

RRA-EMIESS23G928ADK-01Av0

Certification Radio test report

According to the standard:

CFR 47 FCC PART 15

Equipment under test:

NOVATERM TRAP

FCC ID: 2BEZD-NIGSV04

Company:

BERKEM DEVELOPPEMENT

Distribution: Mr BOUTIN

(Company: BERKEM DEVELOPPEMENT)

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Information in italics are declared by the manufacturer/customer and are under his responsibility

DESIGNATION OF PRODUCT: *NOVATERM TRAP*

Serial number (S/N): 22-2FF-223

Reference / model (P/N): TRAP-V0.4

Firmware version: 0.0.0

MANUFACTURER: EOLANE SAS

COMPANY CERTIFYING THE PRODUCT:

Company: BERKEM DEVELOPPEMENT

Address: 20, RUE JEAN DUVERT
33290
BLANQUEFORT
FRANCE

RESPONSIBLE: Mr BOUTIN

COMPANY SUBMITTING THE PRODUCT:

Company: ADKALIS SAS

Address: 20, RUE JEAN DUVERT
33290
BLANQUEFORT
FRANCE

Responsible: Mr BOUTIN

Person present during the tests: Mr KAMAL Ibrahim (Company: IKALOGIC) – (The first day)

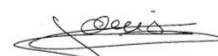
DATES OF TEST: From 9-Jan-24 to 10-Jan-24

TESTING LOCATION: EMITECH ANGERS laboratory at JUIGNE SUR LOIRE (49) FRANCE

FCC Accredited under US-EU MRA Designation Number: FR0009
Test Firm Registration Number: 873677

TESTED BY: S. LOUIS

VISA:

A handwritten signature in black ink, appearing to read "S. Louis", with a stylized flourish underneath.

WRITTEN BY: S. LOUIS

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REVISIONS HISTORY

| Revision | Date | Modified pages | Modifications |
|----------|-----------|----------------|---------------|
| 0 | 29-Jan-24 | / | Creation |

1. INTRODUCTION

This report presents the results of radio test carried out on the following radio equipment: **NOVATERM TRAP**, in accordance with normative reference.

The equipment under test integrates:

- SRD Monofrequency transceiver operational in the band (902MHz – 928MHz).

The host device of certified module(s) shall be properly labeled to identify the module(s) within.

2. PRODUCT DESCRIPTION

| | |
|----------------------------|--|
| Class: | B |
| Utilization: | Residential |
| Antenna type and gain: | 0.01 dBi / integral antenna |
| Operating frequency range: | From 902 MHz to 928 MHz |
| Frequency tested: | 921MHz |
| Number of channels: | 1 |
| Channel spacing: | Not concerned |
| Modulation: | GFSK2 |
| Power source: | 3Vdc Lithium battery (CR2477X-HE / CR2477X-HO) |

Power level, frequency range and channels characteristics are not user adjustable.
The details pictures of the product and the circuit boards are joined with this file.

3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below.

They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

CFR 47 FCC Part 15 (2024) Radio Frequency Devices

ANSI C63.10 2013
Procedures for Compliance Testing of Unlicensed Wireless Devices.

558074 D01 15.247 Meas Guidance v05r02
Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules.

4. TEST METHODOLOGY

Radio performance tests procedures given in CFR 47 part 15:

Subpart C – Intentional Radiators

- Paragraph 203: Antenna requirement
- Paragraph 205: Restricted bands of operation
- Paragraph 207: Conducted limits
- Paragraph 209: Radiated emission limits; general requirements
- Paragraph 212: Modular transmitter
- Paragraph 215: Additional provisions to the general radiated emission limitations
- Paragraph 247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz

5. TEST EQUIPMENT CALIBRATION DATES

| Emitech Number | Model | Type | Last calibration | Calibration interval (years) | Next calibration due |
|----------------|------------------------------|---|------------------|------------------------------|----------------------|
| 0 | BAT-EMC V3.18.0.26 | Software | / | / | / |
| 4088 | R&S FSP40 | Spectrum Analyzer | 13/05/2022 | 2 | 12/05/2024 |
| 4393 | Wainwright WLJS800-C11/60EE | Low Pass Filter | 06/02/2023 | 3 | 05/02/2026 |
| 7171 | R&S HL223 | Antenna | 19/05/2022 | 3 | 18/05/2025 |
| 7240 | Emco 3110 | Biconical antenna | 17/03/2022 | 3 | 16/03/2025 |
| 7279 | SUCOFLEX SF104 N 1.5m | Cable | 20/05/2022 | 2 | 19/05/2024 |
| 7302 | HP1200MHz | High-pass filter | 16/08/2022 | 3 | 15/08/2025 |
| 7566 | Testo 608-H1 | Meteo station | 12/12/2022 | 2 | 11/12/2024 |
| 8262 | Filtek HP12/3200-5AA | High pass filter | 16/08/2022 | 3 | 15/08/2025 |
| 8511 | HP 8447D | Low-noise amplifier | 16/11/2023 | 1 | 15/11/2024 |
| 8528 | Schwarzbeck VHA 9103 | Biconical antenna | 19/05/2022 | 3 | 18/05/2025 |
| 8543 | Schwarzbeck UHALP 9108A | Log periodic antenna | 04/08/2021 | 3 | 03/08/2024 |
| 8732 | Emitech | OATS | 28/03/2022 | 3 | 27/03/2025 |
| 8750 | La Crosse Technology WS-9232 | Meteo station | 20/11/2023 | 1 | 19/11/2024 |
| 8785 | N-1.5m Emitech | Cable | 23/02/2022 | 2 | 23/02/2024 |
| 8855 | EMITECH | Turntable and mat controller | / | / | / |
| 8874 | N-20m Gyl Technologies | Cable | 11/03/2022 | 2 | 10/03/2024 |
| 8896 | ACQUISYS GPS8 | Satellite synchronized frequency standard | / | / | / |
| 9398 | N-1.5m | cable | 22/07/2022 | 2 | 21/07/2024 |
| 10730 | Mini-circuit ZFL-1000LN | Low-noise amplifier | 16/11/2023 | 1 | 15/11/2024 |
| 10759 | COMTEST Cage 3 | Anechoic chamber | / | / | / |
| 10771 | EMCO 3117 | Antenna | 30/11/2022 | 3 | 30/11/2025 |
| 10789 | MATURO | Turntable and mat controller NCD | / | / | / |
| 11832 | N-8m - C&C | Cable | 16/02/2022 | 2 | 16/02/2024 |
| 12590 | LUCIX Corp S005180M3201 | Low-noise amplifier | 21/06/2023 | 1 | 20/06/2024 |
| 12911 | Huber + Suhner N-2m | cable | 20/05/2022 | 2 | 19/05/2024 |

| Emitech Number | Model | Type | Last calibration | Calibration interval (years) | Next calibration due |
|----------------|--------------------------|-------------------|------------------|------------------------------|----------------------|
| 14303 | SUCOFLEX N-2m | cable | 01/12/2022 | 2 | 30/11/2024 |
| 14475 | Oregon Scientific BAR206 | Meteo station | 11/04/2023 | 1 | 10/04/2024 |
| 14831 | Fluke 177 | Multimeter | 22/12/2023 | 2 | 21/12/2025 |
| 15666 | R&S FSV40 | Spectrum Analyzer | 27/09/2022 | 2 | 26/09/2024 |
| 15883 | SUCOFLEX | cable N 5m | 08/02/2023 | 2 | 07/02/2025 |
| 15913 | SUCOFLEX SF104 N 2.5m | Cable | 01/12/2022 | 2 | 30/11/2024 |
| 17008 | R&S ESW44 | Test receiver | 08/02/2023 | 1 | 08/02/2024 |
| 18413 | MechANC - N - 5m | Cable | 15/02/2022 | 2 | 15/02/2024 |
| 19267 | Radiall R412706124 - 6dB | Attenuator | 06/12/2023 | 3 | 05/12/2026 |
| / | GPBShot V2.4 | Software | / | / | / |

6. TESTS RESULTS SUMMARY

6.1 CFR 47 part 15 requirements

| Test procedure | Description of test | Respected criteria? | | | | Comment |
|-----------------|---|---------------------|----|-----|-----|---------------------|
| | | Yes | No | NAP | NAs | |
| FCC Part 15.203 | ANTENNA REQUIREMENT | X | | | | Note 1 |
| FCC Part 15.205 | RESTRICTED BANDS OF OPERATION | X | | | | |
| FCC Part 15.207 | CONDUCTED LIMITS | | | X | | Supplied by battery |
| FCC Part 15.209 | RADIATED EMISSION LIMITS; general requirements | X | | | | Note 2 |
| FCC Part 15.212 | MODULAR TRANSMITTERS | | | X | | |
| FCC part 15.215 | ADDITIONAL PROVISIONS TO THE GENERAL RADIATED EMISSION LIMITATIONS | | | | | |
| | (a) Alternative to general radiated emission limits | X | | | | |
| | (b) Unwanted emissions outside of §15.247 frequency bands | X | | | | Note 3 |
| | (c) 20 dB bandwidth and band-edge compliance | X | | | | |
| FCC Part 15.247 | OPERATION WITHIN THE BANDS 902-928 MHZ, 2400-2483.5 MHz and 5725-5850 MHz | | | | | |
| | (a) (1) Hopping systems | | | X | | |
| | (a) (2) Digital modulation techniques | X | | | | Note 4 |
| | (b) Maximum peak output power | X | | | | Note 5 |
| | (c) Operation with directional antenna gains > 6 dBi | | | X | | |
| | (d) Intentional radiator | X | | | | |
| | (e) Peak power spectral density | X | | | | |
| | (f) Hybrid system | | | X | | |
| | (g) Frequency hopping requirements | | | X | | |
| | (h) Frequency hopping intelligence | | | X | | |
| | (i) RF exposure compliance | X | | | | |

NAP: Not Applicable

NAs: Not Asked

Note 1: Integral antenna without standard connector.

Note 2: See FCC part 15.247 (d).

Note 3: See FCC part 15.209. Unwanted emissions levels are all below the fundamental emission field strength level.

Note 4: The minimum 6 dB bandwidth of the equipment is 501.5 kHz.

Note 5: Conducted measurement is not possible (integral antenna), so we used the radiated method in open field.

7. MEASUREMENT UNCERTAINTY

To declare, or not, the compliance with the specifications, it was not explicitly taken into account of uncertainty associated with the result(s)

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for normal distribution corresponds to a coverage probability of approximately 95%.

| Parameter | Emitech Uncertainty |
|------------------------------------|---------------------------------|
| RF power, conducted | $\pm 0.8\text{dB}$ |
| Radiated emission valid to 26 GHz | |
| 9kHz – 30MHz | $\pm 2.7\text{ dB}$ |
| 30MHz – 1GHz | $\pm 5.0\text{ dB}$ |
| 1GHz – 18GHz | $\pm 5.3\text{ dB}$ |
| 18GHz – 40GHz | $\pm 6.1\text{ dB}$ |
| AC Power Lines conducted emissions | $\pm 3.4\text{ dB}$ |
| Temperature | $\pm 1\text{ }^{\circ}\text{C}$ |
| Humidity | $\pm 5\%$ |

8. OCCUPIED BANDWIDTH

Temperature (°C) : 20

Humidity (%HR): 32

Date : January 9, 2024

Technician : S. LOUIS

Standard: FCC Part 15**Test procedure:**

Method of paragraphs 11.8 of ANSI C63.10 (6dB Measurement)

Method of paragraphs 6.9.3 of ANSI C63.10 (99% Measurement)

Test set up:

Test realized in near field.

Setting:

| Measure | 6dB | 99% |
|------------------|--|------------------------|
| Center frequency | The centre frequency of the channel under test | |
| Detector | Peak | |
| Span | 2 to 5 times the OBW | 1.5 to 5 times the OBW |
| RBW | 100kHz | 1% to 5% of the OBW |
| VBW | 300kHz | 3 x RBW |
| Trace | Max hold | |
| Sweep | Auto | |

Test operating condition of the equipment:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

We used for power source the internal battery of the equipment and we noted:

Voltage at the beginning of test (Vdc): 3.17

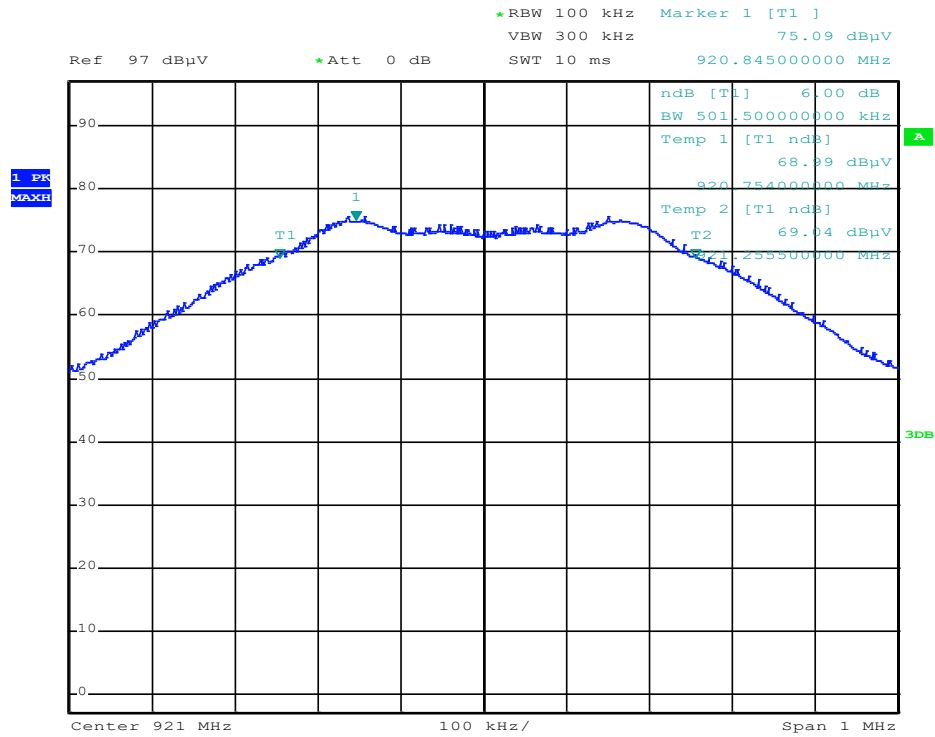
Voltage at the end of test (Vdc): 3.02

Percentage of voltage drop during the test (%): 4.73

Results:

Sample N° 1

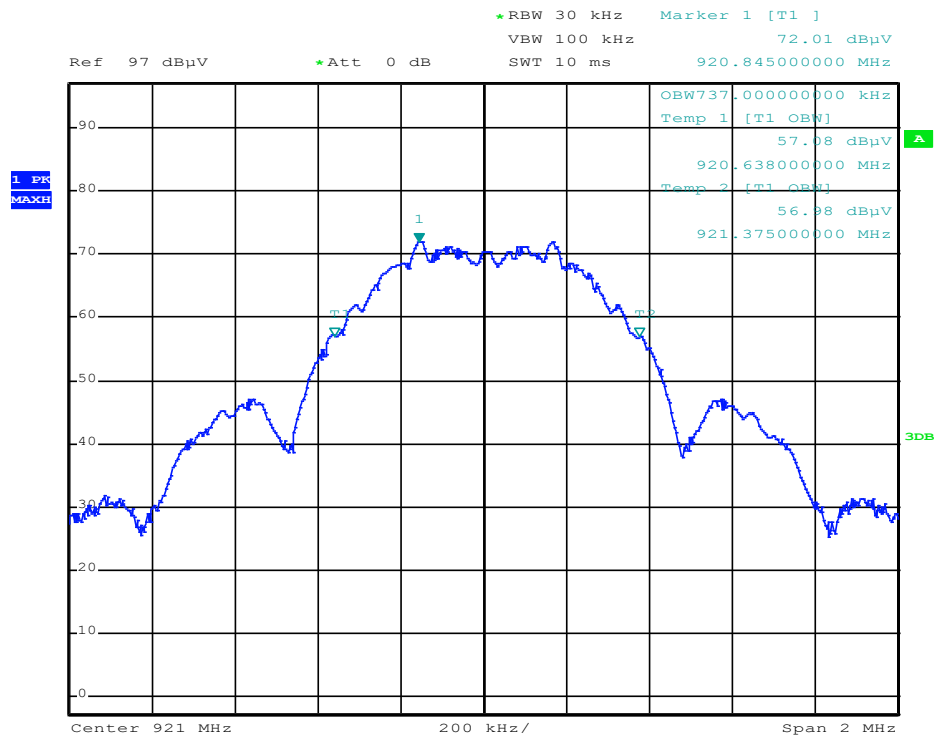
6dB bandwidth – Channel 921 MHz



Limit:

Shall be at least 500 kHz

99% bandwidth – Channel 921 MHz



Measure realized for reporting only

Test conclusion:

RESPECTED STANDARD

9. BAND EDGE

Temperature (°C) : 20

Humidity (%HR): 32

Date : January 20, 2024

Technician : S. LOUIS

Standard: FCC Part 15

Test procedure:

Method of paragraph 11.13.2 of ANSI C63.10

Method of paragraph 11.13.3 of ANSI C63.10

Test set up:

Test realized in near field. All field strength measurements are correlated with the radiated maximum peak output power.

Test operating condition of the equipment:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

We used for power source the internal battery of the equipment and we noted:

Voltage at the beginning of test (Vdc): 3.17

Voltage at the end of test (Vdc): 3.02

Percentage of voltage drop during the test (%): 4.73

Results:

Lower Band Edge: From 900 MHz to 902 MHz

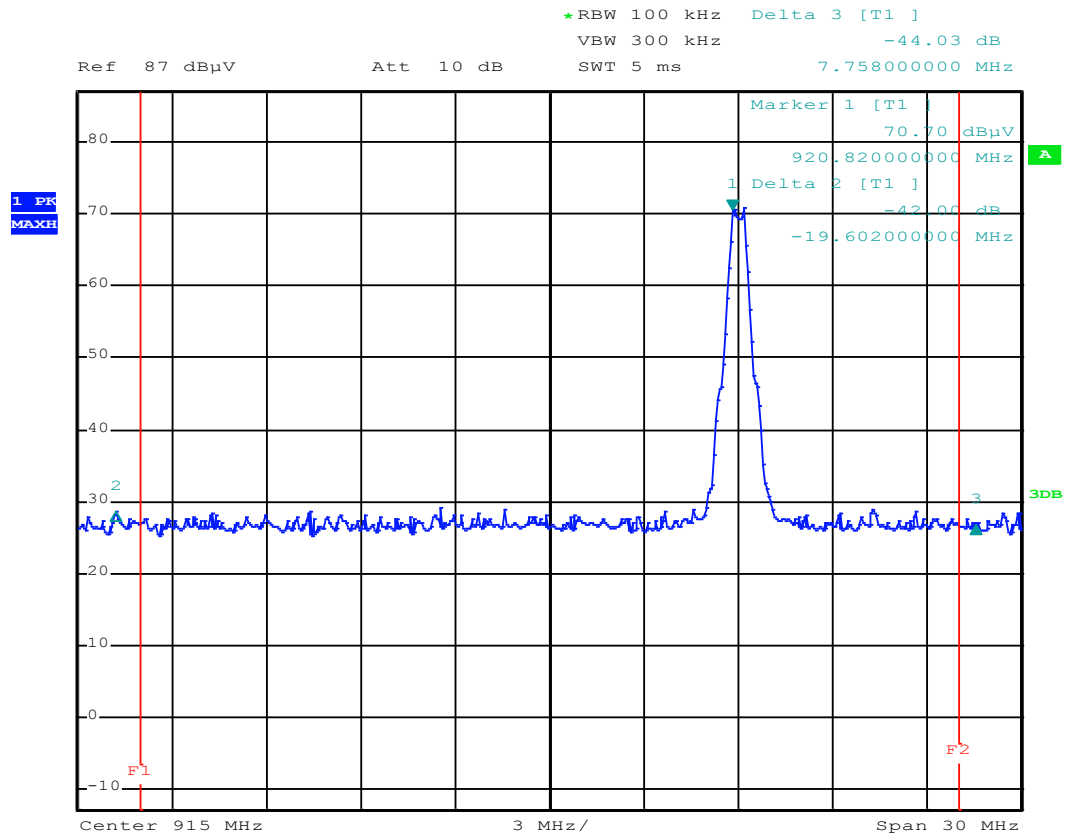
Upper Band Edge: From 928 MHz to 930 MHz

Sample N° 1 F = 921 MHz

| Fundamental frequency (MHz) | Field Strength Level of fundamental (dBμV/m) – Measured at 10m | Field Strength Level of fundamental (dBμV/m) – Computed at 3m | Detector (Peak or Average) | Frequency of maximum Band-edges Emission (MHz) | Delta Marker (dB) (1) | Calculated Max Out-of-Band Emission Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------------------|--|---|----------------------------|--|-----------------------|--|----------------|-------------|
| 921 | 90.10 | 100.56 | Peak | 901.218 | 42.00 | 58.56 | 80.56 | 22.00 |
| 921 | 90.10 | 100.56 | Peak | 928.578 | 44.03 | 56.53 | 80.56 | 24.03 |

(1) Marker-Delta method

Transmission mode at 921MHz



Test conclusion:

RESPECTED STANDARD

10. PEAK CONDUCTED OUTPUT POWER**Temperature (°C) :** 13**Humidity (%HR):** 32**Date :** January 10, 2024**Technician :** S. LOUIS**Standard:** FCC Part 15**Test procedure:**

For FCC Part 15: paragraph 15.247 (b)

RBW≥DTS bandwidth method of paragraph 11.9.1.1 of ANSI C63.10.

Test set up: (Refer Appendix 2)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in these two normal positions.

Then the final measurement is realized with the product on the most critical orientation.

The system is tested in an open area test site (OATS), the EUT is placed on a rotating table, 0.8m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

See test setup in appendix 2.

Distance of antenna: 10 meters**Antenna height:** 1 to 4 meters**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

The measurement of the radiated electro-magnetic field is realized with an analyser and peak detector. The resolution bandwidth is adjusted at 1 MHz and video bandwidth at 3 MHz. (11.9.1.1 of ANSI C63.10).

Finally the radiated electro-magnetic field is converted in dBm with the following formula:

$$\text{EIRP(dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$$
where D is the measurement distance in meters and antenna Gain = 0.01 dBi (integral PCB Antenna)**Equipment under test operating condition:**

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

We used for power source the internal battery of the equipment and we noted:

Voltage at the beginning of test (Vdc): 3.19

Voltage at the end of test (Vdc): 3.14

Percentage of voltage drop during the test (%): 1.56

Results:

Sample N° 1 F = 921 MHz

| | Electro-magnetic field at 10m (dBμV/m): | Maximum Peak conducted output power (1) | | Limit (W) |
|-------------------------------|---|--|---------|--------------|
| | | (dBm) | (W) | |
| Nominal supply voltage: | 90.10 | 5.32 | 0.00340 | 1 |

Polarization of test antenna: Horizontal (height: 110 cm)

Position of equipment: Position 2 - (azimuth: 41 degrees)

Maximum Peak conducted output power:

$EIRP(dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance in meters and antenna

Gain = 0.01 dBi.

Test conclusion:

RESPECTED STANDARD

11. RADIATED SPURIOUS EMISSIONS**Temperature (°C) :** 20**Humidity (%HR):** 32 / 36**Date :** January 9, 2024 and
January 10, 2024**Technician :** S. LOUIS**Standard:** FCC Part 15**Test procedure:**

For FCC Part 15: paragraph 15.205, paragraph 15.209, paragraph 15.247 (d)

Emissions in non-restricted frequency bands method of paragraph 11.11 of ANSI C63.10

Emissions in restricted frequency bands method of paragraph 11.12 of ANSI C63.10

Test set up: (Refer Appendix 2)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in these two normal positions.

Then the final measurement is realized with the product on the most critical orientation.

The measure is realized on open area test site under 1 GHz and in anechoic chamber above 1 GHz.

When the system is tested in an open area test site (OATS), the EUT is placed on a rotating table, 0.8m from a ground plane.

When the system is tested in anechoic chamber, the EUT is placed on a rotating table, 1.5 m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

See test setup in appendix 2.

Frequency range: From 9 kHz to 10GHz - 10th harmonic of the highest fundamental frequency (921MHz)**Detection mode:** Quasi-peak ($F < 1$ GHz)Peak / Average ($F > 1$ GHz)**Bandwidth:** 200Hz ($9 \text{ kHz} < F < 150\text{kHz}$)
9 kHz ($150 \text{ kHz} < F < 30\text{MHz}$)
120 kHz ($30 \text{ MHz} < F < 1 \text{ GHz}$)
100 kHz / 1 MHz ($F > 1 \text{ GHz}$)**Distance of antenna:** 10 meters (in open area test site) / 3 meters (in anechoic room)**Antenna height:** 1 to 4 meters (in open area test site) / 1.5 meter (in anechoic room)**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

Equipment under test operating condition:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

We used for power source the internal battery of the equipment and we noted:

Voltage at the beginning of test (Vdc): 3.16

Voltage at the end of test (Vdc): 3.03

Percentage of voltage drop during the test (%): 4.11

Results:

Sample N° 1 F = 921 MHz

| Frequencies (MHz) | Detector P QP Av | Antenna height (cm) | RBW (kHz) | Position | Polarization H: Horizontal V: Vertical | Field strength Measured at 3 m (dB μ V/m) | Limits at 3 m (dB μ V/m) | Margin (dB) |
|-------------------|---------------------------|---------------------|-----------|----------|--|---|------------------------------|-------------|
| 1842.7 | P | 165 | 100 | 1 | H | 41.62 | 80.56 | 38.94 |
| 2762.5 (1) | P | 173 | 1000 | 2 | H | 48.19 (2) | 74 | 25.81 |
| 3684.4 (1) | P | 193 | 1000 | 2 | V | 44.83 (2) | 74 | 29.17 |
| 4604.2 (1) | P | 144 | 1000 | 2 | V | 47.72 (2) | 74 | 26.28 |
| 5524.9 | P | 173 | 100 | 1 | H | 49.61 | 80.56 | 30.95 |
| 6448.3 | P | 172 | 100 | 1 | V | 53.36 | 80.56 | 27.20 |
| 7366.6 (1) | P | 202 | 1000 | 1 | H | 50.39 (2) | 74 | 23.61 |
| 8287.6 (1) | P | 181 | 1000 | 2 | V | 58.82 | 74 | 15.18 |
| 8287.6 (1) | Av | 181 | 1000 | 2 | V | 53.15 | 54 | 0.85 |

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dB μ V/m)

Applicable limits: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

The highest level recorded in a 100 kHz bandwidth is 100.56 dB μ V/m at the frequency of 921MHz.

So the applicable limit is 80.56 dB μ V/m.

In addition, radiated emissions which fall in the restricted band, as defined in section 15.205 (a), must also comply with the radiated emission limits specified in section 15.209 (a) (see section 15.205 (c)).

Test conclusion:

RESPECTED STANDARD

12. PEAK CONDUCTED POWER SPECTRAL DENSITY**Temperature (°C) :** 13**Humidity (%HR):** 32**Date :** January 10, 2024**Technician :** S. LOUIS**Standard:** FCC Part 15**Test procedure:**

For FCC Part 15: paragraph 15.247 (e), paragraph 15.247 (f)

PKPSD (Peak PSD) method of paragraph 11.10.2 of ANSI C63.10

Test set up: (Refer Appendix 2)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in these two normal positions.

Then the final measurement is realized with the product on the most critical orientation.

The system is tested in an open area test site (OATS), the EUT is placed on a rotating table, 0.8m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

See test setup in appendix 2

Distance of antenna: 10 meters**Antenna height:** 1 to 4 meters**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

The measurement of the radiated electro-magnetic field is realized with an analyser.

Span: 750 kHz

Resolution bandwidth: 3 kHz

Video bandwidth: 10 kHz

Detector: Peak

Number of points: 2001

Sweep time: Auto

Trace mode: MaxHold

Then the peak marker function is used.

Finally the radiated electro-magnetic field is converted in dBm with the following formula:

$$\text{EIRP(dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$$
where D is the measurement distance in meters and antenna Gain = 0.01 dBi.

Equipment under test operating condition:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

We used for power source the internal battery of the equipment and we noted:

Voltage at the beginning of test (Vdc): 3.19

Voltage at the end of test (Vdc): 3.14

Percentage of voltage drop during the test (%): 1.56

Sample N° 1 F = 921 MHz

| | Electro-magnetic field (dBμV/m): At 10 meters | Maximum Peak conducted power density(1) (dBm / 3 kHz) | Limit (dBm / 3 kHz) |
|-----------------------------------|---|---|---------------------------|
| Nominal supply voltage:3Vdc | 77.6 | -7.17 | 8 |

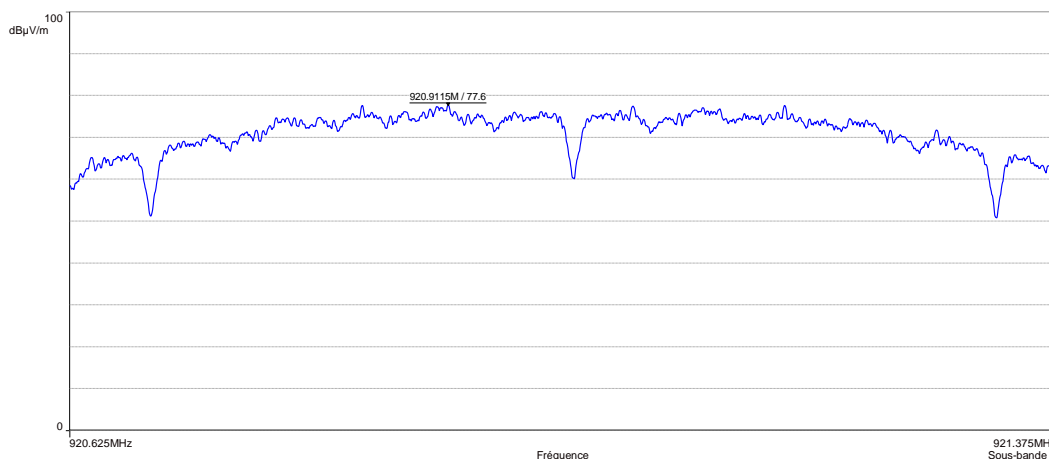
Polarization of test antenna: horizontal (height: 110 cm)

Position of equipment: Position 2 - (azimuth: 41 degrees)

Maximum Peak conducted output power:

EIRP(dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance in meters and antenna

Declared maximum antenna gain: 0.01 dBi



Test conclusion:

RESPECTED STANDARD

□□□ End of report, 2 annexes to be forwarded □□□

APPENDIX 1: Test equipment list

Occupied bandwidth

| TYPE | MANUFACTURER | EMITECH NUMBER |
|--|----------------------|----------------|
| Satellite synchronized frequency standard GPS8 | ACQUISYS | 8896 |
| Spectrum Analyzer FSP40 | Rohde & Schwarz | 4088 |
| Log periodic antenna UHALP 9108A | Schwarzbeck | 8543 |
| N-2M Cable | Huber + Suhner | 12911 |
| N-5M Cable | MechANC | 18413 |
| Multimeter 177 | Fluke | 14831 |
| Meteo station WS-9232 | La Crosse Technology | 8750 |
| Software | GPIBShot V2.4 | / |

Band edge

| TYPE | MANUFACTURER | EMITECH NUMBER |
|--|----------------------|----------------|
| Satellite synchronized frequency standard GPS8 | ACQUISYS | 8896 |
| Spectrum Analyzer FSP40 | Rohde & Schwarz | 4088 |
| Log periodic antenna UHALP 9108A | Schwarzbeck | 8543 |
| N-2M Cable | Huber + Suhner | 12911 |
| N-5M Cable | MechANC | 18413 |
| Multimeter 177 | Fluke | 14831 |
| Meteo station WS-9232 | La Crosse Technology | 8750 |
| Software | GPIBShot V2.4 | / |

Peak conducted output power

| TYPE | MANUFACTURER | EMITECH NUMBER |
|--|--------------------|----------------|
| Open test site | EMITECH | 8732 |
| Turntable and mat controller | EMITECH | 8855 |
| Satellite synchronized frequency standard GPS8 | ACQUISYS | 8896 |
| Test receiver ESW44 | Rohde & Schwarz | 17008 |
| Log periodic antenna HL223 | Rohde & Schwarz | 7171 |
| N-1.5m-3GHz OATS Cable | GYL TECHNOLOGIES | 8785 |
| N-20m-1GHz OATS Cable | EMITECH | 8874 |
| N-8m-3GHz OATS Cable | C & C | 11832 |
| Attenuator 6dB 6GHz 1W | Radiall | 19267 |
| Multimeter 177 | Fluke | 14831 |
| Meteo station BAR 206 | Oregon Scientific | 14475 |
| Software | BAT-EMC V3.18.0.26 | 0000 |

Radiated spurious emissions

| TYPE | MANUFACTURER | EMITECH NUMBER |
|--|----------------------|----------------|
| Open test site | EMITECH | 8732 |
| Turntable and mat controller | EMITECH | 8855 |
| Full anechoic chamber | EMITECH | 10759 |
| Turntable and mat controller NCD | MATURO | 10789 |
| Satellite synchronized frequency standard GPS8 | ACQUISYS | 8896 |
| Test receiver ESW44 | Rohde & Schwarz | 17008 |
| Spectrum Analyzer FSV40 | Rohde & Schwarz | 15666 |
| Biconical antenna VHA 9103 | Schwarzbeck | 8528 |
| Biconical antenna 3110 | Emco | 7240 |
| Log periodic antenna HL223 | Rohde & Schwarz | 7171 |
| Log periodic antenna UHALP 9108A | Schwarzbeck | 8543 |
| Antenna 3117 | ETS-Lindgren | 10771 |
| Low-noise amplifier 8447D | Hewlett Packard | 8511 |
| Low-noise amplifier ZFL-1000LN | Mini-circuit | 10730 |
| Low-noise amplifier S005180M3201 | LUCIX Corp. | 12590 |
| N-1.5M Cable | SUCOFLEX | 7279 |
| N-2M Cable | Huber + Suhner | 12911 |
| N-5M Cable | MechANC | 18413 |
| N-1.5M Cable | SUCOFLEX | 9398 |
| N-2M Cable | SUCOFLEX | 14303 |
| N-5M Cable | SUCOFLEX | 15883 |
| N-2.5M Cable | H & S | 15913 |
| N-1.5m-3GHz OATS Cable | GYL TECHNOLOGIES | 8785 |
| N-20m-1GHz OATS Cable | EMITECH | 8874 |
| N-8m-3GHz OATS Cable | C & C | 11832 |
| Low pass filter WLJS800-C11/60EE | Wainwright | 4393 |
| High pass filter HP12/1200-5AA | Filtek | 7302 |
| High pass filter HP12/3200-5AA | Filtek | 8262 |
| Multimeter 177 | Fluke | 14831 |
| Meteo station 608-H1 | Testo | 7566 |
| Meteo station WS-9232 | La Crosse Technology | 8750 |
| Meteo station BAR 206 | Oregon Scientific | 14475 |
| Software | BAT-EMC V3.18.0.26 | 0000 |

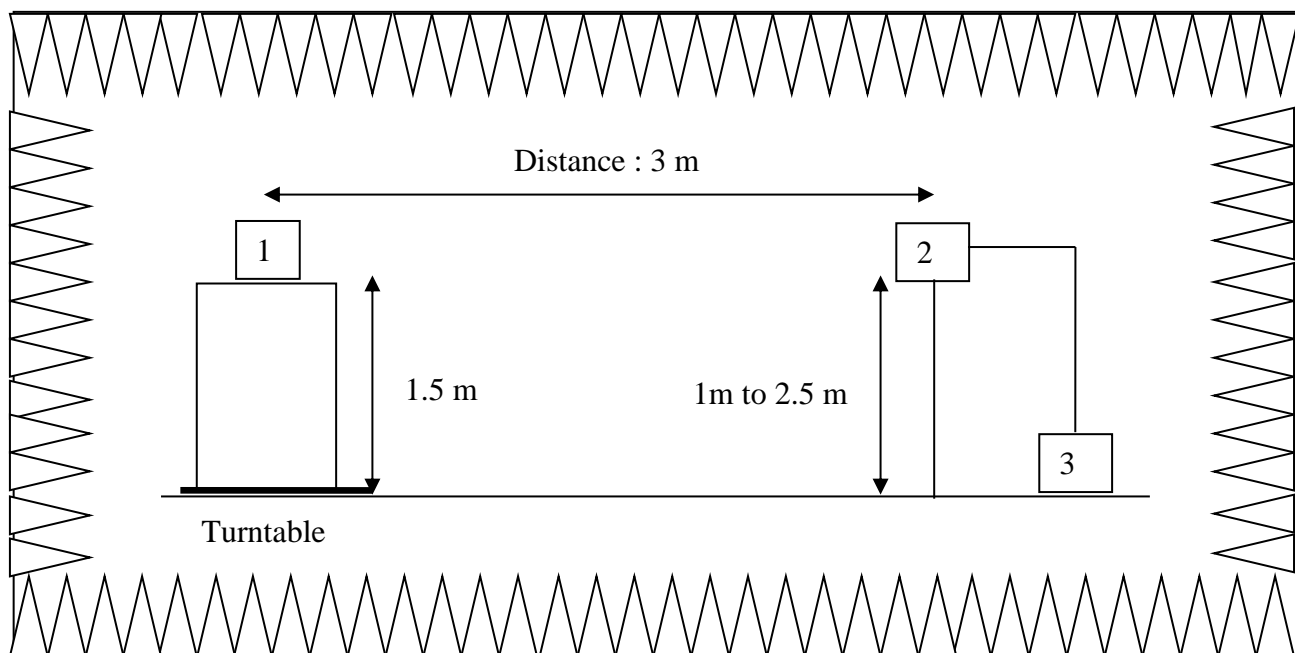
Peak conducted power spectral density

| TYPE | MANUFACTURER | EMITECH NUMBER |
|--|--------------------|----------------|
| Open test site | EMITECH | 8732 |
| Turntable and mat controller | EMITECH | 8855 |
| Satellite synchronized frequency standard GPS8 | ACQUISYS | 8896 |
| Test receiver ESW44 | Rohde & Schwarz | 17008 |
| Log periodic antenna HL223 | Rohde & Schwarz | 7171 |
| N-1.5m-3GHz OATS Cable | GYL TECHNOLOGIES | 8785 |
| N-20m-1GHz OATS Cable | EMITECH | 8874 |
| N-8m-3GHz OATS Cable | C & C | 11832 |
| Attenuator 6dB 6GHz 1W | Radiall | 19267 |
| Multimeter 177 | Fluke | 14831 |
| Meteo station BAR 206 | Oregon Scientific | 14475 |
| Software | BAT-EMC V3.18.0.26 | 0000 |

APPENDIX 2: Radiated Test Setup

Anechoic chamber setup

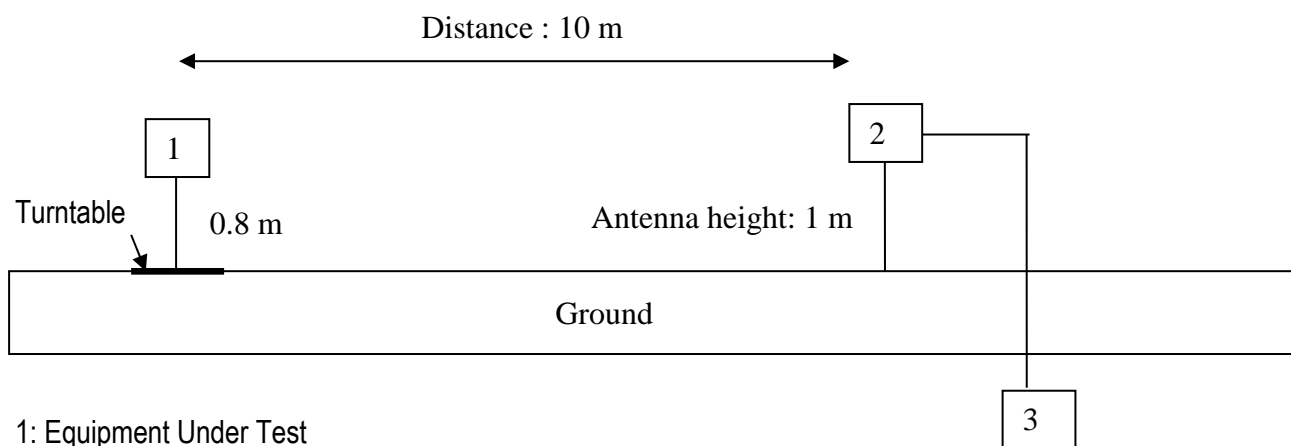
Above 1 GHz



- 1: Equipment Under Test
- 2: Measurement antenna
- 3: Measurement equipment

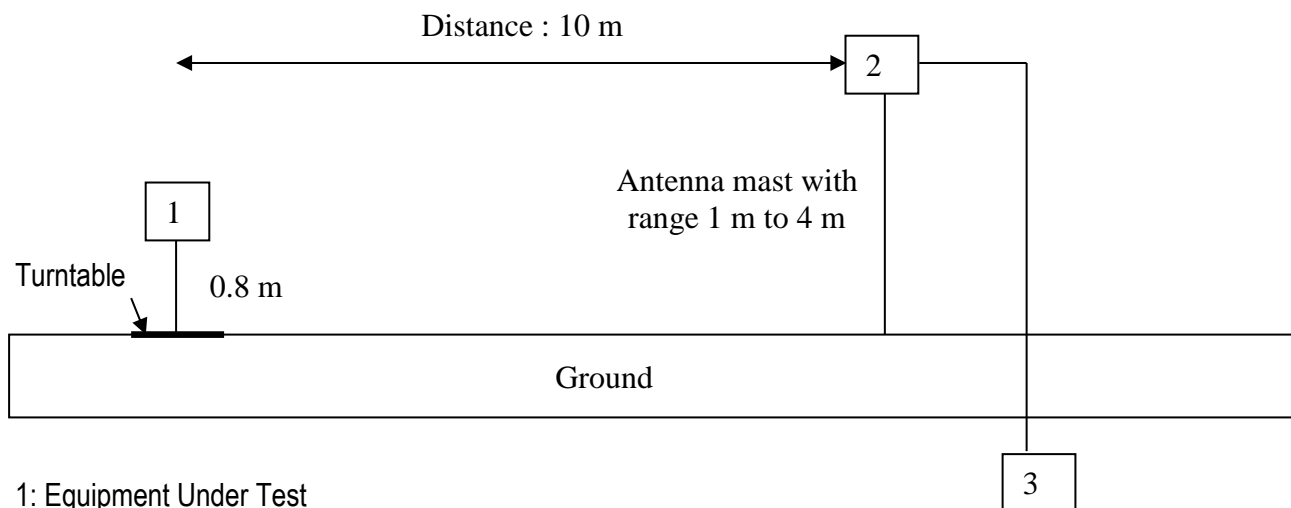
Open area setup

Below 30 MHz



- 1: Equipment Under Test
- 2: Measurement antenna
- 3: Measurement equipment

Between 30 MHz and 1 GHz



- 1: Equipment Under Test
- 2: Measurement antenna
- 3: Measurement equipment