



**TEST REPORT nr. R13203501**  
**Federal Communication Commission (FCC)**  
**Industry Canada (IC)**

**Test item**

Description.....: Transceiver unit  
Trademark.....: AUTEK  
Model/Type .....: Model: AJS  
Type: DA0BM

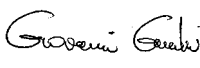

**Test Specification**

Standard .....: FCC Rules & Regulations, Title 47:2013  
Part 15 paragraph(s): 203, 204, 207, 209 and 249  
RSS-210 (2010)

**Client's name** .....: AUTEK S.r.l.  
Address .....: Via Pomaroli, 65 – 36030 Caldogno (VI) – ITALY

**Manufacturer's name** : Same as client  
Address .....: --

**Report**

Tested by .....: G. Gandini – *Technician*   
Approved by .....: R. Beghetto – *Laboratory Manager*   
Date of issue .....: 02.04.14  
Contents.....: 49 pages

This test report shall not be reproduced except in full without the written approval of CMC.  
The test results presented in this report relate only to the item tested.



## Index

|   |           |
|---|-----------|
| <b>1. SUMMARY</b>                                   | <b>3</b>  |
| <b>2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)</b> | <b>4</b>  |
| 2.1 TEST SITE                                       | 4         |
| <b>3. TESTING AND SAMPLING</b>                      | <b>4</b>  |
| <b>4. OPERATIVE CONDITIONS</b>                      | <b>4</b>  |
| <b>5. PHOTOGRAPH(S) OF EUT</b>                      | <b>5</b>  |
| 5.1 PHOTOGRAPH(S) OF EUT                            | 5         |
| <b>6. EQUIPMENT LIST</b>                            | <b>6</b>  |
| <b>7. MEASUREMENT UNCERTAINTY</b>                   | <b>7</b>  |
| <b>8. REFERENCE DOCUMENTS</b>                       | <b>8</b>  |
| <b>9. DEVIATION FROM TEST SPECIFICATION</b>         | <b>9</b>  |
| <b>10. TEST CASE VERDICTS</b>                       | <b>9</b>  |
| <b>11. RESULTS</b>                                  | <b>10</b> |
| 11.1 ANTENNA REQUIREMENTS                           | 11        |
| 11.2 RADIATED EMISSIONS                             | 12        |
| 11.3 OCCUPIED BANDWIDTH (99% BW)                    | 28        |
| 11.4 PEAK OUTPUT POWER                              | 33        |
| 11.5 BAND EDGE                                      | 41        |
| 11.6 SPURIOUS EMISSION                              | 47        |



## 1. Summary

### Standard:

FCC Rules & Regulations, Title 47:2013  
Part 15 paragraph(s): 203, 204, 207, 209 and 249  
RSS-210 (2010) – Annex 2 (A2.9)

| Test specifications                                     | Environmental Phenomena        | Tests sequence | Result   |
|---|--------------------------------|----------------|----------|
| Part 15.203<br>IC – RSS-210                             | Antenna requirements           | 1              | Complies |
| Part 15.207<br>IC – RSS-210 – Annex 2 (A2.9)            | Conducted emissions            | --             | N.A. (+) |
| Part 15.209<br>IC – RSS-210 – Annex 2 (A2.9)            | Radiated emissions             | 2              | Complies |
| IC – RSS-210 – Annex 2 (A2.9)                           | Occupied bandwidth<br>(99% BW) | 3              | Complies |
| Part 15.209 and 15.249<br>IC – RSS-210 – Annex 2 (A2.9) | Peak Output Power              | 4              | Complies |
| Part 15.249 (d)<br>IC – RSS-210 – Annex 2 (A2.9)        | Band edge                      | 5              | Complies |
| Part 15.209<br>IC – RSS-210 – Annex 2 (A2.9)            | Spurious emission              | 6              | Complies |

(+) Devices which only employ battery power. See FCC Part 15.207 (c)

The Test Report was given to the Client representatives for necessary documentation of ratification of the tested equipment and it is valid for the FCC certification



## 2. Description of Equipment under test (EUT)

Power supply ..... : 7,2Vdc  
Serial Number ..... : --  
Type of equipment ..... :  Transmitter Unit  
 Receiver Unit  
Type of station ..... :  Fixed station  
 Portable station  
 Mobile station  
Nominal frequency ..... : 902 – 928 MHz  
FCC ID ..... : OQA-AJSDA0BM  
IC number ..... : 9061A-AJSDA0BM

### 2.1 Test Site

Company ..... : CMC Centro Misure Compatibilità S.r.l.  
Address ..... : Via dell'Elettronica, 12/C  
36016 Thiene (VI) – ITALY

## 3. Testing and sampling

Date of receipt of test item ..... : 18.11.13  
Testing start date ..... : 21.01.14  
Testing end date ..... : 27.01.14  
Samples tested nr. .... : 1  
Sampling procedure. .... : Equipment used for testing was picked up by  
the manufacturer, at the end of the production  
process with random criterion  
Internal identification ..... : adhesive label with the product number  
P131155

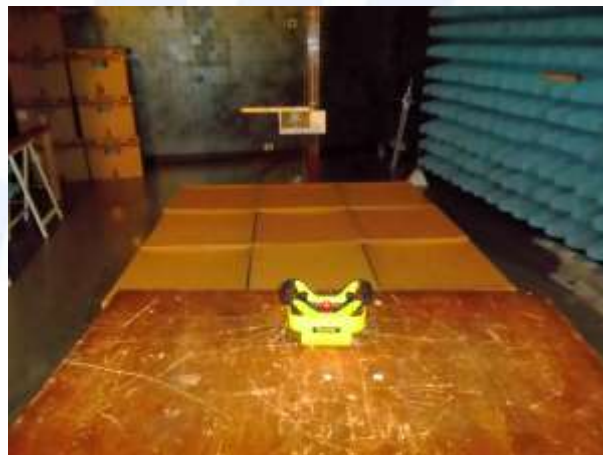
## 4. Operative conditions

EUT exercising ..... : EUT in continuous transmission at maximum power



## 5. Photograph(s) of EUT

### 5.1 Photograph(s) of EUT





## 6. Equipment list

| <i>Id. number</i> | <i>Manufacturer</i> | <i>Model</i> | <i>Description</i>        | <i>Serial number</i> | <i>Last calibration</i> | <i>Due date calibration</i> |
|-------------------|---------------------|--------------|---------------------------|----------------------|-------------------------|-----------------------------|
| CMC S010          | Rohde & Schwarz     | ESH3-Z2      | Impulses Limiting Device  | ---                  | January '14             | January '15                 |
| CMC S108          | EMCO                | 3115         | Horn Antenna              | 9811-5622            | May '13                 | May '16                     |
| CMC S127          | Schaffner           | HLA6120      | Loop Antenna              | 1191                 | January '13             | January '16                 |
| CMC S136          | Schwarzbeck         | VULB 9163    | Broadband Antenna         | 9136-205             | May '13                 | May '16                     |
| CMC S164          | Rohde & Schwarz     | ESU26        | EMC interference receiver | 100052               | January '14             | January '15                 |
| CMC S200          | Schwarzbeck         | NSLK 8128    | V-LISN                    | 8128-273             | January '14             | January '15                 |
| CMC S227          | Rohde & Schwarz     | ESR7         | EMI Test Receiver 7GHz    | 101121               | January '14             | January '15                 |



## 7. Measurement uncertainty

| Test  | Expanded Uncertainty | note |
|---|----------------------|------|
| <b>Conducted Emission</b>   |                      |      |
| (50Ω/50μH AMN) - (9 kHz – 150 kHz)                                  | ±3.8 dB              | 1    |
| (50Ω/50μH AMN) - (150 kHz – 30 MHz)                                 | ±3.3 dB              | 1    |
| (Voltage probe) - (150 kHz – 30 MHz)                                | ±3.3 dB              | 1    |
| (50Ω/5μH AMN) - (150 kHz – 108 MHz)                                 | ±2.8 dB              | 1    |
| <b>DiscontinuousConducted Emission</b>                              |                      |      |
| Conducted Emission (50Ω/50μH AMN) - (150 kHz – 30 MHz)              | ±3.3 dB              | 1    |
| <b>Disturbance Power (30 MHz – 300 MHz)</b>                         |                      |      |
|   | ±3.9 dB              | 1    |
| <b>Radiated Emission</b>  |                      |      |
| (0,150 MHz – 30 MHz)  | ±4.3 dB              | 1    |
| (30 MHz – 1000 MHz)   | ±4.4 dB              | 1    |
| (1 GHz – 6 GHz)   | ±4.6 dB              | 1    |
| <b>Electromagnetic field EMF</b>                                    |                      |      |
|   | ±15.0 %              | 1    |
| <b>Harmonic current emissions test</b>                              |                      |      |
|   | ±2.7 %               | 1    |
| <b>Voltage fluctuation and flicker test</b>                         |                      |      |
|   | ±2.9 %               | 1    |
| <b>Insertion loss test</b>  |                      |      |
|   | ±2.7 dB              | 1    |
| <b>Radiated electromagnetic disturbance test (loop antenna)</b>     |                      |      |
|   | ±2.7 dB              | 1    |
| <b>Radiated electromagnetic field immunity test</b>                 |                      |      |
|   | 0.77 V/m at 3V/m     | 1    |
| <b>Pulse modulated radiated electromagnetic field immunity test</b> |                      |      |
|   | 0.77 V/m at 3V/m     | 1    |
| <b>Injected currents immunity test</b>                              |                      |      |
|   | 0.48 V at 3V         | 1    |
| <b>Bulk current</b>   |                      |      |
|   | 5.3 mA at 60 mA      | 1    |
| <b>Power frequency magnetic field immunity test</b>                 |                      |      |
|   | 0.1 A/m at 10 A/m    | 1    |
| <b>Effective radiated power (F &lt; 1GHz)</b>                       |                      |      |
|   | ±4.4 dB              | 1    |
| <b>Effective radiated power (F &gt; 1GHz)</b>                       |                      |      |
|   | ±3.9 dB              | 1    |
| <b>Frequency error</b>  |                      |      |
|   | < 1x10 <sup>-7</sup> | 1    |
| <b>Modulation bandwidth</b>   |                      |      |
|   | < 1x10 <sup>-7</sup> | 1    |
| <b>Adjacent channel power</b>                                       |                      |      |
|   | ±2.6 dB              | 1    |
| <b>Blocking</b>   |                      |      |
|   | ±2.6 dB              | 1    |
| <b>Electrostatic discharge immunity test</b>                        |                      |      |
|   |                      | 2    |
| <b>Electrical fast transients / burst immunity test</b>             |                      |      |
|   |                      | 2    |
| <b>Surge immunity test</b>  |                      |      |
|   |                      | 2    |
| <b>Pulse magnetic field immunity test</b>                           |                      |      |
|   |                      | 2    |
| <b>Damped oscillatory magnetic field immunity test</b>              |                      |      |
|   |                      | 2    |
| <b>Short interruption immunity test</b>                             |                      |      |
|   |                      | 2    |
| <b>Voltage transient emission test</b>                              |                      |      |
|   | ±2.2 %               | 1    |
| <b>Transient immunity test</b>                                      |                      |      |
|   |                      | 2    |

### Notes

#### Note 1:

The expanded uncertainty reported according to EN55016-4-2:2011 is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of p = 95%

#### Note 2:

It has been demonstrated that the used test equipment meets the specified requirements in the standard with at least a 95% confidence, covering factor k = 2.



## 8. Reference documents

| Reference no.   | Description  |
|---|--|
| FCC Rules and Regulation Title 47 part 15:2013<br>RSS-210 Issue 8 – December 2010 | --   |
| ANSI C63.4: 2003  | American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz |
| Internal Procedure PM001 rev. 2.0 (Quality Manual)                                | Measure Procedure  |
| Internal procedure INC_M rev. 8.2 (Quality Manual)                                | Measurement uncertainty calculation  |





## 9. Deviation from test specification

In agreement with the client, emission tests were performed with peak detector.

At the frequencies where the measures exceed the limit or within 6 dB from it, the test was repeated with quasi-peak detector and/or average detector.

## 10. Test case verdicts

Test case does not apply to the test object..... : N.A.

Test item does meet the requirement..... : Complies

Test item does not meet the requirement..... : Does not comply

Test not performed ..... : N.E.

CMC Centro Misure Compatibilità S.r.l.

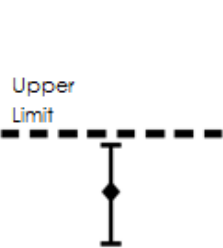
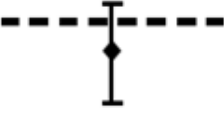
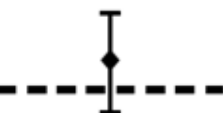



## 11. Results

In this clause tests results are reported.

Measurement uncertainty is in accordance with document CMC INC\_M rev. 8.2.

*Judgement of compliance:*

| Case 1  | Case 2   | Case 3   | Case 4   |
|---|--|--|--|
|                                  |   |    |                                 |
| The sample is Complies.   | The sample is Complies.  | The sample is Not Complies.  | The sample is Not Complies.  |
| The measurement results is within the specification limit when the measurement uncertainty is taken into account. | It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty although the measurement result is below the limit. | It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty also the measurement result is upper the limit. | The measurement results is outside the specification limit when the measurement uncertainty is taken into account. |

In agreement with ILAC-G8: 03/2009 Guidelines on the Reporting of Compliance with Specification.



## 11.1 Antenna requirements

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.203 and 15.204
- RSS-210
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

*Test site:*  
 Laboratory

*Auxiliary equipment:*  
 See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

--  
 Measurement uncertainty: See clause 7 of this test report

### Test specification

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded

### Environmental conditions

| Temperature<br>(°C) | Atmospheric pressure<br>(kPa) | Relative humidity<br>(%) |
|---------------------|-------------------------------|--------------------------|
| 22                  | 98                            | 48                       |

### Result

| Antenna Type | External R.F.<br>power amplifier | Gain  | Remarks | Results  |
|--------------|----------------------------------|-------|---------|----------|
| Embedded     | Not Present                      | 0 dBi | --      | Complies |

**Result:** The requirements are met



## 11.2 Radiated emissions

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part. 15.209
- RSS-210
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

*Test site:*  
Semi-anechoic chamber

*Auxiliary equipment:*  
See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

CMC S108, CMC S127, CMC S136, CMC S164  
 Measurement uncertainty: See clause 7 of this test report

### Test specification

Port: Enclosure  
 Frequency range: 0,009 MHz – 1000 MHz  
 Antenna polarization: Horizontal (H) – Vertical (V)  
 EUT – Antenna distance: 3 m

### Environmental conditions

| Temperature (°C) | Atmospheric pressure (kPa) | Relative humidity (%) |
|------------------|----------------------------|-----------------------|
| 22               | 98                         | 50                    |

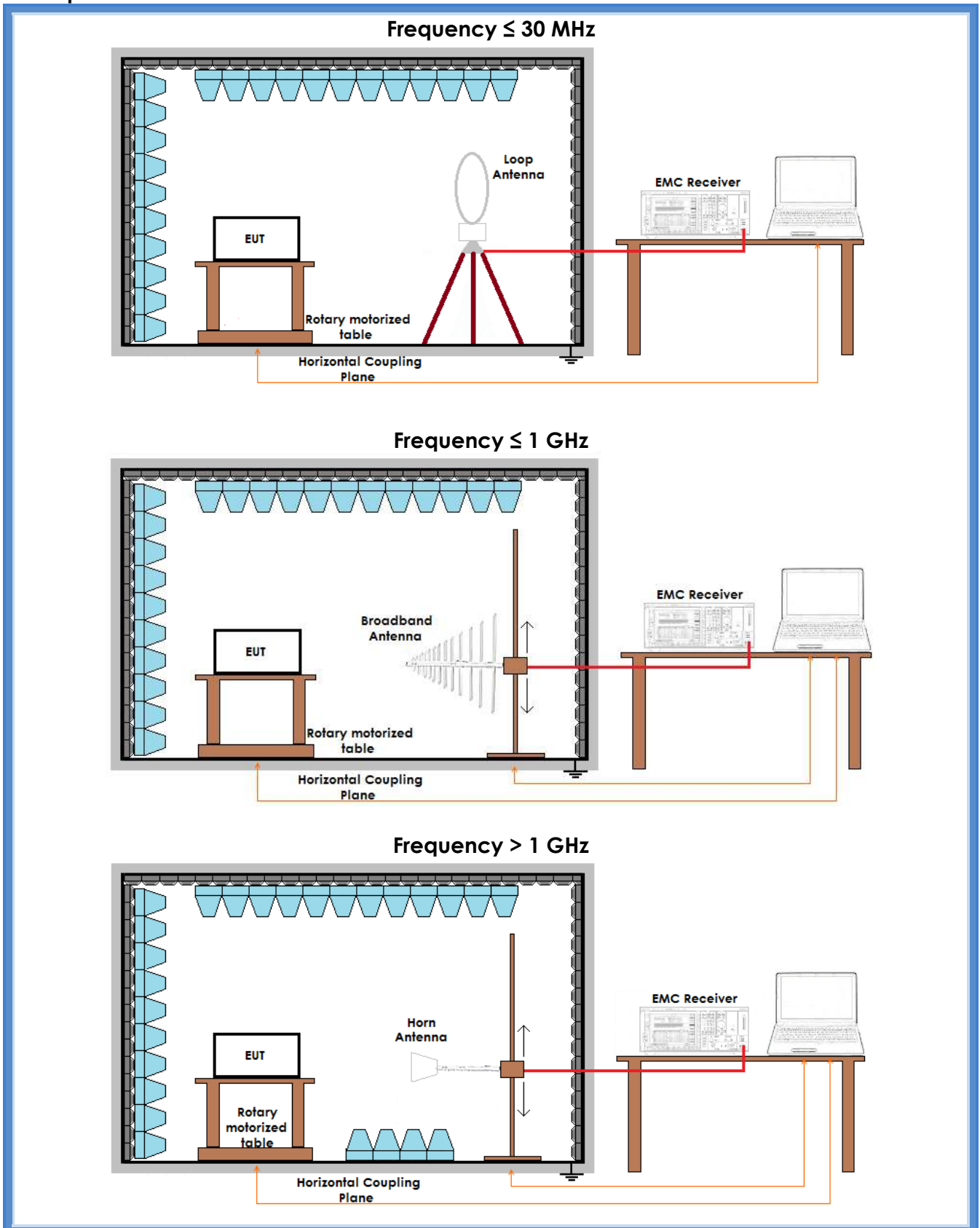
### Acceptance limits

| Frequency range (MHz) | Limits [dB(μV/m)] |
|-----------------------|-------------------|
| 0,009 to 0,490        | 128,51 to 93,80   |
| 0,490 to 1,705        | 73,80 to 62,97    |
| 1,705 to 30           | 69,54             |
| 30 to 88              | 40                |
| 88 to 216             | 43,52             |
| 216 to 960            | 46,02             |
| Above 960             | 53,98             |

**Remarks:** The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.



## Setup



CMC Centro Misure Compatibilità S.r.l.



## Result

| Channel | Polarization | Frequency Range (MHz) | Graphs    | Remarks | Result   |
|---------|--------------|-----------------------|-----------|---------|----------|
| --      | Loop         | 0,009 – 30            | G13203509 | --      | Complies |
| 915,050 | H            | 30 – 1000             | G13203515 | --      | Complies |
| 915,050 | V            | 30 – 1000             | G13203519 | --      | Complies |
| 921,000 | H            | 30 – 1000             | G13203501 | --      | Complies |
| 921,000 | V            | 30 – 1000             | G13203505 | --      | Complies |
| 927,750 | H            | 30 – 1000             | G13203531 | --      | Complies |
| 927,750 | V            | 30 – 1000             | G13203524 | --      | Complies |
| 915,050 | H            | 1000 – 10000          | G13203544 | --      | Complies |
| 915,050 | V            | 1000 – 10000          | G13203543 | --      | Complies |
| 921,000 | H            | 1000 – 10000          | G13203535 | --      | Complies |
| 921,000 | V            | 1000 – 10000          | G13203536 | --      | Complies |
| 927,750 | H            | 1000 – 10000          | G13203545 | --      | Complies |
| 927,750 | V            | 1000 – 10000          | G13203546 | --      | Complies |

Remarks: --

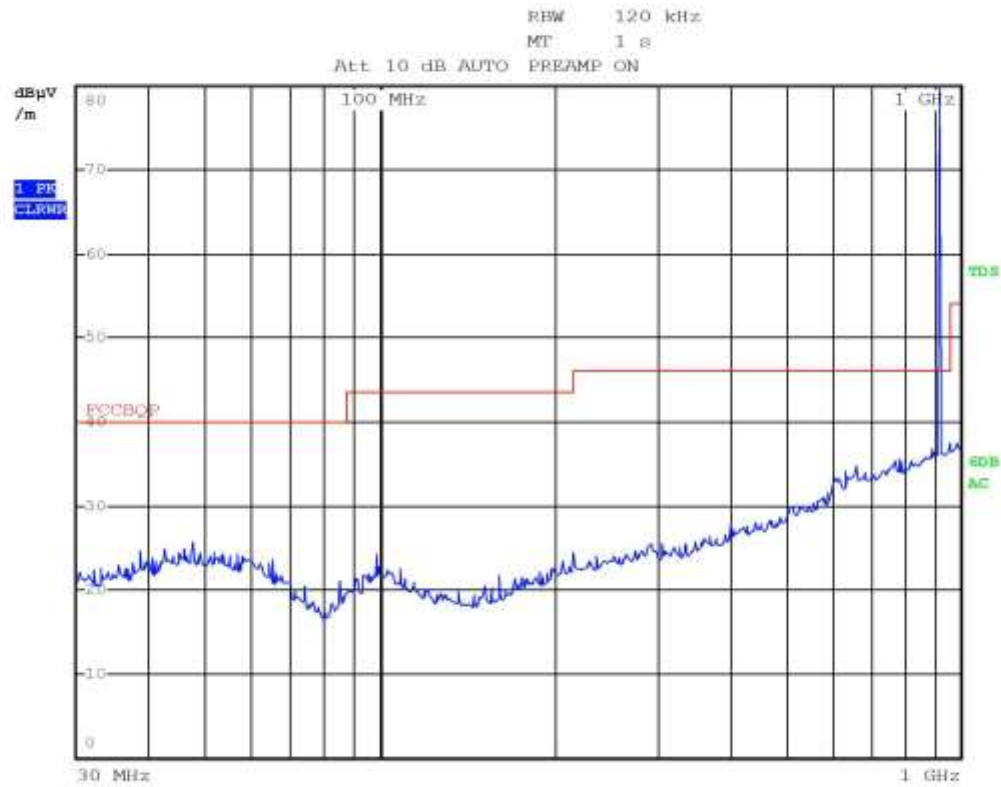
### Graphs Legend

PK: Peak; QP [1s] (quasi-peak at 1 second) values are marked with a +  
AV: Average; AV [1s] (average at 1 second) values are marked with a x



## Graphs

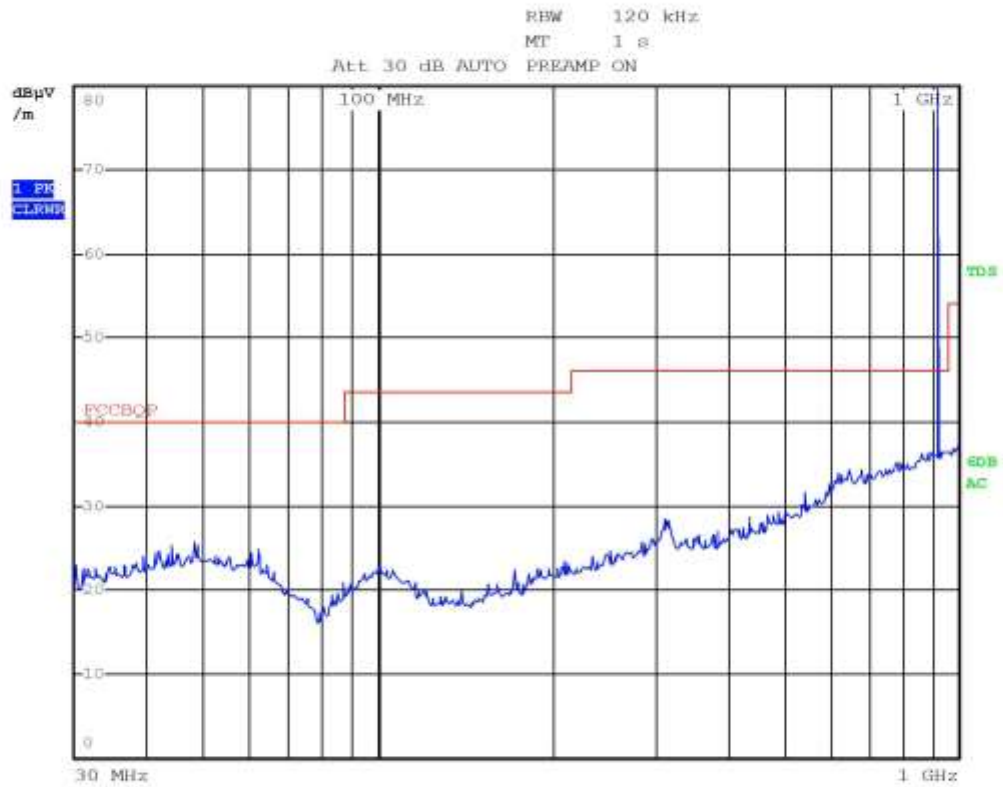
G13203501



Bertezzo 13203501 HORIZ - Fixed TX



G13203505

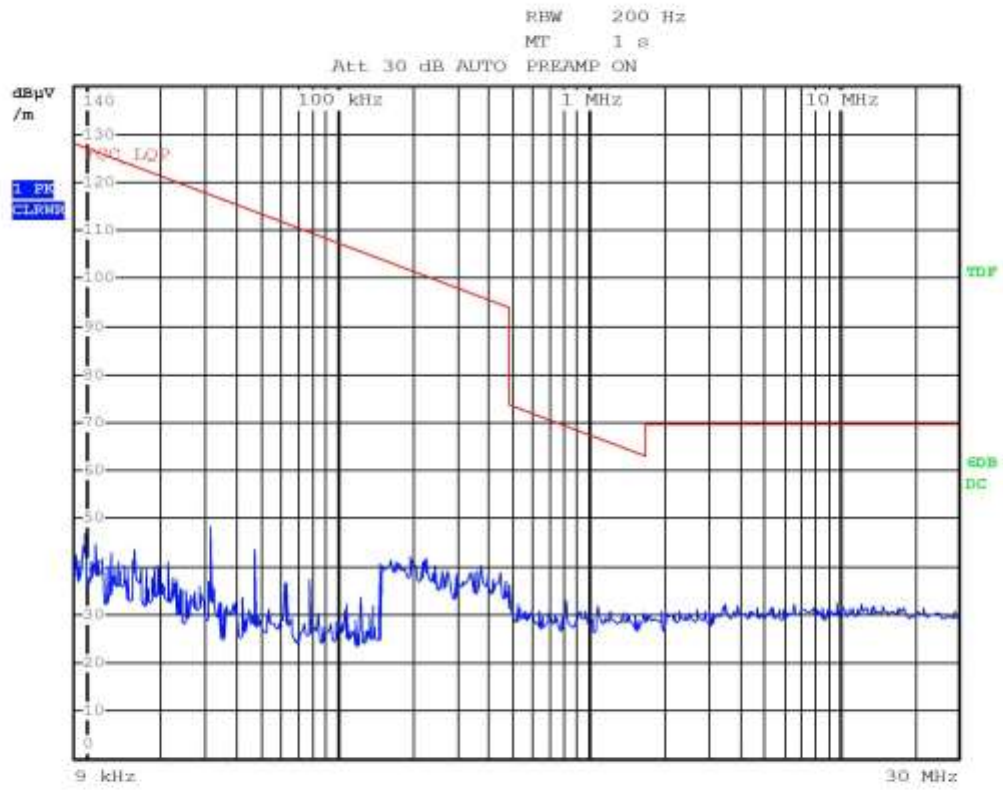


Bertezzolo 13203505 VERT - Fmed TX





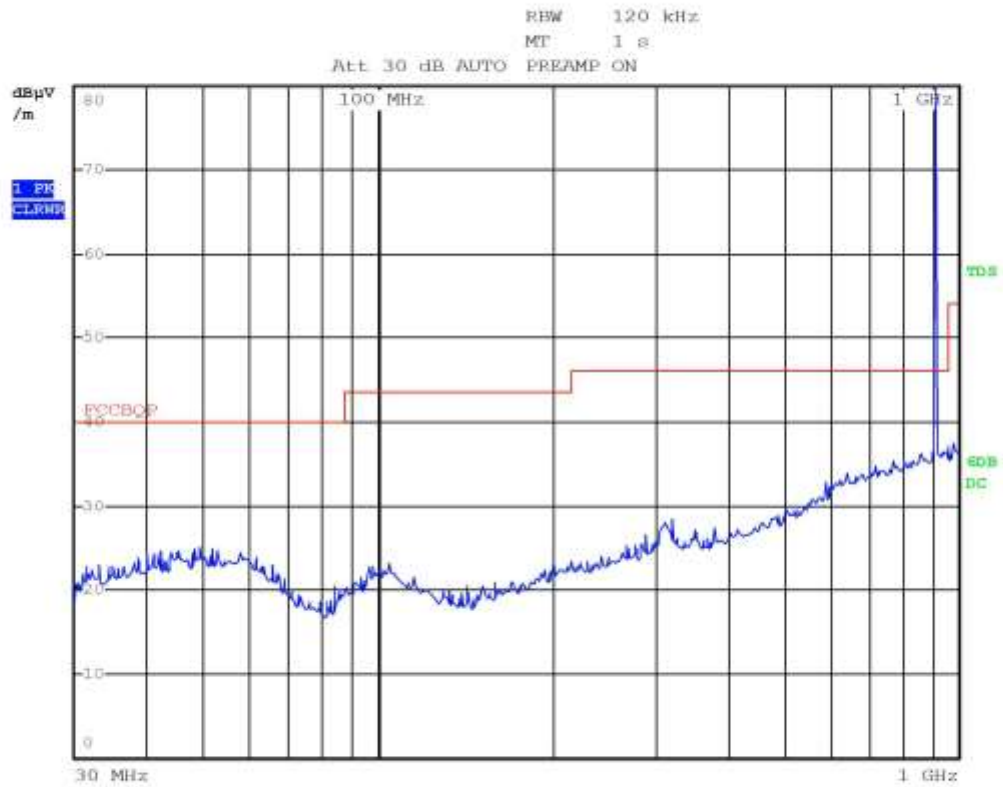
G13203509



Bertezzo 13203509 LOOP - Fmed TX



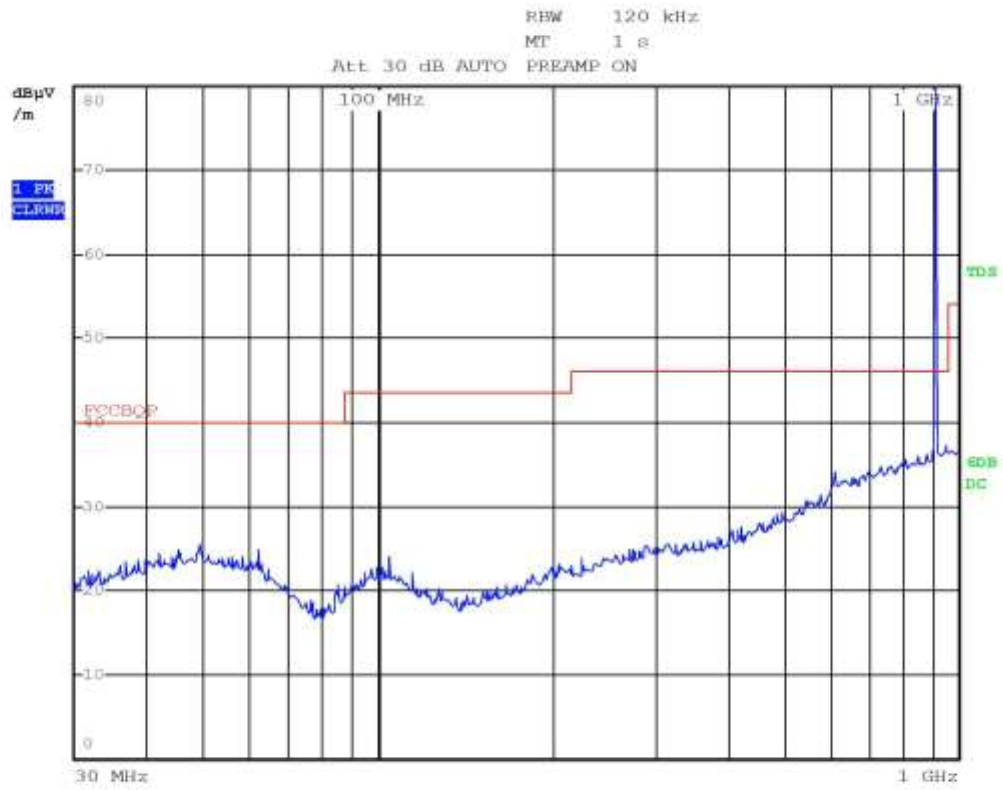
G13203515



Bertezzo 13203515 HORIZ - Fmin TX



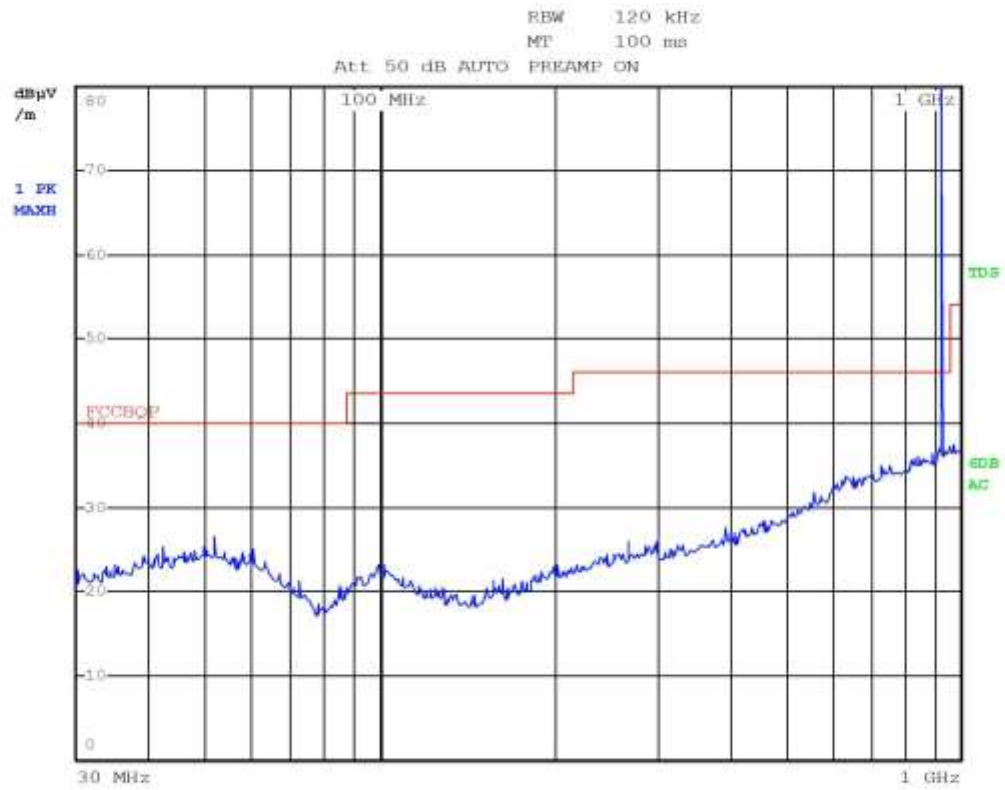
G13203519



Bertezzo 13203519 VERT - Fmin TX



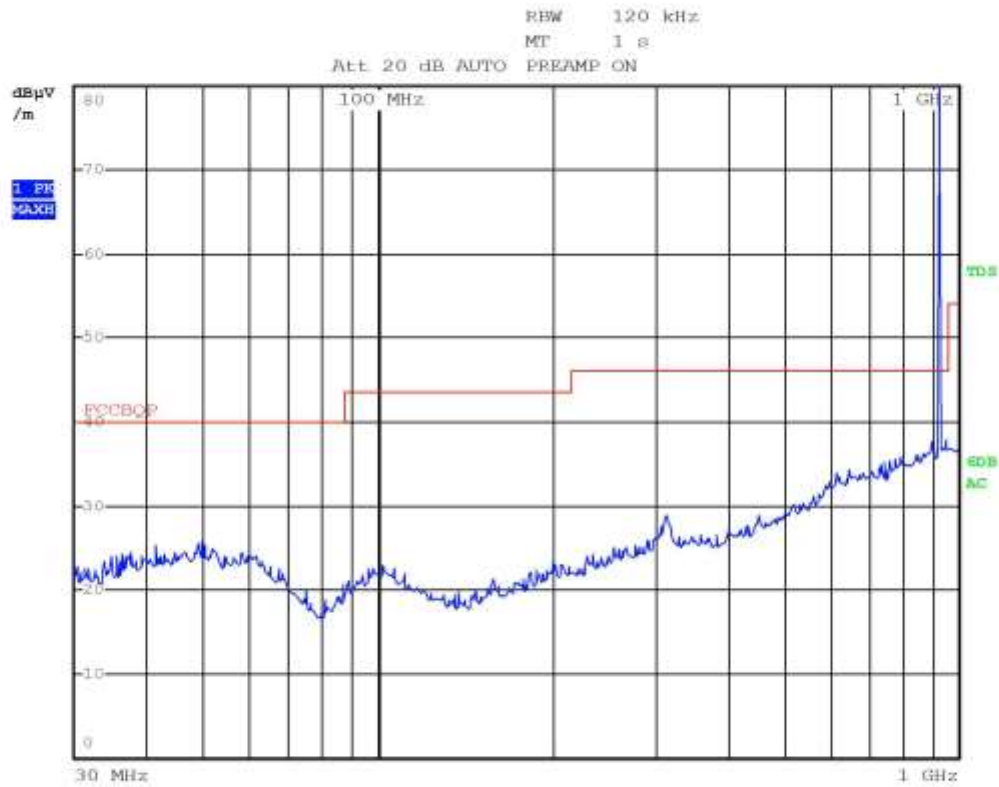
G13203524



Bertezzo 13203524 Vert -Fmax TX



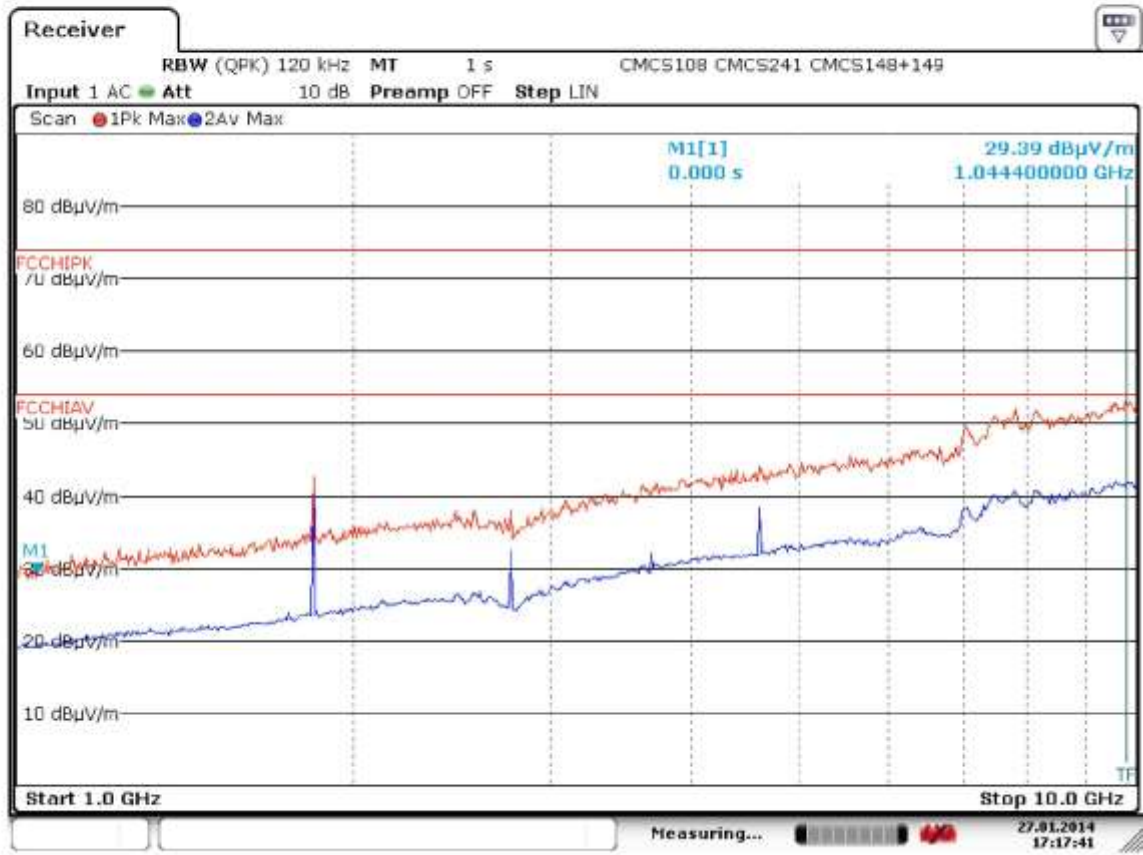
G13203531



Bertezzo 13203531 HORIZ - Fmax TX



G13203535

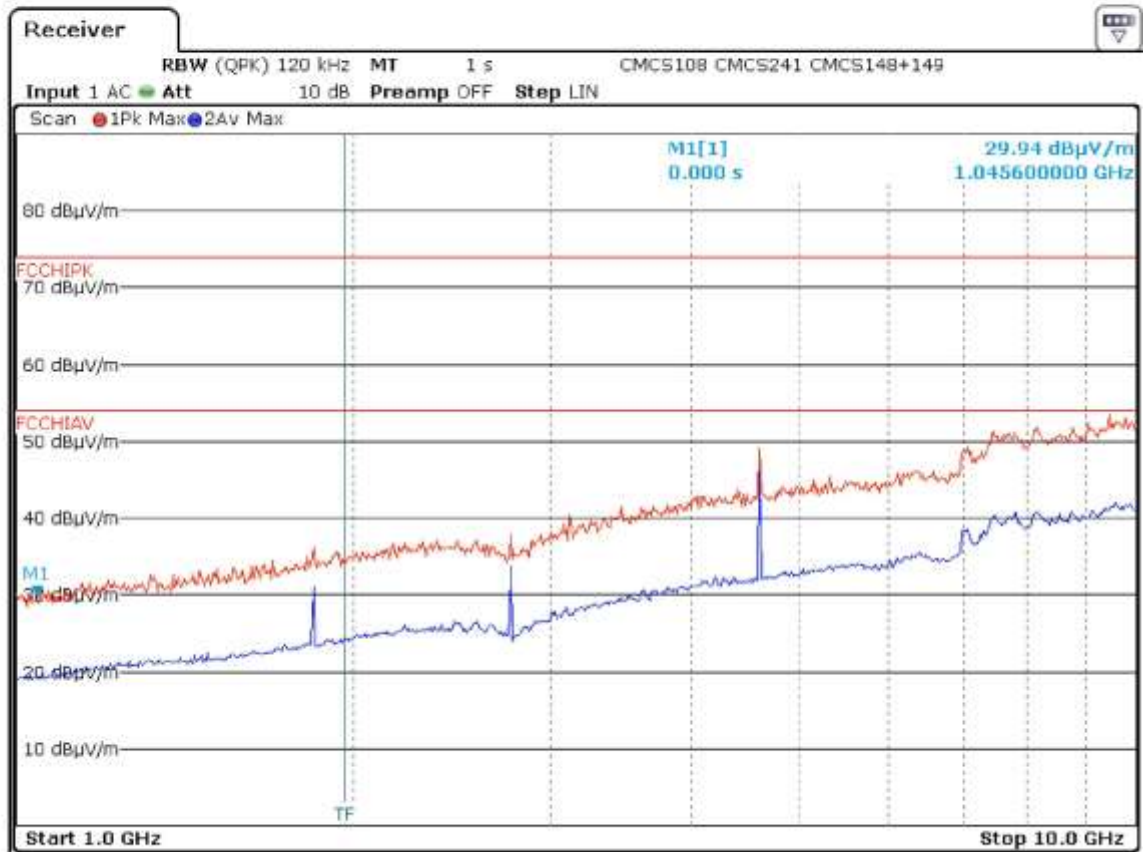


Bertezzo 13203535 HORIZ - Fmed TX

CMC Centro Misure Compatibilità S.r.l.



G13203536

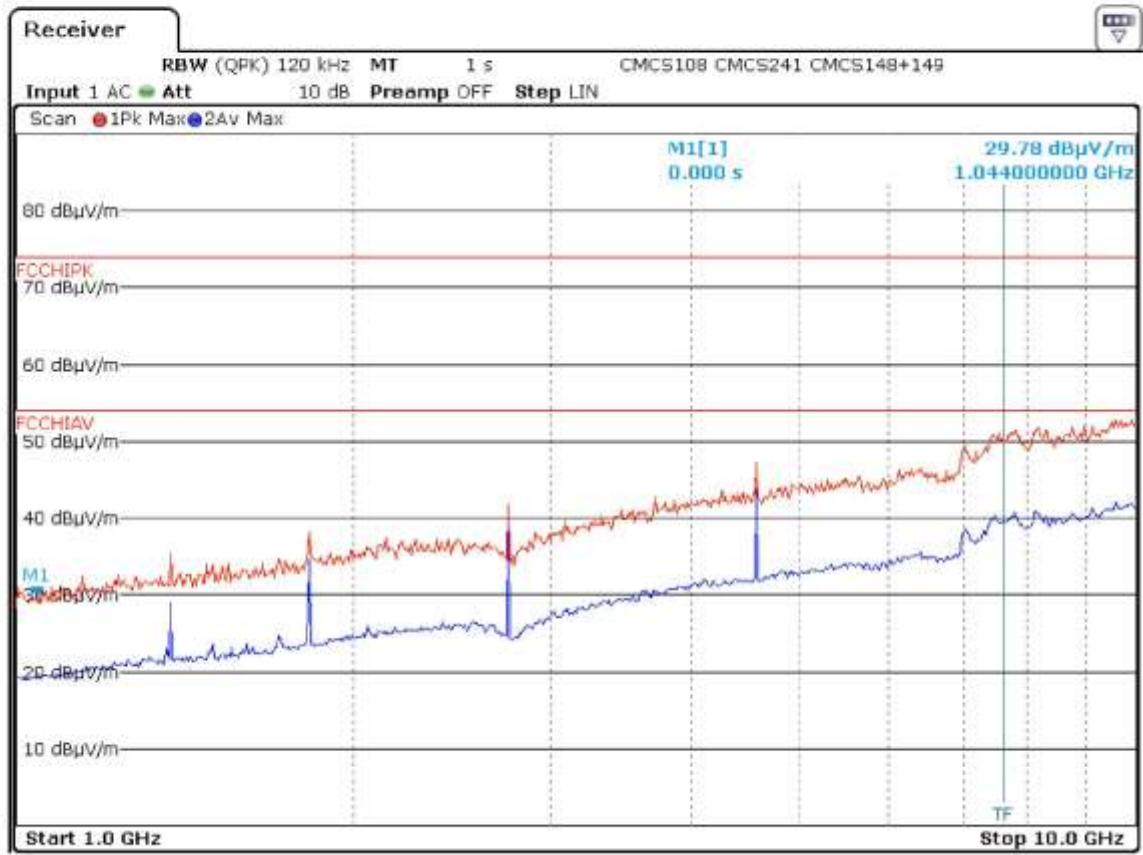


Bertezzo 13203536 VERT - Fmed TX

CMC Centro Misure Compatibilità S.r.l.



G13203543



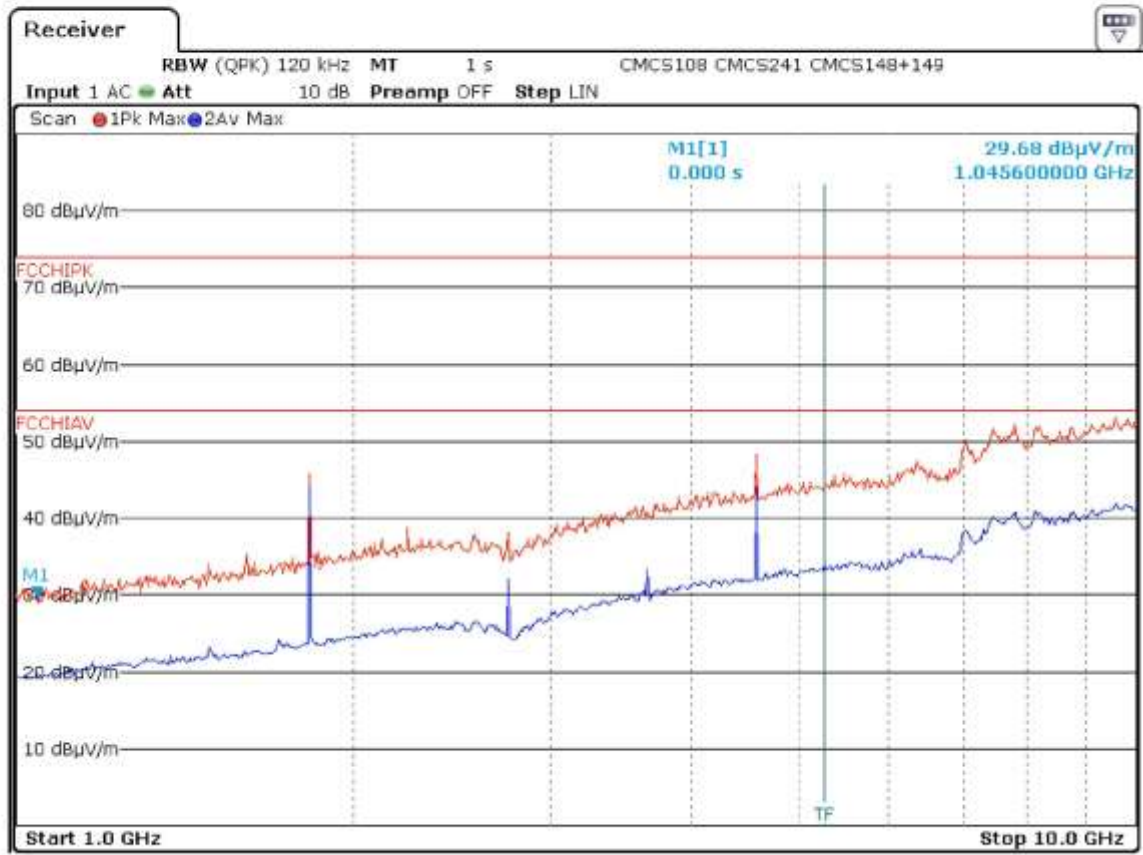
Bertezzo 13203543 VERT - Fmin TX

CMC Centro Misure Compatibilità S.r.l.





G13203544

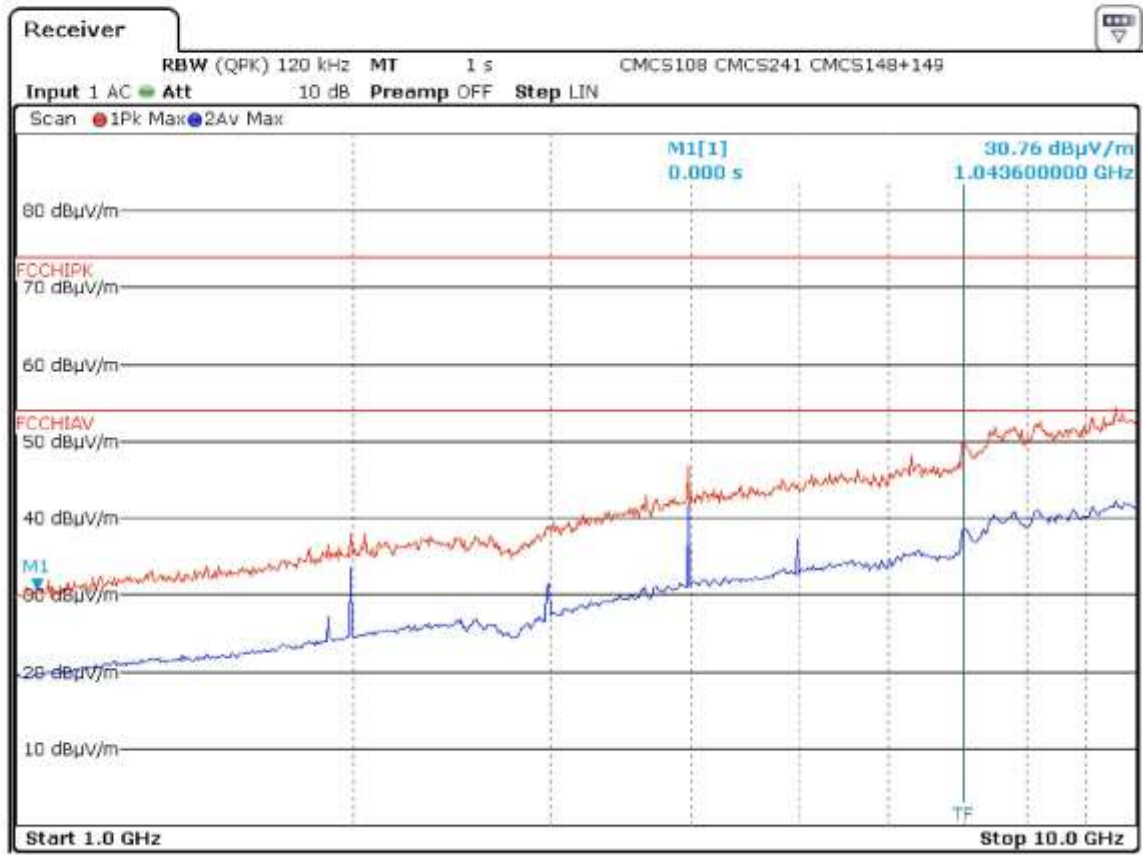


Bertezzo 13203544 HORIZ - Fmin TX

CMC Centro Misure Compatibilità S.r.l.



G13203545

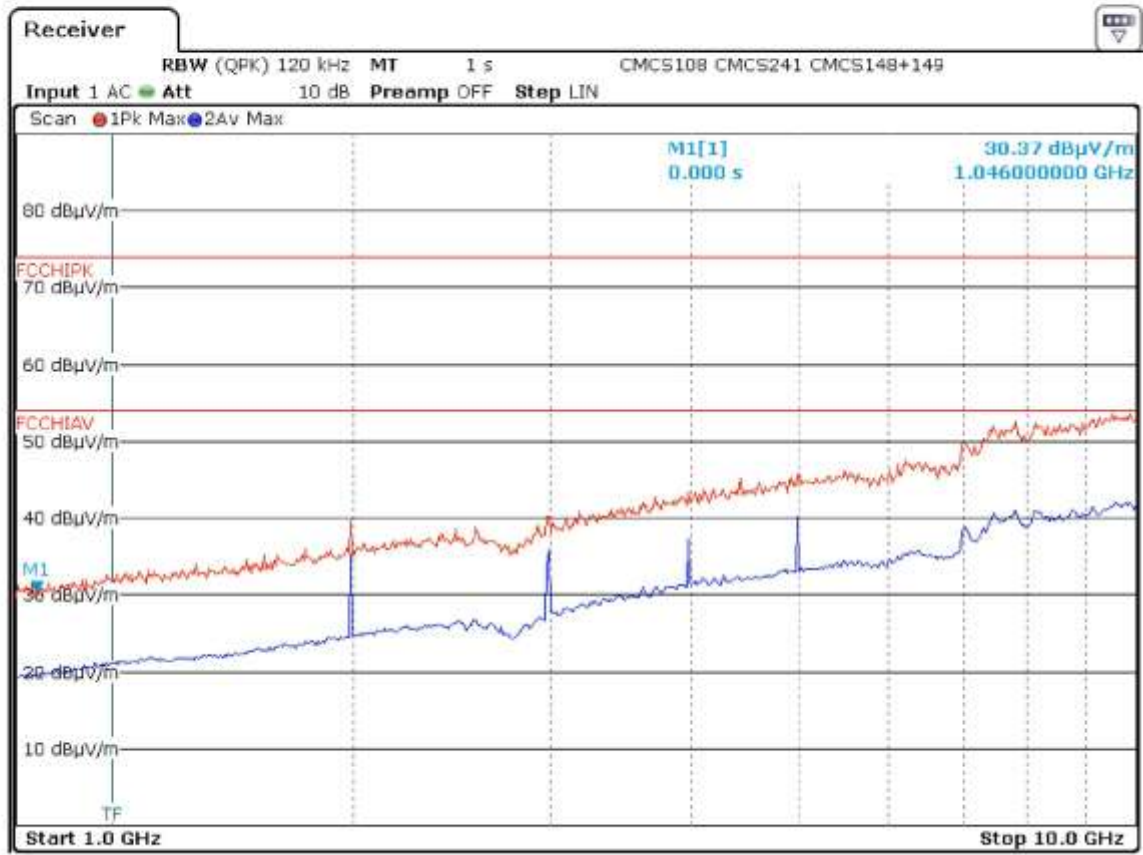


Bertezzo 13203545 HORIZ - Fmax TX

CMC Centro Misure Compatibilità S.r.l.



G13203546



Bertezzo 13203546 VERT - Fmax TX

**Result:** The requirements are met

CMC Centro Misure Compatibilità S.r.l.



### 11.3 Occupied bandwidth (99% BW)

#### Test set-up and execution

- RSS 210 Annex 2 (A2.9)
- Internal procedure PM001
- See clause 4 of this test report

#### Test configuration and test method

*Test site:*  
Laboratory

*Auxiliary equipment:*  
See clause 4 of this test report

#### EUT exercising

See clause 4 of this test report

#### Test equipment used

CMC S108, CMC S136, CMC S164  
Measurement uncertainty: See clause 7 of this test report

#### Test specification

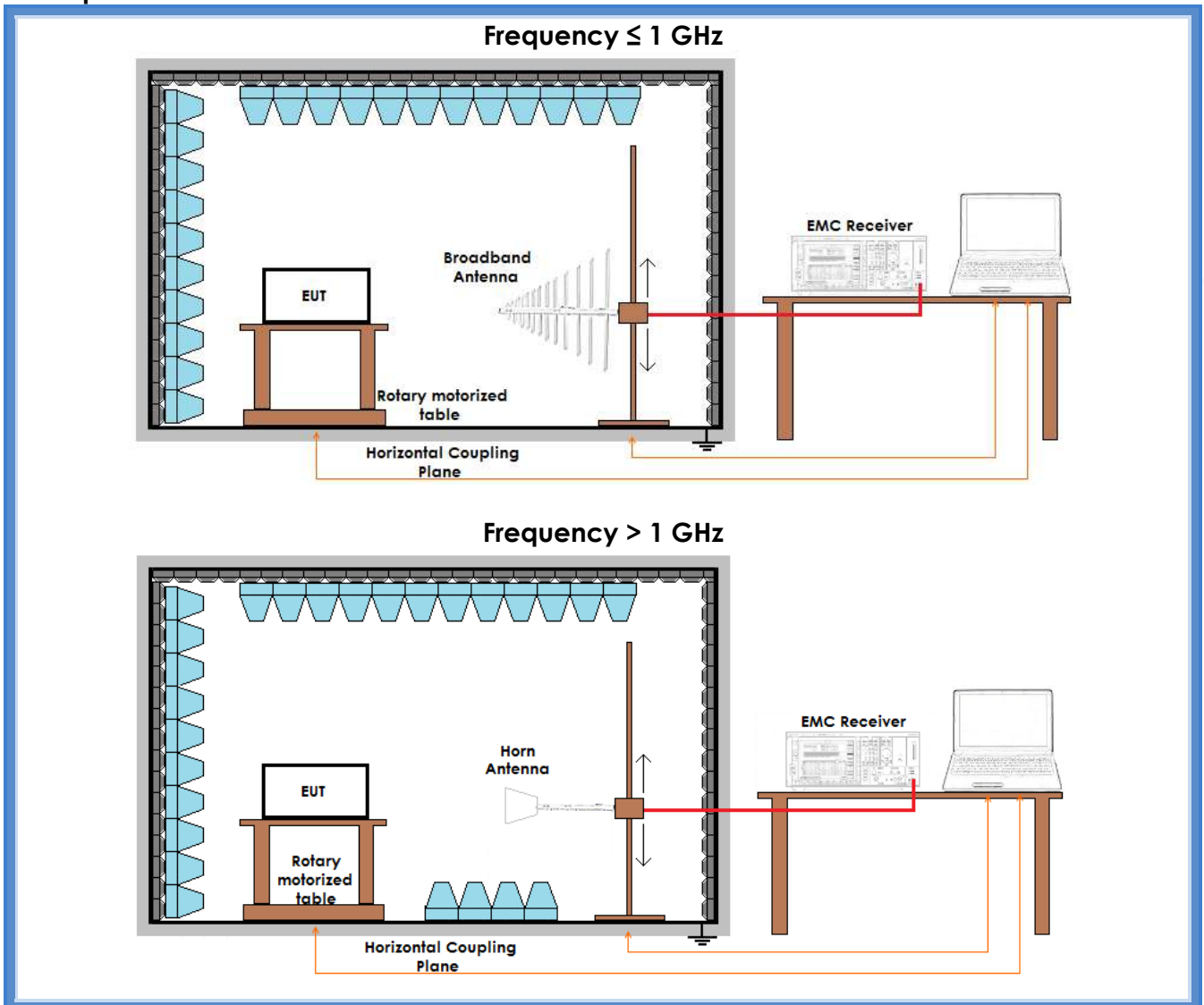
RSS 210 Annex 2 (A2.9)

#### Environmental conditions

| Temperature<br>(°C) | Atmospheric pressure<br>(kPa) | Relative humidity<br>(%) |
|---------------------|-------------------------------|--------------------------|
| 22                  | 99                            | 51                       |



## Setup



## Result

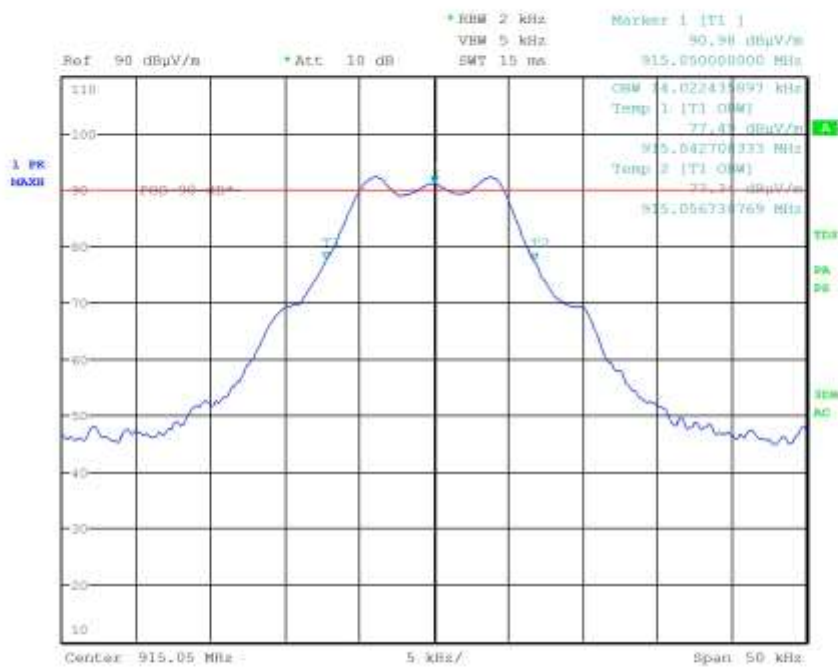
| $f$<br>(MHz) | 99% bandwidth<br>(kHz) | Graphs    | Results  |
|--------------|------------------------|-----------|----------|
| 915,050      | 14,0                   | G13203553 | Complies |
| 921,000      | 14,1                   | G13203562 | Complies |
| 927,750      | 14,2                   | G13203558 | Complies |



## Graphs

G13203553

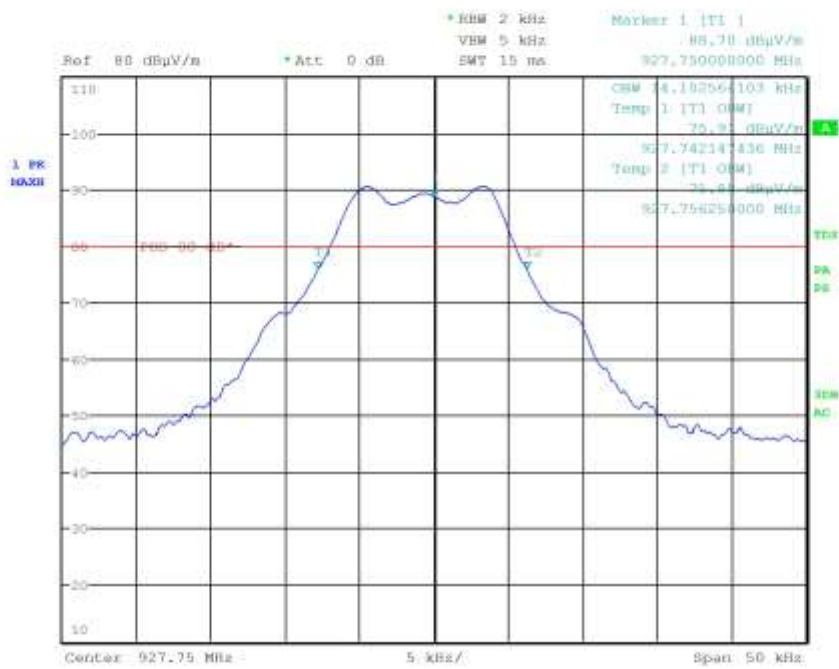
**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMIN  
**Operator** Gandini 13203553  
**Test Spec**  
**Horiz**





G13203558

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMAX  
**Operator** Gandini 13203558  
**Test Spec**  
Horiz

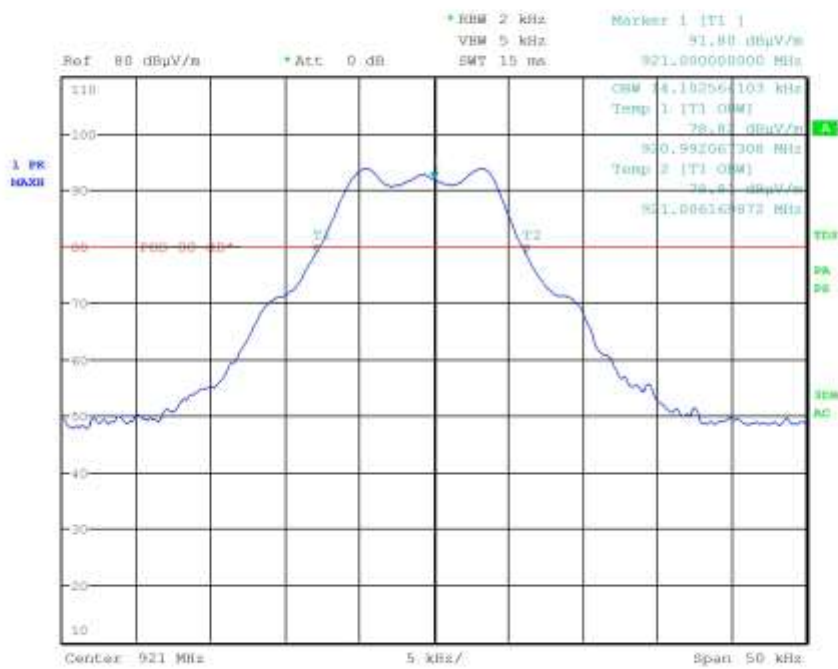


CMC Centro Misure Compatibilità S.r.l.



G13203562

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMED  
**Operator** Gandini 13203562  
**Test Spec**  
Horiz



**Result:** The requirements are met





## 11.4 Peak Output Power

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.209 and Part 15.249
- RSS-210
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

*Test site:*  
Semi-anechoic chamber

*Auxiliary equipment:*  
See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

CMC S108, CMC S136, CMC S164  
 Measurement uncertainty: See clause 7 of this test report

### Test specification

Port: Enclosure  
 Antenna polarization: Horizontal (H) – Vertical (V)  
 EUT – Antenna distance: 3 m

### Environmental conditions

| Temperature (°C) | Atmospheric pressure (kPa) | Relative humidity (%) |
|------------------|----------------------------|-----------------------|
| 24               | 99                         | 52                    |

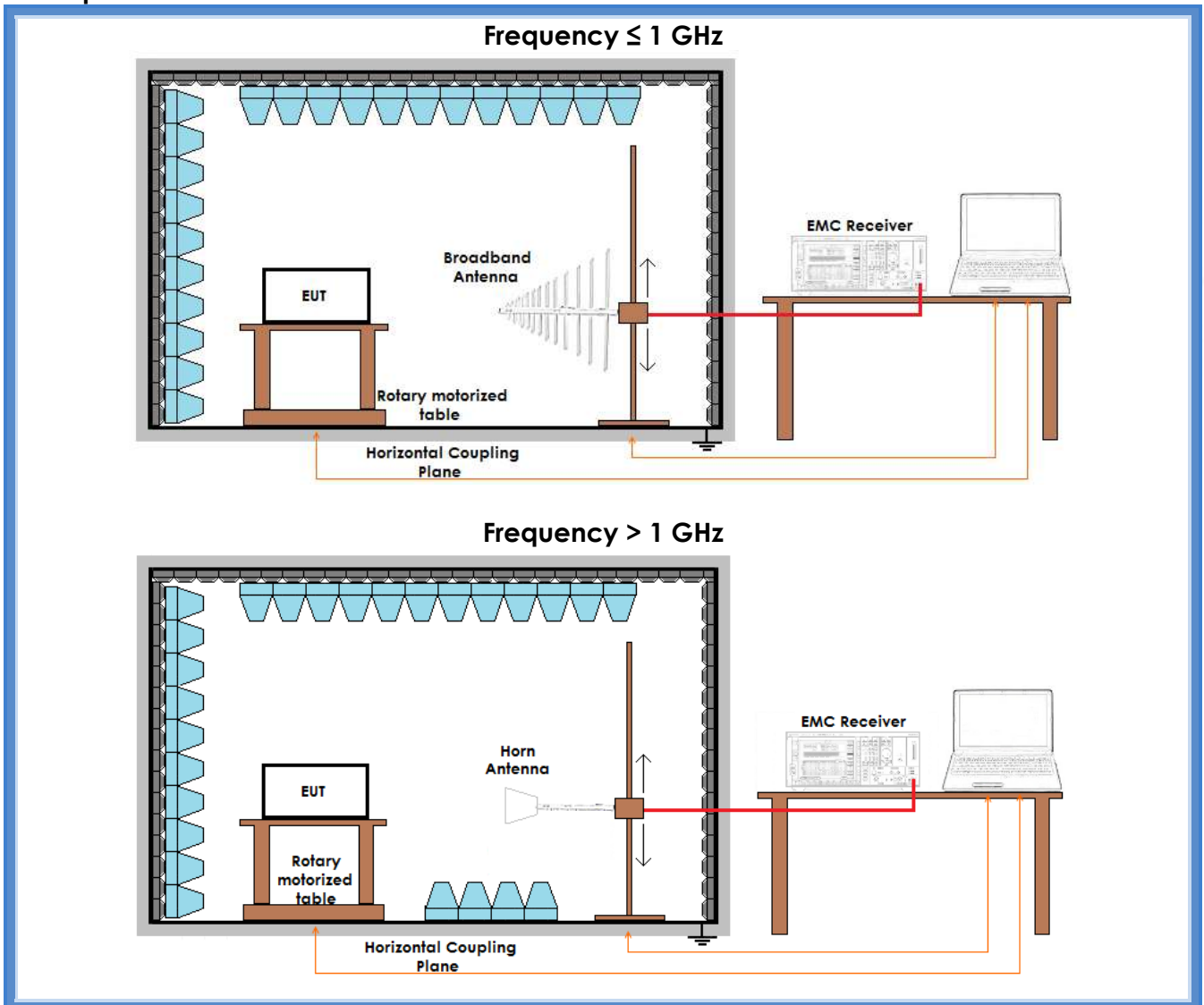
### Acceptance limits

| Frequency range (MHz) | RF Power Output dB(μV/m) |
|-----------------------|--------------------------|
| 902 – 928             | 94                       |

| Frequency range (MHz) | RF Power Output dB(μV/m) |
|-----------------------|--------------------------|
| 2400 – 2483,5         | 94                       |



**Setup**



**Result**

| Frequency (MHz) | Polarization | Graphs    | Measured QP level (dB $\mu$ V/m) | Peak Output Power (mW) | Remarks |
|-----------------|--------------|-----------|----------------------------------|------------------------|---------|
| 915,050         | Horizontal   | G13203550 | 92.61                            | 0,55                   | --      |
| 915,050         | Vertical     | G13203554 | 87.77                            | 0,18                   | --      |
| 921,000         | Horizontal   | G13203561 | 93.84                            | 0,73                   | --      |
| 921,000         | Vertical     | G13203560 | 91.41                            | 0,41                   | --      |
| 927,750         | Horizontal   | G13203555 | 90.61                            | 0,34                   | --      |
| 927,750         | Vertical     | G13203559 | 86.94                            | 0,15                   | --      |

**Remarks**

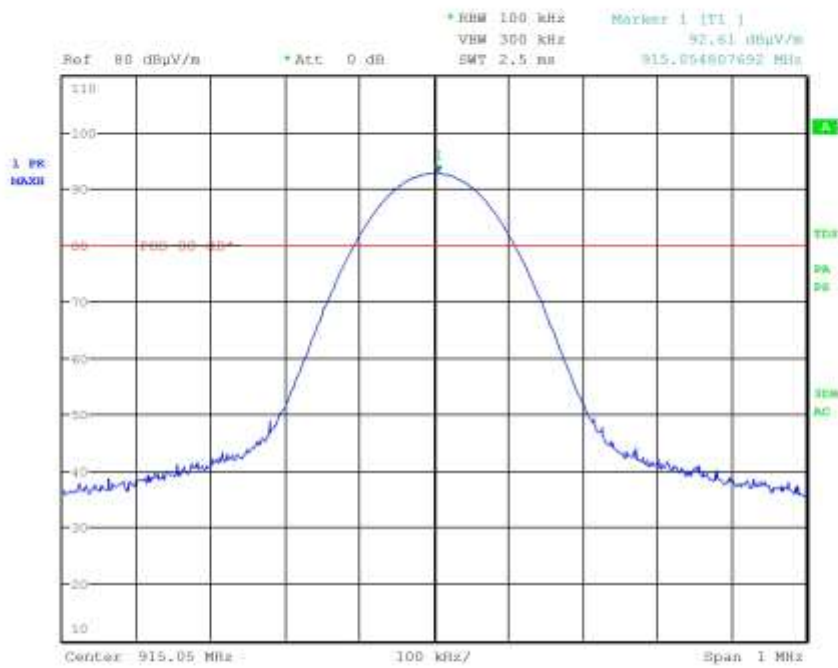
//////////



## Graphs

G13203550

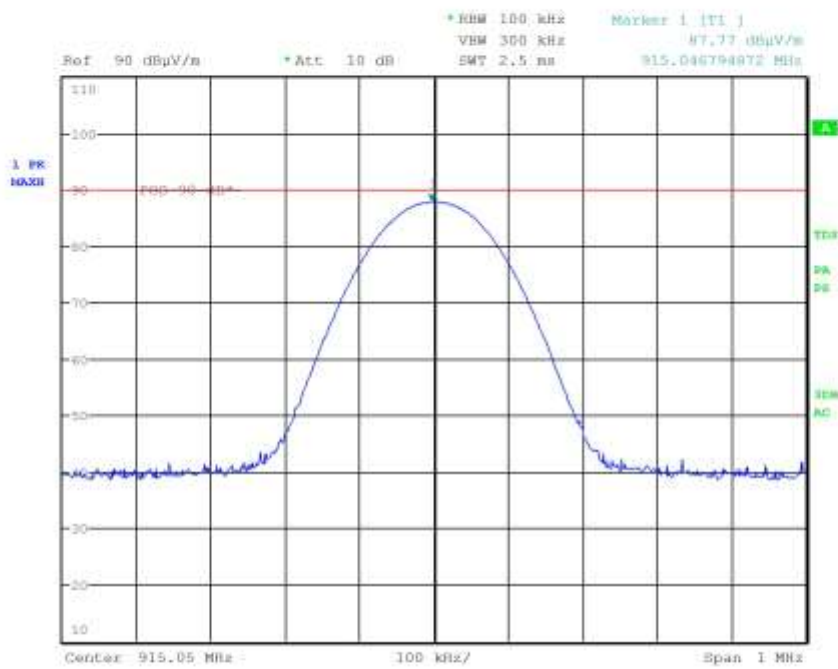
**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMIN  
**Operator** Gandini 13203550  
**Test Spec**  
**Horiz**





G13203554

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMIN  
**Operator** Gandini 13203554  
**Test Spec**  
Vert

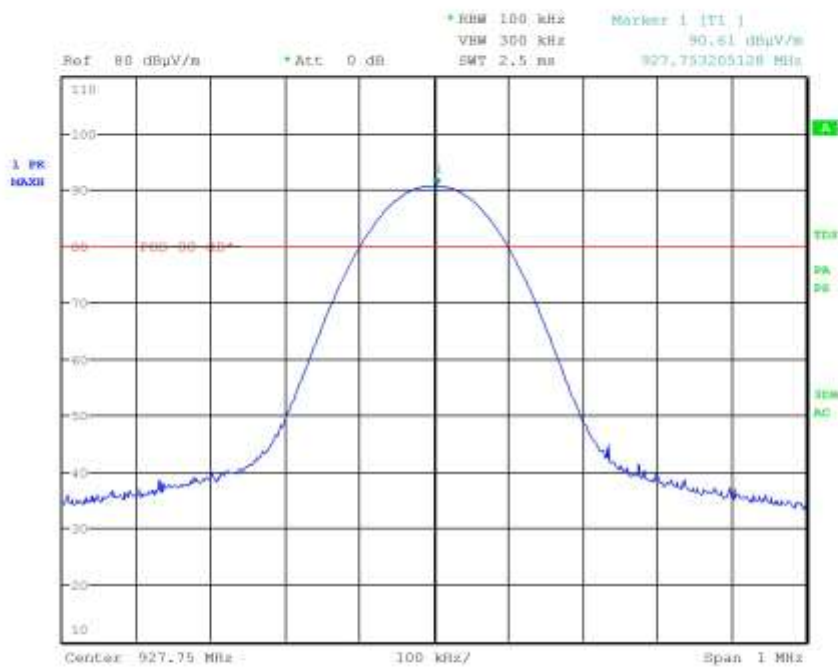


CMC Centro Misure Compatibilità S.r.l.



G13203555

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMAX  
**Operator** Gandini 13203555  
**Test Spec**  
Horiz

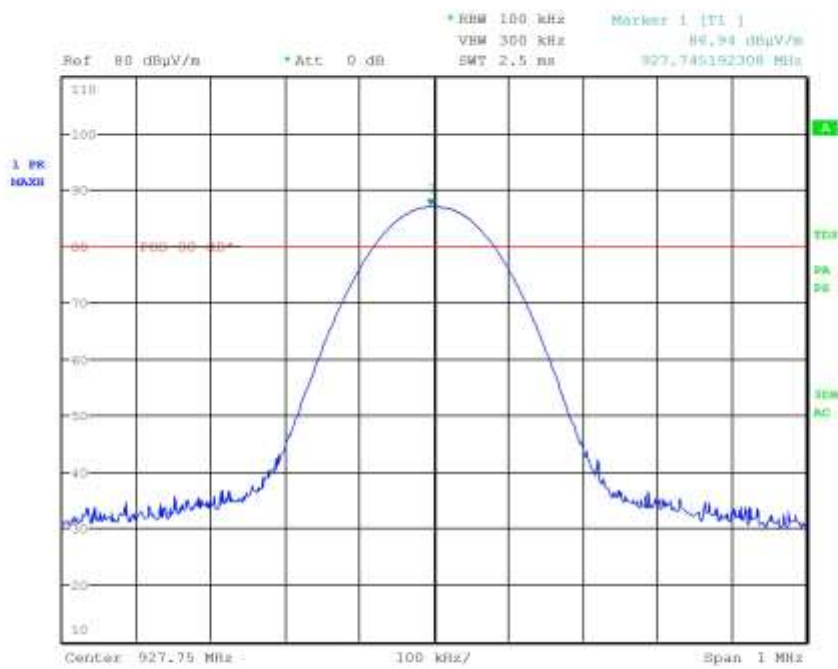


CMC Centro Misure Compatibilità S.r.l.



G13203559

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMAX  
**Operator** Gandini 13203559  
**Test Spec**  
Vert

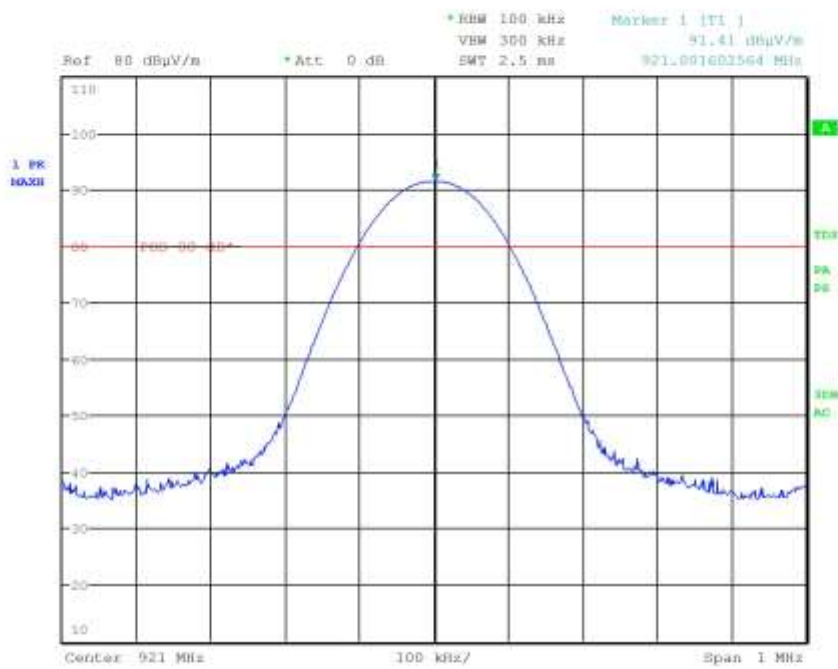


CMC Centro Misure Compatibilità S.r.l.



G13203560

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMED  
**Operator** Gandini 13203560  
**Test Spec**  
Vert

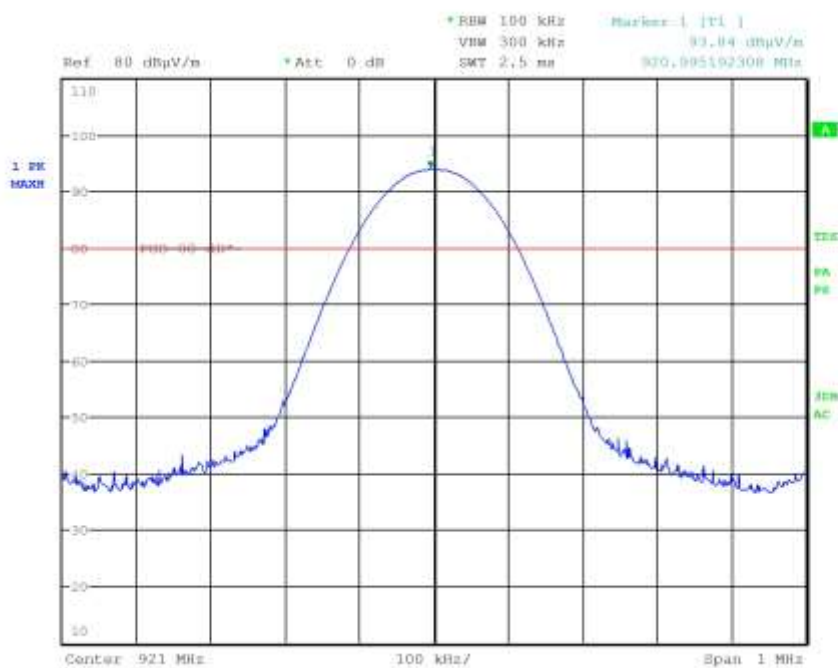


CMC Centro Misure Compatibilità S.r.l.



G13203561

Meas Type Emission  
Equipment under Test  
Manufacturer  
OP Condition FMED  
Operator Gandini 13203561  
Test Spec  
Horiz



**Result:** The requirements are met





## 11.5 Band edge

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.249 (d)
- RSS-210
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

*Test site:*  
Laboratory

*Auxiliary equipment:*  
See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

CMC S108, CMC S136, CMC S164  
Measurement uncertainty: See clause 7 of this test report

### Test specification

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation

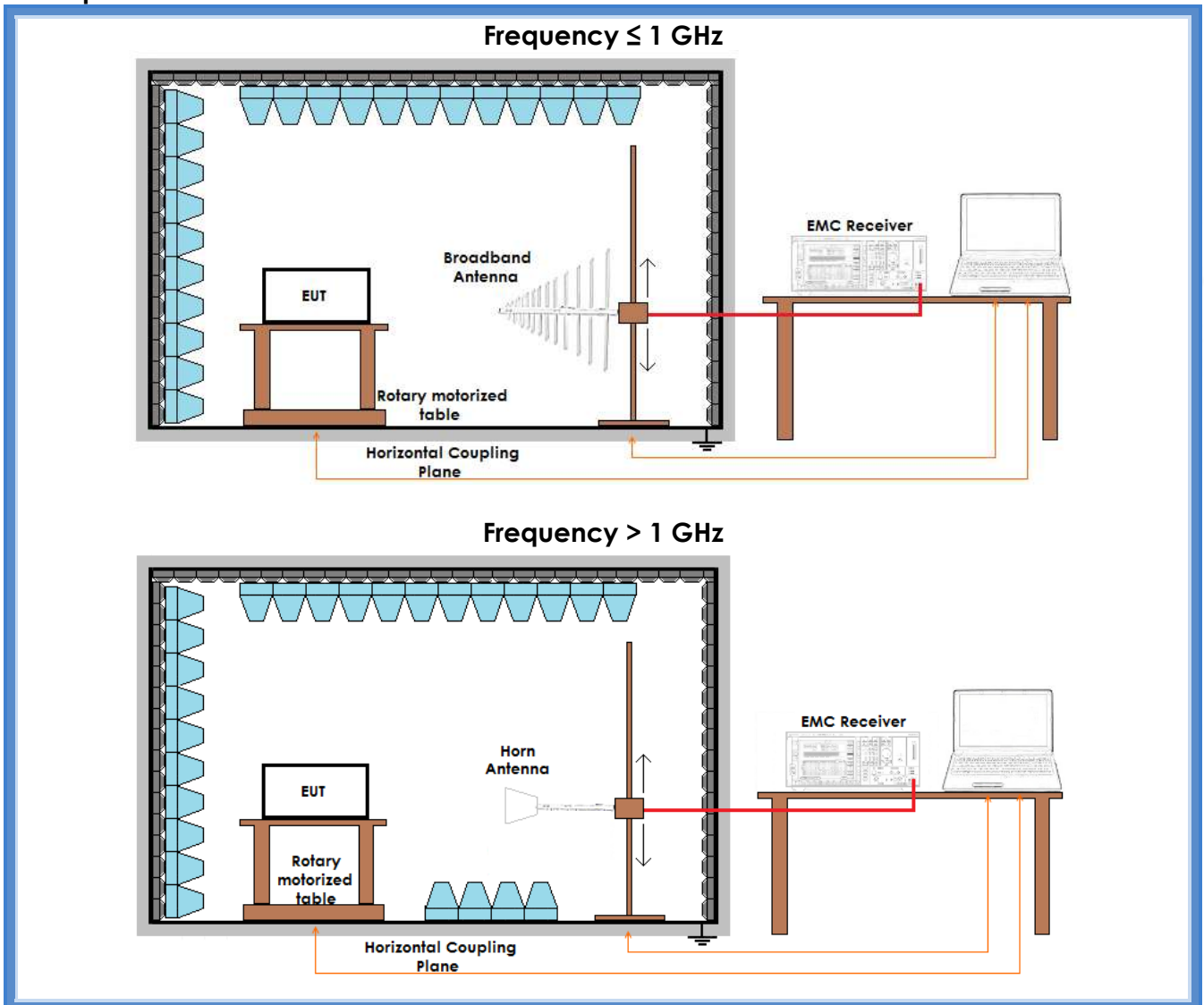
### Environmental conditions

| Temperature<br>(°C) | Atmospheric pressure<br>(kPa) | Relative humidity<br>(%) |
|---------------------|-------------------------------|--------------------------|
| 22                  | 98                            | 49                       |

**Acceptance limits:** operation within the band 902 – 928 MHz MHz



## Setup



## Result

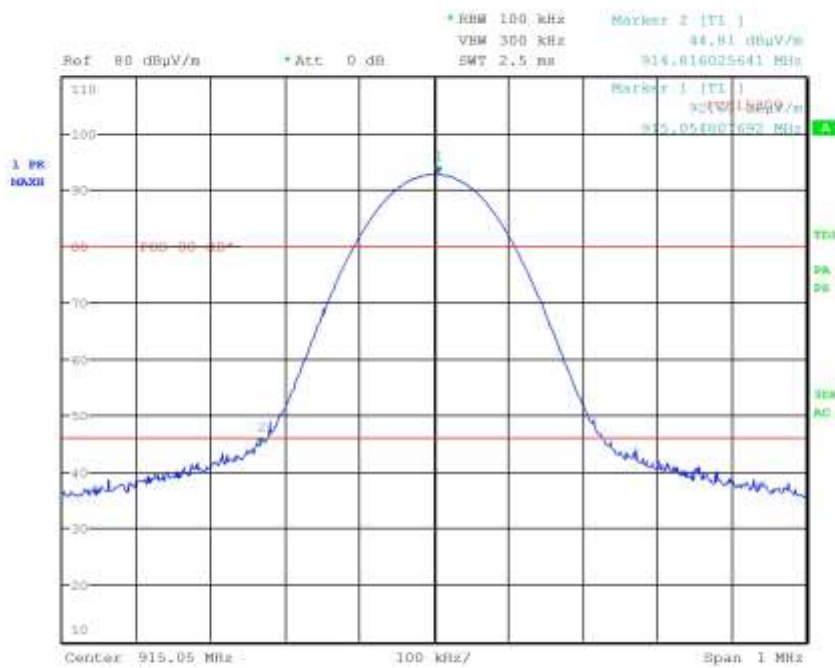
| Frequency (MHz) | Graph(s)  | Results                  |          |
|-----------------|-----------|--------------------------|----------|
| 915,050         | G13203551 | F <sub>L</sub> : 914,816 | Complies |
|                 | G13203552 |                          |          |
| 927,750         | G13203556 | F <sub>H</sub> : 927,969 | Complies |
|                 | G13203557 |                          |          |



## Graphs

G13203551

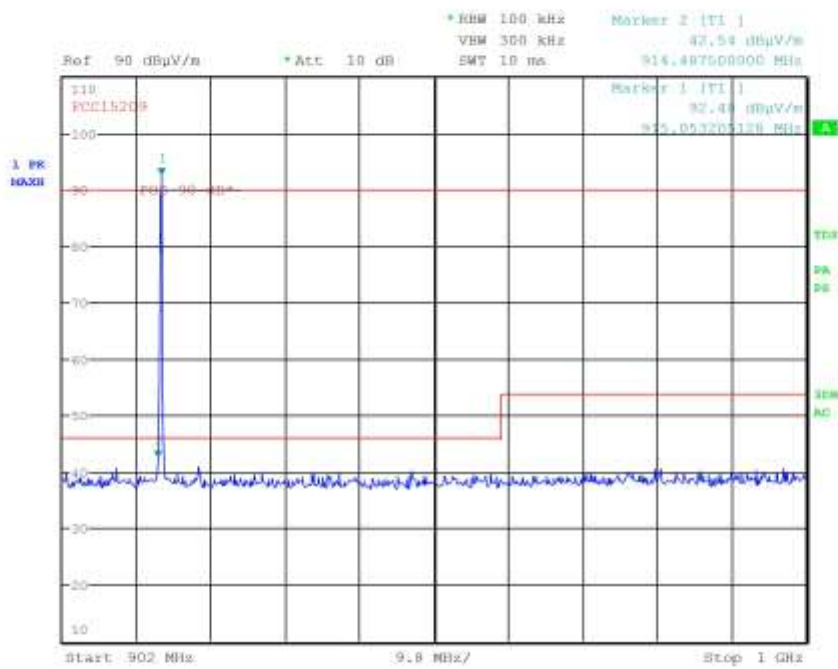
**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMIN  
**Operator** Gandini 13203551  
**Test Spec**  
Horiz





G13203552

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMIN  
**Operator** Gandini 13203552  
**Test Spec**  
Horiz

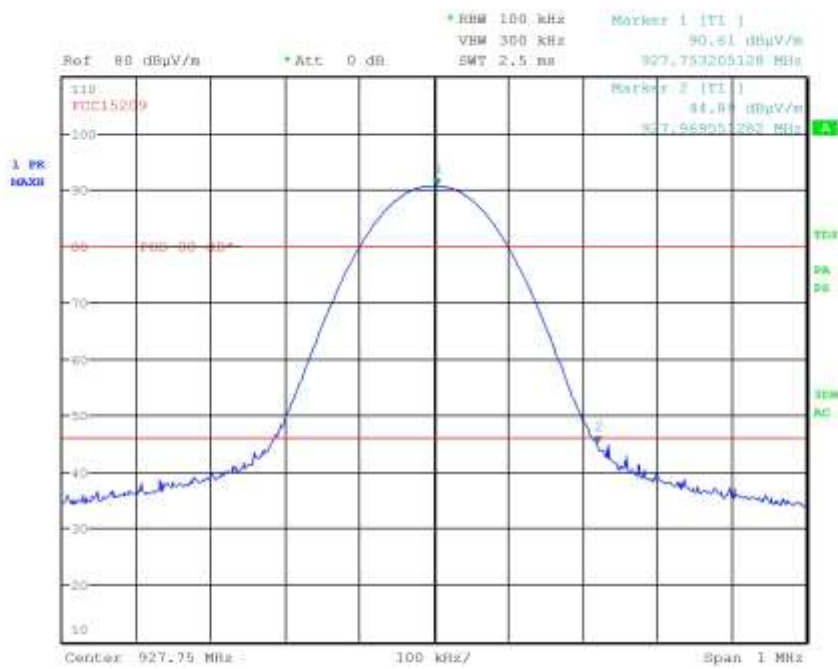


CMC Centro Misure Compatibilità S.r.l.



G13203556

**Meas Type** Emission  
**Equipment under Test**  
**Manufacturer**  
**OP Condition** FMAX  
**Operator** Gandini 13203556  
**Test Spec**  
Horiz

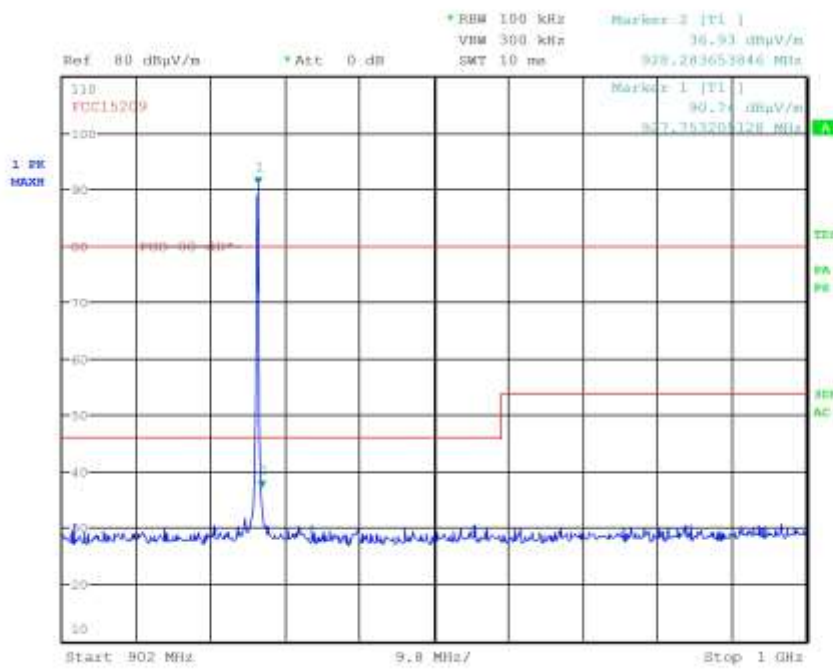


CMC Centro Misure Compatibilità S.r.l.



G13203557

Meas Type Emission  
Equipment under Test  
Manufacturer  
OP Condition FMAX  
Operator Gandini 13203557  
Test Spec  
Horiz



**Result:** The requirements are met



## 11.6 Spurious Emission

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.209
- RSS-210
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

*Test site:*  
 Semi-anechoic chamber

*Auxiliary equipment:*  
 See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

CMC S108, CMC S136, CMC S164  
 Measurement uncertainty: See clause 7 of this test report

### Test specification

Port: Enclosure  
 Antenna polarization: Horizontal (H) – Vertical (V)  
 EUT – Antenna distance: 3 m  
 Detector AV + Peak

### Environmental conditions

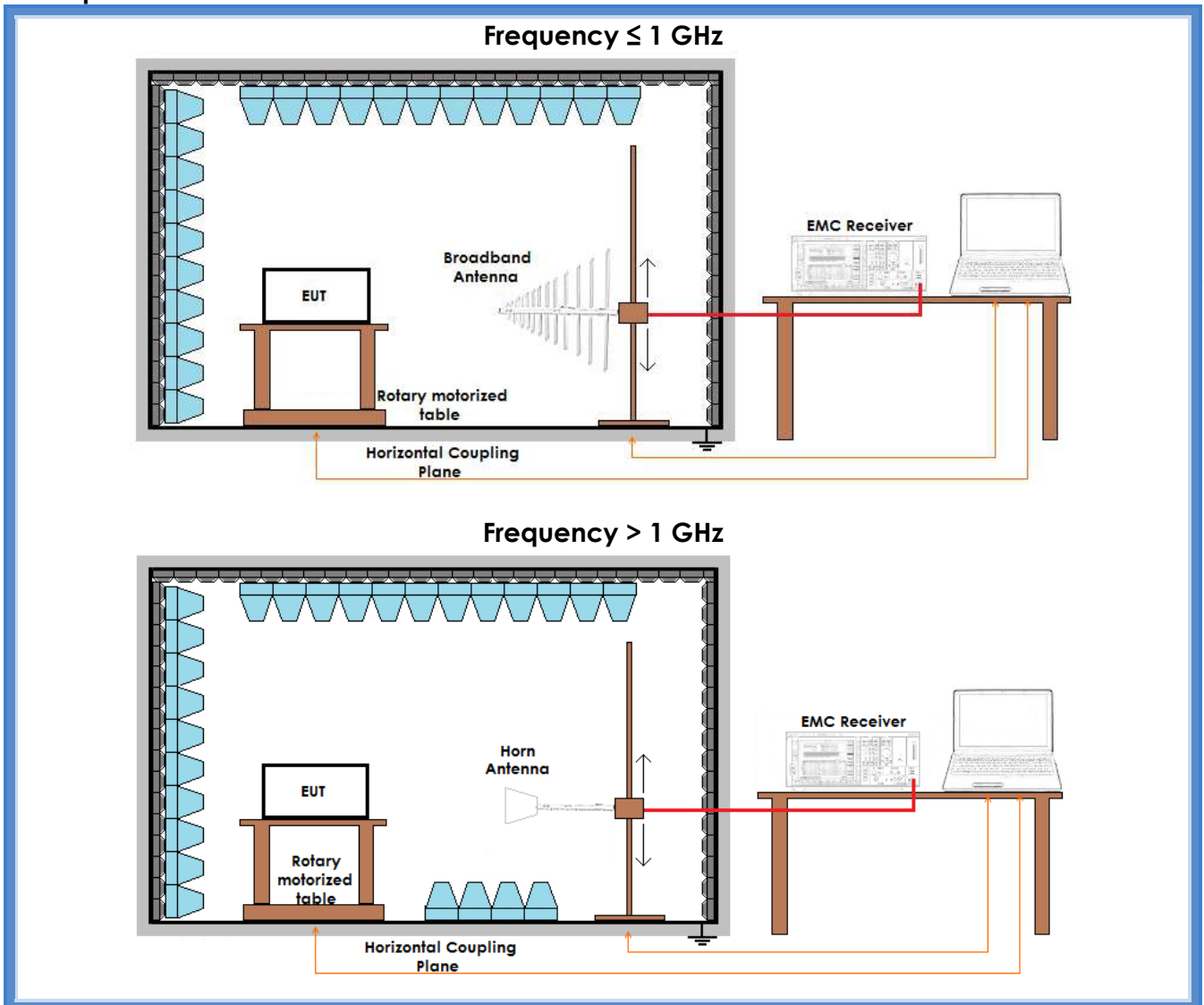
| Temperature (°C) | Atmospheric pressure (kPa) | Relative humidity (%) |
|------------------|----------------------------|-----------------------|
| 22               | 98                         | 50                    |

### Acceptance limits

| Frequency (MHz) | AV limits [dB(μV/m)] | Peak limits [dB(μV/m)] |
|-----------------|----------------------|------------------------|
| > 1000          | 54                   | 74                     |



## Setup



CMC Centro Misure Compatibilità S.r.l.





|               |                |
|---------------|----------------|
| <b>Graph:</b> | From G13145343 |
|---------------|----------------|

### Result – AV detector

| Harmonic | Limits (dBµV/m) | Level (dBµV/m)             |                            |                            | Results  |
|----------|-----------------|----------------------------|----------------------------|----------------------------|----------|
|          |                 | 915,050 MHz                | 921,000 MHz                | 927,750 MHz                |          |
| II       | 54              | 41,5                       | 38,5                       | 41,4                       | Complies |
| III      | 54              | 41,4                       | 43,0                       | 39,0                       | Complies |
| IV       | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| V        | 54              | 44,2                       | 46,5                       | 43,8                       | Complies |
| VI       | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| VII      | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| VIII     | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| IX       | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| X        | 54              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |

**Remarks:** EUT was tested in 3 orthogonal planes. The results in this table show the highest values

### Result – Peak detector

| Harmonic | Limits (dBµV/m) | Level (dBµV/m)             |                            |                            | Results  |
|----------|-----------------|----------------------------|----------------------------|----------------------------|----------|
|          |                 | 915,050 MHz                | 921,000 MHz                | 927,750 MHz                |          |
| II       | 74              | 44,3                       | 41,9                       | 44,1                       | Complies |
| III      | 74              | 44,5                       | 45,9                       | 42,2                       | Complies |
| IV       | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| V        | 74              | 48,3                       | 50,7                       | 48,0                       | Complies |
| VI       | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| VII      | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| VIII     | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| IX       | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |
| X        | 74              | More than 15dB below limit | More than 15dB below limit | More than 15dB below limit | Complies |

**Remarks:** EUT was tested in 3 orthogonal planes. The results in this table show the highest values

**Result:** The requirements are met