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LAB N° 0168

Independent Testing Laboratory  
Accredited by ACCREDIA according to UNI CEI EN ISO/IEC 17025 cert. nr. 0168

## TEST REPORT nr. R16195701

### Federal Communication Commission (FCC)

#### Test item

Description .....: PE.AMI Outdoor Lighting Management Node NEMA 915 MHz band  
Trademark .....: PARADOX ENGINEERING  
Model/Type .....: PE.AMI-NDLM920N NC GPS  
FCC ID .....: 2AKPQ0701142823020

#### Test Specification

Standard .....: FCC Rules & Regulations, Title 47:2015  
Part 15 paragraph(s): 203, 204, 205, 207, 209 and 247

**Client's name** .....: PARADOX ENGINEERING

Address .....: Via Passeggiata, 7 – 6883 Novazzano – SWITZERLAND

**Manufacturer's name** : Same as client

Address .....: --

#### Report

Tested by .....: A. Bertezzolo – Technician

*A. Bertezzolo*  
.....  
*R. Beghetto*  
.....

Approved by .....: R. Beghetto – Laboratory Manager

Date of issue .....: 09.03.17

Contents .....: 92 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.



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## 1. Summary

### Standard:

FCC Rules & Regulations, Title 47:2015  
Part 15 paragraph(s): 203, 204, 205, 207, 209 and 247

Test specifications	Environmental Phenomena	Tests sequence	Result
Part 15.203	Antenna requirements	1	Complies
Part 15.207	Conducted emissions	2	Complies
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
Part 1.1310	Maximum permissible exposure	11	Complies

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



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

Power supply ..... : 100-240 V ~ 60 Hz single-phase  
Tests performed on nominal voltage 120 and 240 V ~ 60 Hz

Serial Number ..... : --

Type of equipment ..... :  Transmitter Unit  
 Receiver Unit

Type of station ..... :  Fixed station  
 Portable station  
 Mobile station

Frequency band ..... : 902 – 928 MHz  
Hopping sequence (frequency, spacing and pattern) and access timing are declared by the manufacturer and not changeable by the user. Some samples of production can operate on operating band 909 – 921 MHz instead of 902 – 928 MHz with the same hopping characteristics. Tests have been performed only on 902,42 – 927,58 MHz operating band as worst case.

Nominal frequencies ..... : F<sub>L</sub>: 902,42 MHz F<sub>M</sub>: 915,00 MHz F<sub>H</sub>: 927,58 MHz

### 2.1 Test Site

Company ..... : CMC Centro Misure Compatibilità S.r.l.  
Address ..... : Via della Fisica, 20  
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Test site facility's FCC registration number ..... : 271947



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### 3. Testing and sampling

Date of receipt of test item ..... : 03.11.16  
Testing start date ..... : 07.11.16  
Testing end date ..... : 23.02.17  
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 P161115

### 4. Operative conditions

EUT exercising ..... : Set in fixed or hopping frequencies based on the required tests with PA = 15 dBm. Tests other than 15.207 have been made only with EUT supplied at 120 V 60 Hz. Test according Part 15.207 has been made at both supply voltage 120 and 240 V 60 Hz



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## 5. Photograph(s) of EUT

### 5.1 Photograph(s) of EUT



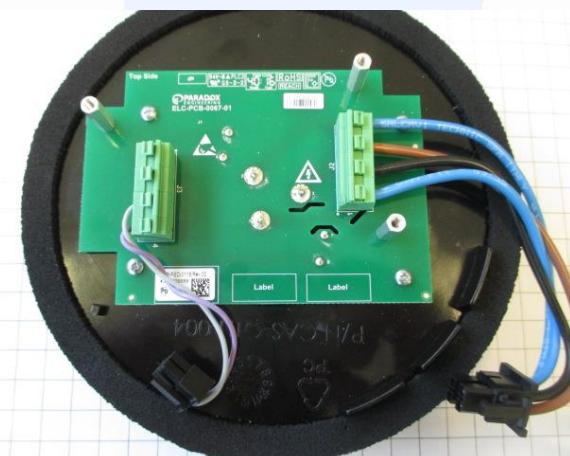
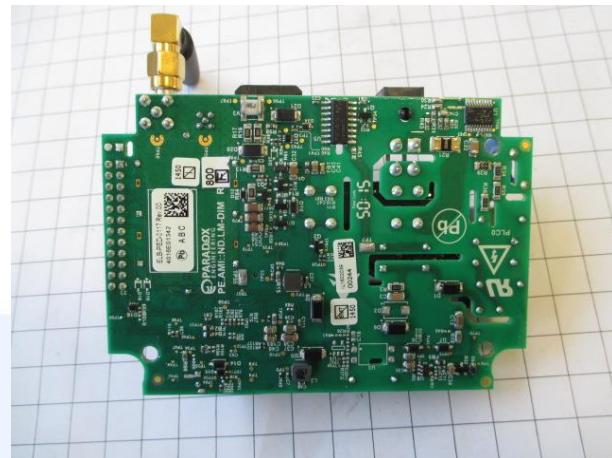
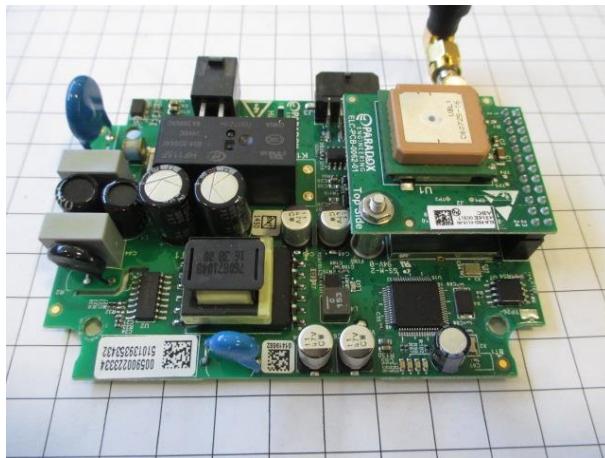


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PESTONE.RADIO.TESTER 1.9.0

Connect using Serial Port      Connect via UDP

Port: COM3 (USB Serial Port)      Close      Remote Address:      Remote Port: 51000      Bind

Test Mode      Sniffer Mode      Physical      MAC

Test Mode      Exit Test Mode      Clear

SPIRITI: 3.2 (x3)  
Channels list: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58  
59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

Write Parameters      Read Parameters

Base      Freq. Hopping      Advanced

Frequency: 912.680 MHz      ✓  
Freq. Offset: 0 Hz      ✓  
Threshold: -90 dBm      ✓  
Sensitivity: -90 dBm      ✓  
Output Power: 20 dBm, 100 mW      ✓

Write      Read

Tx: 11:22:10 [TX]: 7E FF FF 07 12 50 00 0E 08 7F  
11:22:10 [TX]: 7E FF FF 07 71 26 00 86 F2 7F  
11:22:10 [TX]: 7E FF FF 07 71 32 00 00 00 47 1D 7F  
11:22:10 [TX]: 7E FF FF 07 71 34 00 00 00 75 01 00 00 00 E4 77 DB 76 FA 60 1C 1A 01 00 00 00 B0 D5 66 00 F8 3F 80 01 74 D5 66 00 80 EE 75 01 BB FC 66 00 BD A4 9E 68 F8 3F 80 01 74 D5 66 00 CC FF 66 00 50 D2 DC 76 02 37 98 00 F8 3F 80 01 74 D5 66 00 18 1F D6 04 02 00 00 04 00 00 00 F8 3F 80 01 A4 D5 66 00 01 00 00 00 BE 1C 7F

Rx: 11:22:10 [RX]: 7E FF FF 07 12 50 00 0E 08 7F  
11:22:10 [RX]: 7E FF FF 07 F1 00 26 80 CD 7F  
11:22:10 [RX]: 7E FF FF 07 F1 00 30 32 28 98 7F  
11:22:10 [RX]: 7E FF FF 07 F1 00 31 33 28 98 7F  
11:22:10 [RX]: 7E FF FF 07 F1 00 31 B3 A9 7F  
11:22:10 [RX]: 7E FF FF 07 F1 00 34 1E FE 7F  
11:22:11 [RX]: 7E FF FF 07 F1 00 33 A1 8A 7F  
11:22:11 [RX]: 5B 30 30 30 32 36 7C 31 33 37 32  
11:22:11 [RX]: 30 7C 30 7C 32 34 39 37 39 7C 38 36 36 SD

Opened (COM3, 115200 bps)



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The screenshot shows the PE.STONE.RADIO.TESTER 1.9.0 application window. The top menu bar includes 'File', 'Edit', 'Tools', 'Help', and a status bar indicating 'Opened (COM3, 115200 bps)'. The main interface has two main sections: 'Test Mode' and 'Sniffer Mode'. In 'Test Mode', there are tabs for 'Test Mode', 'Sniffer Mode', 'Physical', and 'MAC'. Under 'Test Mode', there is an 'Exit Test Mode' button and a list of SPIRIT1: 3.2 (r3) channels (0-74). Below this are 'Write Parameters' and 'Read Parameters' sections with various configuration fields and checkboxes. A 'Write' button is located at the bottom of the Write Parameters section. In the 'Sniffer Mode' section, there is a 'Rx' (Received) pane showing a list of captured packets, each with a timestamp, source address, destination address, and payload. The bottom of the window shows the Windows taskbar with various pinned icons.

The screenshot shows the PE.STONE.RADIO.TESTER 1.9.0 application window. At the top, there are two connection tabs: "Connect using Serial Port" (selected) and "Connect via UDP". The "Serial Port" tab shows "Port [COM3 (USB Serial Port)]" and a "Close" button. The "UDP" tab has a "Remote Address" field and a "Bind" button. Below the tabs, there are four mode buttons: "Test Mode" (selected), "Sniffer Mode", "Physical", and "MAC". Under "Test Mode", there is a "Exit Test Mode" button and a "Clear" button. A status message "SPIRITI: 3.2 (r3)" and a list of channels from 0 to 74 are displayed. The main area is divided into two sections: "Write Parameters" and "Read Parameters". "Write Parameters" includes fields for Data Rate (50 kbps), Preamble (4 bytes), Sync Word (88888888), Data Whitening (unchecked), and FEC (unchecked). "Read Parameters" includes fields for Frequency (912.680 MHz), Freq. Offset (0 Hz), Threshold (-90 dBm), Sensitivity (-90 dBm), and Output Power (20 dBm, 100 mW). Both sections have "Base", "Freq. Hopping", and "Advanced" tabs. A "Write" button is located at the bottom left of the Write section, and a "Read" button is at the bottom right of the Read section. The bottom half of the window is a scrollable log window titled "Tx" and "Rx". The Tx log shows several transmitted frames (RX#) with various addresses and data payloads. The Rx log shows received frames (RX#) with their corresponding addresses and data payloads. A "Clear" button is located at the top right of the log area.

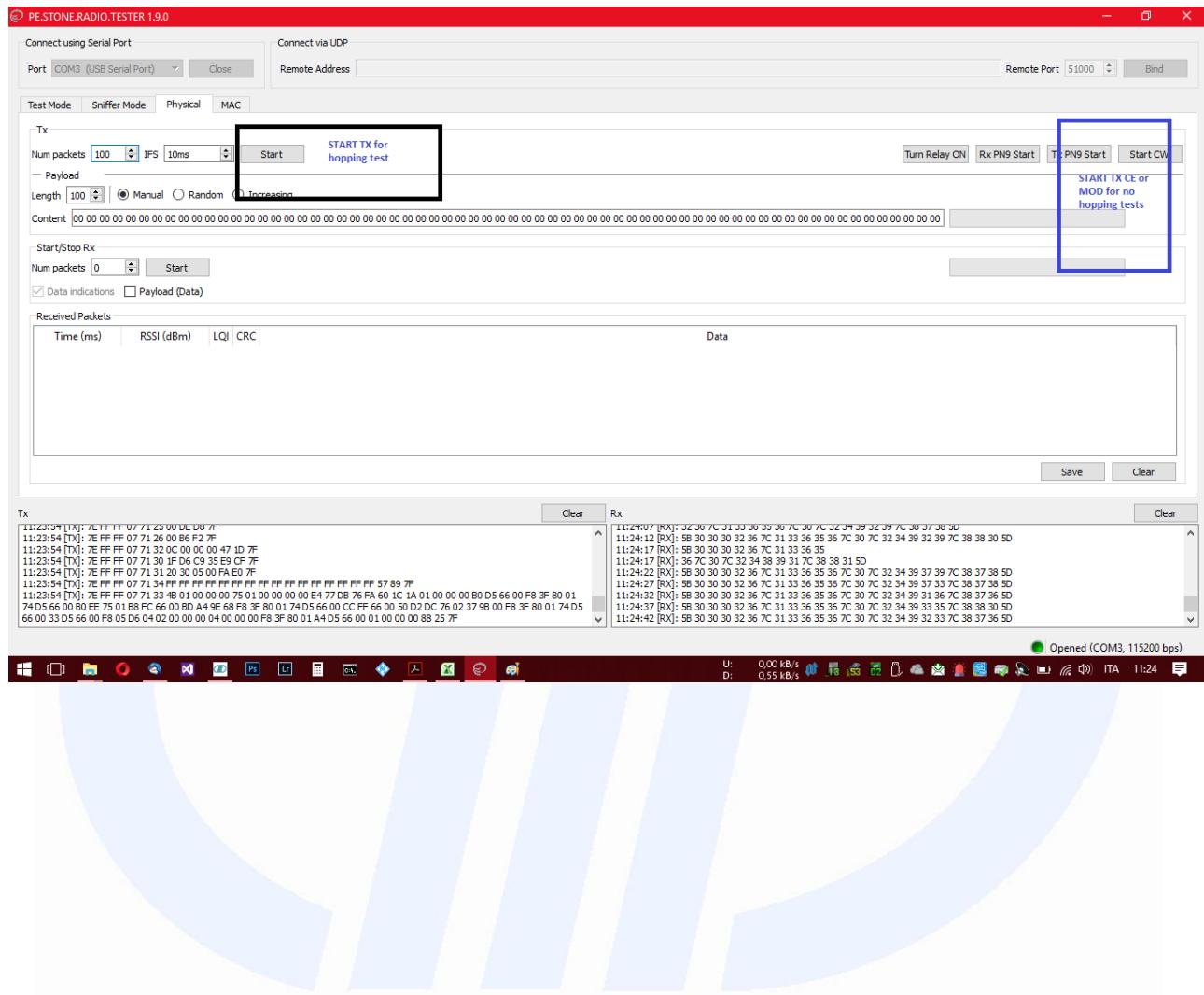


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## 6. Equipment list

Id. number	Manufacturer	Model	Description	Serial number	Last calibration	Due date calibration
CMC S010	Rohde & Schwarz	ESH3-Z2	Impulses Limiting Device	---	January '17	January '18
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 '17	January '18
CMC S200	Schwarzbeck	NSLK 8128	V-LISN	8128-273	January '17	January '18
CMC S227	Rohde & Schwarz	ESR7	EMI Test Receiver 7GHz	101121	January '17	January '18
CMC S260	CMC	Wfr_N	Shielded Cable	Wfr_ant10-1	November '16	November '17
CMC S261	CMC	Wfr_N	Shielded Cable	Wfr_ant20-1	November '16	November '17
CMC S262	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix32-1	November '16	November '17
CMC S263	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix31-1	November '16	November '17
CMC S264	CMC	Wfr_N	Shielded Cable	Wfr_ext03-1	November '16	November '17
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 '16	November '17



## 7. Measurement uncertainty

Test	Expanded Uncertainty	note
<b>Conducted Emission</b>		
(50Ω/50µH AMN) - (9 kHz – 150 kHz)	±3,6 dB	1
(50Ω/50µH AMN) - (150 kHz – 30 MHz)	±3,0 dB	1
(Voltage probe) - (150 kHz – 30 MHz)	±2,9 dB	1
(50Ω/5µH AMN) - (150 kHz – 108 MHz)	±2,6 dB	1
<b>Discontinuous Conducted Emission</b>		
Conducted Emission (50Ω/50µH AMN) - (150 kHz – 30 MHz)	±3,0 dB	1
<b>Disturbance Power</b> (30 MHz – 300 MHz)		
<b>Radiated Emission</b>		
(0,150 MHz – 30 MHz)	±3,8 dB	1
(30 MHz – 1000 MHz)	±3,8 dB	1
(1 GHz – 6 GHz)	±4,3 dB	1
<b>Electromagnetic field EMF</b>		
<b>Harmonic current emissions test</b>		
<b>Voltage fluctuation and flicker test</b>		
<b>Insertion loss test</b>		
<b>Radiated electromagnetic disturbance test (loop antenna)</b>		
<b>Radiated electromagnetic field immunity test</b>		
Pulse modulated radiated electromagnetic field immunity test	0,81 V/m at 3V/m	1
Injected currents immunity test	0,45 V at 3V	1
Bulk current	3,7 mA at 60 mA	1
Power frequency magnetic field immunity test	0,23 A/m at 10 A/m	1
<b>Effective radiated power (F &lt; 1GHz)</b>		
Effective radiated power (F > 1GHz)	±5,5 dB	1
Frequency error	< 1x10-7	1
Timing zero span (1001pts.)	0,2% SWT	1
Modulation bandwidth	< 1x10-7	1
Conducted RF power and spurious emission	±0,7 dB	1
Adjacent channel power	±1,2 dB	1
Blocking	±1,2 dB	1
<b>Electrostatic discharge immunity test</b>		
<b>Electrical fast transients / burst immunity test</b>		
<b>Surge immunity test</b>		
<b>Pulse magnetic field immunity test</b>		
<b>Damped oscillatory magnetic field immunity test</b>		
<b>Short interruption immunity test</b>		
<b>Voltage transient emission test</b>		
Transient immunity test	±2,2 %	1
Rev_16_01 date 09/02/2016		2

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.



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## 8. Reference documents

Reference no.	Description
FCC Rules and Regulation Title 47 part 15:2015	--
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



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## 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 measurement results is within the specification limit when the measurement uncertainty is taken into account.	 The sample complies with the requirement. It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty although the measurement result is below the limit.	 The sample does not comply with the requirement. 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 sample does not comply with the requirement. 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
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test configuration and test method

Test site:  
Laboratory

Auxiliary equipment:  
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 (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
20	100	45

### Result

Antenna Type	External R.F. power amplifier	Gain	Remarks	Results
Dedicated antenna	Not Present	2,15 dBi	--	Complies

**Result:** The requirements are met



## 11.2 Conducted emissions

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.207
- Internal procedure PM001
- See clause 4 of this test report

### Test configuration and test method

Test site:  
Shielded chamber

Auxiliary equipment:  
See clause 4 of this test report

### EUT exercising

See clause 4 of this test report

### Test equipment used

CMC S010, CMC S200, CMC S206  
Measurement uncertainty: See clause 7 of this test report

### Test specification

Port: Main port

Frequency range: 150 kHz – 30 MHz

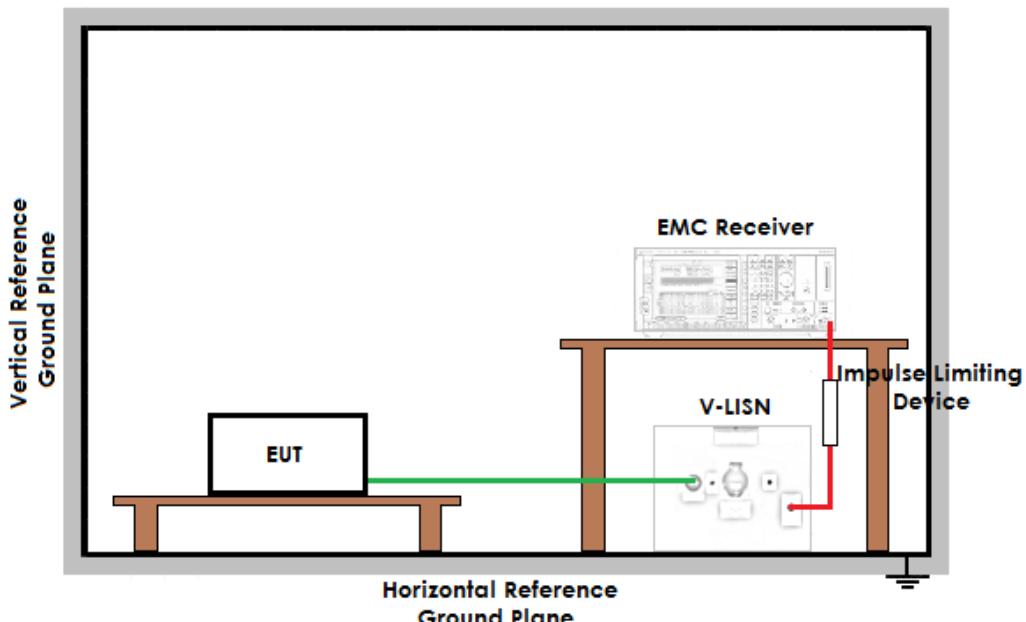
### Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
21	98	46

### Acceptance limits

Frequency range (MHz)	dB(µV) Quasi-peak	dB(µV) Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

## Setup



## Result

Line	Graphs	Remarks	Result
N	G16195727	120 V ~ 60 Hz	Complies
L1	G16195728	120 V ~ 60 Hz	Complies
N	G16195729	240 V ~ 60 Hz	Complies
L1	G16195730	240 V ~ 60 Hz	Complies

**Remarks:** EUT set on fixed worst case frequency

### 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



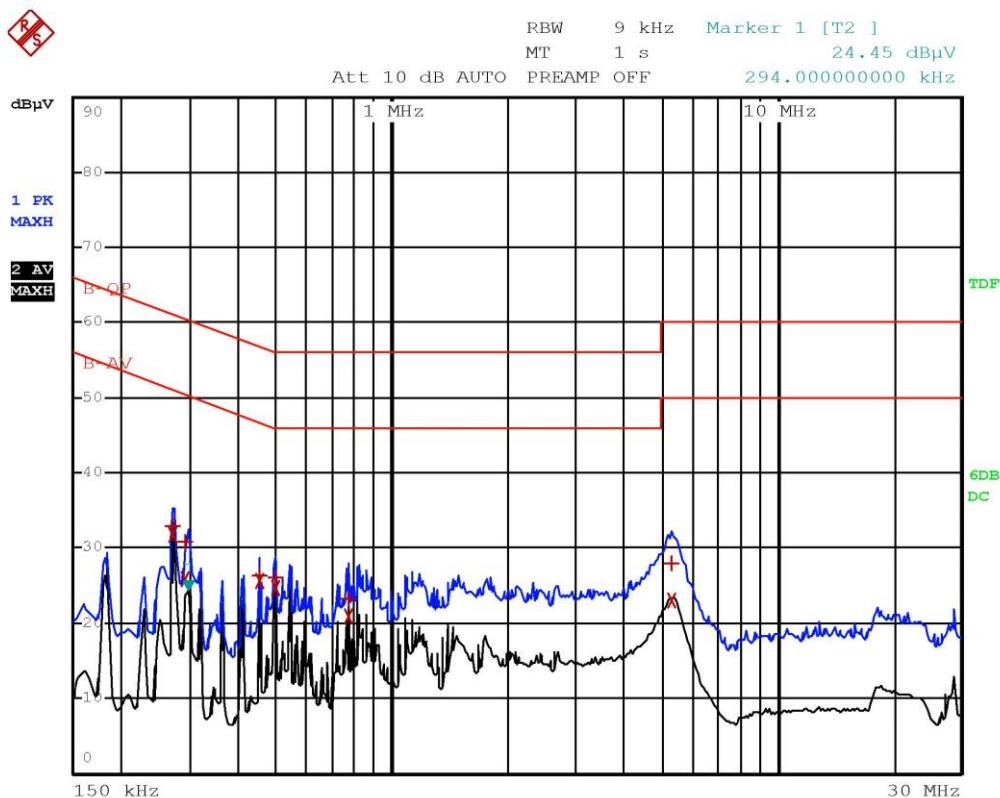
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## Graphs



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EDIT PEAK LIST (Final Measurement Results)				
Trace1:	B-QP			
Trace2:	B-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBpV	DELTA	LIMIT dB
1 Quasi Peak	270 kHz	32.86	-28.25	
2 Average	270 kHz	31.82	-19.29	
1 Quasi Peak	294 kHz	30.78	-29.62	
2 Average	294 kHz	25.90	-24.50	
1 Quasi Peak	454 kHz	26.44	-30.35	
2 Average	454 kHz	25.72	-21.08	
1 Quasi Peak	498 kHz	26.01	-30.02	
2 Average	498 kHz	24.67	-21.36	
2 Average	770 kHz	20.82	-25.17	
1 Quasi Peak	770 kHz	23.34	-32.65	
2 Average	5.31 MHz	22.99	-27.00	
1 Quasi Peak	5.342 MHz	27.93	-32.06	

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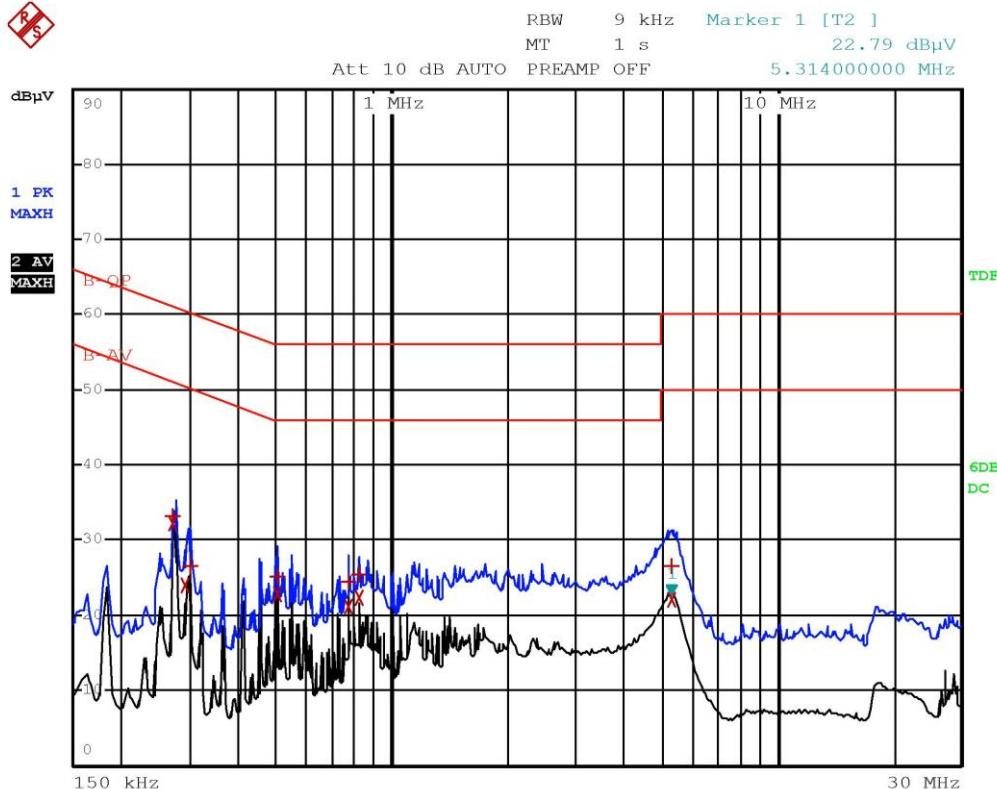


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EDIT PEAK LIST (Final Measurement Results)				
Trace1:	B-QP			
Trace2:	B-AV			
Trace3:	---			
	TRACE	FREQUENCY	LEVEL dB <sub>P</sub> V	DELTA LIMIT dB
2	Average	274 kHz	32.24	-18.75
1	Quasi Peak	274 kHz	33.20	-27.79
2	Average	294 kHz	24.02	-26.38
1	Quasi Peak	298 kHz	26.45	-33.84
2	Average	502 kHz	22.76	-23.23
1	Quasi Peak	502 kHz	25.24	-30.75
2	Average	774 kHz	21.08	-24.91
1	Quasi Peak	774 kHz	24.43	-31.57
2	Average	818 kHz	22.31	-23.68
1	Quasi Peak	818 kHz	25.28	-30.71
2	Average	5.314 MHz	22.01	-27.98
1	Quasi Peak	5.334 MHz	26.54	-33.45

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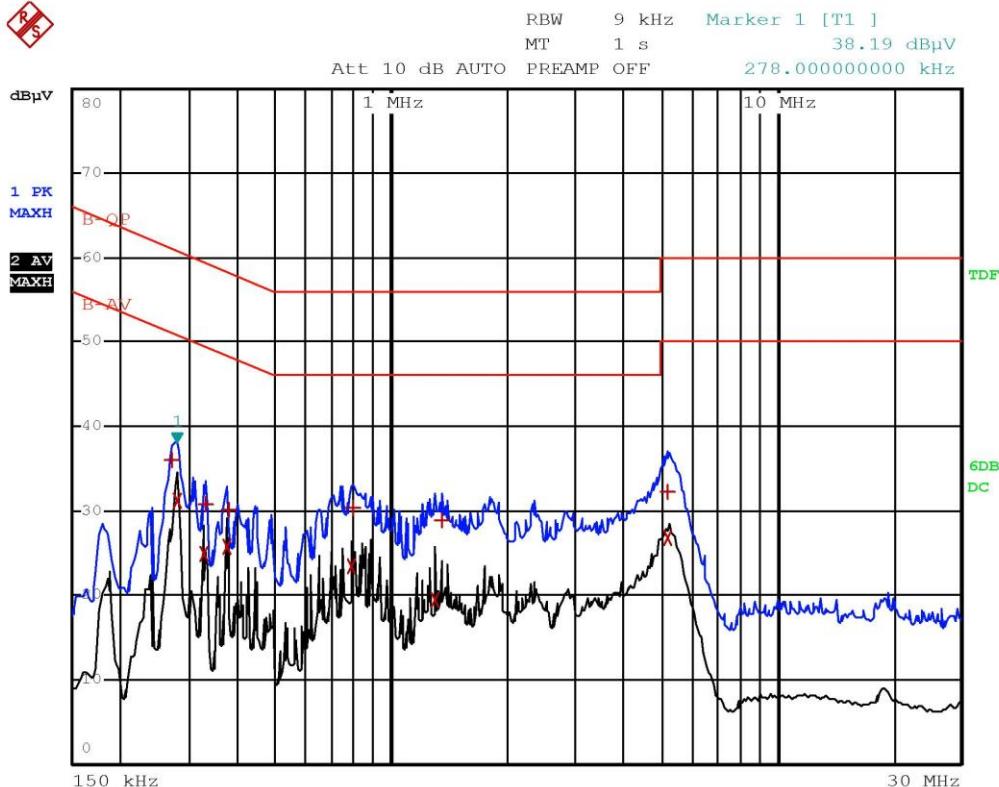
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EDIT PEAK LIST (Final Measurement Results)				
Trace1:	B-QP	Frequency	Level dB <sub>PV</sub>	Delta Limit dB
Trace2:	B-AV			
Trace3:	---			
TRACE				
1 Quasi Peak	274 kHz	35.93	-25.05	
2 Average	278 kHz	31.28	-19.59	
2 Average	326 kHz	24.93	-24.61	
1 Quasi Peak	330 kHz	30.80	-28.64	
2 Average	374 kHz	25.70	-22.70	
1 Quasi Peak	378 kHz	30.04	-28.28	
2 Average	790 kHz	23.33	-22.66	
1 Quasi Peak	794 kHz	30.34	-25.65	
2 Average	1.302 MHz	19.43	-26.56	
1 Quasi Peak	1.35 MHz	28.88	-27.11	
2 Average	5.234 MHz	26.80	-23.19	
1 Quasi Peak	5.234 MHz	32.32	-27.67	

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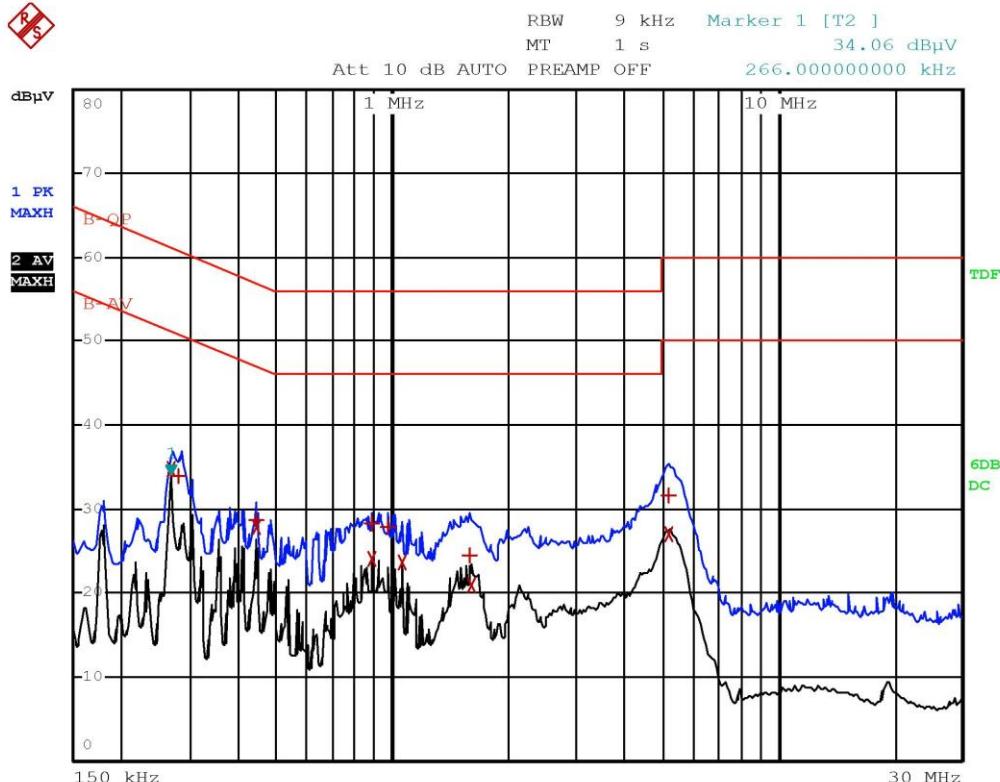


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EDIT PEAK LIST (Final Measurement Results)				
Trace1:	B-QP			
Trace2:	B-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dB <sub>P</sub> V	DELTA	LIMIT dB
2 Average	266 kHz	34.66	-16.57	
1 Quasi Peak	282 kHz	33.85	-26.90	
1 Quasi Peak	442 kHz	28.62	-28.39	
2 Average	442 kHz	27.72	-19.29	
1 Quasi Peak	886 kHz	28.34	-27.65	
2 Average	890 kHz	23.98	-22.01	
1 Quasi Peak	974 kHz	27.91	-28.08	
2 Average	1.062 MHz	23.53	-22.46	
1 Quasi Peak	1.59 MHz	24.45	-31.54	
2 Average	1.598 MHz	20.93	-25.06	
1 Quasi Peak	5.194 MHz	31.54	-28.46	
2 Average	5.222 MHz	26.89	-23.10	

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**Result:** The requirements are met



## 11.3 Radiated emissions

### Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part. 15.209
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

### EUT exercising

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

### 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 – 1000 MHz

Antenna polarization: Horizontal (H) – Vertical (V)

EUT – Antenna distance:

10 m for frequencies  $\leq$  1000 MHz

3 m for frequencies  $>$  1000 MHz

### Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	45

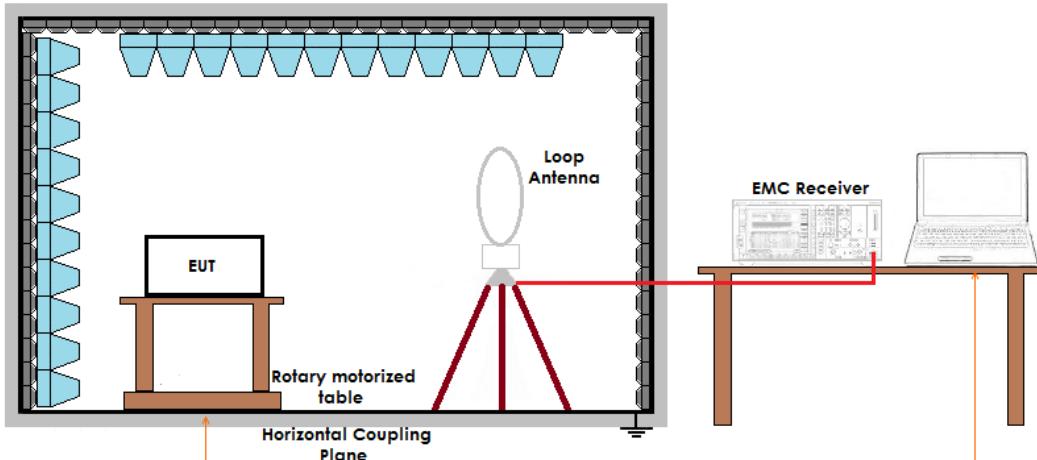
### Acceptance limits

Frequency range (MHz)	Limits [dB( $\mu$ V/m)]
0,009 to 0,490	107,60 to 72,89
0,490 to 1,705	52,89 to 42,05
1,705 to 30	48,63
30 to 88	40
88 to 216	43,52
216 to 960	46,02
Above 960	53,98
Above 1000	53,98

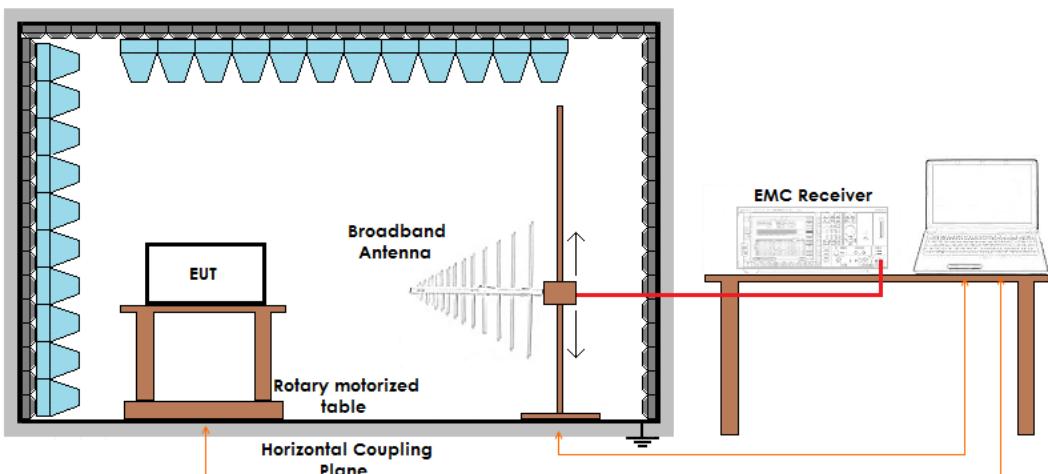
**Remarks:** The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

## Setup

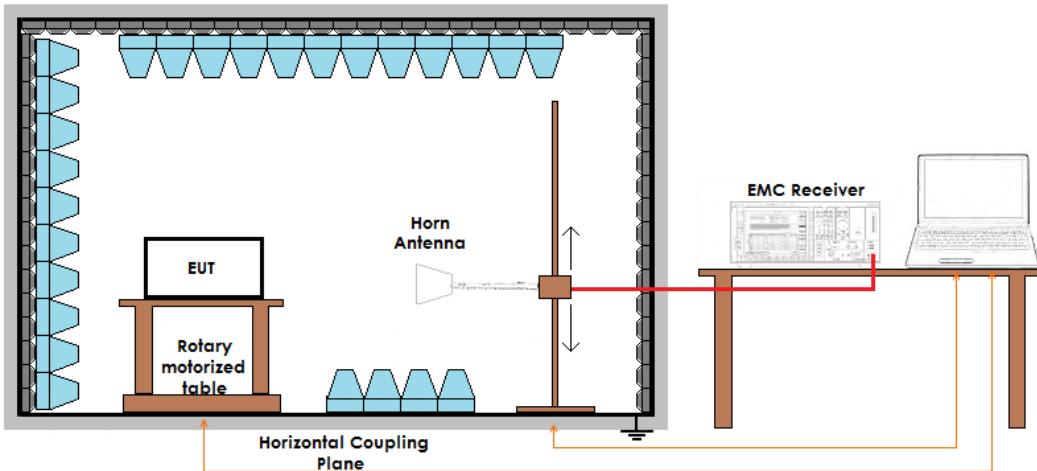
Frequency  $\leq$  30 MHz



Frequency  $\leq$  1 GHz



Frequency  $>$  1 GHz





## Result

Polarization	Frequency Range (MHz)	Graphs	Remarks	Result
Loop	0,009 – 30	G161957145	Worst case	Complies
H	30 – 300	G161957137	Worst case	Complies
V	30 – 300	G161957138	Worst case	Complies
V	300 – 1000	G161957139	Lowest frequency	Complies
H	300 – 1000	G161957140	Lowest frequency	Complies
H	300 – 1000	G161957141	Medium frequency	Complies
V	300 – 1000	G161957142	Medium frequency	Complies
V	300 – 1000	G161957143	Highest frequency	Complies
H	300 – 1000	G161957144	Highest frequency	Complies
V	1000 – 10000	G161957131	Lowest frequency	Complies
H	1000 – 10000	G161957132	Lowest frequency	Complies
H	1000 – 10000	G161957133	Medium frequency	Complies
V	1000 – 10000	G161957134	Medium frequency	Complies
V	1000 – 10000	G161957135	Highest frequency	Complies
H	1000 – 10000	G161957136	Highest frequency	Complies

**Remarks:** Peaks above the limits are due to the main 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



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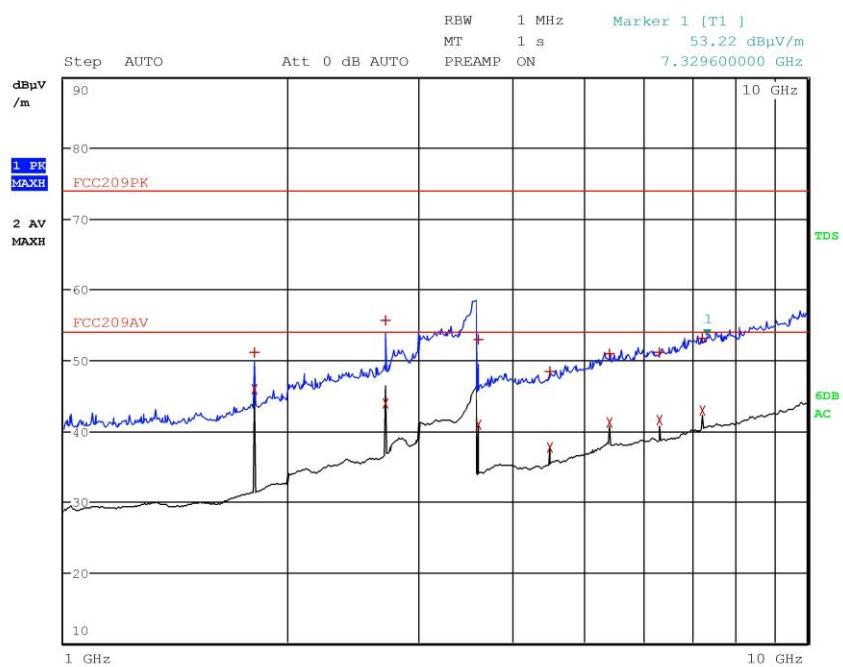
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## Graphs

G161957131

**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957131  
**Test Spec**





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LAB N° 0168

**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957131  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 14

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
1	1.804800000 GHz	51.15	Max Peak	-22.83
2	1.804800000 GHz	45.83	Average	-8.15
1	2.707600000 GHz	55.59	Max Peak	-18.39
2	2.707600000 GHz	43.79	Average	-10.19
1	3.610000000 GHz	53.01	Max Peak	-20.97
2	3.610000000 GHz	40.82	Average	-13.16
1	4.511600000 GHz	48.34	Max Peak	-25.64
2	4.512000000 GHz	37.72	Average	-16.26
1	5.409600000 GHz	50.90	Max Peak	-23.08
2	5.414400000 GHz	41.17	Average	-12.81
2	6.316800000 GHz	41.46	Average	-12.52
1	6.338000000 GHz	51.16	Max Peak	-22.82
2	7.219200000 GHz	42.82	Average	-11.16
1	7.229200000 GHz	53.07	Max Peak	-20.91



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G161957132

**Meas Type** Emission 3m

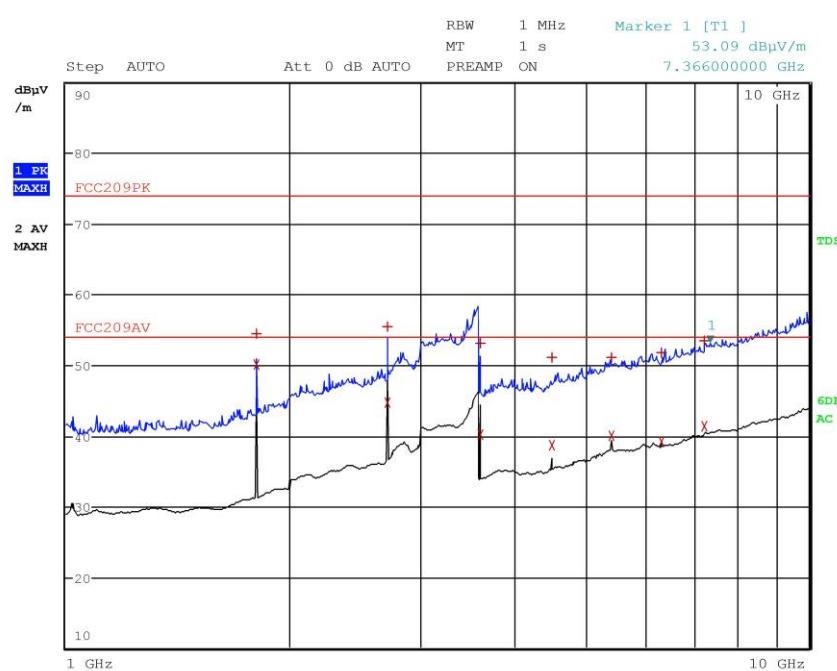
**Equipment under Test**

**Manufacturer**

**OP Condition**

**Operator** Bertezzolo 161957132

**Test Spec**





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LAB N° 0168

**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957132  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 14

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
1	1.804800000 GHz	54.49	Max Peak	-19.49
2	1.804800000 GHz	50.16	Average	-3.82
1	2.707600000 GHz	55.44	Max Peak	-18.54
2	2.707600000 GHz	44.69	Average	-9.29
1	3.610000000 GHz	53.03	Max Peak	-20.95
2	3.610000000 GHz	40.09	Average	-13.89
1	4.511600000 GHz	51.17	Max Peak	-22.81
2	4.512000000 GHz	38.58	Average	-15.40
1	5.409600000 GHz	51.07	Max Peak	-22.91
2	5.414400000 GHz	40.06	Average	-13.92
2	6.316800000 GHz	39.23	Average	-14.75
1	6.338000000 GHz	51.70	Max Peak	-22.28
2	7.219200000 GHz	41.32	Average	-12.66
1	7.229200000 GHz	53.46	Max Peak	-20.52



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G161957133

**Meas Type** Emission 3m

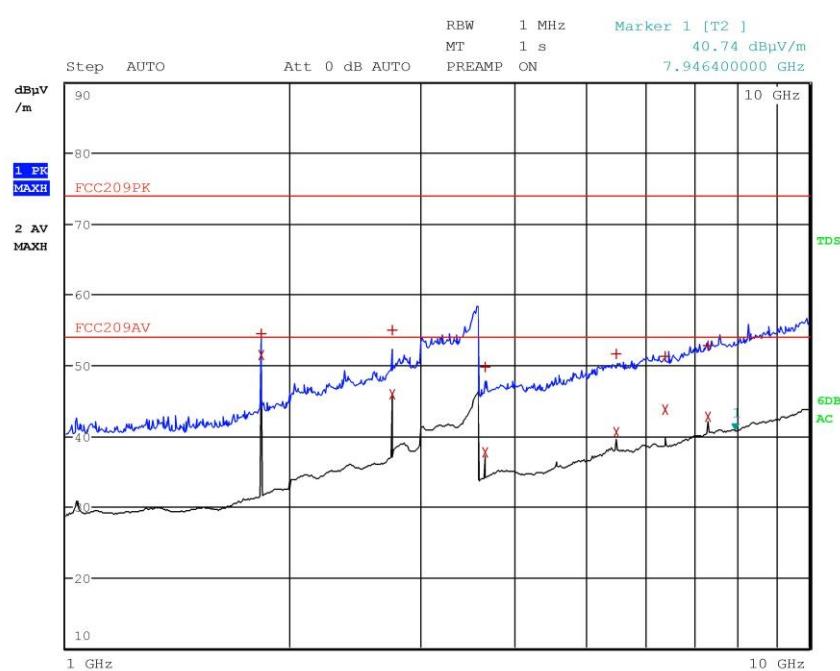
**Equipment under Test**

**Manufacturer**

**OP Condition**

**Operator** Bertezzolo 161957133

**Test Spec**





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**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957133  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 12

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
1	1.830000000 GHz	54.50	Max Peak	-19.48
2	1.830000000 GHz	51.41	Average	-2.57
1	2.745200000 GHz	54.90	Max Peak	-19.08
2	2.745200000 GHz	45.80	Average	-8.18
1	3.660000000 GHz	49.69	Max Peak	-24.29
2	3.660000000 GHz	37.71	Average	-16.27
2	5.490000000 GHz	40.54	Average	-13.44
1	5.510000000 GHz	51.60	Max Peak	-22.38
1	6.388400000 GHz	51.34	Max Peak	-22.64
2	6.405200000 GHz	43.66	Average	-10.32
1	7.319600000 GHz	52.77	Max Peak	-21.21
2	7.320000000 GHz	42.68	Average	-11.30



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G161957134

**Meas Type** Emission 3m

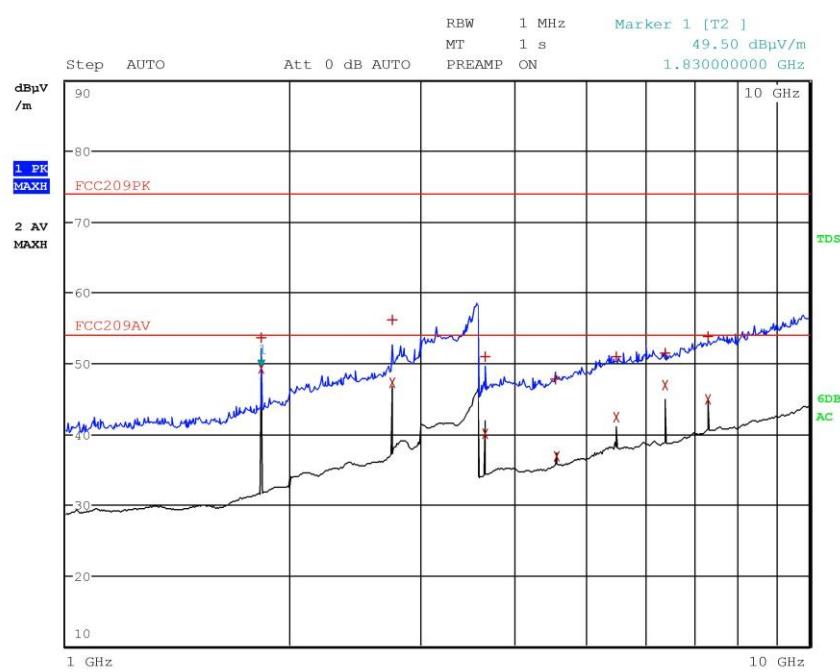
**Equipment under Test**

**Manufacturer**

**OP Condition**

**Operator** Bertezzolo 161957134

**Test Spec**





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**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957134  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 14

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
2	1.830000000 GHz	49.17	Average	-4.81
1	1.830000000 GHz	53.60	Max Peak	-20.38
2	2.745200000 GHz	47.26	Average	-6.72
1	2.745200000 GHz	56.16	Max Peak	-17.82
1	3.659600000 GHz	50.96	Max Peak	-23.02
2	3.660000000 GHz	39.96	Average	-14.02
1	4.559600000 GHz	47.74	Max Peak	-26.24
2	4.574800000 GHz	36.88	Average	-17.10
2	5.490000000 GHz	42.35	Average	-11.63
1	5.490400000 GHz	50.99	Max Peak	-22.99
1	6.404800000 GHz	51.38	Max Peak	-22.60
2	6.405200000 GHz	46.83	Average	-7.15
1	7.320000000 GHz	53.71	Max Peak	-20.27
2	7.320000000 GHz	44.84	Average	-9.14



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**Meas Type** Emission 3m

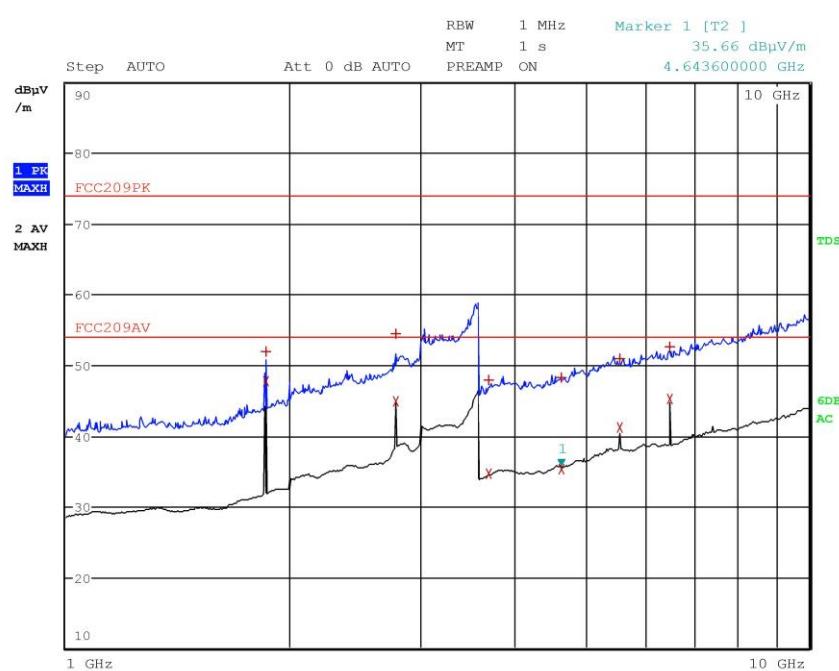
**Equipment under Test**

**Manufacturer**

**OP Condition**

**Operator** Bertezzolo 161957135

**Test Spec**





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L'ENTE ITALIANO DI ACCREDITAMENTO

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**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957135  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 12

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
1	1.855200000 GHz	51.90	Max Peak	-22.08
2	1.855200000 GHz	47.78	Average	-6.20
1	2.782800000 GHz	54.54	Max Peak	-19.44
2	2.782800000 GHz	44.86	Average	-9.12
1	3.704000000 GHz	47.96	Max Peak	-26.02
2	3.710400000 GHz	34.63	Average	-19.35
1	4.635600000 GHz	48.26	Max Peak	-25.72
2	4.643600000 GHz	35.37	Average	-18.61
1	5.565600000 GHz	50.87	Max Peak	-23.11
2	5.565600000 GHz	41.25	Average	-12.73
1	6.493200000 GHz	52.54	Max Peak	-21.44
2	6.493200000 GHz	45.21	Average	-8.77



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**Meas Type** Emission 3m

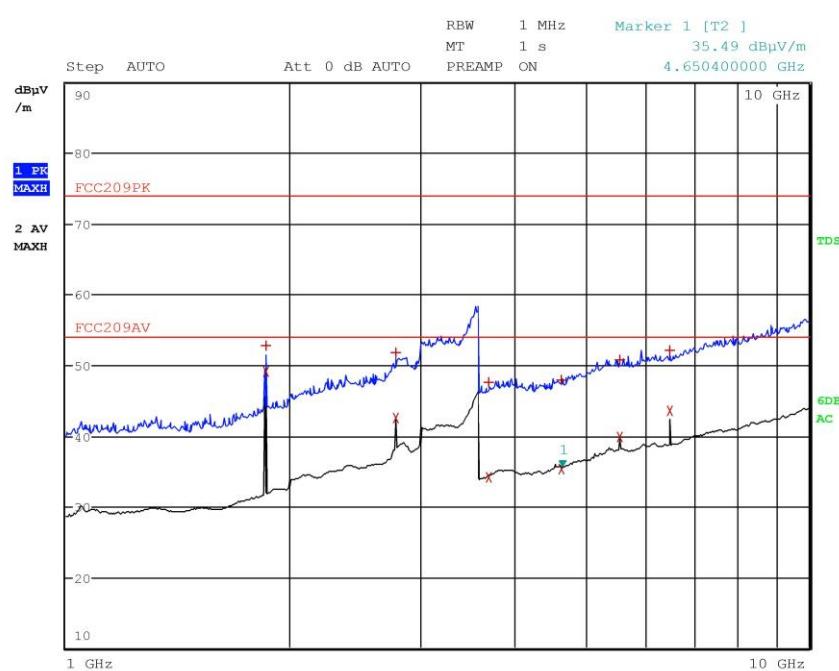
**Equipment under Test**

**Manufacturer**

**OP Condition**

**Operator** Bertezzolo 161957136

**Test Spec**





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**Meas Type** Emission 3m  
**Equipment under Test**  
**Manufacturer**  
**OP Condition**  
**Operator** Bertezzolo 161957136  
**Test Spec**

#### **Final Measurement**

Meas Time: 1 s  
Margin: 6 dB  
Subranges: 12

Trace	Frequency	Level (dB $\mu$ V/m)	Detector	Delta Limit/dB
1	1.855200000 GHz	52.85	Max Peak	-21.13
2	1.855200000 GHz	49.00	Average	-4.98
1	2.782800000 GHz	51.70	Max Peak	-22.28
2	2.782800000 GHz	42.49	Average	-11.49
1	3.704000000 GHz	47.63	Max Peak	-26.35
2	3.710400000 GHz	34.04	Average	-19.94
1	4.635600000 GHz	47.92	Max Peak	-26.06
2	4.643600000 GHz	35.37	Average	-18.61
1	5.565600000 GHz	50.80	Max Peak	-23.18
2	5.565600000 GHz	39.79	Average	-14.19
1	6.493200000 GHz	52.15	Max Peak	-21.83
2	6.493200000 GHz	43.47	Average	-10.51