



## TEST REPORT nr. R18083101

### Federal Communication Commission (FCC)

#### Test item

Description.....: TRANSCEIVER UNIT  
Trademark.....: AUTEC  
Model/Type .....: Model DJB Type NJ235  
FCC ID .....: OQA-DJBNJ235

#### Test Specification

Standard.....: FCC Rules & Regulations, Title 47:2017  
Part 15 paragraph(s): 203, 204, 205, 207, 209 and 247

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

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

#### Report

Tested by .....: G. Gandini  
Approved by .....: R. Beghetto – Laboratory Manager  
Date of issue .....: 13.11.18  
Contents.....: 88 pages

*Giovanni Gandini*  
.....  
*R. Beghetto*  
.....

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.



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## 1. Summary

Standard:

FCC Rules & Regulations, Title 47:2017

Part 15 paragraph(s): 203, 204, 205, 207, 209 and 247

| Test specifications    | Environmental Phenomena                             | Tests sequence | Result   |
|------------------------|-----------------------------------------------------|----------------|----------|
| Part 15.247 (a) (1)    | Pseudo randomly ordered list of hopping frequencies | 1              | Complies |
| Part 15.203            | Antenna requirements                                | 2              | Complies |
| Part 15.207            | Conducted emissions                                 | --             | N.A. (+) |
| Part 15.209            | Radiated emissions                                  | 3              | Complies |
| Part 15.247            | 20 dB Bandwidth                                     | 4              | Complies |
| Part 15.247            | Channel Separation                                  | 5              | Complies |
| Part 15.247            | Number of Hopping Channel                           | 6              | Complies |
| Part 15.247            | Time of occupancy                                   | 7              | Complies |
| Part 15.247            | Band edge                                           | 8              | Complies |
| Part 15.209 and 15.247 | Peak Output Power                                   | 9              | Complies |
| Part 15.209            | Spurious emission                                   | 10             | 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 .....                                        | : 7,2 Vdc from battery                                                                                                                      |
| Serial Number.....                                        | : --                                                                                                                                        |
| Type of equipment .....                                   | : <input checked="" type="checkbox"/> Transmitter Unit<br><input checked="" type="checkbox"/> Receiver Unit                                 |
| Type of station .....                                     | : <input checked="" type="checkbox"/> Fixed station<br><input type="checkbox"/> Portable station<br><input type="checkbox"/> Mobile station |
| Frequency band.....                                       | : 902 – 928 MHz                                                                                                                             |
| Nominal frequencies .....                                 | : F <sub>L</sub> : 915,075 MHz     F <sub>M</sub> : 921,425 MHz     F <sub>H</sub> : 927,825 MHz                                            |
| Pseudo randomly ordered list of hopping frequencies ..... | : See document djb_nj235_operational_description-rev0                                                                                       |

## 2.1 Test Site

Company .....: CMC Centro Misure Compatibilità S.r.l.  
Address .....: Via della Fisica, 20  
36016 Thiene (VI) – ITALY  
Test site facility's FCC registration number .....: 182474

### 3. Testing and sampling

|                                    |                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Date of receipt of test item ..... | : 11.04.18                                                                                                                 |
| Testing start date .....           | : 15.05.18                                                                                                                 |
| Testing end date .....             | : 12.11.18                                                                                                                 |
| 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 P180453                                                                           |

#### 4. Operative conditions

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



## 5. Photograph(s) of EUT

### 5.1 Photograph(s) of EUT

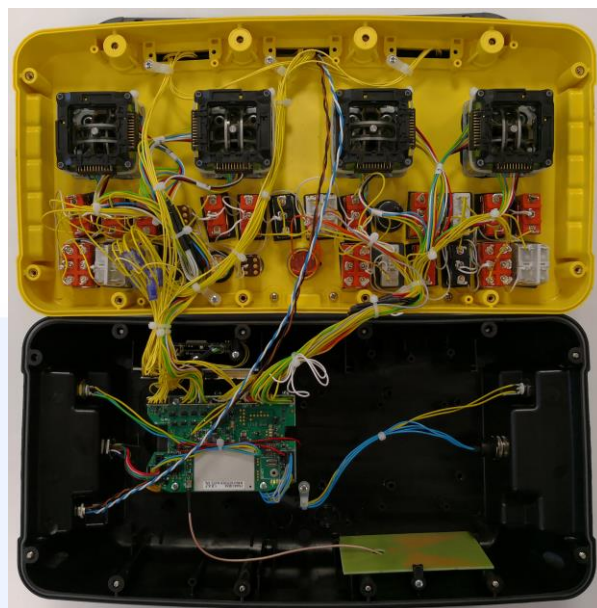




CMC  
Centro Misure Compatibilità S.r.l.  
Via della Fisica, 20  
36016 Thiene (VI)



LAB N° 0168





## 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 '18             | January '19                 |
| CMC S108          | EMCO                | 3115                 | Horn Antenna                        | 9811-5622            | June '16                | June '19                    |
| CMC S127          | Schaffner           | HLA6120              | Loop Antenna                        | 1191                 | November '13            | November '18                |
| CMC S164          | Rohde & Schwarz     | ESU26                | EMC interference receiver           | 100052               | January '18             | January '19                 |
| CMC S200          | Schwarzbeck         | NSLK 8128            | V-LISN                              | 8128-273             | January '18             | January '19                 |
| CMC S227          | Rohde & Schwarz     | ESR7                 | EMI Test Receiver 7GHz              | 101121               | January '18             | January '19                 |
| CMC S260          | CMC                 | Wfr_N                | Shielded Cable                      | Wfr_ant10-1          | November '17            | November '18                |
| CMC S261          | CMC                 | Wfr_N                | Shielded Cable                      | Wfr_ant20-1          | November '17            | November '18                |
| CMC S262          | CMC                 | Wfr_N_fix            | Shielded Cable                      | Wfr_fix32-1          | November '17            | November '18                |
| CMC S263          | CMC                 | Wfr_N_fix            | Shielded Cable                      | Wfr_fix31-1          | November '17            | November '18                |
| CMC S264          | CMC                 | Wfr_N                | Shielded Cable                      | Wfr_ext03-1          | November '17            | November '18                |
| CMC S271          | Schwarzbeck         | BBA 9106 + VHBB 9124 | Biconical Antenna (30-300MHz)       | 831                  | June '16                | June '19                    |
| CMC S287          | Schwarzbeck         | VUSLP 9111B          | Log-periodic Antenna (200 MHz-3GHz) | 9111B-203            | June '16                | June '19                    |
| CMC S288          | CMC                 | W_sma_white          | Joint Shielded Cable                | W_001                | November '17            | November '18                |



## 7. Measurement uncertainty

| Test                                                     | Test Setup | Expanded uncertainty     | Note |
|----------------------------------------------------------|------------|--------------------------|------|
| Conducted emission CISPR 16<br>LISN 50uH 0,009-0,0150MHz | PE001_01   | 3,4 dB                   | 1    |
| Conducted emission CISPR 16<br>LISN 50uH 0,150-30,0MHz   | PE001_01   | 2,8 dB                   | 1    |
| Conducted emission CISPR 16<br>Voltage Probe 0,15-30MHz  | PE001_02   | 2,6 dB                   | 1    |
| Conducted emission CISPR 16<br>Current Probe 0,15-30MHz  | PE001_03   | 2,2 dB                   | 1    |
| Conducted emission CISPR 16<br>ISN 0,15-30MHz            | PE001_04   | 4,5 dB                   | 1    |
| Clic CISPR 16<br>LISN 50uH 0,150-30,0MHz                 | PE001_05   | 3,1 dB                   | 1    |
| Disturbance Power<br>30-300 MHz                          | PE002_01   | 3,4 dB                   | 1    |
| Radiated Emission LAS<br>0,15-30MHz                      | PE003_01   | 1,5 dB                   | 1    |
| Radiated Emission CISPR 16<br>Loop Ant. 0,15-30MHz       | PE004_01   | 3,8 dB                   | 1    |
| Radiated Emission CISPR 16<br>Bicon. Ant. 30-300MHz      | PE004_02   | 3,3 dB                   | 1    |
| Radiated Emission CISPR 16<br>LogP. Ant. 300-1000MHz     | PE004_03   | 3,1 dB                   | 1    |
| Radiated Emission CISPR 16<br>Horn Ant. 1-18GHz          | PE004_04   | 3,6 dB                   | 1    |
| Human Exposure to electromagnetic fields                 | PE005_01   | 15,0 %                   | 1    |
| Harmonic current emissions test                          | PE006_01   | 10 mA + 1,6 %            | 1    |
| Voltage fluctuation and flicker test                     | PE007_01   | 4,2 %                    | 1    |
| Radiated Immunity<br>80MHz-6GHz                          | PE102_XX   | 2,1 dB 0,82 V/m a 3V/m   | 1    |
| Conducted Immunity<br>0,15-230MHz                        | PE105_XX   | 1,2 dB 0,44 V a 3V       | 1    |
| AC Magnetic field                                        | PE106_01   | 1,55 % 0,15 A/m a 10A/m  | 1    |
| Pulse Magnetic field                                     | PE107_01   | 6,24 % 18,7 A/m a 300A/m | 1    |
| Dumped Magnetic field                                    | PE108_01   | 6,24 % 1,87 A/m a 30A/m  | 1    |
| Common mode conducted immunity                           | PE112_01   | 2,20 % 0,22 V a 10V      | 1    |



| Test                                       | Test Setup  | Expanded uncertainty | Note |
|--------------------------------------------|-------------|----------------------|------|
| Power/Spurious<br>9kHz-30MHz               | PR001_01    | 3,8 dB               | 1    |
| Power/Spurious ERP<br>30-1000MHz d=10m     | PR001_02+03 | 4,3 dB               | 1    |
| Misura della potenza EIRP<br>1-18GHz d=3m  | PR001_04    | 4,3 dB               | 1    |
| Misura della potenza EIRP<br>18-40GHz d=3m | PR001_05    | 5,5 dB               | 1    |
| Frequency error                            | PR002_01+02 | < 1x10 <sup>-7</sup> | 1    |
| Timing zero span (1001pts.)                | PR002_01+02 | 0,2 % SWT            | 1    |
| Modulation bandwidth                       | PR002_01+02 | < 1x10 <sup>-7</sup> | 1    |
| Conducted RF power and spurious emission   | PR002_01+02 | 1,2 dB               | 1    |
| Adjacent channel power                     | PR002_01+02 | 1,2 dB               | 1    |
| Blocking                                   | PR002_01+02 | 1,2 dB               | 1    |

| Test                                             | Test Setup | Expanded uncertainty | Note |
|--------------------------------------------------|------------|----------------------|------|
| Electrostatic discharge immunity test            | PE101_0X   |                      | 2    |
| Electrical fast transients / burst immunity test | PE103_0X   |                      | 2    |
| Surge immunity test                              | PE104_0X   |                      | 2    |
| Short interruption immunity test                 | PE109_01   |                      | 2    |
| Rev_18_01 date 30/01/2018                        |            |                      |      |

**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 15:2017     | --                                                                                                                                                               |
| ANSI C63.4:2014                                    | 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 |
| ANSI C63.10:2013                                   | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices                                                                   |
| Internal Procedure PM001 rev. 3.0 (Quality Manual) | Measure Procedure                                                                                                                                                |
| Internal procedure INC_M rev. 9.0 (Quality Manual) | Measurement uncertainty calculation                                                                                                                              |



## 9. Deviation from test specification

None

## 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.

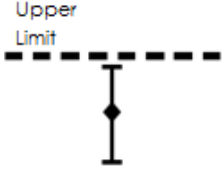
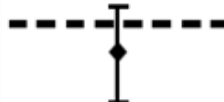
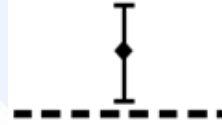


## 11. Results

In this clause tests results are reported.

Measurement uncertainty is in accordance with document CMC INC\_M rev. 9.0.

*Judgement of compliance:*

| Case 1                                                                                                            | Case 2                                                                                                                                                   | Case 3                                                                                                                                               | Case 4                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                                  |                                                                         |                                                                    |                                 |
| The sample complies with the requirement.                                                                         | The sample complies with the requirement.                                                                                                                | The sample does not comply with the requirement.                                                                                                     | The sample does not comply with the requirement.                                                                   |
| 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
- 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.

### Result

| Antenna Type     | External R.F. power amplifier | Gain  | Remarks | Results  |
|------------------|-------------------------------|-------|---------|----------|
| Integral antenna | Not Present                   | 2 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
- 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 S164, CMC S271, CMC S287  
Measurement uncertainty: See clause 7 of this test report

### Test specification

Port: Enclosure  
Frequency range: 0,009 MHz – 10000 MHz  
Antenna polarization: Horizontal (H) – Vertical (V)  
10 m for frequencies  $\leq$  30 MHz  
3 m for frequencies  $>$  30 MHz

### Environmental conditions

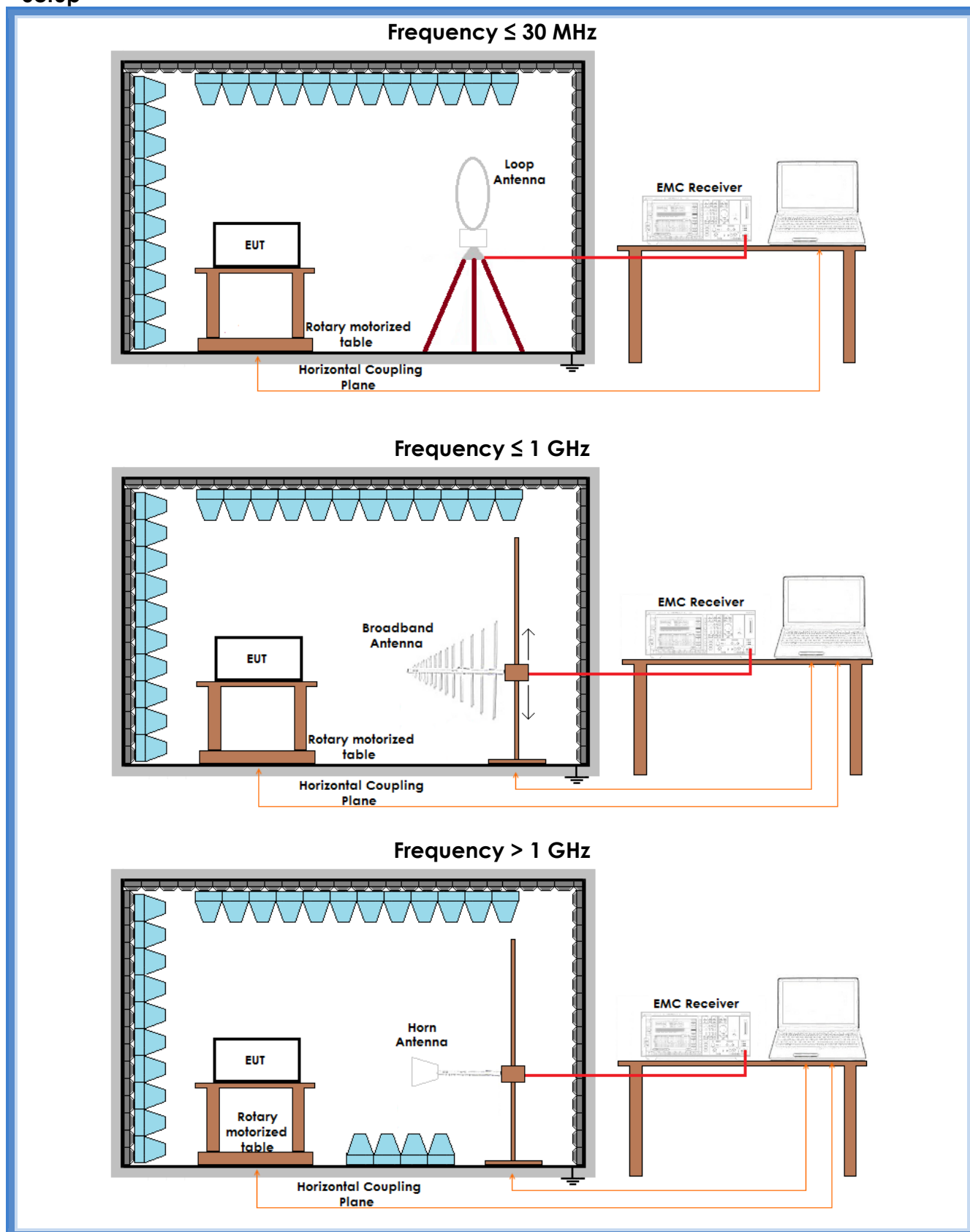
| Temperature<br>(°C) | Atmospheric pressure<br>(kPa) | Relative humidity<br>(%) |
|---------------------|-------------------------------|--------------------------|
| 22                  | 100                           | 45                       |

### Acceptance limits

| Frequency range<br>(MHz) | Test distance<br>(m) | Limits<br>[dB( $\mu$ V/m)]                  |                                   |
|--------------------------|----------------------|---------------------------------------------|-----------------------------------|
| 0,009 to 0,490           | 300                  | 48,5 to 13,8                                |                                   |
| 0,490 to 1,705           | 30                   | 33,8 to 22,9                                |                                   |
| 1,705 to 30              | 30                   | 29,5                                        |                                   |
| 30 to 88                 | 3                    | 40                                          |                                   |
| 88 to 216                | 3                    | 43,5                                        |                                   |
| 216 to 960               | 3                    | 46,0                                        |                                   |
| Above 960                | 3                    | 53,9                                        |                                   |
|                          | Test distance (m)    | Linear average<br>detector [dB( $\mu$ V/m)] | Peak detector<br>[dB( $\mu$ V/m)] |
| Above 1000               | 3                    | 53,9                                        | 73,9                              |

**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. The results have been extrapolated to the specified distance using an extrapolation factor

## Setup





## Result

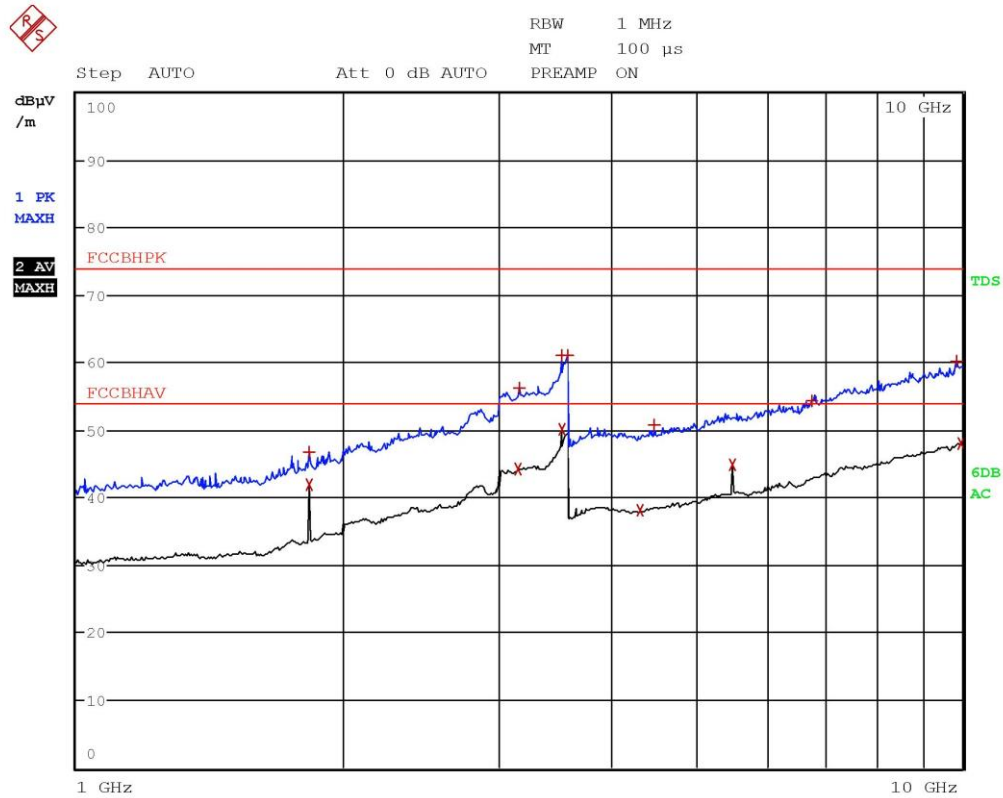
| Polarization                                                                                                                                                                                                                                                                                                                           | Frequency Range (MHz) | Graphs    | Remarks         | Result   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|-----------------|----------|
| H                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083102 | Lowest channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083103 | Lowest channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083104 | Medium channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083105 | Medium channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083106 | Highest channel | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 1000 – 10000          | G18083107 | Highest channel | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083108 | Lowest channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083109 | Lowest channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083110 | Medium channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083111 | Medium channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083112 | Highest channel | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 30 – 300              | G18083113 | Highest channel | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083114 | Lowest channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083115 | Lowest channel  | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083116 | Medium channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083117 | Medium channel  | Complies |
| H                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083118 | Highest channel | Complies |
| V                                                                                                                                                                                                                                                                                                                                      | 300 – 1000            | G18083119 | Highest channel | Complies |
| Loop                                                                                                                                                                                                                                                                                                                                   | 0,009 – 30            | G18083120 | Worst case      | Complies |
| <b>Remarks:</b> Measurements at frequencies lower than 1000 MHz have been performed with an EUT – antenna distance of 10 m. Measured values have been corrected with different conversion factors, based on the measuring distance provided by the standard. Peaks above the limits are caused by the nominal transmitting frequencies |                       |           |                 |          |

### 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

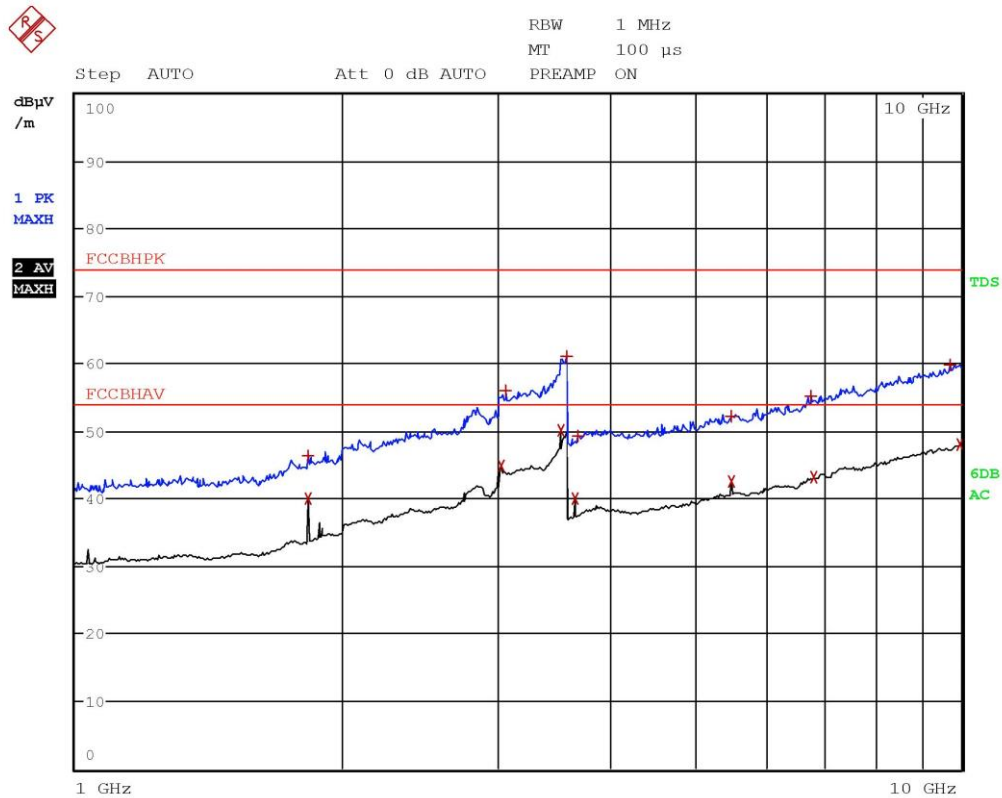


Gandini 18083102-Horiz-Tx Fmin



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.83 GHz   | 41.97        | -12.00         |
| 1 Max Peak                       | 1.83 GHz   | 46.76        | -27.21         |
| 2 Average                        | 3.146 GHz  | 44.22        | -9.75          |
| 1 Max Peak                       | 3.1612 GHz | 56.11        | -17.87         |
| 2 Average                        | 3.5256 GHz | 50.15        | -3.82          |
| 1 Max Peak                       | 3.5256 GHz | 61.04        | -12.93         |
| 1 Max Peak                       | 3.598 GHz  | 61.08        | -12.89         |
| 2 Average                        | 4.3268 GHz | 38.22        | -15.75         |
| 1 Max Peak                       | 4.4968 GHz | 50.73        | -23.24         |
| 2 Average                        | 5.4904 GHz | 44.75        | -9.22          |
| 1 Max Peak                       | 6.766 GHz  | 54.31        | -19.66         |
| 1 Max Peak                       | 9.8648 GHz | 60.12        | -13.85         |
| 2 Average                        | 9.9736 GHz | 48.03        | -5.94          |

Gandini 18083102-Horiz-Tx Fmin

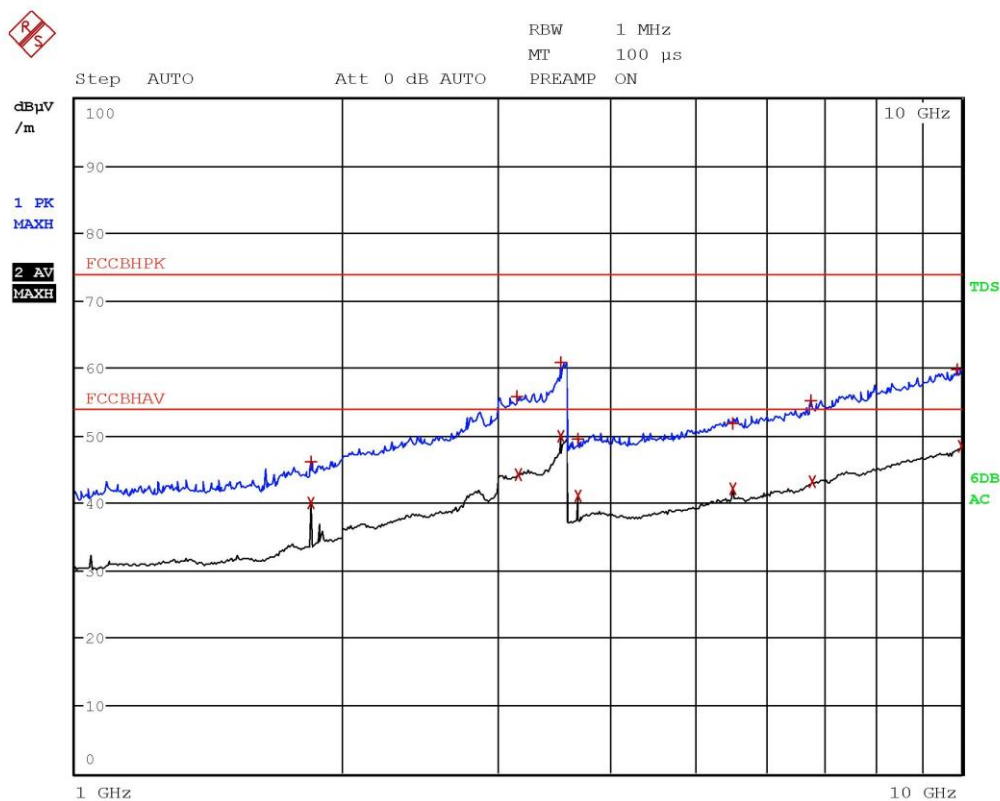


Gandini 18083103-Vert-Tx Fmin



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.83 GHz   | 40.02        | -13.95         |
| 1 Max Peak                       | 1.83 GHz   | 46.29        | -27.68         |
| 2 Average                        | 3.0196 GHz | 44.85        | -9.12          |
| 1 Max Peak                       | 3.0632 GHz | 56.03        | -17.94         |
| 2 Average                        | 3.5256 GHz | 50.13        | -3.84          |
| 1 Max Peak                       | 3.5928 GHz | 61.04        | -12.94         |
| 2 Average                        | 3.6604 GHz | 40.08        | -13.89         |
| 1 Max Peak                       | 3.6868 GHz | 49.28        | -24.69         |
| 1 Max Peak                       | 5.4904 GHz | 52.13        | -21.84         |
| 2 Average                        | 5.4904 GHz | 42.56        | -11.41         |
| 1 Max Peak                       | 6.7544 GHz | 55.07        | -18.90         |
| 2 Average                        | 6.808 GHz  | 43.24        | -10.73         |
| 1 Max Peak                       | 9.7092 GHz | 59.76        | -14.21         |
| 2 Average                        | 9.9696 GHz | 47.94        | -6.03          |

Gandini 18083103-Vert-Tx Fmin

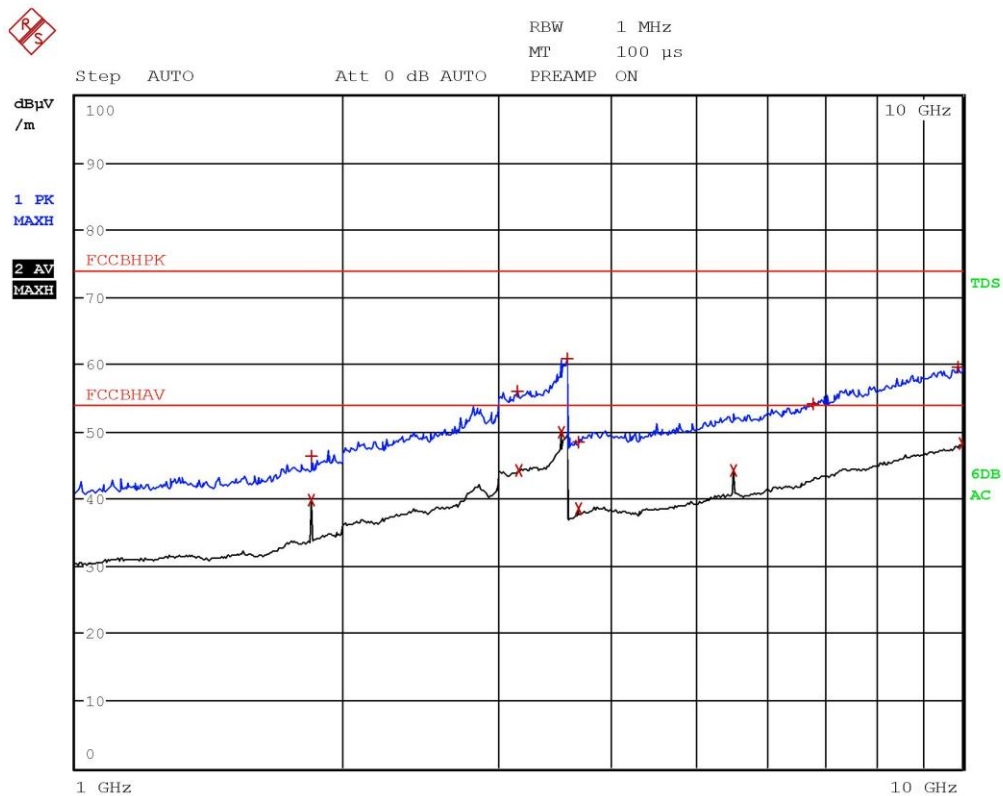


Gandini 18083104-Vert-Tx Fmid



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.8428 GHz | 40.07        | -13.90         |
| 1 Max Peak                       | 1.8428 GHz | 46.11        | -27.86         |
| 1 Max Peak                       | 3.1524 GHz | 55.73        | -18.24         |
| 2 Average                        | 3.1572 GHz | 44.17        | -9.80          |
| 1 Max Peak                       | 3.5256 GHz | 60.78        | -13.19         |
| 2 Average                        | 3.5256 GHz | 49.92        | -4.05          |
| 2 Average                        | 3.6856 GHz | 41.14        | -12.83         |
| 1 Max Peak                       | 3.6856 GHz | 49.37        | -24.60         |
| 1 Max Peak                       | 5.5104 GHz | 51.68        | -22.29         |
| 2 Average                        | 5.5288 GHz | 42.18        | -11.79         |
| 1 Max Peak                       | 6.7524 GHz | 55.17        | -18.80         |
| 2 Average                        | 6.784 GHz  | 43.18        | -10.79         |
| 1 Max Peak                       | 9.8744 GHz | 59.82        | -14.15         |
| 2 Average                        | 9.9868 GHz | 48.36        | -5.61          |

Gandini 18083104-Vert-Tx Fmid

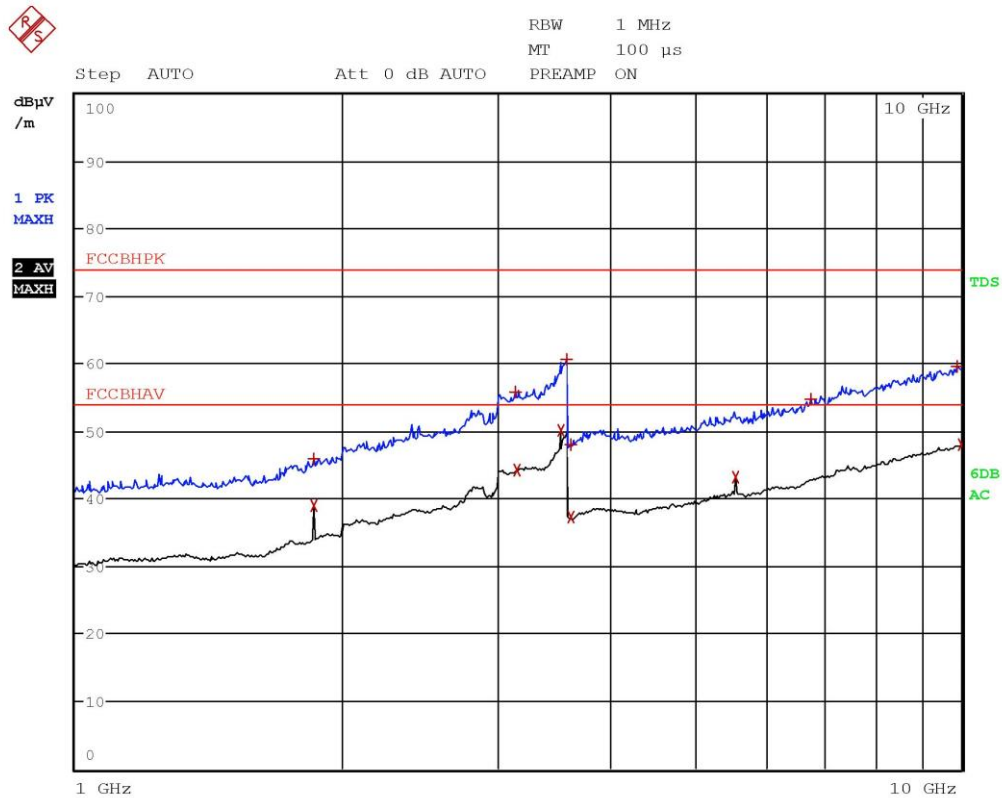


Gandini 18083105-Horiz-Tx Fmid



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.8428 GHz | 39.82        | -14.15         |
| 1 Max Peak                       | 1.8428 GHz | 46.33        | -27.64         |
| 1 Max Peak                       | 3.1552 GHz | 56.05        | -17.93         |
| 2 Average                        | 3.1592 GHz | 44.21        | -9.76          |
| 2 Average                        | 3.5256 GHz | 49.86        | -4.11          |
| 1 Max Peak                       | 3.5868 GHz | 60.82        | -13.15         |
| 2 Average                        | 3.6856 GHz | 38.59        | -15.38         |
| 1 Max Peak                       | 3.6892 GHz | 48.42        | -25.55         |
| 2 Average                        | 5.5284 GHz | 44.15        | -9.82          |
| 1 Max Peak                       | 6.8036 GHz | 54.19        | -19.78         |
| 1 Max Peak                       | 9.8956 GHz | 59.62        | -14.35         |
| 2 Average                        | 9.9848 GHz | 48.11        | -5.86          |

Gandini 18083105-Horiz-Tx Fmid

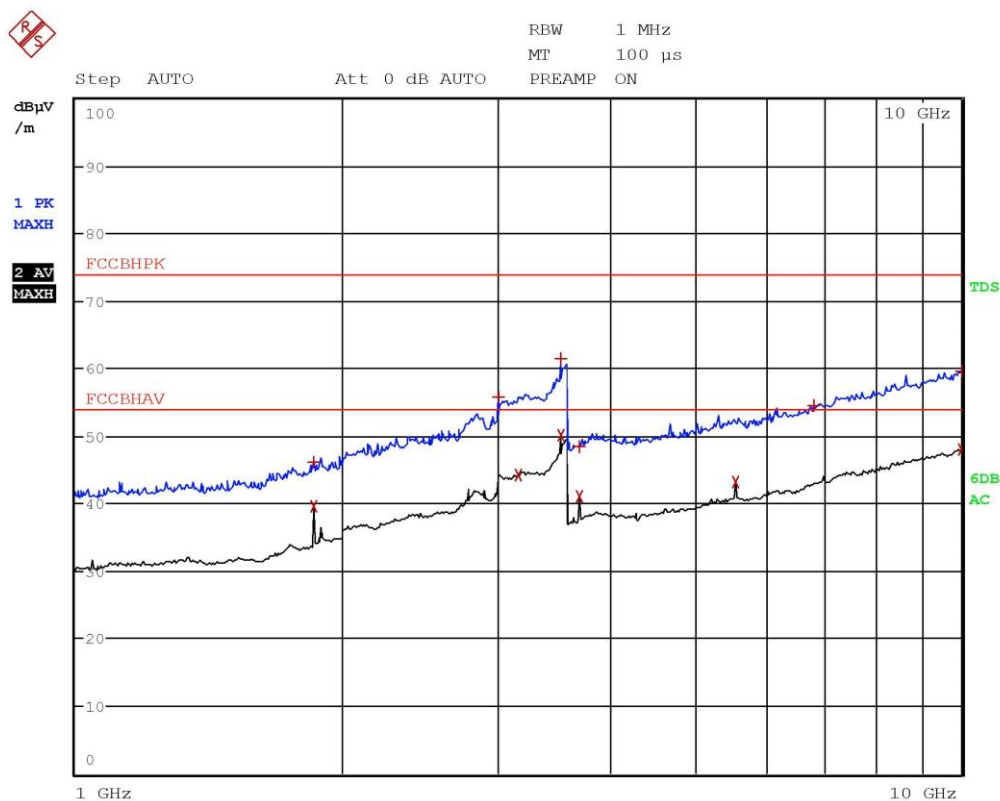


Gandini 18083106-Horiz-Tx Fmax



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.8556 GHz | 38.88        | -15.10         |
| 1 Max Peak                       | 1.856 GHz  | 45.84        | -28.13         |
| 1 Max Peak                       | 3.1396 GHz | 55.88        | -18.10         |
| 2 Average                        | 3.1524 GHz | 44.31        | -9.66          |
| 2 Average                        | 3.5256 GHz | 50.07        | -3.90          |
| 1 Max Peak                       | 3.5932 GHz | 60.65        | -13.32         |
| 1 Max Peak                       | 3.6192 GHz | 47.93        | -26.04         |
| 2 Average                        | 3.6192 GHz | 37.22        | -16.75         |
| 2 Average                        | 5.5668 GHz | 43.21        | -10.76         |
| 1 Max Peak                       | 6.7684 GHz | 54.79        | -19.18         |
| 1 Max Peak                       | 9.896 GHz  | 59.60        | -14.37         |
| 2 Average                        | 9.9844 GHz | 47.90        | -6.07          |

Gandini 18083106-Horiz-Tx Fmax

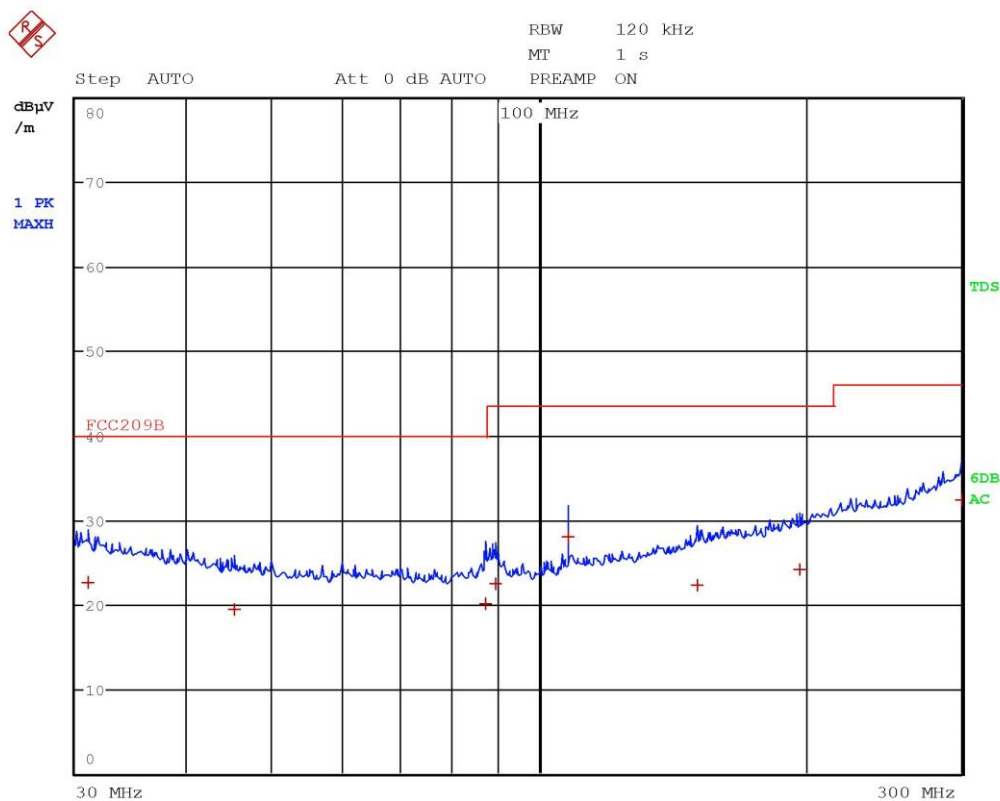


Gandini 18083107-Vert-Tx Fmax



| EDIT PEAK LIST (Prescan Results) |            |              |                |
|----------------------------------|------------|--------------|----------------|
| Trace1:                          | FCCBHPK    |              |                |
| Trace2:                          | FCCBHAV    |              |                |
| Trace3:                          | ---        |              |                |
| TRACE                            | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 2 Average                        | 1.8556 GHz | 39.63        | -14.34         |
| 1 Max Peak                       | 1.8556 GHz | 46.02        | -27.95         |
| 1 Max Peak                       | 3.0032 GHz | 55.70        | -18.27         |
| 2 Average                        | 3.1568 GHz | 44.29        | -9.68          |
| 1 Max Peak                       | 3.5256 GHz | 61.41        | -12.57         |
| 2 Average                        | 3.5256 GHz | 50.07        | -3.90          |
| 1 Max Peak                       | 3.702 GHz  | 48.47        | -25.50         |
| 2 Average                        | 3.7112 GHz | 41.17        | -12.80         |
| 2 Average                        | 5.5668 GHz | 43.12        | -10.85         |
| 1 Max Peak                       | 6.81 GHz   | 54.42        | -19.55         |
| 1 Max Peak                       | 9.9816 GHz | 59.51        | -14.46         |
| 2 Average                        | 9.9828 GHz | 47.94        | -6.03          |

Gandini 18083107-Vert-Tx Fmax



Gandini 18083108-Vert-Tx Fmin

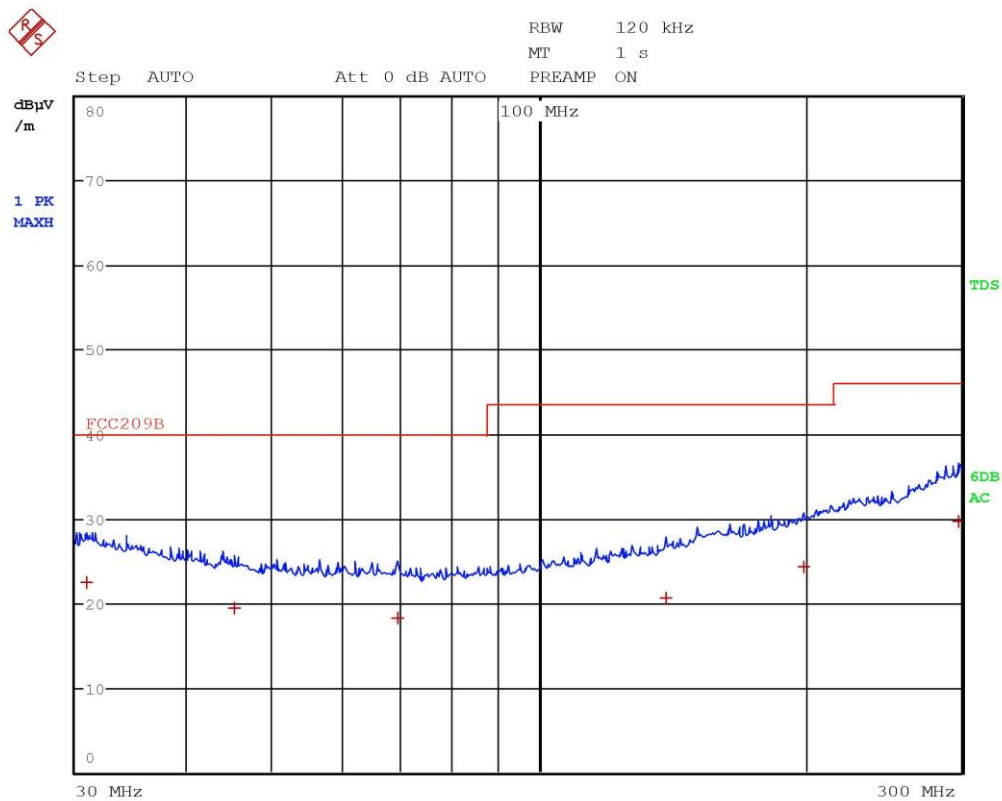


PEAK FREQUENCY

4

| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 30.92 MHz  | 22.56        | -17.43         |
| 1 Quasi Peak                               | 45.28 MHz  | 19.42        | -20.57         |
| 1 Quasi Peak                               | 87.16 MHz  | 20.14        | -19.85         |
| 1 Quasi Peak                               | 89.4 MHz   | 22.46        | -21.05         |
| 1 Quasi Peak                               | 108 MHz    | 27.99        | -15.52         |
| 1 Quasi Peak                               | 150.96 MHz | 22.28        | -21.23         |
| 1 Quasi Peak                               | 196.68 MHz | 24.08        | -19.43         |
| 1 Quasi Peak                               | 300 MHz    | 32.28        | -13.73         |

Gandini 18083108-Vert-Tx Fmin

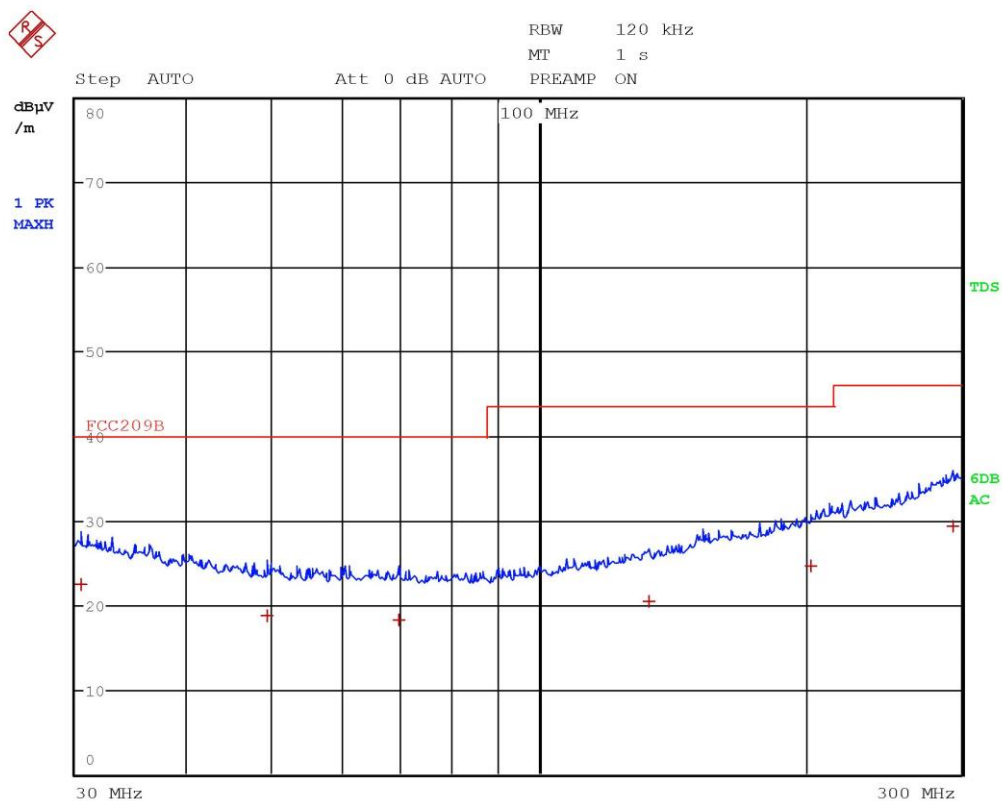


Gandini 18083109-Horiz-Tx Fmin



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 30.88 MHz  | 22.46        | -17.54         |
| 1 Quasi Peak                               | 45.24 MHz  | 19.33        | -20.66         |
| 1 Quasi Peak                               | 69.4 MHz   | 18.29        | -21.70         |
| 1 Quasi Peak                               | 138.96 MHz | 20.65        | -22.86         |
| 1 Quasi Peak                               | 198.84 MHz | 24.30        | -19.21         |
| 1 Quasi Peak                               | 298.16 MHz | 29.61        | -16.40         |

Gandini 18083109-Horiz-Tx Fmin

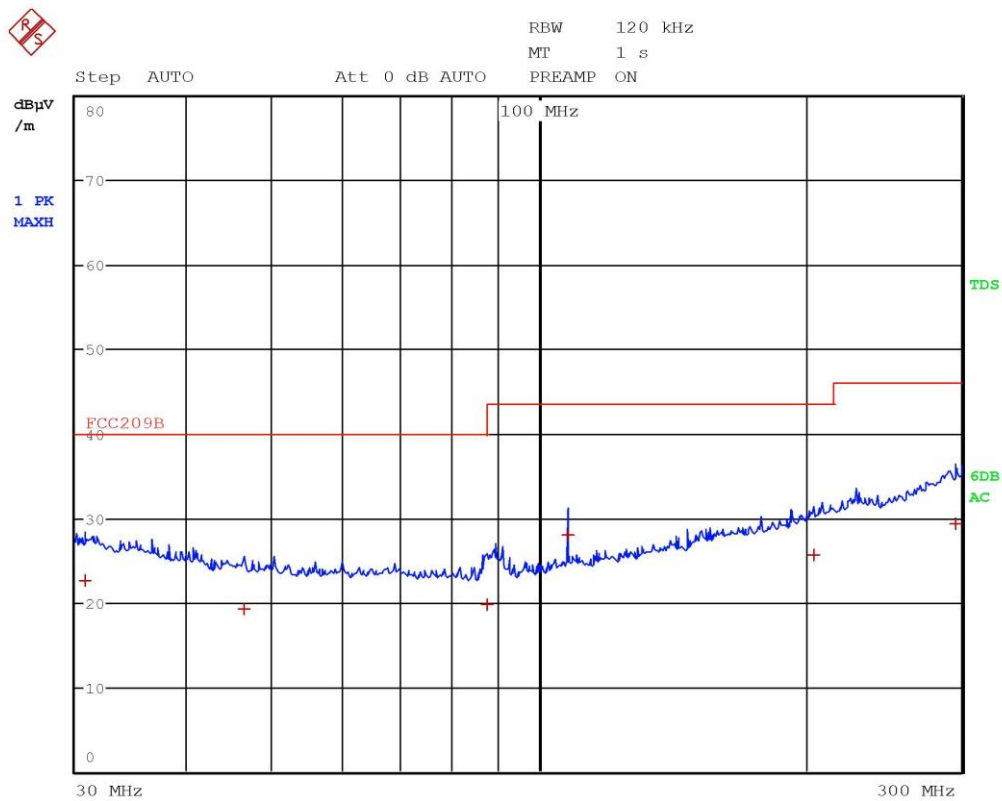


Gandini 180831010-Horiz-Tx Fmid



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 30.4 MHz   | 22.48        | -17.51         |
| 1 Quasi Peak                               | 49.24 MHz  | 18.73        | -21.26         |
| 1 Quasi Peak                               | 69.44 MHz  | 18.26        | -21.73         |
| 1 Quasi Peak                               | 133.36 MHz | 20.35        | -23.16         |
| 1 Quasi Peak                               | 203.16 MHz | 24.58        | -18.93         |
| 1 Quasi Peak                               | 293.56 MHz | 29.33        | -16.69         |

Gandini 180831010-Horiz-Tx Fmid

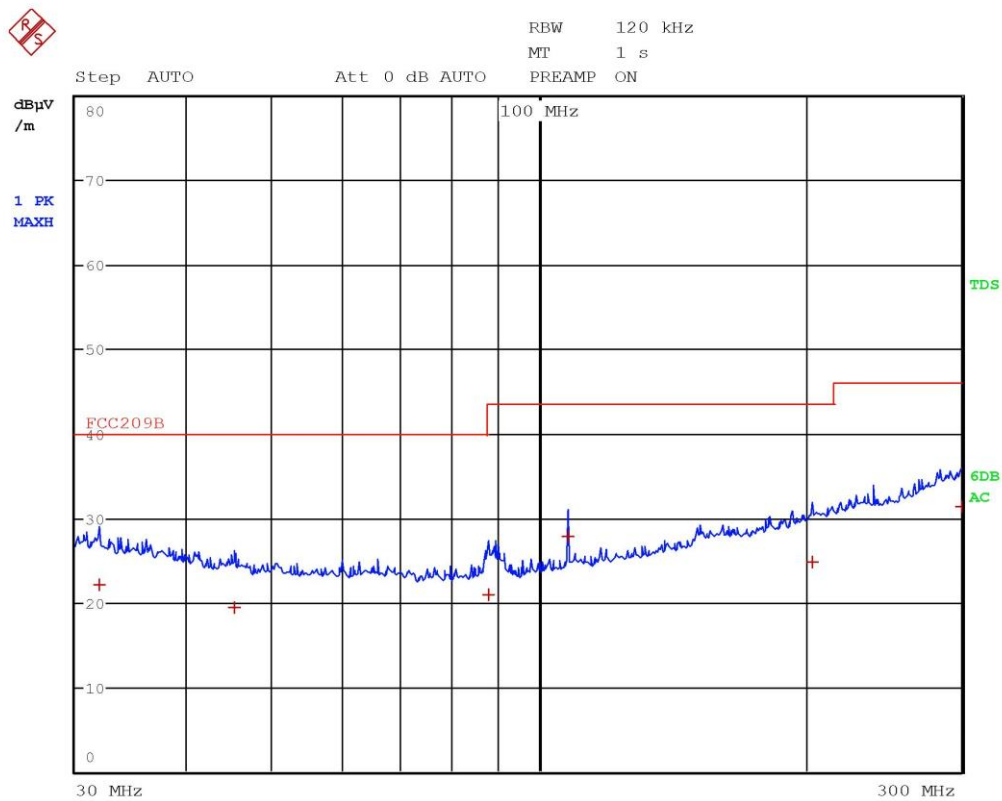


Gandini 180831011-Vert-Tx Fmid



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 30.76 MHz  | 22.55        | -17.44         |
| 1 Quasi Peak                               | 46.52 MHz  | 19.28        | -20.71         |
| 1 Quasi Peak                               | 87.28 MHz  | 19.75        | -20.24         |
| 1 Quasi Peak                               | 108 MHz    | 27.90        | -15.61         |
| 1 Quasi Peak                               | 204.04 MHz | 25.68        | -17.83         |
| 1 Quasi Peak                               | 296.04 MHz | 29.35        | -16.66         |

Gandini 180831011-Vert-Tx Fmid

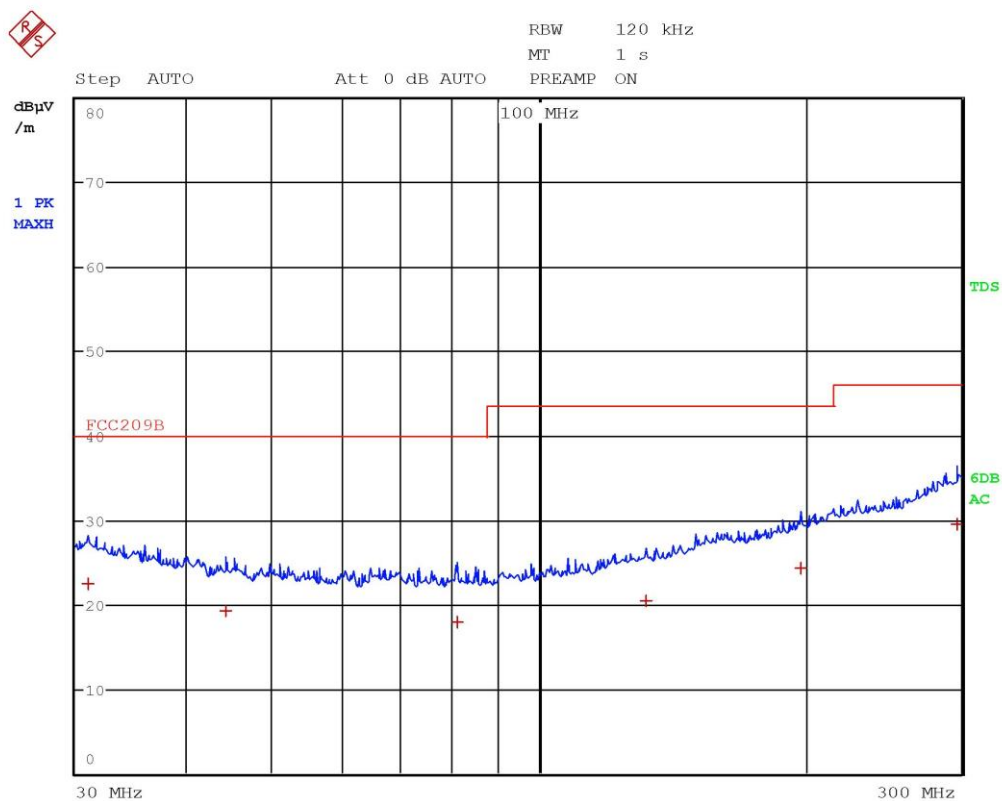


Gandini 180831012-Vert-Tx Fmax



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 31.88 MHz  | 22.08        | -17.91         |
| 1 Quasi Peak                               | 45.32 MHz  | 19.39        | -20.60         |
| 1 Quasi Peak                               | 87.88 MHz  | 20.86        | -19.13         |
| 1 Quasi Peak                               | 108 MHz    | 27.86        | -15.65         |
| 1 Quasi Peak                               | 203.92 MHz | 24.86        | -18.65         |
| 1 Quasi Peak                               | 299.96 MHz | 31.36        | -14.65         |

Gandini 180831012-Vert-Tx Fmax

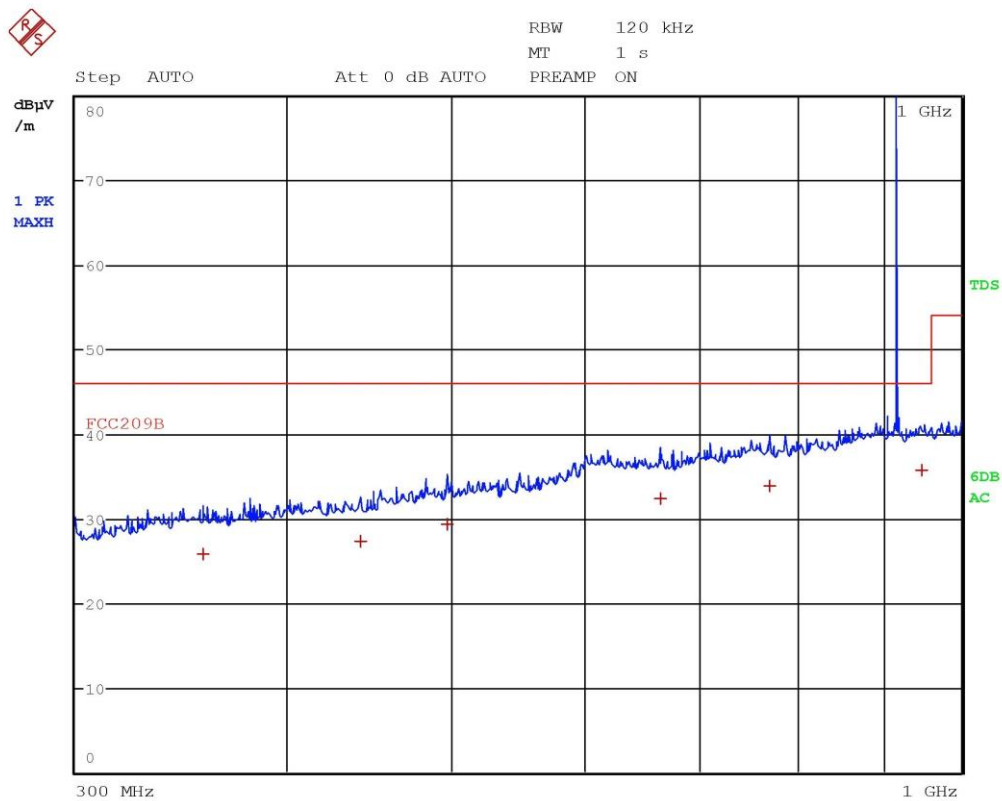


Gandini 180831013-Horiz-Tx Fmax



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 30.96 MHz  | 22.46        | -17.53         |
| 1 Quasi Peak                               | 44.24 MHz  | 19.29        | -20.70         |
| 1 Quasi Peak                               | 81.04 MHz  | 17.87        | -22.12         |
| 1 Quasi Peak                               | 132 MHz    | 20.46        | -23.05         |
| 1 Quasi Peak                               | 197.92 MHz | 24.25        | -19.26         |
| 1 Quasi Peak                               | 296.76 MHz | 29.45        | -16.56         |

Gandini 180831013-Horiz-Tx Fmax

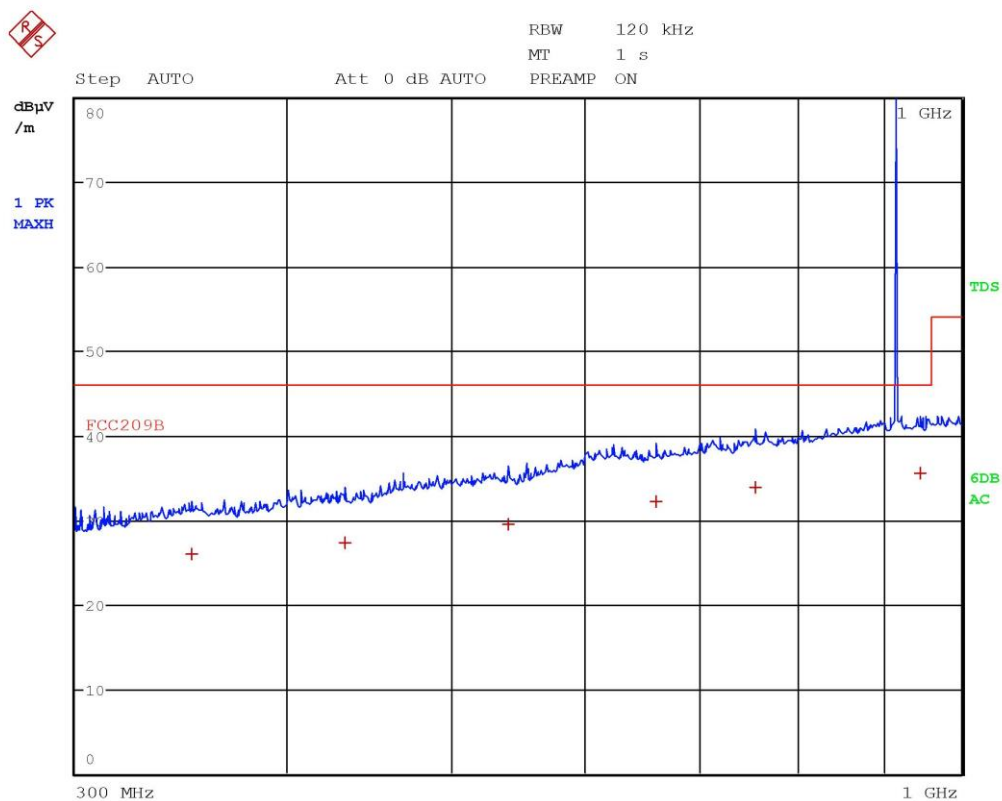


Gandini 180831014-Horiz-Tx Fmin



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 356.56 MHz | 25.87        | -20.14         |
| 1 Quasi Peak                               | 441.76 MHz | 27.36        | -18.65         |
| 1 Quasi Peak                               | 497.64 MHz | 29.27        | -16.74         |
| 1 Quasi Peak                               | 664.36 MHz | 32.27        | -13.74         |
| 1 Quasi Peak                               | 769.96 MHz | 33.84        | -12.18         |
| 1 Quasi Peak                               | 948.08 MHz | 35.66        | -10.35         |

Gandini 180831014-Horiz-Tx Fmin



Gandini 180831015-Vert-Tx Fmin



| EDIT PEAK LIST (Final Measurement Results) |            |              |                |
|--------------------------------------------|------------|--------------|----------------|
| Trace1:                                    | FCC209B    |              |                |
| Trace2:                                    | ---        |              |                |
| Trace3:                                    | ---        |              |                |
| TRACE                                      | FREQUENCY  | LEVEL dBμV/m | DELTA LIMIT dB |
| 1 Quasi Peak                               | 351.4 MHz  | 26.02        | -19.99         |
| 1 Quasi Peak                               | 432.88 MHz | 27.22        | -18.79         |
| 1 Quasi Peak                               | 540.2 MHz  | 29.42        | -16.59         |
| 1 Quasi Peak                               | 661 MHz    | 32.15        | -13.86         |
| 1 Quasi Peak                               | 756.52 MHz | 33.79        | -12.22         |
| 1 Quasi Peak                               | 915.08 MHz | 98.20        | 52.18          |
| 1 Quasi Peak                               | 944.76 MHz | 35.62        | -10.39         |

Gandini 180831015-Vert-Tx Fmin