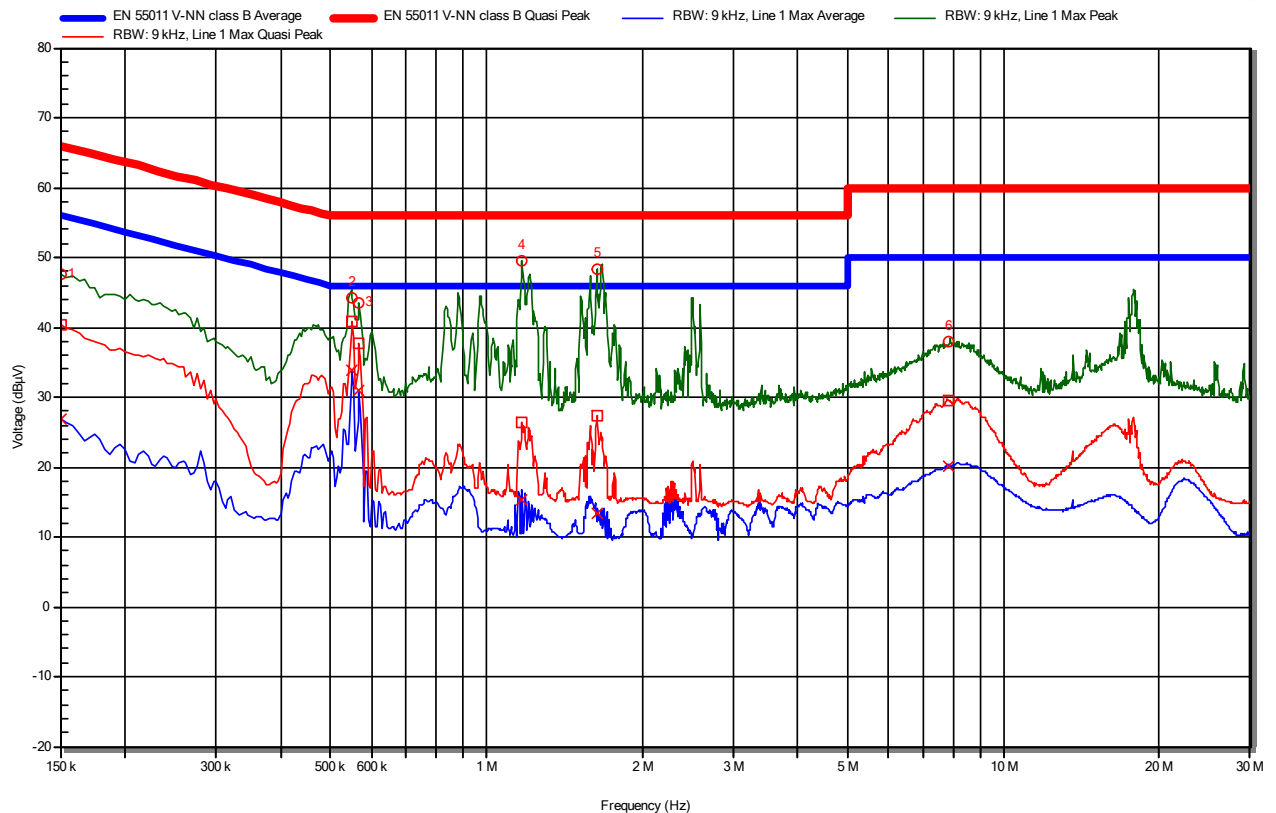
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 47,7        | 41,1              | -24,87                     | 27,5           | -28,49                  | Pass   |
| 2  | 0,471           | 38,7        | 32,3              | -24,22                     | 20,9           | -25,63                  | Pass   |
| 3  | 0,546           | 44,2        | 39,6              | -16,43                     | 30,1           | -15,88                  | Pass   |
| 4  | 0,567           | 42          | 36,5              | -19,47                     | 26,4           | -19,56                  | Pass   |
| 5  | 1,243           | 46,5        | 25,2              | -30,84                     | 13,4           | -32,57                  | Pass   |
| 6  | 1,552           | 48          | 27,4              | -28,61                     | 14,5           | -31,46                  | Pass   |
| 7  | 7,726           | 40,8        | 33,4              | -26,6                      | 20,9           | -29,15                  | Pass   |

|             |                                                                                                                                                                                                    |                                          |          |                                                                                                                                                                                                                                                                                                                                     |                     |          |            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                               | Test ID                                  | #11      | Date and time                                                                                                                                                                                                                                                                                                                       | 17.11.2022 14:31:44 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                        |                                          |          | Order                                                                                                                                                                                                                                                                                                                               | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: L1<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 100 VAC / 50 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |                                          |          |                                                                                                                                                                                                                                                                                                                                     |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                            |                                          | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                      |                     |          |            |
| Equipment   | Device Type<br>Cable preamp -> analyser<br>Spectrum analyser<br>Cable antenna -> preamp<br>LISN                                                                                                    | ID<br>FAR_CE<br>19-09<br>20-05C<br>10540 | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Sweep time: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



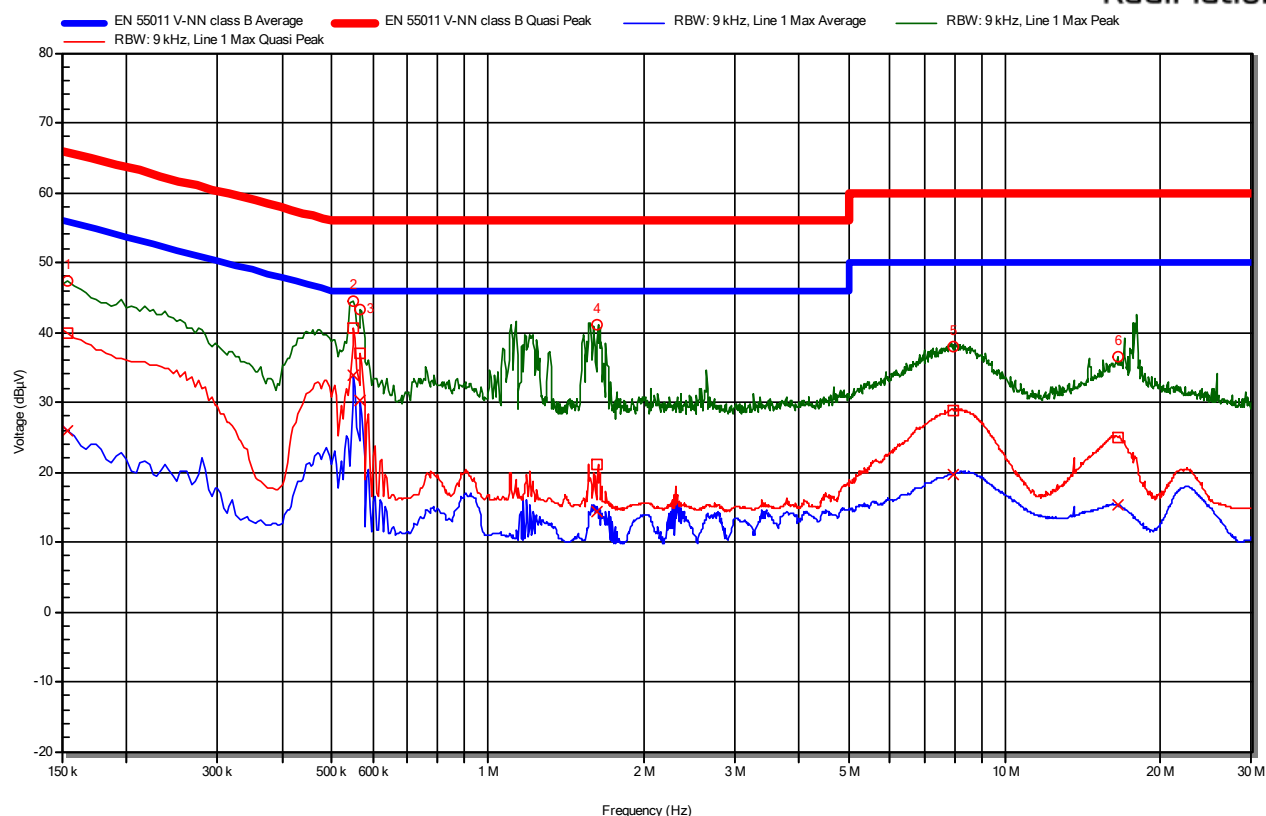
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 47,5        | 40,3              | -25,75                     | 26,8           | -29,21                  | Pass   |
| 2  | 0,551           | 44,2        | 40,7              | -15,27                     | 33,9           | -12,1                   | Pass   |
| 3  | 0,567           | 43,6        | 37,7              | -18,26                     | 31             | -14,95                  | Pass   |
| 4  | 1,168           | 49,4        | 26,3              | -29,71                     | 15,4           | -30,63                  | Pass   |
| 5  | 1,635           | 48,2        | 27,4              | -28,59                     | 13,4           | -32,64                  | Pass   |
| 6  | 7,851           | 38          | 29,4              | -30,59                     | 20,2           | -29,81                  | Pass   |

|             |                                                                                                                                                                                                    |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                               | Test ID  | #12                                                                                                                                                                                                                                                                                                                                 | Date and time | 17.11.2022 14:37:56 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                        | Order    |                                                                                                                                                                                                                                                                                                                                     |               | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: L1<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 100 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                            | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                      |               |                     |          |            |
| Equipment   | Device Type ID<br>Cable preamp -> analyser FAR_CE<br>Spectrum analyser 19-09<br>Cable antenna -> preamp 20-05C<br>LISN 10540                                                                       | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Sweep time: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |               |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



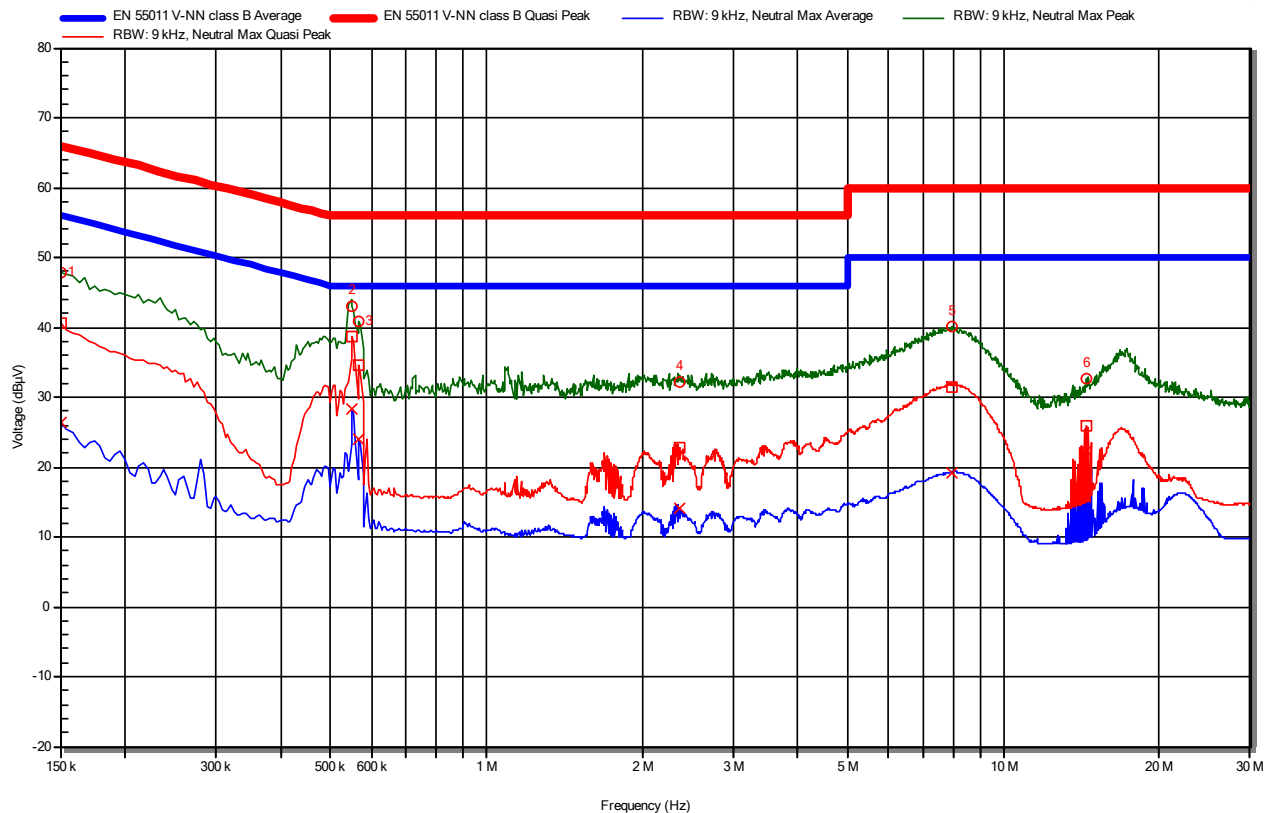
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,154           | 47,4        | 39,9              | -25,91                     | 25,9           | -29,83                  | Pass   |
| 2  | 0,551           | 44,3        | 40,5              | -15,46                     | 33,7           | -12,26                  | Pass   |
| 3  | 0,567           | 43,4        | 37                | -18,96                     | 30,2           | -15,77                  | Pass   |
| 4  | 1,631           | 41,1        | 21,1              | -34,95                     | 14,3           | -31,72                  | Pass   |
| 5  | 7,947           | 37,9        | 28,8              | -31,23                     | 19,8           | -30,25                  | Pass   |
| 6  | 16,508          | 36,4        | 25                | -34,96                     | 15,2           | -34,76                  | Pass   |

|             |                                                                                                                                                                                                   |                                          |          |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                              | Test ID                                  | #13      | Date and time                                                                                                                                                                                                                                                                                                                      | 17.11.2022 14:42:38 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                       |                                          |          | Order                                                                                                                                                                                                                                                                                                                              | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: N<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 100 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |                                          |          |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                           |                                          | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                     |                     |          |            |
| Equipment   | Device Type<br>Cable preamp -> analyser<br>Spectrum analyser<br>Cable antenna -> preamp<br>LISN                                                                                                   | ID<br>FAR_CE<br>19-09<br>20-05C<br>10540 | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4.5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



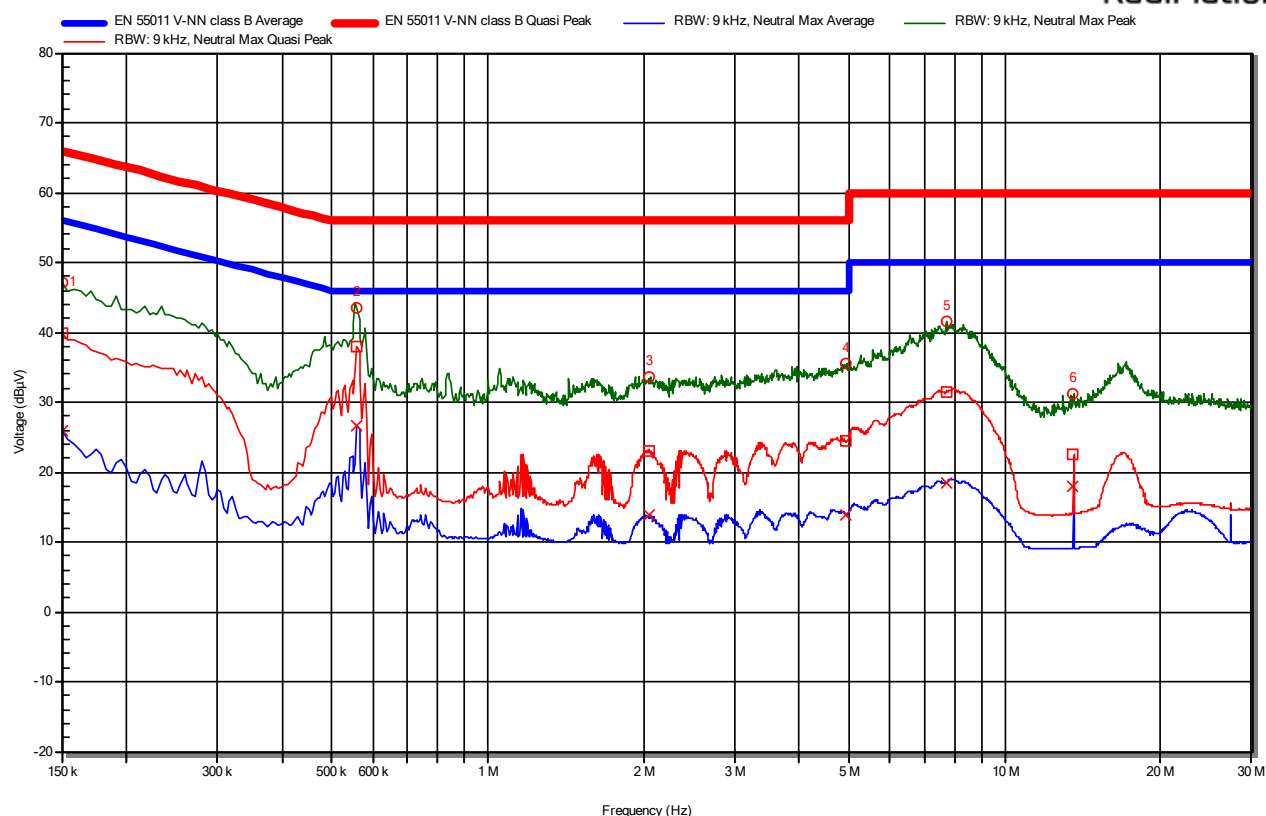
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 47,8        | 40,6              | -25,43                     | 26,4           | -29,6                   | Pass   |
| 2  | 0,551           | 42,9        | 38,7              | -17,32                     | 28,4           | -17,58                  | Pass   |
| 3  | 0,567           | 40,7        | 34,6              | -21,42                     | 24             | -22,01                  | Pass   |
| 4  | 2,361           | 32,3        | 22,7              | -33,31                     | 14,1           | -31,9                   | Pass   |
| 5  | 7,96            | 40,1        | 31,5              | -28,5                      | 19,3           | -30,73                  | Pass   |
| 6  | 14,443          | 32,8        | 26                | -33,99                     | 22,3           | -27,72                  | Pass   |

|             |                                                                                                                                                                                                   |          |                                                                                                                                                                                                                                                                                                                                    |               |                     |          |            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                              | Test ID  | #14                                                                                                                                                                                                                                                                                                                                | Date and time | 17.11.2022 14:47:56 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                       | Order    |                                                                                                                                                                                                                                                                                                                                    | 22CH-01062    | Verdict             | Pass     |            |
| Notes       | EUT: Partector 2<br>Tested port: N<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |          |                                                                                                                                                                                                                                                                                                                                    |               |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                           | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                     |               |                     |          |            |
| Equipment   | Device Type ID<br>Cable preamp -> analyser FAR_CE<br>Spectrum analyser 19-09<br>Cable antenna -> preamp 20-05C<br>LISN 10540                                                                      | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |               |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



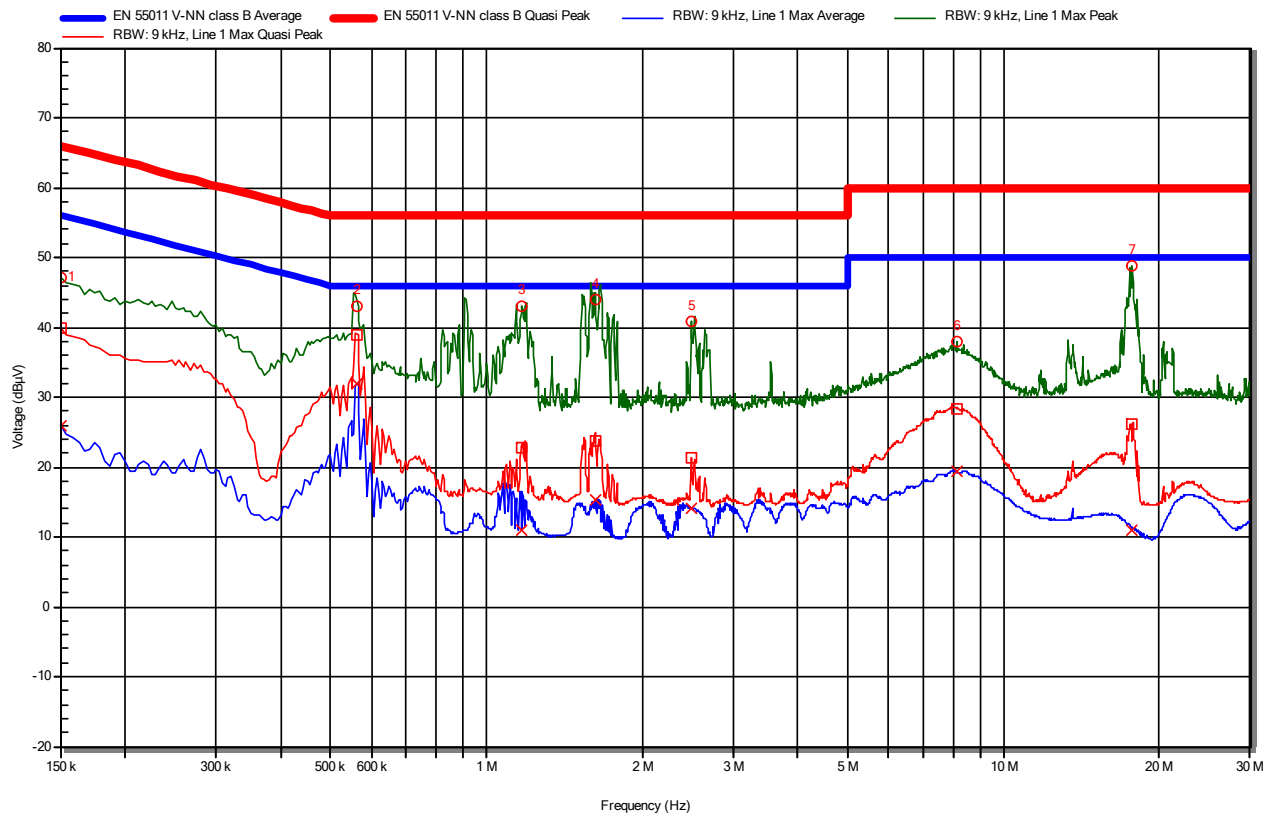
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 47          | 39,9              | -26,14                     | 25,9           | -30,13                  | Pass   |
| 2  | 0,559           | 43,4        | 37,9              | -18,06                     | 26,6           | -19,36                  | Pass   |
| 3  | 2,057           | 33,5        | 22,9              | -33,1                      | 13,8           | -32,2                   | Pass   |
| 4  | 4,931           | 35,5        | 24,4              | -31,63                     | 13,9           | -32,07                  | Pass   |
| 5  | 7,73            | 41,5        | 31,4              | -28,65                     | 18,4           | -31,56                  | Pass   |
| 6  | 13,558          | 31,2        | 22,4              | -37,58                     | 17,8           | -32,17                  | Pass   |

|             |                                                                                                                                                                                                    |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                               | Test ID                                  | #15                                                            | Date and time                                                                                                                                                                                                                                                                                                                      | 17.11.2022 14:53:35 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                        |                                          |                                                                | Order                                                                                                                                                                                                                                                                                                                              | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: L1<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                            | Software                                 | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX) |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Equipment   | Device Type<br>Cable preamp -> analyser<br>Spectrum analyser<br>Cable antenna -> preamp<br>LISN                                                                                                    | ID<br>FAR_CE<br>19-09<br>20-05C<br>10540 | Settings                                                       | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



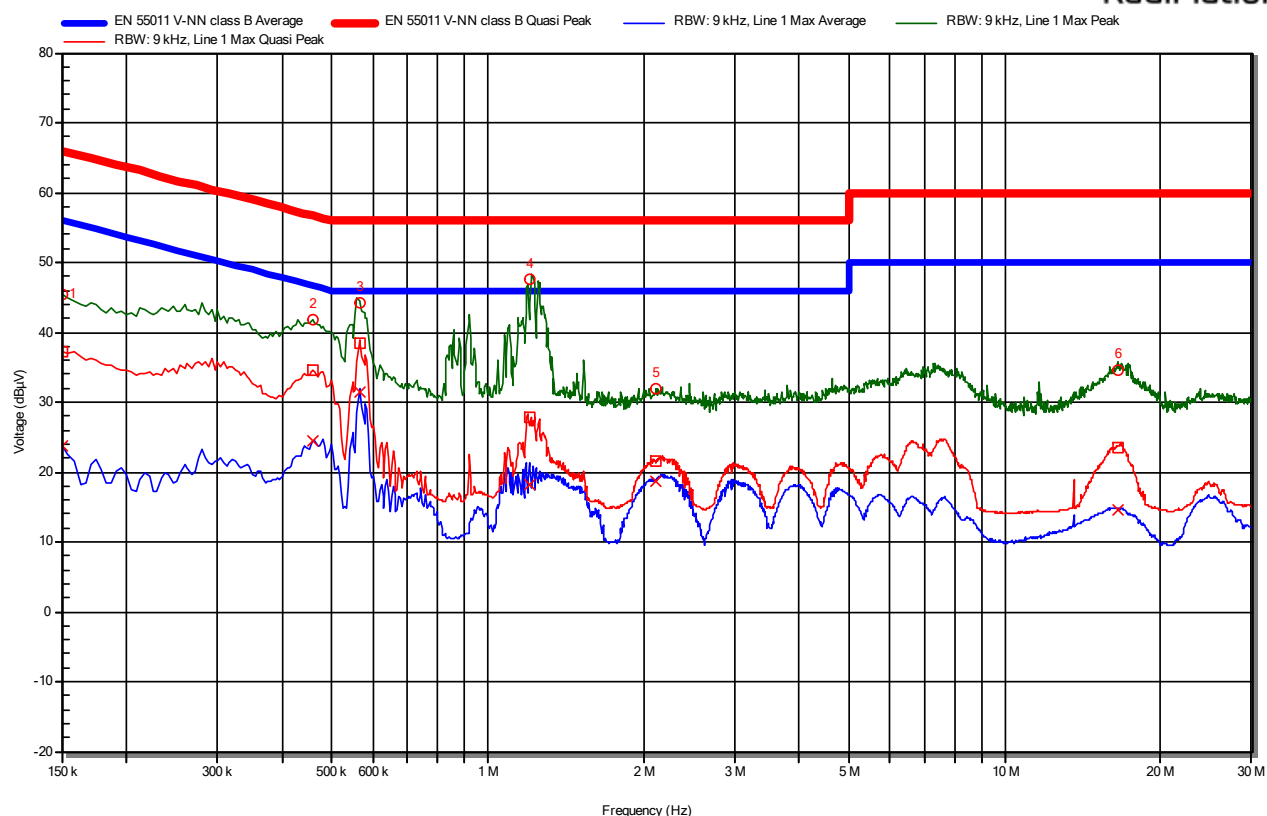
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 47,2        | 40                | -26,01                     | 26             | -29,98                  | Pass   |
| 2  | 0,563           | 43          | 39                | -16,99                     | 32             | -14,01                  | Pass   |
| 3  | 1,173           | 43,1        | 22,9              | -33,13                     | 11             | -34,99                  | Pass   |
| 4  | 1,623           | 43,9        | 23,9              | -32,15                     | 15,3           | -30,69                  | Pass   |
| 5  | 2,49            | 40,9        | 21,4              | -34,6                      | 14,1           | -31,85                  | Pass   |
| 6  | 8,106           | 38          | 28,4              | -31,59                     | 19,3           | -30,68                  | Pass   |
| 7  | 17,726          | 48,9        | 26,2              | -33,81                     | 11             | -39,01                  | Pass   |

|             |                                                                                                                                                                                                    |          |                                                                                                                                                                                                                                                                                                                                    |               |                     |          |            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                               | Test ID  | #16                                                                                                                                                                                                                                                                                                                                | Date and time | 17.11.2022 15:02:25 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                        | Order    |                                                                                                                                                                                                                                                                                                                                    |               | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: L1<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 230 VAC / 50 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |          |                                                                                                                                                                                                                                                                                                                                    |               |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                            | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                     |               |                     |          |            |
| Equipment   | Device Type ID<br>Cable preamp -> analyser FAR_CE<br>Spectrum analyser 19-09<br>Cable antenna -> preamp 20-05C<br>LISN 10540                                                                       | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |               |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



## Detected peaks

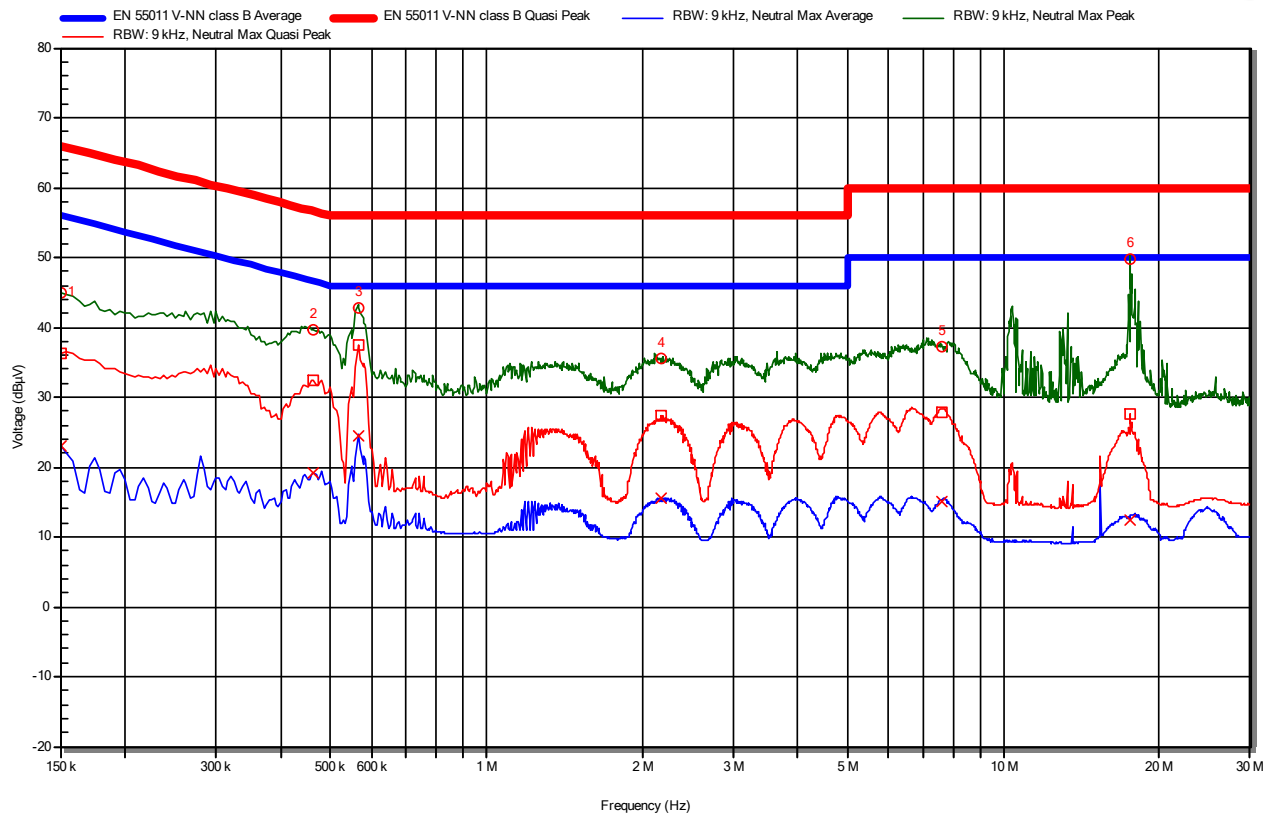
| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 45,4        | 37,1              | -28,86                     | 23,6           | -32,37                  | Pass   |
| 2  | 0,459           | 41,8        | 34,6              | -22,11                     | 24,4           | -22,31                  | Pass   |
| 3  | 0,567           | 44,1        | 38,4              | -17,58                     | 31,5           | -14,46                  | Pass   |
| 4  | 1,21            | 47,7        | 27,9              | -28,14                     | 18,1           | -27,89                  | Pass   |
| 5  | 2,115           | 32          | 21,4              | -34,55                     | 18,8           | -27,24                  | Pass   |
| 6  | 16,596          | 34,5        | 23,5              | -36,53                     | 14,6           | -35,36                  | Pass   |



|             |                                                                                                                                                                                                   |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                              | Test ID                                  | #17                                                            | Date and time                                                                                                                                                                                                                                                                                                                      | 17.11.2022 15:07:55 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                       |                                          |                                                                | Order                                                                                                                                                                                                                                                                                                                              | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: N<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 230 VAC / 50 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                           | Software                                 | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX) |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Equipment   | Device Type<br>Cable preamp -> analyser<br>Spectrum analyser<br>Cable antenna -> preamp<br>LISN                                                                                                   | ID<br>FAR_CE<br>19-09<br>20-05C<br>10540 | Settings                                                       | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



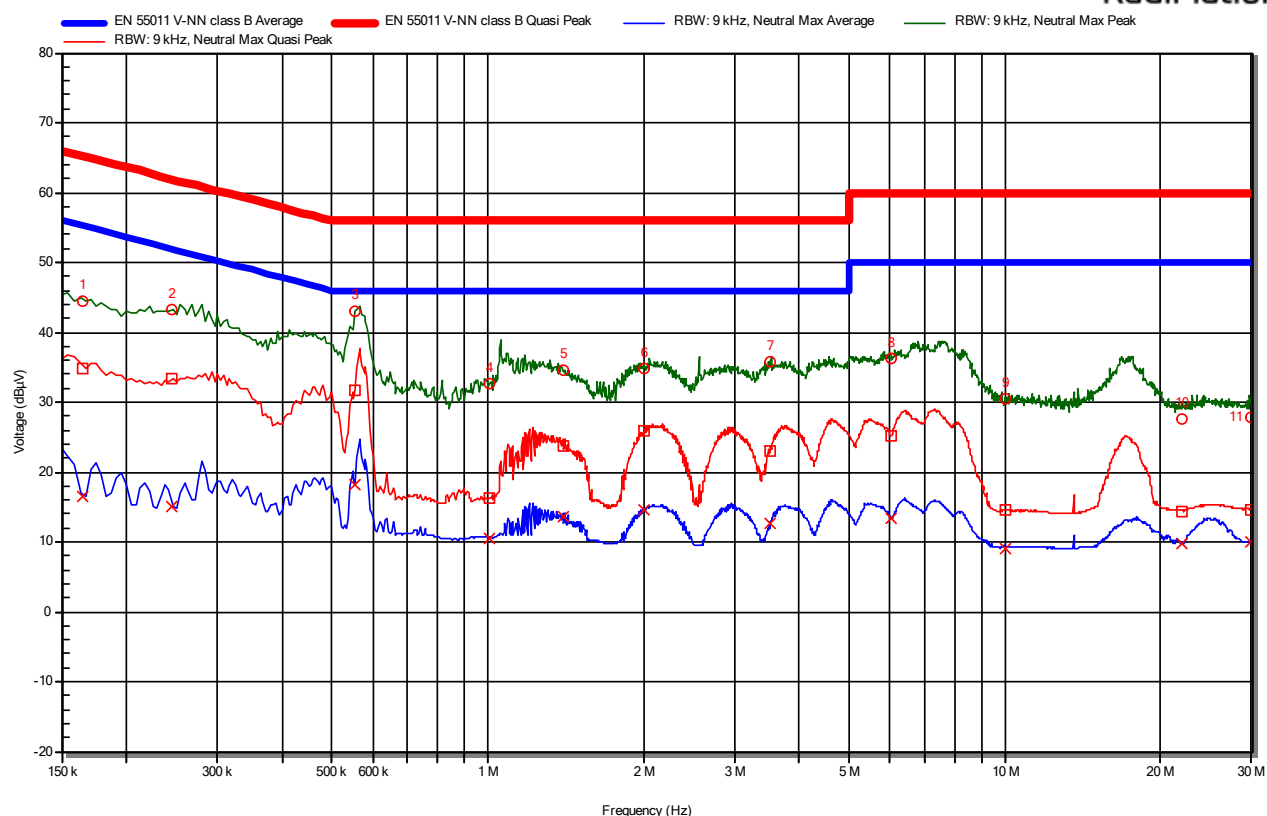
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,15            | 44,9        | 36,4              | -29,64                     | 23,1           | -32,87                  | Pass   |
| 2  | 0,463           | 39,7        | 32,3              | -24,3                      | 19,2           | -27,43                  | Pass   |
| 3  | 0,567           | 42,7        | 37,4              | -18,62                     | 24,6           | -21,44                  | Pass   |
| 4  | 2,173           | 35,4        | 27,2              | -28,76                     | 15,6           | -30,43                  | Pass   |
| 5  | 7,601           | 37,3        | 27,8              | -32,17                     | 15             | -35,02                  | Pass   |
| 6  | 17,547          | 49,8        | 27,7              | -32,34                     | 12,4           | -37,58                  | Pass   |

|             |                                                                                                                                                                                                   |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                              | Test ID  | #18                                                                                                                                                                                                                                                                                                                                 | Date and time | 17.11.2022 15:20:11 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                       | Order    |                                                                                                                                                                                                                                                                                                                                     |               | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: N<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 220 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |          |                                                                                                                                                                                                                                                                                                                                     |               |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                           | Software | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX)                                                                                                                                                                                                                                                                      |               |                     |          |            |
| Equipment   | Device Type ID<br>Cable preamp -> analyser FAR_CE<br>Spectrum analyser 19-09<br>Cable antenna -> preamp 20-05C<br>LISN 10540                                                                      | Settings | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Sweep time: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |               |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



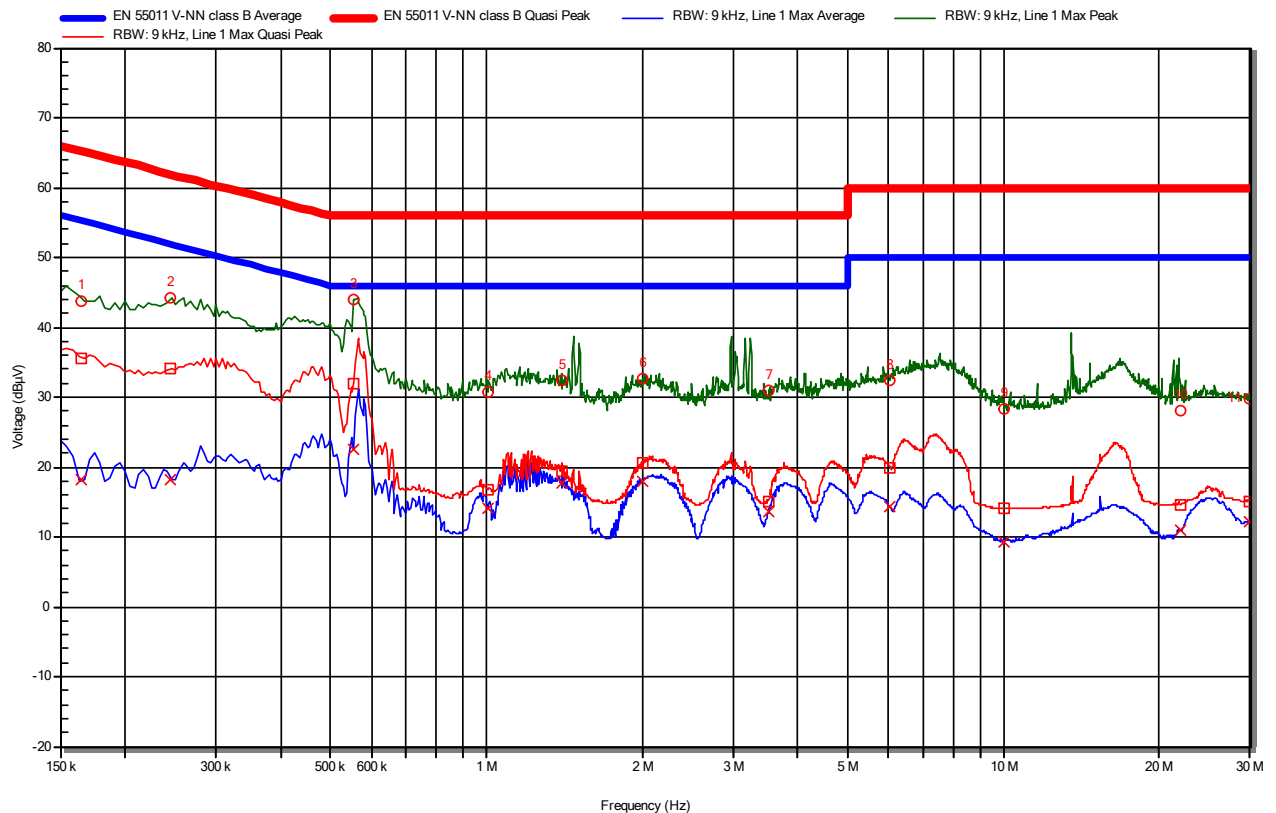
## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,165           | 44,4        | 34,9              | -30,33                     | 16,6           | -38,61                  | Pass   |
| 2  | 0,244           | 43,2        | 33,4              | -28,59                     | 15             | -37                     | Pass   |
| 3  | 0,554           | 42,9        | 31,8              | -24,24                     | 18,1           | -27,85                  | Pass   |
| 4  | 1,006           | 32,6        | 16,2              | -39,85                     | 10,6           | -35,4                   | Pass   |
| 5  | 1,405           | 34,6        | 23,7              | -32,35                     | 13,5           | -32,49                  | Pass   |
| 6  | 2,006           | 34,9        | 25,8              | -30,17                     | 14,6           | -31,45                  | Pass   |
| 7  | 3,512           | 35,8        | 23,1              | -32,89                     | 12,6           | -33,41                  | Pass   |
| 8  | 6,007           | 36,3        | 25,1              | -34,93                     | 13,4           | -36,63                  | Pass   |
| 9  | 10,004          | 30,4        | 14,5              | -45,52                     | 9,2            | -40,85                  | Pass   |
| 10 | 22,003          | 27,6        | 14,4              | -45,58                     | 9,7            | -40,28                  | Pass   |
| 11 | 30              | 27,9        | 14,7              | -45,33                     | 10             | -40,01                  | Pass   |

|             |                                                                                                                                                                                                    |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| Measurement | CE 150 kHz to 30 MHz                                                                                                                                                                               | Test ID                                  | #19                                                            | Date and time                                                                                                                                                                                                                                                                                                                      | 17.11.2022 15:36:27 | Operator | C. Clement |
| EUT         | Partector 2                                                                                                                                                                                        |                                          |                                                                | Order                                                                                                                                                                                                                                                                                                                              | 22CH-01062          | Verdict  | Pass       |
| Notes       | EUT: Partector 2<br>Tested port: L1<br>Operating mode: Charging + Measuring, Radio On<br>Power supply: 220 VAC / 60 Hz<br>Connected cables: USB to charger<br>Modifications: None<br>Remarks: None |                                          |                                                                |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Test Place  | ROS-FAR                                                                                                                                                                                            | Software                                 | Radimation 2022.2.3 (FAR CE 150k-30M Std Class B V-AMN TDEMIX) |                                                                                                                                                                                                                                                                                                                                    |                     |          |            |
| Equipment   | Device Type<br>Cable preamp -> analyser<br>Spectrum analyser<br>Cable antenna -> preamp<br>LISN                                                                                                    | ID<br>FAR_CE<br>19-09<br>20-05C<br>10540 | Settings                                                       | Band(s): 150 kHz - 30 MHz, Reference Level: 90 dBµV<br>RBW: 9 kHz, VBW: Auto [120 kHz], Swepttime: Auto [120 ms], Number of Sweeps: 1<br>Step freq: Linear: 4,5 kHz steps, Attenuator: 10 dB, Internal preamp: 0 dB, Measure time: 3 Minute(s)<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 10 s, AVG 1 s / 10 s |                     |          |            |

## CISPR 11, Cl. B Gr. 1

RadiMation



## Detected peaks

| Nr | Frequency (MHz) | Peak (dBµV) | Quasi-Peak (dBµV) | Quasi-Peak Difference (dB) | Average (dBµV) | Average Difference (dB) | Status |
|----|-----------------|-------------|-------------------|----------------------------|----------------|-------------------------|--------|
| 1  | 0,165           | 43,7        | 35,5              | -29,75                     | 18,2           | -36,98                  | Pass   |
| 2  | 0,244           | 44,3        | 34,2              | -27,76                     | 18,2           | -33,74                  | Pass   |
| 3  | 0,554           | 44,1        | 32                | -24,01                     | 22,6           | -23,42                  | Pass   |
| 4  | 1,006           | 30,8        | 16,8              | -39,17                     | 14,1           | -31,94                  | Pass   |
| 5  | 1,405           | 32,3        | 19,4              | -36,57                     | 17,7           | -28,29                  | Pass   |
| 6  | 2,006           | 32,7        | 20,6              | -35,44                     | 18             | -28,02                  | Pass   |
| 7  | 3,512           | 30,9        | 15,1              | -40,88                     | 13,7           | -32,29                  | Pass   |
| 8  | 6,007           | 32,3        | 19,9              | -40,12                     | 14,2           | -35,78                  | Pass   |
| 9  | 10,004          | 28,3        | 14                | -46                        | 9,4            | -40,65                  | Pass   |
| 10 | 22,003          | 28          | 14,7              | -45,34                     | 10,9           | -39,11                  | Pass   |
| 11 | 30              | 29,6        | 15,1              | -44,95                     | 12             | -37,95                  | Pass   |

## 7.2 Duty Cycle

Introduction: Channel-bandwidth measured at -6 dBc.

Test site: ☐ SAC3 ☐ open test site  
☐ SAC10 ☒ laboratory

Meas. uncertainty: 9kHz – 3GHz:  $\pm 1$  dB  
 3GHz – 6.7GHz:  $\pm 2.1$  dB  
 6.7GHz – 13.2GHz:  $\pm 2.6$  dB  
 13.2GHz – 19GHz:  $\pm 2.8$  dB  
 19GHz – 26.5GHz:  $\pm 3$  dB

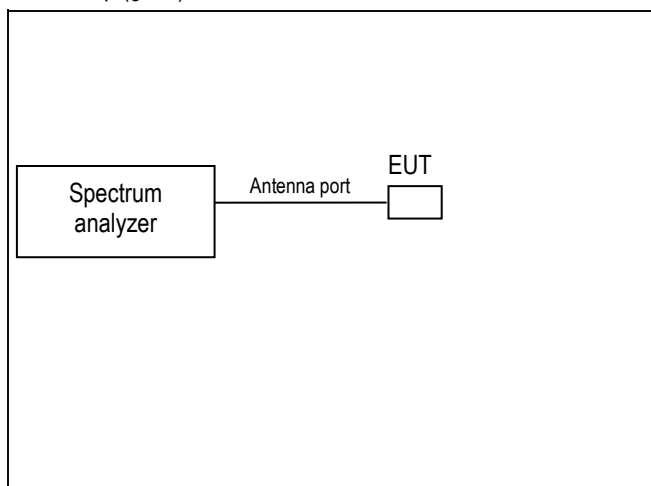
Method: The transmitter duty cycle was measured using a spectrum analyser in the time domain according to KDB 558074 §6.0 and calculated by using the following calculation:

Duty Cycle (%) =  $100 \times [\text{On Time } (T_{\text{ON}})] / [\text{Period}(T_{\text{ON}} + T_{\text{OFF}}) \text{ or } 100\text{ms whichever is the lesser}]$

BLE duty cycle:  $10 \log (1 / (79.79 \mu\text{s} / 625.19\mu\text{s})) = 8.94$  dB

Limit: None

Test set-up (§ 6.4):



Remarks: -/-

Test equipment:

|                   |                                |                                |                                           |                                |                                |                                |
|-------------------|--------------------------------|--------------------------------|-------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Spectrum analyzer | <input type="checkbox"/> 88-14 | <input type="checkbox"/> 94-24 | <input checked="" type="checkbox"/> 21-07 | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 | <input type="checkbox"/> 07-53 |
| Power supply      | <input type="checkbox"/> 99-07 | <input type="checkbox"/> 04-31 |                                           |                                |                                |                                |
| Multimeter        | <input type="checkbox"/> 09-11 |                                |                                           |                                |                                |                                |
| Cables            | <input type="checkbox"/> 11-13 |                                |                                           |                                |                                |                                |

Result: ☒ pass ☐ fail ☐ not applicable ☐ not tested

**Results of the test**

Applicant: Naneos particle solutions GmbH

Apparatus:

Operating mode: TX (f = 2.480 GHz), modulated, PA Level 8

Remarks: Measured on temporary antenna connector

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

| Pulse On Time (T <sub>ON</sub> )<br>(ms) | Pulse Period (T <sub>ON</sub> + T <sub>OFF</sub> )<br>(ms) | Duty Cycle<br>(%) | Duty Cycle Correction Factor<br>(dB) |
|------------------------------------------|------------------------------------------------------------|-------------------|--------------------------------------|
| 0.079                                    | 0.625                                                      | 12.76             | 8.94                                 |

Place and date of test:  
Operator:

Rossens, 2022-11-16  
K. Ivanov

7.3 Maximum Power (Conducted)

Introduction: Channel-bandwidth measured at -6 dBc.

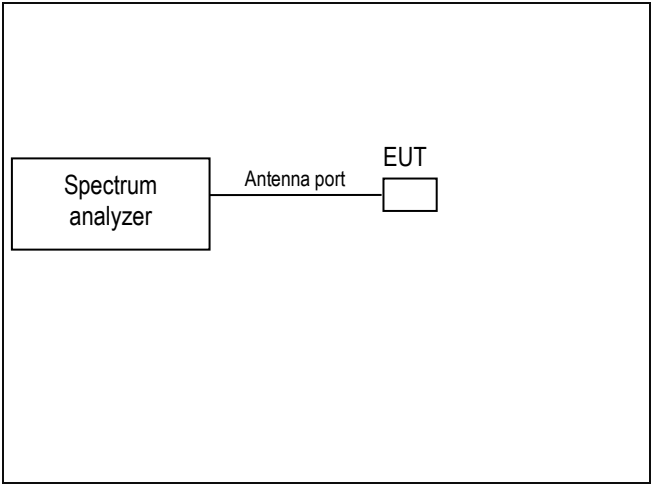
Test site: ☐ SAC3 ☐ open test site  
☐ SAC10 ☒ laboratory

Meas. uncertainty: 9kHz – 3GHz: ± 1 dB  
3GHz – 6.7GHz: ± 2.1 dB  
6.7GHz – 13.2GHz: ± 2.6 dB  
13.2GHz – 19GHz: ± 2.8 dB  
19GHz – 26.5GHz: ± 3 dB

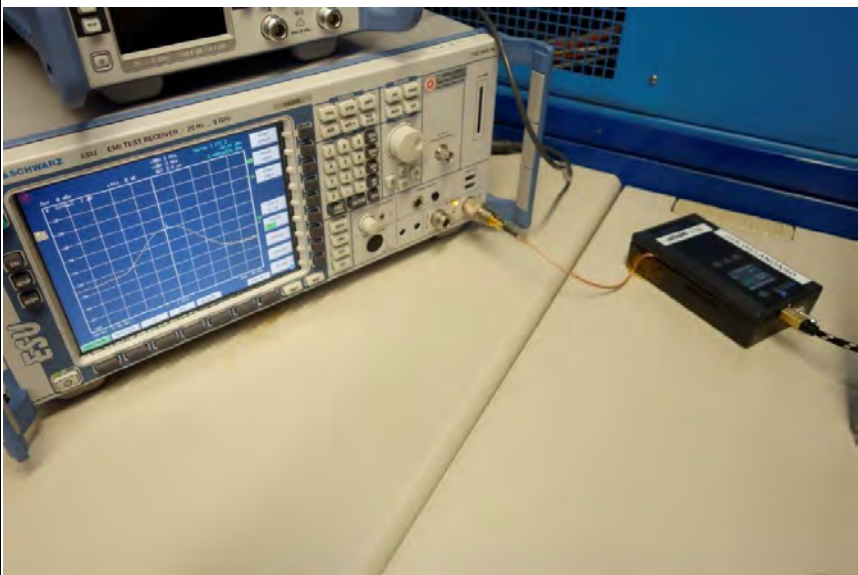
Method: Measurement of the conducted power on the antenna connector or a test fixture.

Limit: For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W. The e.i.r.p. shall not exceed 4 W,

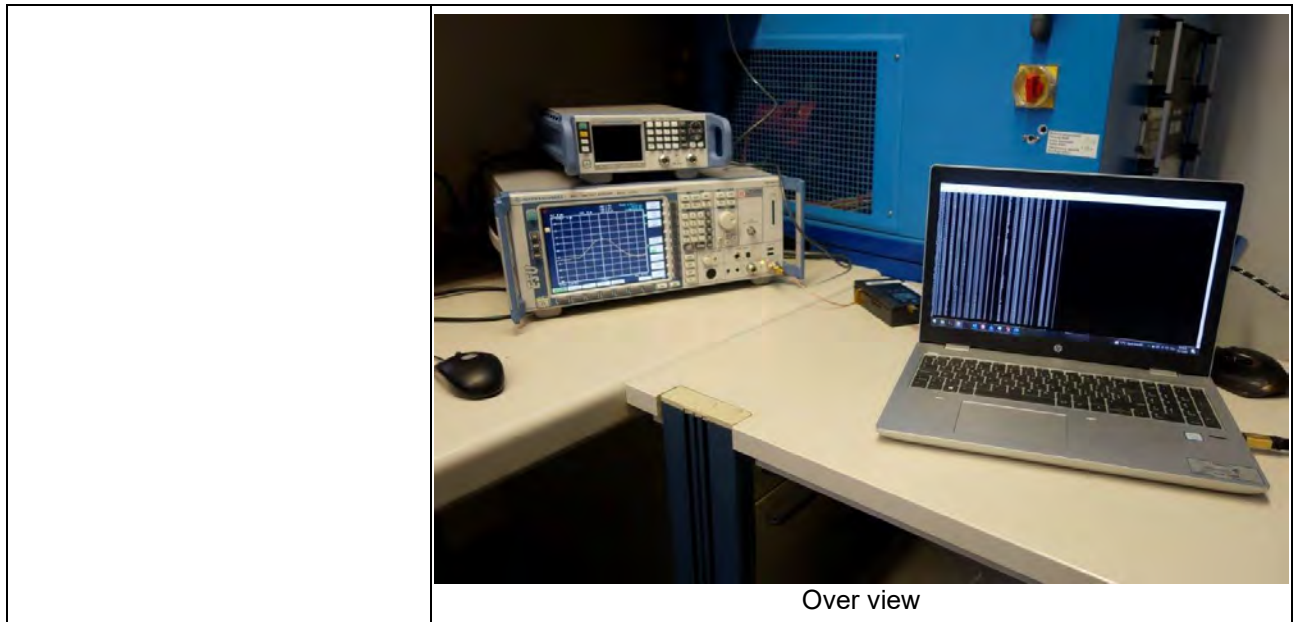
Test set-up (§ 6.4):



Test set-up photo.....:



Close view



## Remarks:

In order to confirm that the RF output power was measured to low, additional verification measurements were requested by the TCB. Verification measurements were carried out in a non-accredited measurement laboratory.

Additional statement from the customer regarding the RF output power being measured too low:

To measure the induced currents of charged aerosol particles, we use femtoampere electrometers. The electronics are therefore electromagnetically shielded on various sides to minimize coupling from the outside world, by radiation or physical pressure on the housing. The plastic housing is also copper coated on the inside in most places. The Bluetooth radiation is presumably also strongly damped by this.

In the application, however, the Bluetooth transmission is only used over 2-3 meters to a cell phone, if an aerosol measurement application does not allow to read the display while measuring.

## Test equipment:

|                   |                                |                                             |                                           |                                |                                |
|-------------------|--------------------------------|---------------------------------------------|-------------------------------------------|--------------------------------|--------------------------------|
| Spectrum analyzer | <input type="checkbox"/> 88-14 | <input type="checkbox"/> 94-24              | <input checked="" type="checkbox"/> 21-07 | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 |
|                   | <input type="checkbox"/> 07-53 | <input checked="" type="checkbox"/> OA10193 |                                           |                                |                                |
| Power supply      | <input type="checkbox"/> 99-07 | <input type="checkbox"/> 04-31              |                                           |                                |                                |
| Multimeter        | <input type="checkbox"/> 09-11 |                                             |                                           |                                |                                |
| Cables            | <input type="checkbox"/> 11-13 |                                             |                                           |                                |                                |

Result: ☒ pass ☐ fail ☐ not applicable ☐ not tested

**Results of the test**

## Conducted Power

| Frequency (GHz) | Conducted Peak Power (dBm) | Duty Cycle Correction (dB) | Corrected Conducted Power (dBm) | Declared Antenna Gain (dBi) | EIRP (dBm) | De Facto EIRP Limit (dBm) | Margin (dB) | Result |
|-----------------|----------------------------|----------------------------|---------------------------------|-----------------------------|------------|---------------------------|-------------|--------|
| 2.402           | -45.79                     | 8.94                       | -36.85                          | 0.5                         | -36.35     | 36.00                     | 72.35       | Pass   |
| 2.440           | -44.41                     | 8,94                       | -35.47                          | 0.5                         | -34.97     | 36.00                     | 70.97       | Pass   |
| 2.480           | -47.44                     | 8.94                       | -38.50                          | 0.5                         | -38.00     | 36.00                     | 74.00       | Pass   |

## Conducted Power (Verification measurements were carried out in a non-accredited measurement laboratory)

| Frequency (GHz) | Conducted Peak Power (dBm) | Duty Cycle Correction (dB) | Corrected Conducted Power (dBm) | Declared Antenna Gain (dBi) | EIRP (dBm) | De Facto EIRP Limit (dBm) | Margin (dB) | Result |
|-----------------|----------------------------|----------------------------|---------------------------------|-----------------------------|------------|---------------------------|-------------|--------|
| 2.402           | -38.65                     | 8.94                       | -29.71                          | 0.5                         | -30.21     | 36.00                     | 66.21       | Pass   |
| 2.440           | -39.87                     | 8,94                       | -30.93                          | 0.5                         | -30.43     | 36.00                     | 66.43       | Pass   |
| 2.480           | -39.57                     | 8.94                       | -30.63                          | 0.5                         | -30.13     | 36.00                     | 66.13       | Pass   |



**7.4 Band-edge emission (radiated)**

Test site: ☐ SAC10 ☒ SAC3

Distance: ☐ 1 m ☒ 3 m ☐ 10 m ☐ 30 m

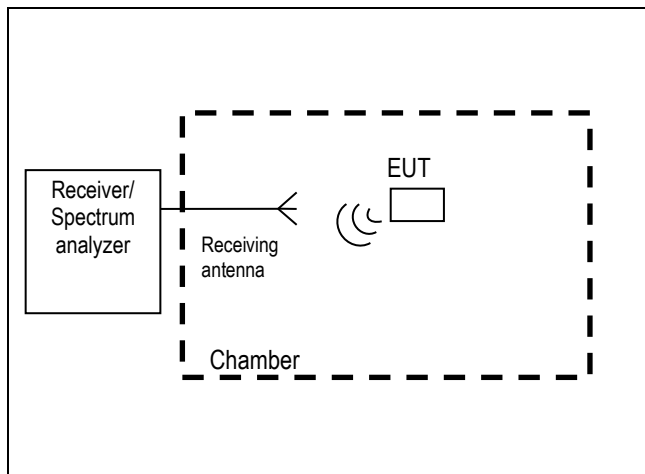
Position of EUT: 1.5 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 4.7$  dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyzer and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarizations, and aimed at the source by tilting. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the EUT is under test.

Limit: Radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)

Test set-up (§ 6.4):



Remarks: Limit values expressed in dB $\mu$ V/m and transformed to a measuring distance of 3 m (factor used = 20 dB/decade) if necessary  
e.g.: for f = 40 MHz the limit is 500  $\mu$ V/m at 3 m;

$$20 \log \left( \frac{500 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) = 54 \frac{dB \mu V}{m} \text{ at } 3m$$

Test equipment:

|                       |                                                         |                                              |                                |                                |                                |
|-----------------------|---------------------------------------------------------|----------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Spectrum analyzer     | <input checked="" type="checkbox"/> 21-07               | <input type="checkbox"/> 94-24               | <input type="checkbox"/> 02-06 | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 07-53 |
| Preamplifier          | <input type="checkbox"/> 05-56                          | <input type="checkbox"/> 05-87               | <input type="checkbox"/> 14-27 |                                |                                |
| Antenna (horn)        | <input type="checkbox"/> 90-24                          | <input checked="" type="checkbox"/> 22-07    |                                |                                |                                |
| Cable set             | <input checked="" type="checkbox"/> SAC3_RE_1.0/2.0/3.0 | <input type="checkbox"/> 06-00C              |                                |                                |                                |
| Software and Revision | <input type="checkbox"/> Vitam, Rev. 2.4.13             | <input type="checkbox"/> RadiMation 2020.1.8 |                                |                                |                                |

Result: ☒ pass ☐ fail ☐ not applicable ☐ not tested

## Results of the test

Applicant: Naneos particle solutions GmbH

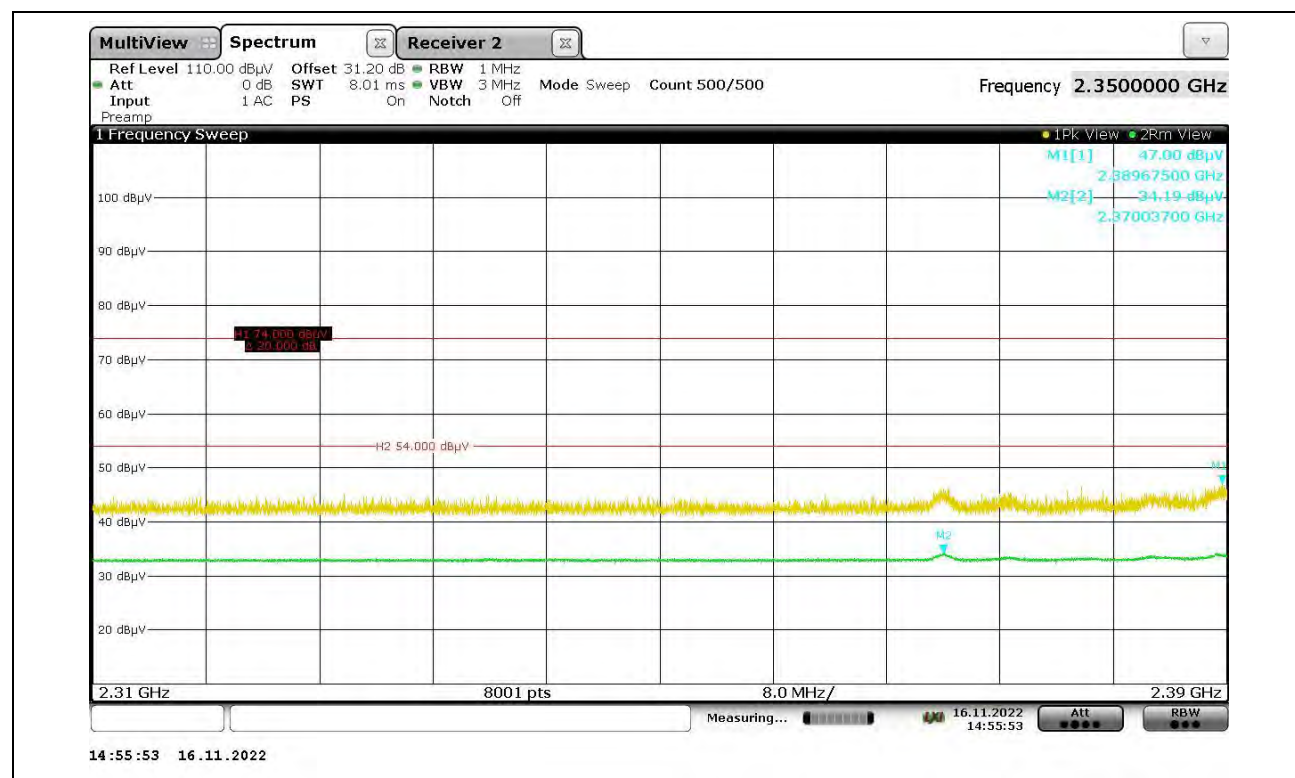
EUT:

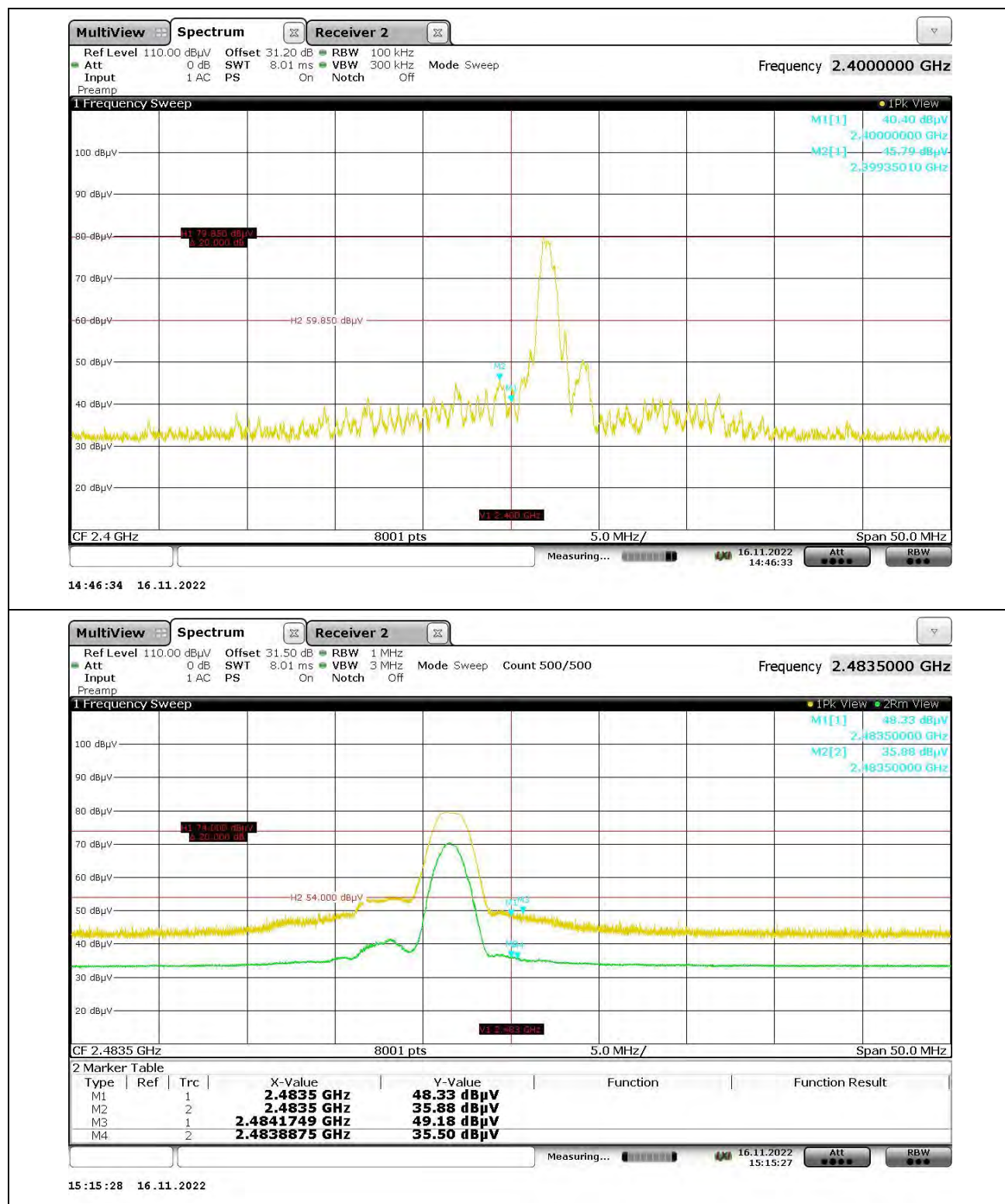
Operating mode: TX (f = 2.402 / 2.480 GHz), modulated, PA Level 8

Remarks: RefLev Offset is the sum of cable attenuation and antenna factor :  $4.0 + 27.4 = 31.4$  dB to convert voltage measurement [in dB $\mu$ V] to E-Field value [in dB $\mu$ V/m]. 1001 Points

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

|                      | Measured field strength [dB $\mu$ V/m] |                   | Limit [dB $\mu$ V/m] | Margin [dB]       |                   | Pass                                |                          |
|----------------------|----------------------------------------|-------------------|----------------------|-------------------|-------------------|-------------------------------------|--------------------------|
|                      | $\leq 2390.0$ MHz                      | $\geq 2483.5$ MHz |                      | $\leq 2390.0$ MHz | $\geq 2483.5$ MHz | Yes                                 | No                       |
| Peak detector        | 47.00                                  | 49.18             | 74                   | 27.00             | 24.82             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Average RMS detector | 34.19                                  | 35.50             | 54                   | 19.81             | 18.50             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |





Place and date of test:  
Operator:

Rossens, 2022-11-16  
K. Ivanov

**7.5 Spurious emission transmit mode – radiated****7.5.1 9 kHz to 30 MHz**

Test site: ☒ SAC3 ☐ open test site

☐ SAC10

Distance: ☒ 3 m ☐ 10 m ☐ 30 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 2.8$  dB

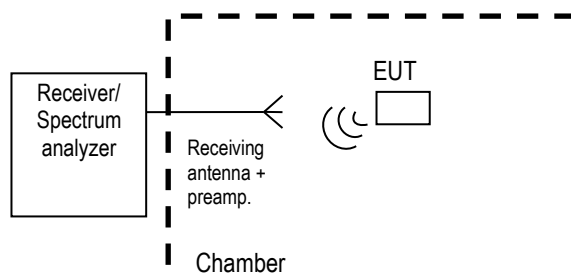
Test method: The magnetic disturbance radiated by the equipment under test is measured using a spectrum analyzer and a wide band magnetic antenna. The antenna is placed at 1 m height, first in the direction of the apparatus under test, then at 90° to the apparatus and if required also horizontally. If possible the turning table is operated through 360° during the measurement. The recording is carried out taking into account the maximum value of the disturbance appearing during the functioning of the apparatus under test. The peak values are recorded continuously on a graph. The values exceeding the limits are re-measured using a measuring receiver.

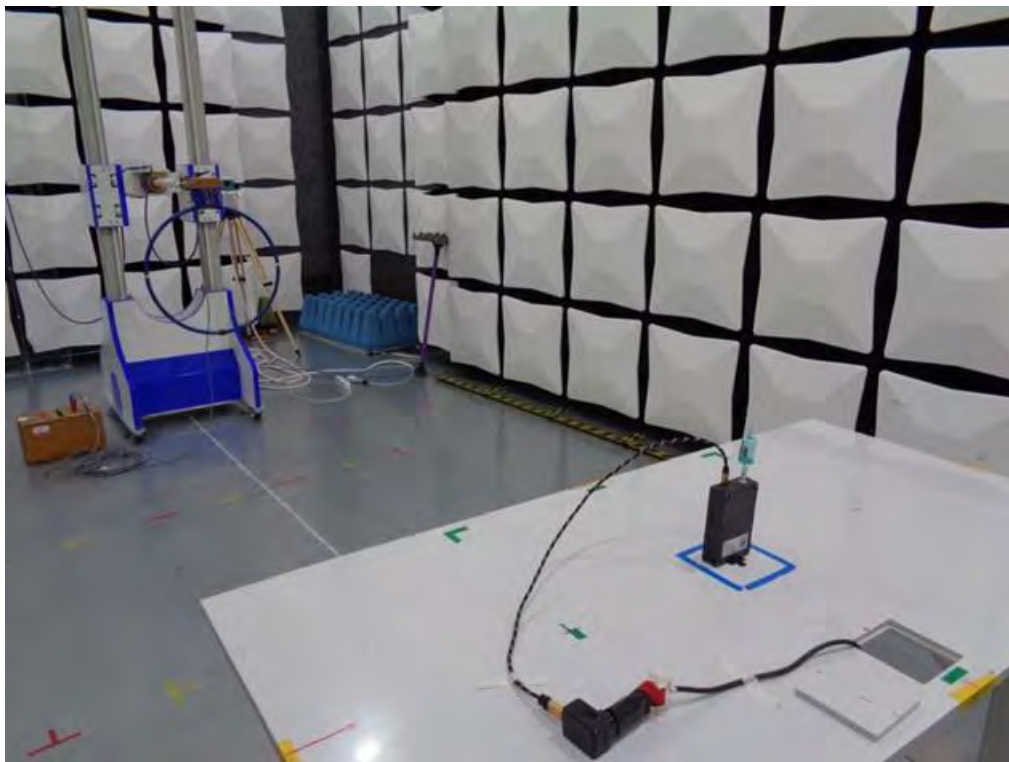
Remarks: In accordance with ANSI C63.10 Section 6.6.4.3 (Note 1), if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

The preliminary scans showed similar emission levels above 6 GHz, for each channel & modes of operation. Therefore final radiated emissions measurements were performed with the EUT set to the bottom channel only.

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Test set-up (§ 6.4):





## Remarks:

Limit values expressed in dB $\mu$ V/m and transformed to a measuring distance of 3 m  
(factor used = 40 dB/decade) if necessary  
e.g.: for f = 10 MHz the limit is 30  $\mu$ V/m at 30 m;

$$20 \log \left( \frac{30 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) + 40 \log \left( \frac{30 m}{3 m} \right) = 69.5 \frac{dB \mu V}{m} \text{ at } 3m$$

“Parallel” means measurement antenna axis towards EUT

## Test equipment:

|                          |                                                         |                                |                                              |                                |                                |                                |
|--------------------------|---------------------------------------------------------|--------------------------------|----------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Spectrum analyzer        | <input checked="" type="checkbox"/> 21-07               | <input type="checkbox"/> 94-24 | <input type="checkbox"/> 02-06               | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 | <input type="checkbox"/> 16-03 |
| Receiver                 | <input checked="" type="checkbox"/> 21-07               | <input type="checkbox"/> 90-43 | <input type="checkbox"/> 94-35               | <input type="checkbox"/> 16-03 |                                |                                |
| Preamplifier             | <input type="checkbox"/> 90-01                          | <input type="checkbox"/> 95-86 | <input type="checkbox"/> 05-56               | <input type="checkbox"/> 05-59 | <input type="checkbox"/> 05-62 |                                |
| Antenna (type: magnetic) | <input checked="" type="checkbox"/> 90-25               | <input type="checkbox"/> 90-28 | <input type="checkbox"/> 99-32               | <input type="checkbox"/> 04-79 |                                |                                |
| Cable set                | <input checked="" type="checkbox"/> SAC3_RE_1.0/2.0/3.0 |                                | <input type="checkbox"/> 06-00C              |                                |                                |                                |
| Software and Revision    | <input checked="" type="checkbox"/> Vitam, Rev. 2.4.13  |                                | <input type="checkbox"/> RadiMation 2020.1.8 |                                |                                |                                |
| Power supply             | <input checked="" type="checkbox"/> 11-50               |                                |                                              |                                |                                |                                |

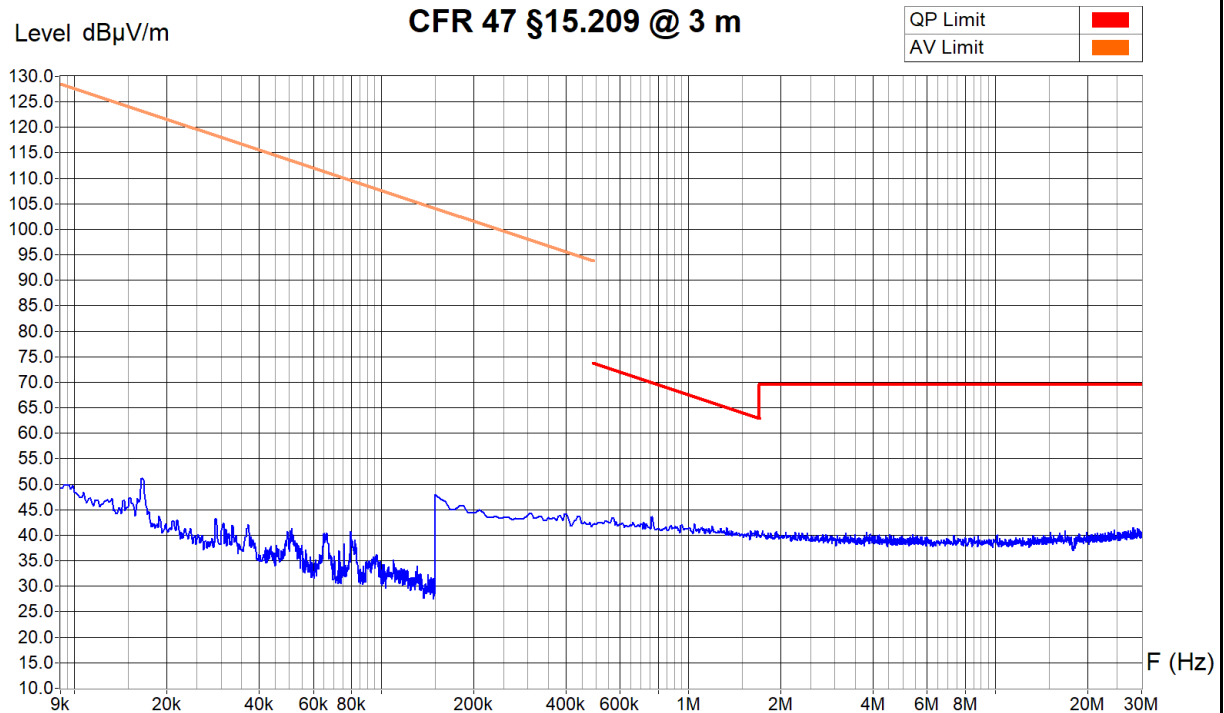
|         |                                          |                               |                                         |                                     |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|
| Result: | <input checked="" type="checkbox"/> pass | <input type="checkbox"/> fail | <input type="checkbox"/> not applicable | <input type="checkbox"/> not tested |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|



Measurement Type : Radiated Field  
Polarisation : Parallel  
Table Angle : 0 - 360°  
Antenna Height : 1 m



Equipment Under Test : Partector 2 (Channel 2.402 GHz Tx)  
Set-Up : SAC3 (see photos)  
Operating Conditions : Charging mode + Measuring  
Remarks : Power supply: 120 VAC / 60 Hz  
USB connected to charger  
EUT vertical



| Zone            | 9 KHz - 150 KHz | 150 KHz - 6 MHz | 6 MHz - 30 MHz |
|-----------------|-----------------|-----------------|----------------|
| Video Bandwidth | 2 KHz           | 100 KHz         | 100 KHz        |
| Resol Bandwidth | 200 Hz          | 9 KHz           | 9 KHz          |

Operator: C. Clément / C.  
Date/Time: 2022-11-16 16:32  
Filename:  
22CH-01062\_RE\_9k-  
30M\_Par\_CCI\_2022-11-16.png/

Measurement Type : Radiated Field  
 Polarisation : Perpendicular  
 Table Angle : 0 - 360°  
 Antenna Height : 1 m

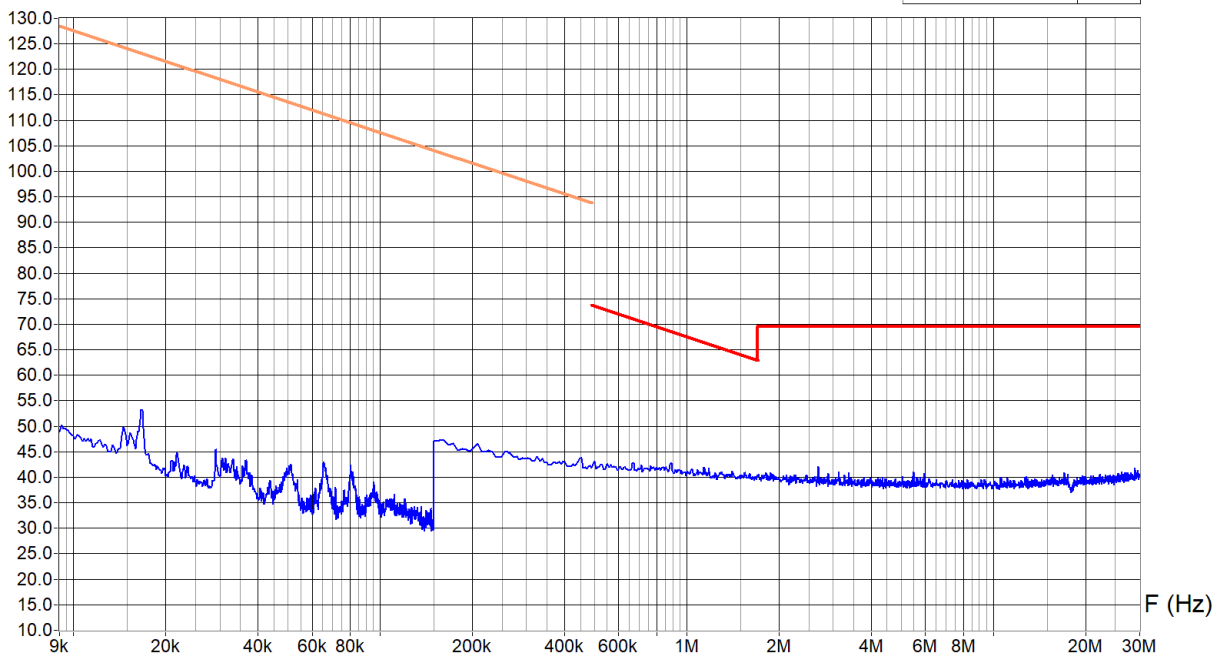


Equipment Under Test : Partector 2 (Channel 2.402 GHz Tx)  
 Set-Up : SAC3 (see photos)  
 Operating Conditions : Charging mode + Measuring  
 Remarks : Power supply: 120 VAC / 60 Hz  
 USB connected to charger  
 EUT vertical

Level dBμV/m

CFR 47 §15.209 @ 3 m

|          |                                       |
|----------|---------------------------------------|
| QP Limit | <span style="color: red;">█</span>    |
| AV Limit | <span style="color: orange;">█</span> |



| Zone            | 9 KHz - 150 KHz | 150 KHz - 6 MHz | 6 MHz - 30 MHz |
|-----------------|-----------------|-----------------|----------------|
| Video Bandwidth | 2 KHz           | 100 KHz         | 100 KHz        |
| Resol Bandwidth | 200 Hz          | 9 KHz           | 9 KHz          |

Operator: C. Clément / C.  
 Date/Time: 2022-11-16 16:25  
 Filename:  
 22CH-01062\_RE\_9k-  
 30M\_Per\_CCI\_2022-11-16.png/



**7.5.2 30 MHz to 1 GHz**

Test site: ☒ SAC3 ☐ open test site

☐ SAC10

Distance: ☒ 3 m ☐ 10 m ☐ 30 m

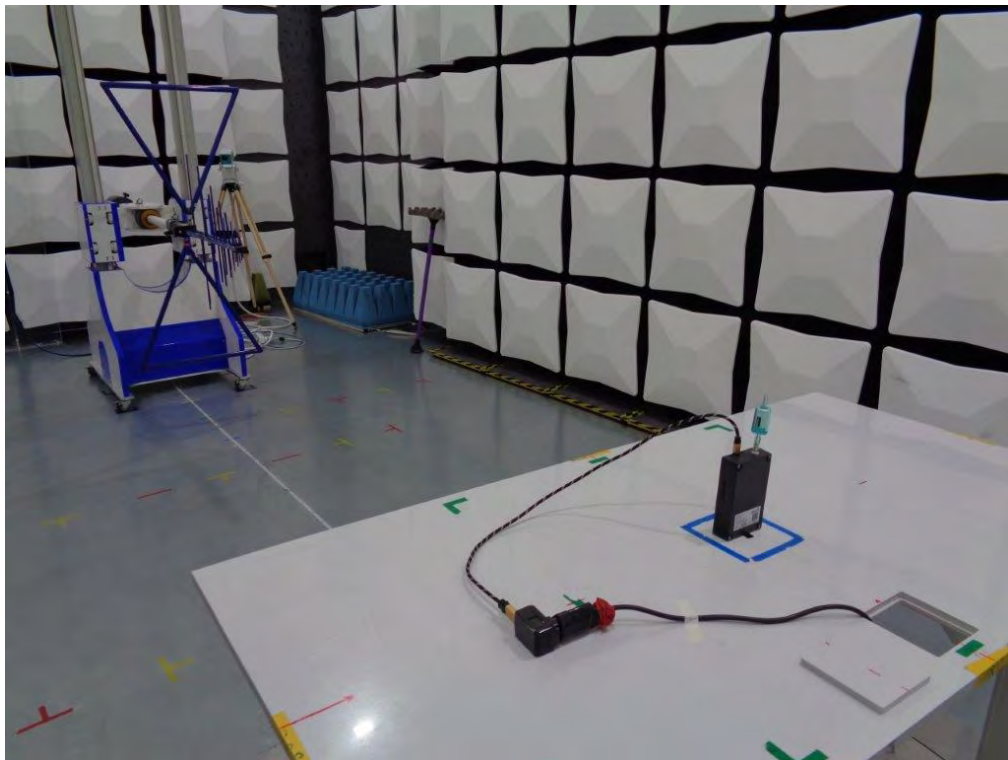
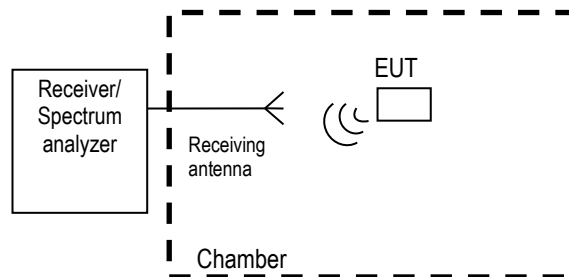
Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 4.6$  dB (30 - 300 MHz) /  $\pm 3.7$  dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyzer and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarizations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are re-measured manually using a receiver.

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Test set-up (§ 6.4):





## Remarks:

Limit values expressed in dBμV/m and transformed to a measuring distance of 3m  
(factor used = 20 dB/decade) if necessary  
e.g.: for f = 40 MHz the limit is 100 μV/m at 3 m;

$$20 \log \left( \frac{100 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) = 40 \frac{dB\mu V}{m} \text{ at } 3m$$

## Test equipment:

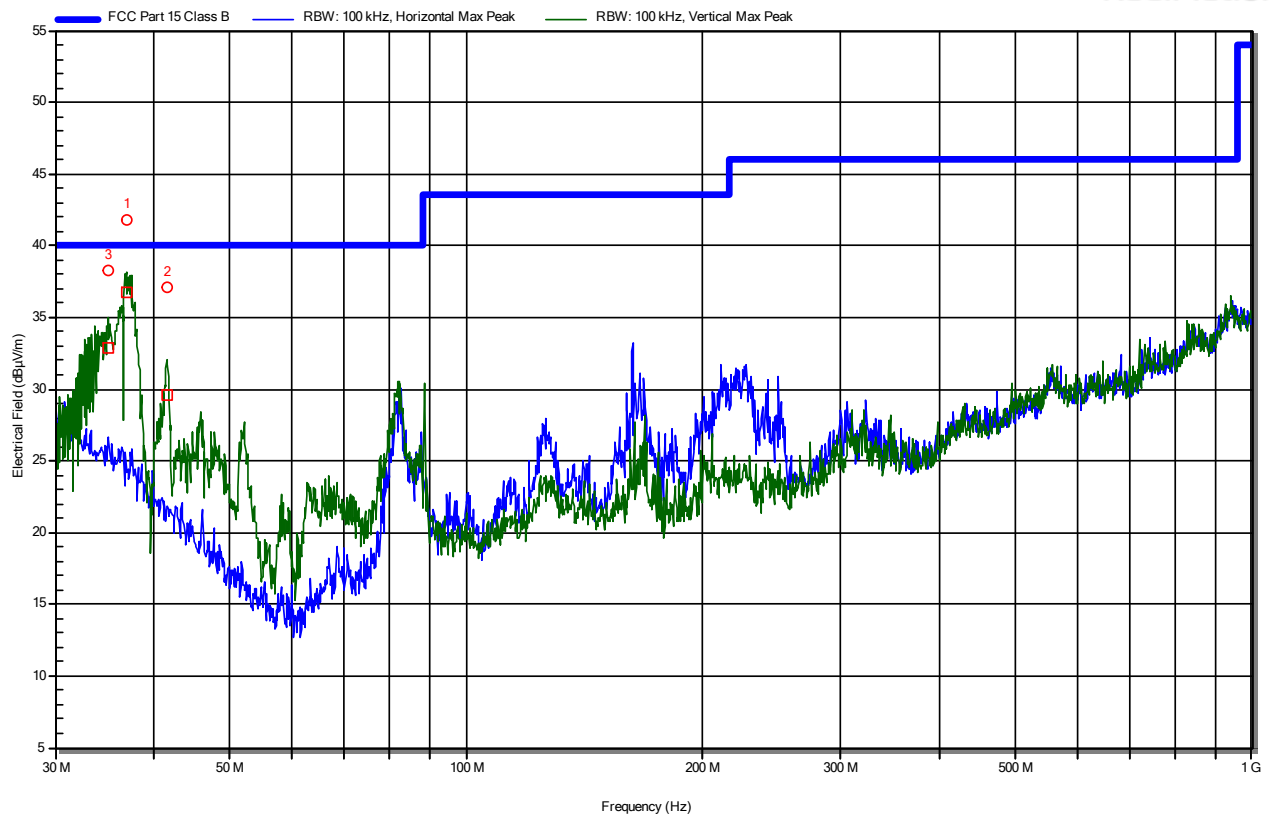
|                       |                                                         |                                           |                                                         |                                |                                                    |                                |
|-----------------------|---------------------------------------------------------|-------------------------------------------|---------------------------------------------------------|--------------------------------|----------------------------------------------------|--------------------------------|
| Spectrum analyzer     | <input checked="" type="checkbox"/> 21-07               | <input type="checkbox"/> 94-24            | <input type="checkbox"/> 02-06                          | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39                     | <input type="checkbox"/> 16-03 |
| Receiver              | <input checked="" type="checkbox"/> 21-07               | <input type="checkbox"/> 90-43            | <input type="checkbox"/> 94-35                          | <input type="checkbox"/> 04-29 | <input type="checkbox"/> 16-03                     |                                |
| Preamplifier          | <input type="checkbox"/> 90-01                          | <input type="checkbox"/> 95-86            | <input type="checkbox"/> 05-56                          | <input type="checkbox"/> 05-59 | <input checked="" type="checkbox"/> 21-07 internal |                                |
| Antenna (bilog)       | <input type="checkbox"/> 94-03                          | <input checked="" type="checkbox"/> 05-38 |                                                         |                                |                                                    |                                |
| Cable set             | <input checked="" type="checkbox"/> SAC3_RE_1.0/2.0/3.0 |                                           | <input type="checkbox"/> 06-00C                         |                                |                                                    |                                |
| Software and Revision | <input type="checkbox"/> Vitam, Rev. 2.4.13             |                                           | <input checked="" type="checkbox"/> RadiMation 2020.1.8 |                                |                                                    |                                |
| Power supply          | <input checked="" type="checkbox"/> 11-50               |                                           |                                                         |                                |                                                    |                                |

## Result:

☒ pass☐ fail☐ not applicable☐ not tested

|                       |                                                                                                                                                                                                                     |                     |                                                                                                                                                                                                                                                                                                                                   |                      |                          |                 |           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|-----------------|-----------|
| <b>Measurement</b>    | RE 30 MHz to 1 GHz                                                                                                                                                                                                  | <b>Test ID</b>      | #17                                                                                                                                                                                                                                                                                                                               | <b>Date and time</b> | 2022-11-15 15:47:14      | <b>Operator</b> | K. Ivanov |
| <b>EUT</b>            | Partector 2                                                                                                                                                                                                         | <b>Order</b>        |                                                                                                                                                                                                                                                                                                                                   |                      | 22CH-01062               | <b>Verdict</b>  | Pass      |
| <b>Notes</b>          | EUT: Partector 2 (Channel 2.480 GHz Tx)<br>Operating mode: Charging mode + Measuring<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB connected to charger<br>Modifications: None<br>Remarks: EUT vertical |                     |                                                                                                                                                                                                                                                                                                                                   |                      |                          |                 |           |
| <b>Antenna Height</b> | 1 m to 4 m, 4 step(s)                                                                                                                                                                                               | <b>Polarization</b> | Both                                                                                                                                                                                                                                                                                                                              | <b>Table Angle</b>   | 0 ° to 360 °, 16 step(s) | <b>Distance</b> | 3 m       |
| <b>Test Place</b>     | ROS-SAC3                                                                                                                                                                                                            | <b>Software</b>     | Radimation 2022.2.3 (RE 30M-1G ESW26 CBL SAC3)                                                                                                                                                                                                                                                                                    |                      |                          |                 |           |
| <b>Equipment</b>      | Device Type ID<br>Turn table 17-02<br>Cable antenna -> preamp 15-16<br>Spectrum analyser 21-07<br>Antenna tower 17-02<br>Cable antenna -> preamp 15-15<br>Cable antenna -> preamp 11-61<br>Antenna 05-38            | <b>Settings</b>     | Band(s): 30 MHz - 1 GHz, Reference Level: 90 dBµV<br>RBW: 100 kHz, VBW: 300 kHz, Swepttime: 100 ms, Number of Sweeps: 10<br>Step freq: Fixed step count: 9701 steps per Band, Attenuator: 0.0 dB, Internal preamp: 0 dB,<br>Measure time: 200 ms<br>Final Measurement/Observation Time: PK 1 s / 1 s, QP 1 s / 1 s, AVG 0 s / 0 s |                      |                          |                 |           |

## RadiMation



## Detected peaks

| Peak Number | Frequency (MHz) | Peak (dBµV/m) | Quasi-Peak (dBµV/m) | Quasi-Peak Difference (dB) | Angle (°) | Height (m) | Polarization | Status |
|-------------|-----------------|---------------|---------------------|----------------------------|-----------|------------|--------------|--------|
| 3           | 35.038          | 38.2          | 32.8                | -7.2                       | 45        | 2          | Vertical     | Pass   |
| 1           | 36.948          | 41.8          | 36.8                | -3.2                       | 157       | 1          | Vertical     | Pass   |
| 2           | 41.571          | 37.1          | 29.6                | -10.4                      | 157       | 1          | Vertical     | Pass   |

**7.5.3 1 GHz to 6 GHz**

Test site: ☐ SAC10 ☒ SAC3

Distance: ☐ 1 m ☒ 3 m ☐ 10 m ☐ 30 m

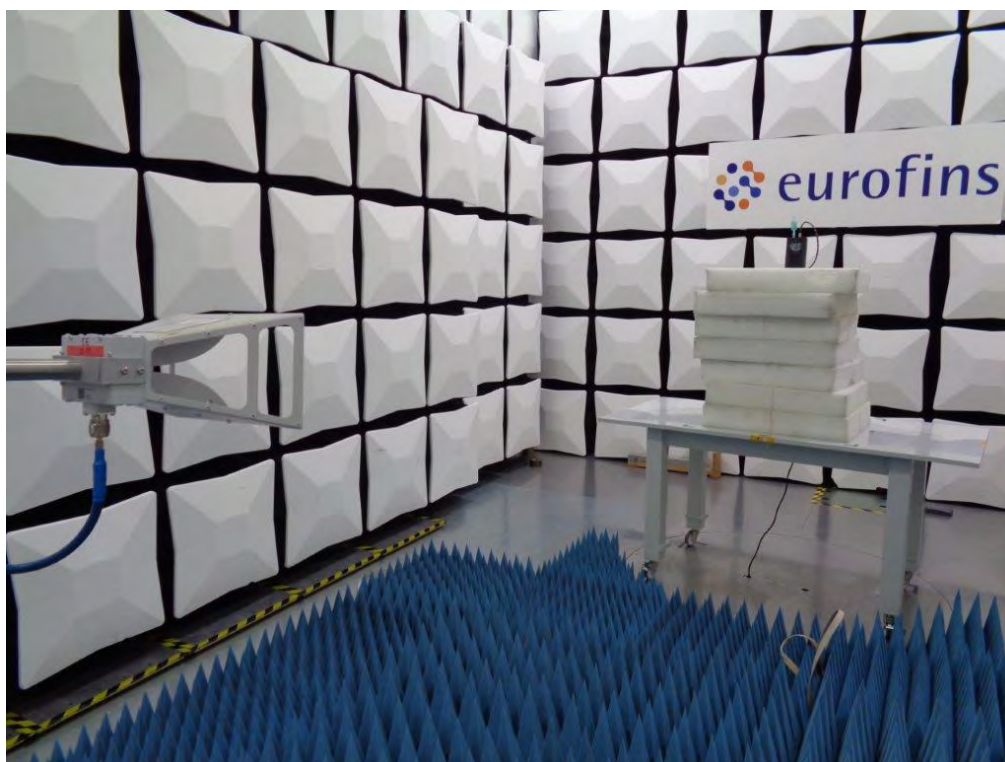
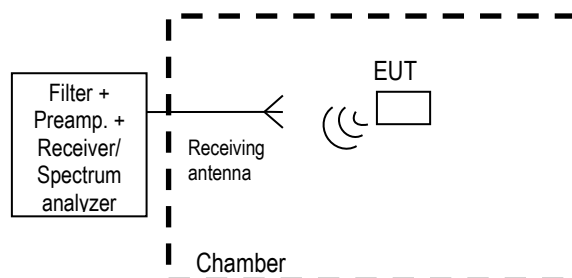
Position of EUT: 1.5 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 4.7$  dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyzer and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarizations, and aimed at the source by tilting. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value (peak) of all the disturbances appearing while the apparatus is under test.

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Test set-up (§ 6.4):



|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks: | <ul style="list-style-type: none"> <li>- Limit values expressed in dBμV/m and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary. E.g.: for f = 1 GHz the limit is 500 μV/m at 3 m;<br/> <math display="block">20 \log \left( \frac{500 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) + 20 \log \left( \frac{3m}{1m} \right) = 63.5 \frac{dB\mu V}{m} \text{ at } 1m</math> </li> <li>- Emissions near band-edges are checked under § 7.3</li> <li>- Average measurements determined from the peak field strength after correcting for the worst-case duty cycle according to § 4.1.4.2.4 of ANSI C63.10:2013. Correction factor: δ(dB) = 20log(Δ) = 20 log (0.57) = -4.88 dB</li> </ul> |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

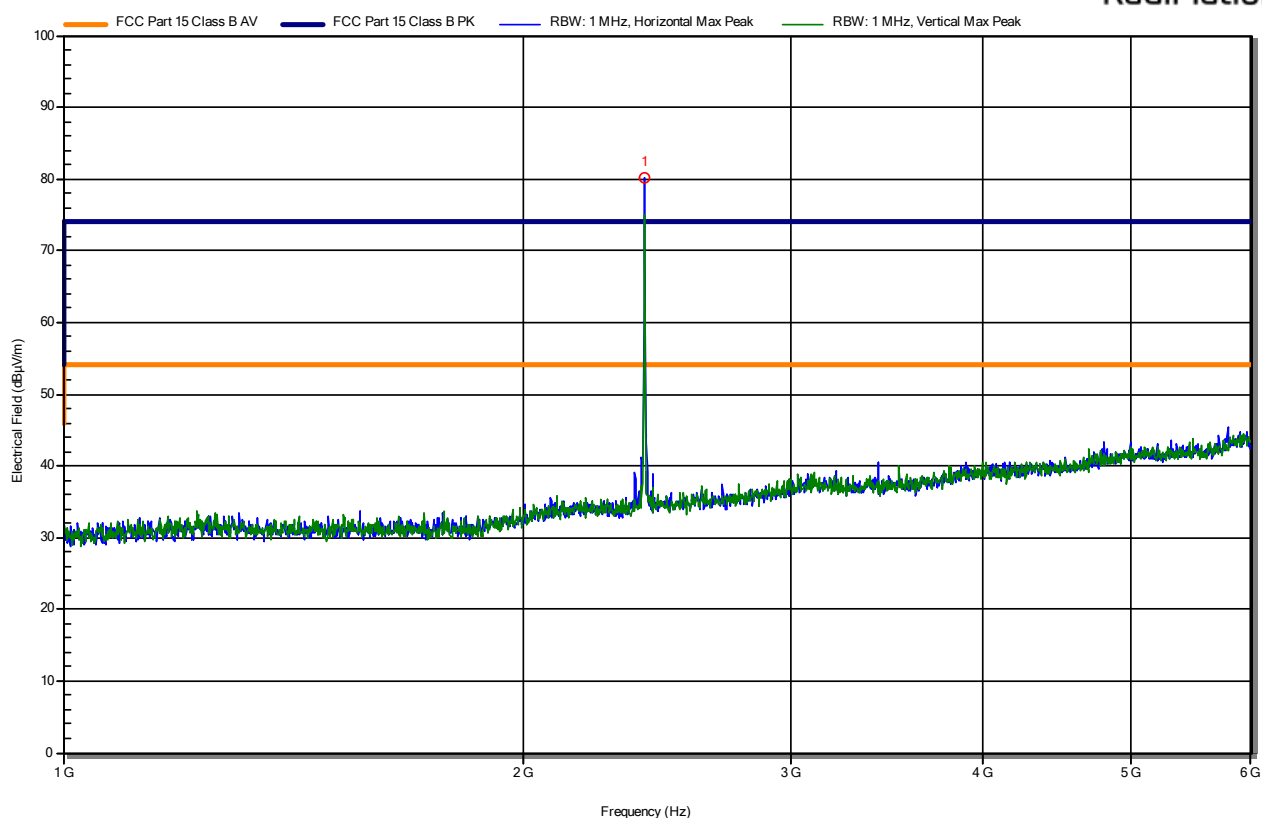
## Test equipment:

|                       |                                                        |                                              |                                           |                                |                                |                                           |
|-----------------------|--------------------------------------------------------|----------------------------------------------|-------------------------------------------|--------------------------------|--------------------------------|-------------------------------------------|
| Spectrum analyzer     | <input type="checkbox"/> 88-14                         | <input type="checkbox"/> 94-24               | <input type="checkbox"/> 02-06            | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 | <input checked="" type="checkbox"/> 07-53 |
| Preamplifier          | <input type="checkbox"/> 05-56                         | <input type="checkbox"/> 05-87               | <input checked="" type="checkbox"/> 14-27 |                                |                                |                                           |
| Antenna (horn)        | <input type="checkbox"/> 90-24                         | <input checked="" type="checkbox"/> 22-07    |                                           |                                |                                |                                           |
| Cables                | <input checked="" type="checkbox"/> 11-30              | <input checked="" type="checkbox"/> 06-00C   |                                           |                                |                                |                                           |
| Filters               | <input checked="" type="checkbox"/> 13-14              | <input type="checkbox"/> 12-06               | <input type="checkbox"/> 13-05            |                                |                                |                                           |
| Software and Revision | <input checked="" type="checkbox"/> Vitam, Rev. 2.4.13 | <input type="checkbox"/> RadiMation 2020.1.8 |                                           |                                |                                |                                           |

|         |                                          |                               |                                         |                                     |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|
| Result: | <input checked="" type="checkbox"/> pass | <input type="checkbox"/> fail | <input type="checkbox"/> not applicable | <input type="checkbox"/> not tested |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|

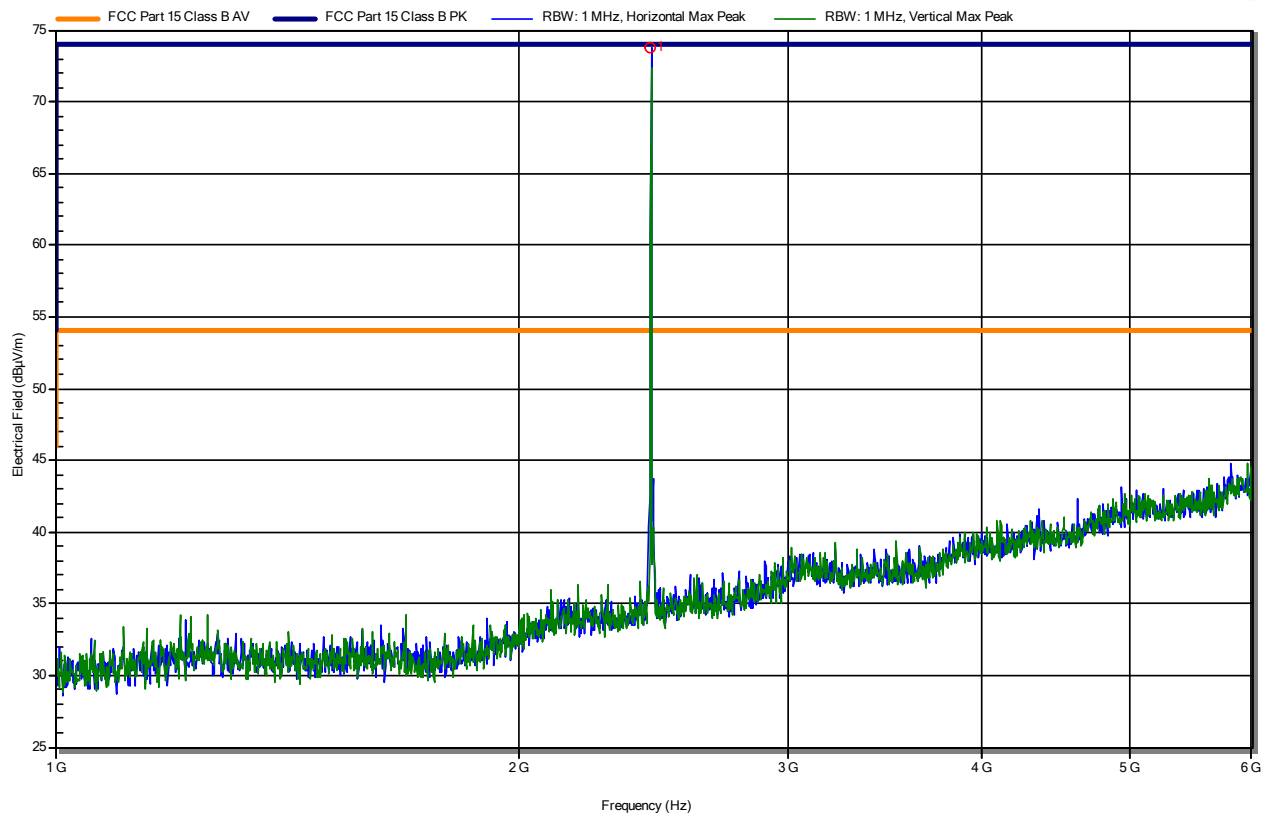
|                |                                                                                                                                                                                                                                         |              |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--|----------|-----------|
| Measurement    | RE 1 GHz to 6 GHz                                                                                                                                                                                                                       |              | Test ID  | #26 | Date and time                                                                                                                                                                                                                                                                                                             | 2022-11-16 09:11:43      |  | Operator | K. Ivanov |
| EUT            | Partector 2                                                                                                                                                                                                                             |              |          |     | Order                                                                                                                                                                                                                                                                                                                     | 22CH-01062               |  | Verdict  | Pass      |
| Notes          | EUT: Partector 2 (Channel 2.402 GHz Tx)<br>Operating mode: Charging mode + Measuring<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB connected to charger<br>Modifications: None<br>Remarks: EUT vertical, Notch filter 13-14 |              |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
| Antenna Height | 1.5 m to 1.5 m, 1 step(s)                                                                                                                                                                                                               | Polarization | Both     |     | Table Angle                                                                                                                                                                                                                                                                                                               | 0 ° to 360 °, 16 step(s) |  | Distance | 3 m       |
| Test Place     | ROS-SAC3                                                                                                                                                                                                                                |              | Software |     | Radimation 2022.2.3 (RE 1-6G ESW26 Schwarzbeck 9120D SAC3)                                                                                                                                                                                                                                                                |                          |  |          |           |
| Equipment      | Device Type                                                                                                                                                                                                                             | ID           | Settings |     | Band(s): 1 GHz - 6 GHz, Reference Level: 110 dBµV<br>RBW: 1 MHz, VBW: 3 MHz, Sweep time: 100 ms, Number of Sweeps: 3<br>Step freq: Fixed step count: 8001 steps per Band, Attenuator: 0.0 dB, Internal preamp: 0 dB, Measure time: 2 s<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 5 s, AVG 1 s / 10 s |                          |  |          |           |
|                | Turn table                                                                                                                                                                                                                              | 17-02        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Antenna                                                                                                                                                                                                                                 | 22-07        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Spectrum analyser                                                                                                                                                                                                                       | 21-07        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Cable antenna -> preamp                                                                                                                                                                                                                 | 15-16        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Cable antenna -> preamp                                                                                                                                                                                                                 | 11-61        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Pre amplifier                                                                                                                                                                                                                           | 14-27        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Antenna tower                                                                                                                                                                                                                           | 17-02        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |
|                | Cable preamp -> analyser                                                                                                                                                                                                                | 15-15        |          |     |                                                                                                                                                                                                                                                                                                                           |                          |  |          |           |

RadiMation



|                       |                                                                                                                                                                                                                                        |                     |                                                                                                                                                                                                                                                                                                                              |                      |                          |                 |           |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|-----------------|-----------|
| <b>Measurement</b>    | RE 1 GHz to 6 GHz                                                                                                                                                                                                                      | <b>Test ID</b>      | #27                                                                                                                                                                                                                                                                                                                          | <b>Date and time</b> | 2022-11-16 09:18:39      | <b>Operator</b> | K. Ivanov |
| <b>EUT</b>            | Partector 2                                                                                                                                                                                                                            | <b>Order</b>        |                                                                                                                                                                                                                                                                                                                              |                      | 22CH-01062               | <b>Verdict</b>  | Pass      |
| <b>Notes</b>          | EUT: Partector 2 (Channel 2.44 GHz Tx)<br>Operating mode: Charging mode + Measuring<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB connected to charger<br>Modifications: None<br>Remarks: EUT vertical, Notch filter 13-14 |                     |                                                                                                                                                                                                                                                                                                                              |                      |                          |                 |           |
| <b>Antenna Height</b> | 1.5 m to 1.5 m, 1 step(s)                                                                                                                                                                                                              | <b>Polarization</b> | Both                                                                                                                                                                                                                                                                                                                         | <b>Table Angle</b>   | 0 ° to 360 °, 16 step(s) | <b>Distance</b> | 3 m       |
| <b>Test Place</b>     | ROS-SAC3                                                                                                                                                                                                                               | <b>Software</b>     | Radimation 2022.2.3 (RE 1-6G ESW26 Schwarzbeck 9120D SAC3)                                                                                                                                                                                                                                                                   |                      |                          |                 |           |
| <b>Equipment</b>      | Device Type ID<br>Turn table 17-02<br>Antenna 22-07<br>Spectrum analyser 21-07<br>Cable antenna -> preamp 15-16<br>Cable antenna -> preamp 11-61<br>Pre amplifier 14-27<br>Antenna tower 17-02<br>Cable preamp -> analyser 15-15       | <b>Settings</b>     | Band(s): 1 GHz - 6 GHz, Reference Level: 110 dBµV<br>RBW: 1 MHz, VBW: 3 MHz, Sweep time: 100 ms, Number of Sweeps: 3<br>Step freq: Fixed step count: 8001 steps per Band, Attenuator: 0.0 dB, Internal preamp: 0 dB,<br>Measure time: 2 s<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 5 s, AVG 1 s / 10 s |                      |                          |                 |           |

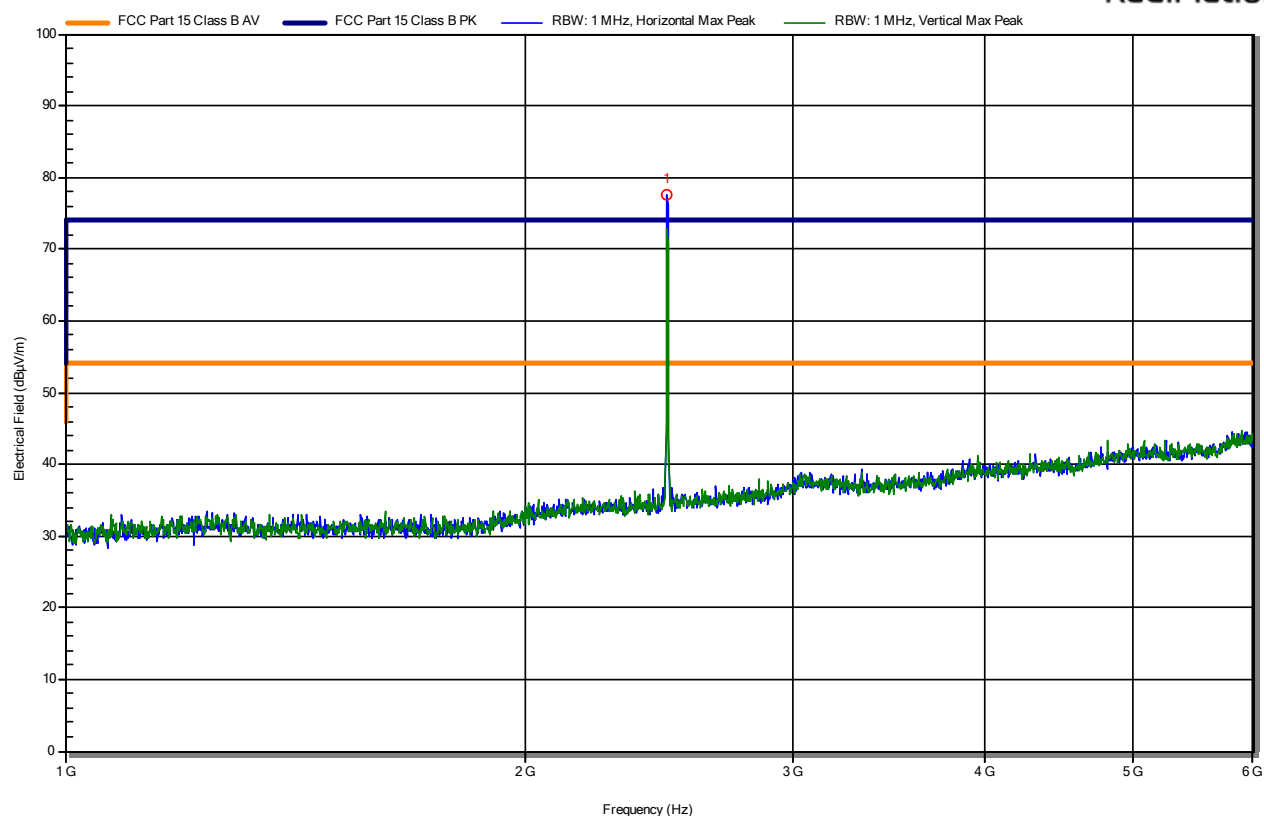
## RadiMation





|                |                                                                                                                                                                                                                                        |              |                                                                                                                                                                                                                                                                                                                              |               |                          |          |           |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------|----------|-----------|
| Measurement    | RE 1 GHz to 6 GHz                                                                                                                                                                                                                      | Test ID      | #28                                                                                                                                                                                                                                                                                                                          | Date and time | 2022-11-16 09:32:35      | Operator | K. Ivanov |
| EUT            | Partector 2                                                                                                                                                                                                                            | Order        |                                                                                                                                                                                                                                                                                                                              |               | 22CH-01062               | Verdict  | Pass      |
| Notes          | EUT: Partector 2 (Channel 2.48 GHz Tx)<br>Operating mode: Charging mode + Measuring<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB connected to charger<br>Modifications: None<br>Remarks: EUT vertical, Notch filter 13-14 |              |                                                                                                                                                                                                                                                                                                                              |               |                          |          |           |
| Antenna Height | 1.5 m to 1.5 m, 1 step(s)                                                                                                                                                                                                              | Polarization | Both                                                                                                                                                                                                                                                                                                                         | Table Angle   | 0 ° to 360 °, 16 step(s) | Distance | 3 m       |
| Test Place     | ROS-SAC3                                                                                                                                                                                                                               | Software     | Radimation 2022.2.3 (RE 1-6G ESW26 Schwarzbeck 9120D SAC3)                                                                                                                                                                                                                                                                   |               |                          |          |           |
| Equipment      | Device Type ID<br>Turn table 17-02<br>Antenna 22-07<br>Spectrum analyser 21-07<br>Cable antenna -> preamp 15-16<br>Cable antenna -> preamp 11-61<br>Pre amplifier 14-27<br>Antenna tower 17-02<br>Cable preamp -> analyser 15-15       | Settings     | Band(s): 1 GHz - 6 GHz, Reference Level: 110 dBµV<br>RBW: 1 MHz, VBW: 3 MHz, Sweep time: 100 ms, Number of Sweeps: 3<br>Step freq: Fixed step count: 8001 steps per Band, Attenuator: 0.0 dB, Internal preamp: 0 dB,<br>Measure time: 2 s<br>Final Measurement/Observation Time: PK 1 s / 10 s, QP 1 s / 5 s, AVG 1 s / 10 s |               |                          |          |           |

## RadiMation





**7.5.4 6 GHz to 18 GHz**Test site: ☐ SAC10☒ SAC3Distance: ☒ 1 m☐ 3 m☐ 10 m☐ 30 m

Position of EUT: 1.5 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 4.7$  dB

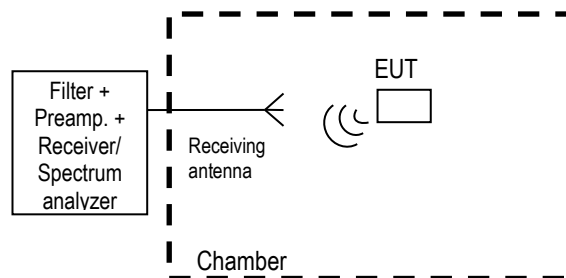
Test method:

The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyzer and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarizations, and aimed at the source by tilting. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value (peak) of all the disturbances appearing while the apparatus is under test.

Modifications:

☒ None☐ 1☐ 2☐ 3☐ 4☐ 5

Test set-up:





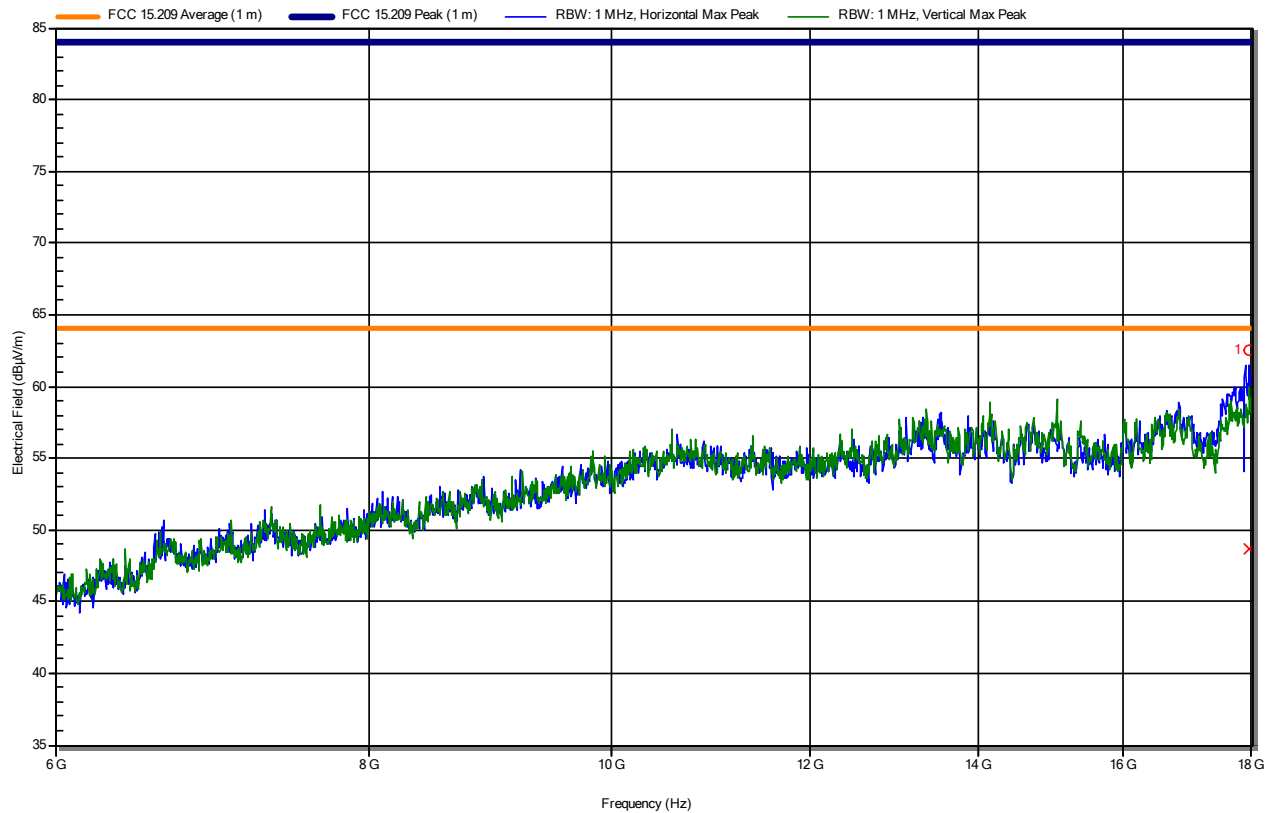
Test equipment:

|                       |                                                        |                                            |                                              |                                |                                |                                           |
|-----------------------|--------------------------------------------------------|--------------------------------------------|----------------------------------------------|--------------------------------|--------------------------------|-------------------------------------------|
| Spectrum analyzer     | <input type="checkbox"/> 88-14                         | <input type="checkbox"/> 94-24             | <input type="checkbox"/> 02-06               | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 | <input checked="" type="checkbox"/> 07-53 |
| Preamplifier          | <input type="checkbox"/> 05-56                         | <input type="checkbox"/> 05-87             | <input checked="" type="checkbox"/> 14-27    |                                |                                |                                           |
| Antenna (horn)        | <input type="checkbox"/> 90-24                         | <input checked="" type="checkbox"/> 22-07  |                                              |                                |                                |                                           |
| Cables                | <input checked="" type="checkbox"/> 11-30              | <input checked="" type="checkbox"/> 06-00C |                                              |                                |                                |                                           |
| Filters               | <input type="checkbox"/> 13-14                         | <input checked="" type="checkbox"/> 12-06  | <input type="checkbox"/> 13-05               |                                |                                |                                           |
| Software and Revision | <input checked="" type="checkbox"/> Vitam, Rev. 2.4.13 |                                            | <input type="checkbox"/> RadiMation 2020.1.8 |                                |                                |                                           |

|         |                                          |                               |                                         |                                     |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|
| Result: | <input checked="" type="checkbox"/> pass | <input type="checkbox"/> fail | <input type="checkbox"/> not applicable | <input type="checkbox"/> not tested |
|---------|------------------------------------------|-------------------------------|-----------------------------------------|-------------------------------------|

|                |                                                                                                                                                                                                                                             |              |          |     |                                                                                                                                                                                                                                                                                                                          |                                      |          |      |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------|------|
| Measurement    | RE 6 GHz to 18 GHz                                                                                                                                                                                                                          |              | Test ID  | #42 | Date and time                                                                                                                                                                                                                                                                                                            | 2022-11-16 11:19:02                  | Operator |      |
| EUT            | Partector 2                                                                                                                                                                                                                                 |              |          |     | Order                                                                                                                                                                                                                                                                                                                    | 22CH-01062                           | Verdict  | Pass |
| Notes          | EUT: Partector 2 (Channel 2.402 GHz Tx)<br>Operating mode: Charging mode + Measuring<br>Power supply: 120 VAC / 60 Hz<br>Connected cables: USB connected to charger<br>Modifications: None<br>Remarks: EUT vertical, High pass filter 12-06 |              |          |     |                                                                                                                                                                                                                                                                                                                          |                                      |          |      |
| Antenna Height | 1.5 m to 1.5 m, 1 step(s)                                                                                                                                                                                                                   | Polarization | Both     |     | Table Angle                                                                                                                                                                                                                                                                                                              | 0 degrees to 360 degrees, 16 step(s) | Distance | 3 m  |
| Test Place     | ROS-SAC3                                                                                                                                                                                                                                    |              | Software |     | Radimation 2022.2.3 (RE 6-18G ESW26 Schwarzbeck 9120D SAC3)                                                                                                                                                                                                                                                              |                                      |          |      |
| Equipment      | Device Type ID<br>Turn table 17-02<br>Antenna 22-07<br>Spectrum analyser 21-07<br>Cable antenna -> preamp 15-16<br>Cable antenna -> preamp 11-61<br>Pre amplifier 14-27<br>Antenna tower 17-02<br>Cable preamp -> analyser 15-15            |              | Settings |     | Band(s): 6 GHz - 18 GHz, Reference Level: 50 dBµV<br>RBW: 1 MHz, VBW: 3 MHz, Sweep time: 200 ms, Number of Sweeps: 10<br>Step freq: Fixed step count: 8001 steps per Band, Attenuator: 0.0 dB, Internal preamp: 0 dB, Measure time: 2 s<br>Final Measurement/Observation Time: PK 1 s / 5 s, QP 1 s / 5 s, AVG 1 s / 5 s |                                      |          |      |

## RadiMation



## Detected peaks

| Peak Number | Frequency (MHz) | Peak (dB $\mu$ V/m) | Peak Difference (dB) | Average (dB $\mu$ V/m) | Average Difference (dB) | Angle (degrees) | Height (m) | Polarization | Status |
|-------------|-----------------|---------------------|----------------------|------------------------|-------------------------|-----------------|------------|--------------|--------|
| 1           | 17971.65        | 62.5                | -21.5                | 48.7                   | -15.3                   | 270             | 1.5        | Horizontal   | Pass   |

**7.5.5 18 GHz to 26 GHz**

Test site: ☒ SAC3 ☐ SAC10

Distance: ☒ 1 m ☐ 3 m ☐ 10 m ☐ 30 m

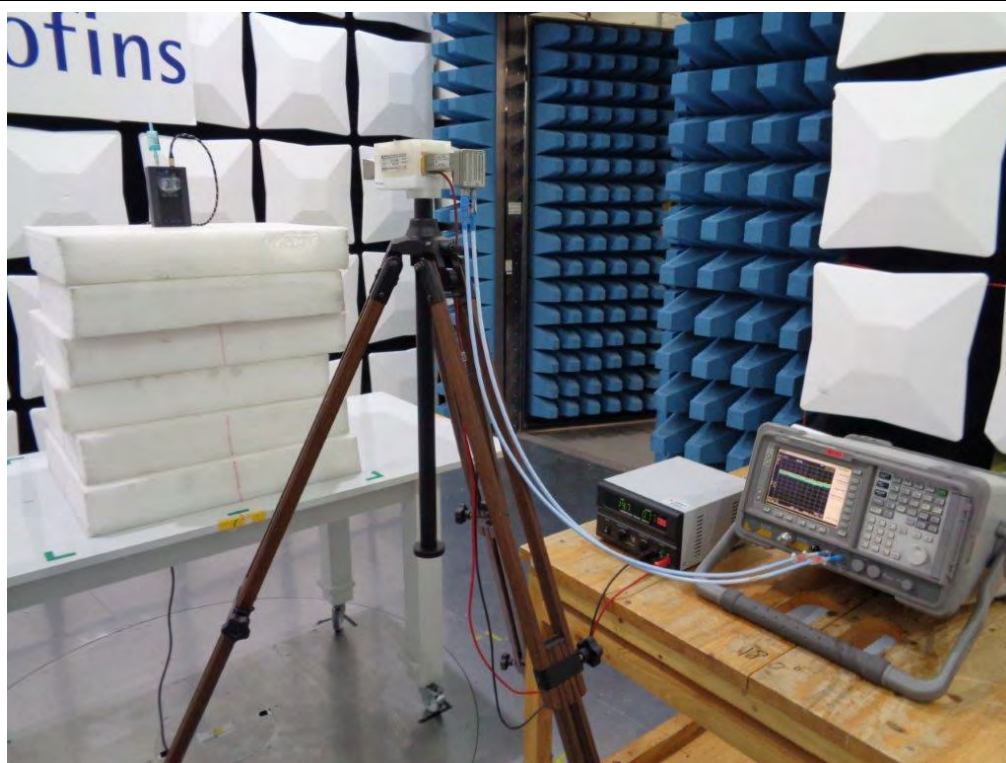
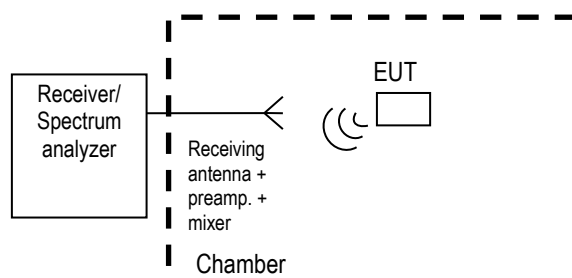
Position of EUT: 1.5 m (height of the equipment under test above floor)

Meas. uncertainty:  $\pm 4.7$  dB

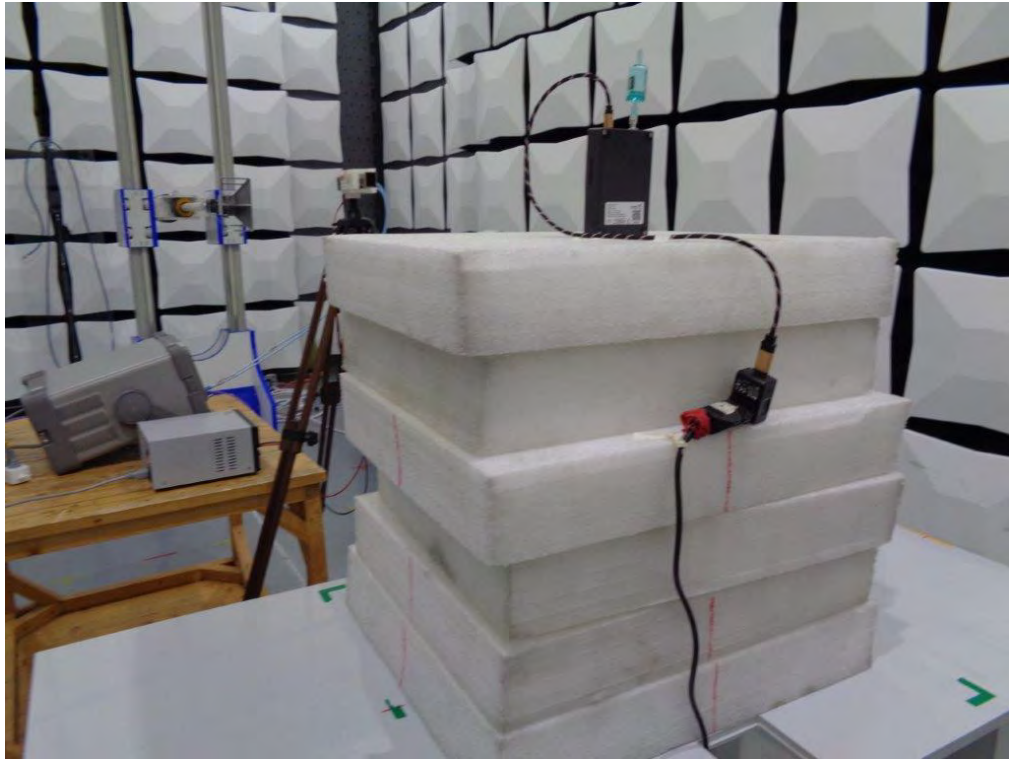
Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyzer and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarizations. The EUT is placed successively in lying and standing positions. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value (peak) of all the disturbances appearing while the apparatus is under test.

Modifications: ☒ None ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Test set-up:







Remarks: Limit values expressed in dB $\mu$ V/m and transformed to a measuring distance of 1m  
(factor used = 20 dB/decade) if necessary  
e.g.: for f = 18 GHz the limit is 500  $\mu$ V/m at 3 m;

$$20 \log \left( \frac{500 \frac{\mu V}{m}}{1 \frac{\mu V}{m}} \right) + 20 \log \left( \frac{3m}{1m} \right) = 63.5 \frac{dB\mu V}{m} \text{ at } 1m$$

#### Test equipment:

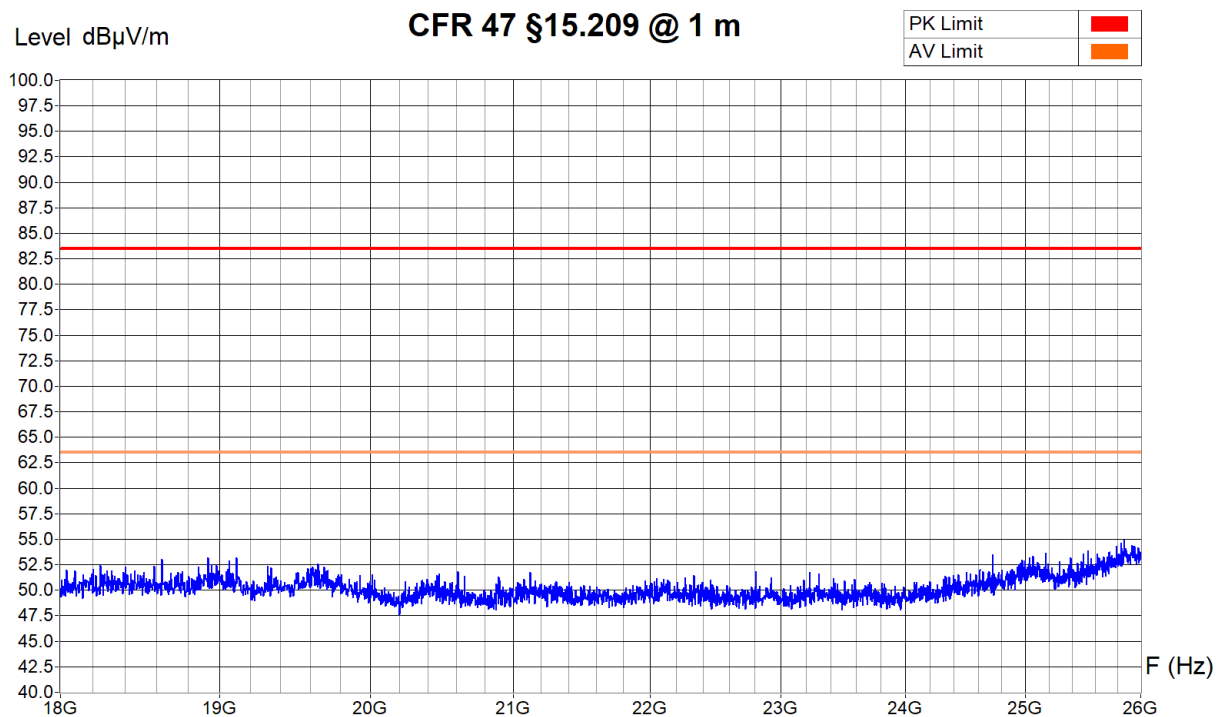
|                              |                                                        |                                           |                                              |                                |                                |                                           |
|------------------------------|--------------------------------------------------------|-------------------------------------------|----------------------------------------------|--------------------------------|--------------------------------|-------------------------------------------|
| Spectrum analyzer            | <input type="checkbox"/> 88-14                         | <input type="checkbox"/> 94-24            | <input type="checkbox"/> 02-06               | <input type="checkbox"/> 03-45 | <input type="checkbox"/> 05-39 | <input checked="" type="checkbox"/> 07-53 |
| Antenna with mixer & preamp. | <input checked="" type="checkbox"/> 98-12              |                                           |                                              |                                |                                |                                           |
| Cables                       | <input checked="" type="checkbox"/> 11-62              | <input checked="" type="checkbox"/> 10-81 |                                              |                                |                                |                                           |
| Power supply                 | <input checked="" type="checkbox"/> 06-62              |                                           |                                              |                                |                                |                                           |
| Software and Revision        | <input checked="" type="checkbox"/> Vitam, Rev. 2.4.13 |                                           | <input type="checkbox"/> RadiMation 2020.1.8 |                                |                                |                                           |

Result: ☒ pass ☐ fail ☐ not applicable ☐ not tested

Measurement Type : Radiated Field  
Polarisation : Vertical  
Table Angle : 0 - 360°  
Antenna Height : 1.5 m



Equipment Under Test : Partector 2 (Channel 2.402 GHz Tx)  
Set-Up : SAC3 (see photos)  
Operating Conditions : Charging mode + Measuring  
Remarks : Power supply: 120 VAC / 60 Hz  
USB connected to charger  
EUT vertical



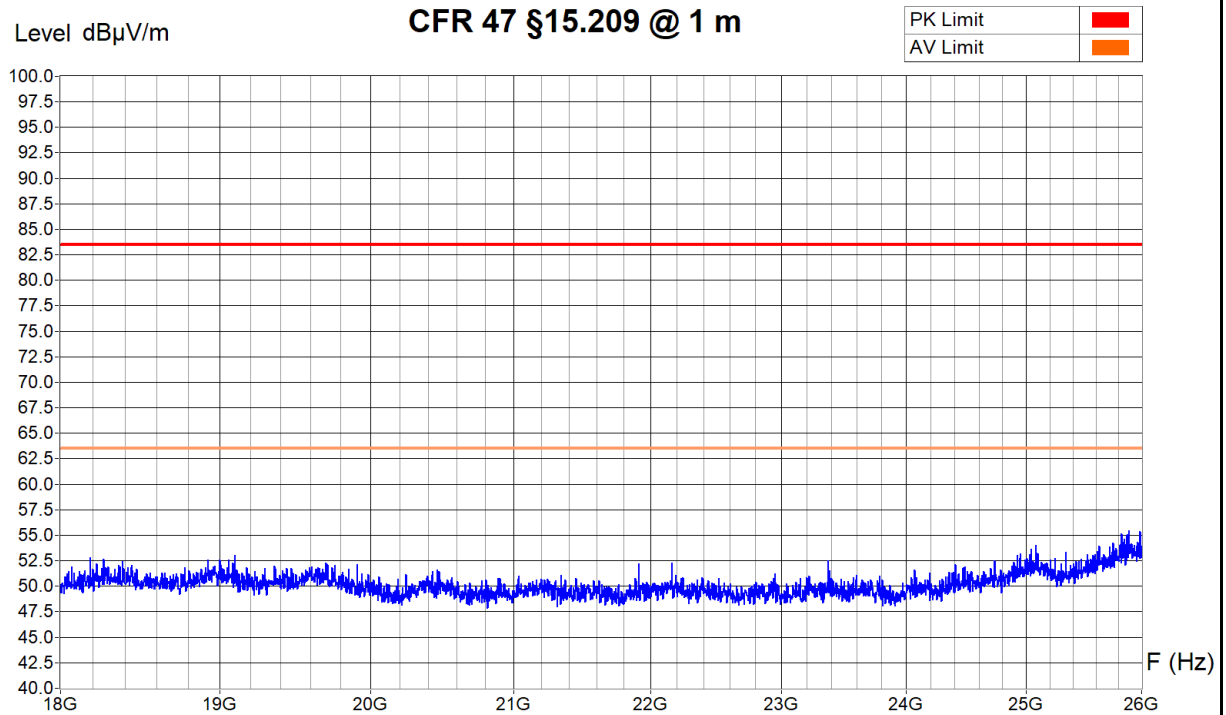
|                 |                 |
|-----------------|-----------------|
| Zone            | 18 GHz - 26 GHz |
| Video Bandwidth | 3 MHz           |
| Resol Bandwidth | 1 MHz           |

Operator: C. Clément / C.  
Date/Time: 2022-11-16 13:17  
Filename:  
22CH-01062\_RE\_18G-  
26G\_H\_Funk\_Partector2\_CCI\_20

Measurement Type : Radiated Field  
Polarisation : Horizontal  
Table Angle : 0 - 360°  
Antenna Height : 1.5 m



Equipment Under Test : Partector 2 (Channel 2.4.02 GHz Tx)  
Set-Up : SAC3 (see photos)  
Operating Conditions : Charging mode + Measuring  
Remarks : Power supply: 120 VAC / 60 Hz  
USB connected to charger  
EUT vertical



|                 |                 |
|-----------------|-----------------|
| Zone            | 18 GHz - 26 GHz |
| Video Bandwidth | 3 MHz           |
| Resol Bandwidth | 1 MHz           |

Operator: C. Clément / C.  
Date/Time: 2022-11-16 13:04  
Filename:  
22CH-01062\_RE\_18G-  
26G\_V\_Funk\_Partector2\_CCI\_20

## 8. List of test equipment



Remark: Calibration interval may be extended based on sufficient calibration data and experience of use (see IEC 61010-1:2019 clause 8.2.5)

| Equipment                                                  | Type           | Inventory no. | Manufacturer    | Last calibration date | Calibration due date |
|------------------------------------------------------------|----------------|---------------|-----------------|-----------------------|----------------------|
| <b>Test stand: Radiated disturbances – 9 kHz to 30 MHz</b> |                |               |                 |                       |                      |
| EMI Test Receiver                                          | ESW26          | 2021-07       | Rohde & Schwarz | 2022-10-06            | 2023-10-06           |
| Active Loop Antenna 10 kHz - 30 MHz                        | HLA6120        | 1990-25       | Chase           | 2022-09-15            | 2024-03-15           |
| Coax Cable                                                 | Sucoflex 104A  | 2015-16       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Cable Sucoflex 18 GHz                                      | SF106PA        | 2011-61       | Huber & Suhner  | 2021-10-14            | 2023-04-14           |
| Coax Cable                                                 | Sucoflex 104A  | 2015-15       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Coaxial Cable                                              | Sucoflex 106   | 2021-03A      | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| NCD HDcon6102                                              | Controller NCD | 2017-02       | Maturo          | No Cal.               | No Cal.              |
| EMC hardened Camera                                        | HDCam6E130     | 2019-12       | Pontis          | No Cal.               | No Cal.              |
| Antenna Mast                                               | TAM4.5-E-Bus   | 2017-10       | Maturo          | No Cal.               | No Cal.              |
| Turntable 150 cm                                           | TT1.5SI-1t     | 2019-18       | Maturo          | No Cal.               | No Cal.              |
| Software                                                   | Vitam 2.4.13   |               |                 | No Cal                | No Cal               |

| Equipment                                                     | Type                | Inventory no. | Manufacturer    | Last calibration date | Calibration due date |
|---------------------------------------------------------------|---------------------|---------------|-----------------|-----------------------|----------------------|
| <b>Test stand: Radiated disturbances - 30 MHz to 1000 MHz</b> |                     |               |                 |                       |                      |
| EMI Test Receiver                                             | ESW26               | 2021-07       | Rohde & Schwarz | 2022-10-06            | 2023-10-06           |
| Bilog 30 MHz - 1 GHz / 300 W                                  | CBL6111C            | 2005-38       | Chase           | 2022-09-16            | 2024-03-16           |
| Coax Cable                                                    | Sucoflex 104A       | 2015-16       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Cable Sucoflex 18 GHz                                         | SF106PA             | 2011-61       | Huber & Suhner  | 2021-10-14            | 2023-04-14           |
| Coax Cable                                                    | Sucoflex 104A       | 2015-15       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Coaxial Cable                                                 | Sucoflex 106        | 2021-03A      | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| NCD HDcon6102                                                 | Controller NCD      | 2017-02       | Maturo          | No Cal.               | No Cal.              |
| EMC hardened Camera                                           | HDCam6E130          | 2019-12       | Pontis          | No Cal.               | No Cal.              |
| Antenna Mast                                                  | TAM4.5-E-Bus        | 2017-10       | Maturo          | No Cal.               | No Cal.              |
| Turn table                                                    | TT1.5SI-1t          | 2019-18       | Maturo          | No Cal.               | No Cal.              |
| Software                                                      | RadiMation 2022.2.3 |               |                 | No Cal.               | No Cal.              |

| Equipment                                                       | Type                      | Inventory no. | Manufacturer    | Last calibration date | Calibration due date |
|-----------------------------------------------------------------|---------------------------|---------------|-----------------|-----------------------|----------------------|
| <b>Test stand: Radiated disturbances - 1000 MHz to 6000 MHz</b> |                           |               |                 |                       |                      |
| EMI Test Receiver                                               | ESW26                     | 2021-07       | Rohde & Schwarz | 2022-10-06            | 2023-10-06           |
| Horn Antenna 1 - 18 GHz / 200W                                  | BBHA 9120 D               | 2022-07       | Schwarzbeck     | 2022-02-09            | 2023-08-09           |
| Preamplifier                                                    | AFS42-00101800-25-S-42    | 2014-27       | MITEQ           | 2023-02-09            | 2024-08-09           |
| Filter, Notch 40 dB @ 2.4 GHz                                   | Cavity Band Reject Filter | 2013-14       | A-INFOMW        | 2022-05-18            | 2023-11-18           |
| Coax Cable                                                      | Sucoflex 104A             | 2015-16       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Cable Sucoflex 18 GHz                                           | SF106PA                   | 2011-61       | Huber & Suhner  | 2021-10-14            | 2023-04-14           |
| Coax Cable                                                      | Sucoflex 104A             | 2015-15       | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| Coaxial Cable                                                   | Sucoflex 106              | 2021-03A      | Huber+Suhner    | 2021-10-14            | 2023-04-14           |
| NCD HDcon6102                                                   | Controller NCD            | 2017-02       | Maturo          | No Cal.               | No Cal.              |
| EMC hardened Camera                                             | HDCam6E130                | 2019-12       | Pontis          | No Cal.               | No Cal.              |
| Antenna Mast                                                    | TAM4.5-E-Bus              | 2017-10       | Maturo          | No Cal.               | No Cal.              |
| Turntable 150 cm                                                | TT1.5SI-1t                | 2019-18       | Maturo          | No Cal.               | No Cal.              |
| Software                                                        | RadiMation 2022.2.3       |               |                 | No Cal                | No Cal               |

| Equipment                                                        | Type                   | Inventory no. | Manufacturer    | Last calibration date | Calibration due date |
|------------------------------------------------------------------|------------------------|---------------|-----------------|-----------------------|----------------------|
| <b>Test stand: Radiated disturbances - 6000 MHz to 18000 MHz</b> |                        |               |                 |                       |                      |
| EMI Test Receiver                                                | ESW26                  | 2021-07       | Rohde & Schwarz | 2022-10-06            | 2023-10-06           |
| Horn Antenna 1 - 18 GHz / 200W                                   | BBHA 9120 D            | 2022-07       | Schwarzbeck     | 2022-02-09            | 2023-08-09           |
| Preamplifier                                                     | AFS42-00101800-25-S-42 | 2014-27       | MITEQ           | 2023-02-09            | 2024-08-09           |
| Filter Highpass 3 GHz                                            | SH 6472                | 2012-06       | BSC             | 2022-05-18            | 2023-11-18           |
| Coaxial Cable Sucotest 18A                                       | Sucotest 18A           | 2006-00_C3    | Huber+Suhner    | 2021-10-11            | 2023-04-11           |
| Cable; 18 GHz 3 m                                                | ST18A                  | 2011-30       | Huber & Suhner  | 2021-10-13            | 2023-04-13           |
| NCD HDcon6102                                                    | Controller NCD         | 2017-02       | Maturo          | No Cal.               | No Cal.              |
| EMC hardened Camera                                              | HDCam6E130             | 2019-12       | Pontis          | No Cal.               | No Cal.              |
| Antenna Mast                                                     | TAM4.5-E-Bus           | 2017-10       | Maturo          | No Cal.               | No Cal.              |
| Turntable 150 cm                                                 | TT1.5SI-1t             | 2019-18       | Maturo          | No Cal.               | No Cal.              |
| Software                                                         | RadiMation 2022.2.3    |               |                 | No Cal                | No Cal               |

| Equipment                                                                          | Type         | Inventory no. | Manufacturer   | Last calibration date | Calibration due date |
|------------------------------------------------------------------------------------|--------------|---------------|----------------|-----------------------|----------------------|
| <b>Test stand: Radiated disturbances - 18 GHz to 40 GHz (Optional measurement)</b> |              |               |                |                       |                      |
| Spectrum Analyzer                                                                  | E4407B       | 2007-53       | HP             | 2022-07-27            | 2025-07-27           |
| Antenne; Cornet 18 GHz - 26.5 GHz                                                  | 3160-09      | 1998-12       | EMCO           | 2021-02-12            | 2024-02-12           |
| Antenne; Cornet 26.5 GHz - 40 GHz                                                  | 3160-10      | 1998-13       | EMCO           | 2021-02-15            | 2023-02-15           |
| Cable                                                                              | SF104        | 2011-62       | Huber&Suhner   | 2020-09-25            | 2023-09-25           |
| Cable; 11SMA-451/11SMA-451/0.5M                                                    | SF104P       | 2010-81       | Huber & Suhner | 2020-09-25            | 2023-09-25           |
| Software                                                                           | Vitam 2.4.13 |               |                | No Cal                | No Cal               |

| Equipment                                 | Type  | Inventory no. | Manufacturer    | Last calibration date | Calibration due date |
|-------------------------------------------|-------|---------------|-----------------|-----------------------|----------------------|
| <b>Test stand: Conducted disturbances</b> |       |               |                 |                       |                      |
| EMI Test Receiver                         | ESW26 | 2021-07       | Rohde & Schwarz | 2022-10-06            | 2023-10-06           |
| EMI Test Receiver                         | ESU8  | OA10193       | Rohde & Schwarz | 2023-08-07            | 2024-08-06           |

| <b>POWER SUPPLIES</b> |       |         |        |            |            |
|-----------------------|-------|---------|--------|------------|------------|
| AC Source             | 61511 | 2011-50 | Chroma | 2022-02-08 | 2023-08-08 |

\*Calibration interval extended, based on sufficient calibration data and experience of use (see IECCE OD-5011:2019 clause 8.2.5)