



TEST REPORT nr. R17049101

Federal Communication Commission (FCC)

Test item

Description.....: TRANSCEIVER UNIT
Trademark.....: AUTEC
Model/Type: Model FJB Type NZ422
FCC ID: OQA-FJBNZ422

Test Specification

Standard.....: FCC Rules & Regulations, Title 47:2017
Part 15 paragraph(s): 203, 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

Giovanni Gandini

Approved by: R. Beghetto – Laboratory Manager

R. Beghetto

Date of issue: 09.05.18

Contents.....: 78 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 47:2017

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	--	N.A. (+)
Part 15.209	Radiated emissions	2	Complies
Part 15.247	20 dB Bandwidth	3	Complies
Part 15.247	Channel Separation	4	Complies
Part 15.247	Number of Hopping Channel	5	Complies
Part 15.247	Time of occupancy	6	Complies
Part 15.247	Band edge	7	Complies
Part 15.209 and 15.247	Peak Output Power	8	Complies
Part 15.205 and 15.209	Spurious emission	9	Complies
Part 1.1310	Maximum permissible exposure	10	Complies

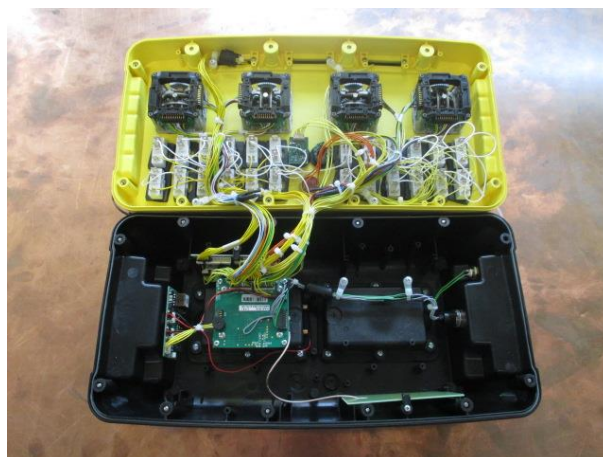
(+) Devices which only employ battery power. See FCC Part 15.207 (c)

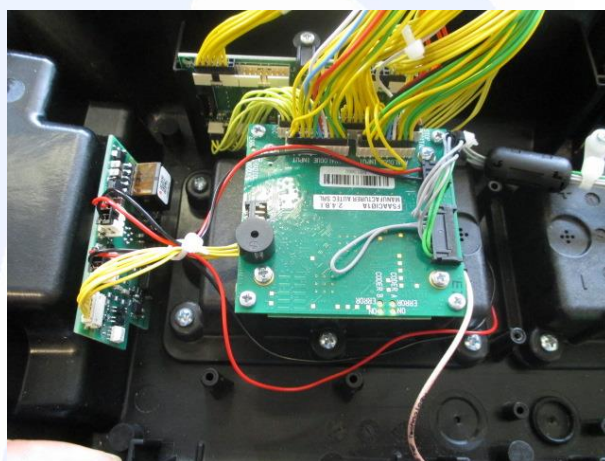
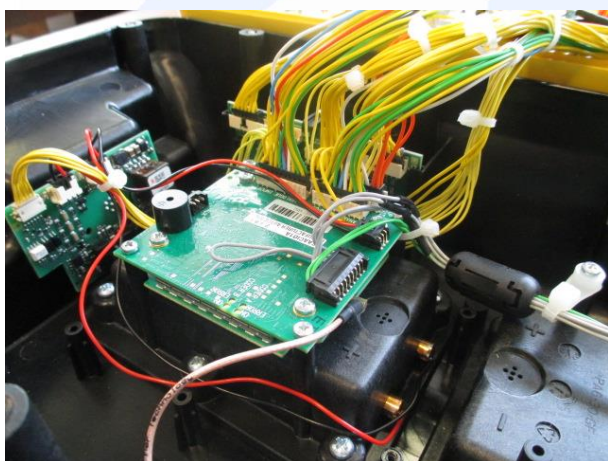
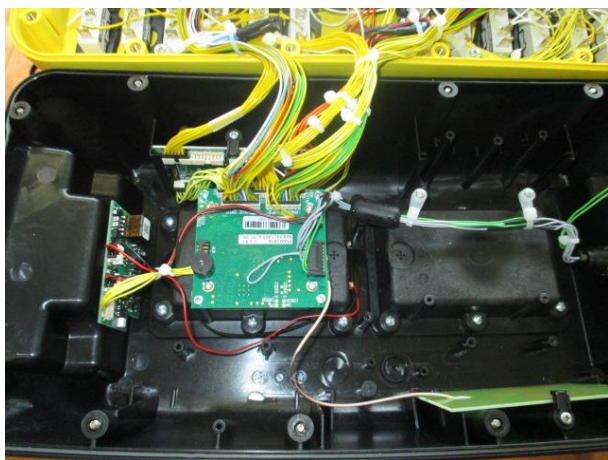
The Test Report was given to the Client representatives for necessary documentation of ratification of the tested equipment and it is valid for the FCC certification



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 '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 LISN 50uH 0,009-0,0150MHz	PE001_01	3,4 dB	1
Conducted emission CISPR 16 LISN 50uH 0,150-30,0MHz	PE001_01	2,8 dB	1
Conducted emission CISPR 16 Voltage Probe 0,15-30MHz	PE001_02	2,6 dB	1
Conducted emission CISPR 16 Current Probe 0,15-30MHz	PE001_03	2,2 dB	1
Conducted emission CISPR 16 ISN 0,15-30MHz	PE001_04	4,5 dB	1
Clic CISPR 16 LISN 50uH 0,150-30,0MHz	PE001_05	3,1 dB	1
Disturbance Power 30-300 MHz	PE002_01	3,4 dB	1
Radiated Emission LAS 0,15-30MHz	PE003_01	1,5 dB	1
Radiated Emission CISPR 16 Loop Ant. 0,15-30MHz	PE004_01	3,8 dB	1
Radiated Emission CISPR 16 Bicon. Ant. 30-300MHz	PE004_02	3,3 dB	1
Radiated Emission CISPR 16 LogP. Ant. 300-1000MHz	PE004_03	3,1 dB	1
Radiated Emission CISPR 16 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 80MHz-6GHz	PE102_XX	2,1 dB 0,82 V/m a 3V/m	1
Conducted Immunity 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 9kHz-30MHz	PR001_01	3,8 dB	1
Power/Spurious ERP 30-1000MHz d=10m	PR001_02+03	4,3 dB	1
Misura della potenza EIRP 1-18GHz d=3m	PR001_04	4,3 dB	1
Misura della potenza EIRP 18-40GHz d=3m	PR001_05	5,5 dB	1
Frequency error	PR002_01+02	< 1x10 ⁻⁷	1
Timing zero span (1001pts.)	PR002_01+02	0,2 % SWT	1
Modulation bandwidth	PR002_01+02	< 1x10 ⁻⁷	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.

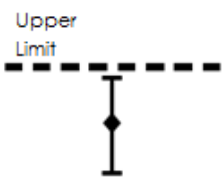
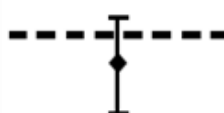
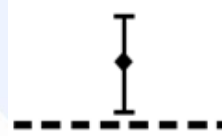


11. Results

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
- DA 00-705
- 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 (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
20	100	45

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
- DA 00-705
- 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

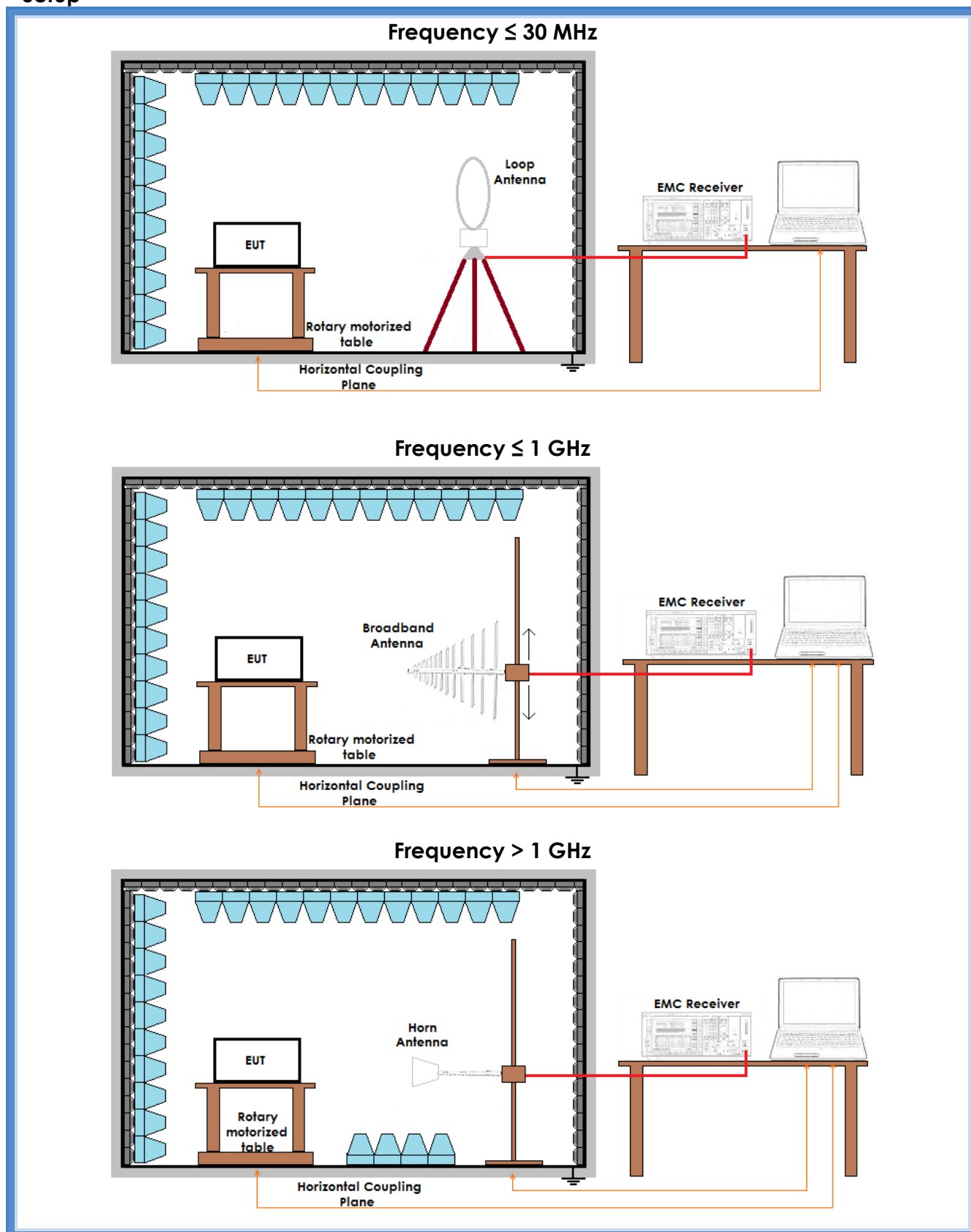
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	45

Acceptance limits

Frequency range (MHz)	Test distance (m)	Limits [dB(μ 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 detector [dB(μ V/m)]	Peak detector [dB(μ 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
V	300 – 1000	G17049101	Lowest frequency	Complies
H	300 – 1000	G17049102	Lowest frequency	Complies
H	300 – 1000	G17049103	Medium frequency	Complies
V	300 – 1000	G17049104	Medium frequency	Complies
V	300 – 1000	G17049105	Highest frequency	Complies
H	300 – 1000	G17049106	Highest frequency	Complies
H	30 – 300	G17049107	Highest frequency	Complies
V	30 – 300	G17049108	Highest frequency	Complies
V	30 – 300	G17049109	Medium frequency	Complies
H	30 – 300	G17049110	Medium frequency	Complies
H	30 – 300	G17049111	Lowest frequency	Complies
V	30 – 300	G17049112	Lowest frequency	Complies
Loop	0,009 – 30	G17049113	Worst case	Complies
V	1000 – 10000	G17049118	Highest frequency	Complies
H	1000 – 10000	G17049119	Highest frequency	Complies
H	1000 – 10000	G17049120	Medium frequency	Complies
V	1000 – 10000	G17049121	Medium frequency	Complies
V	1000 – 10000	G17049122	Lowest frequency	Complies
H	1000 – 10000	G17049123	Lowest frequency	Complies
Remarks: Measurements at frequencies lower than 1000 MHz have been performed with an EUT – antenna distance of 10 m. Measured values have been corrected with FCC 3A10 factor. Peaks above the limits are caused by the nominal transmitting frequencies. Final measurements have been performed only for values with margin lower than 20 dB from limit				

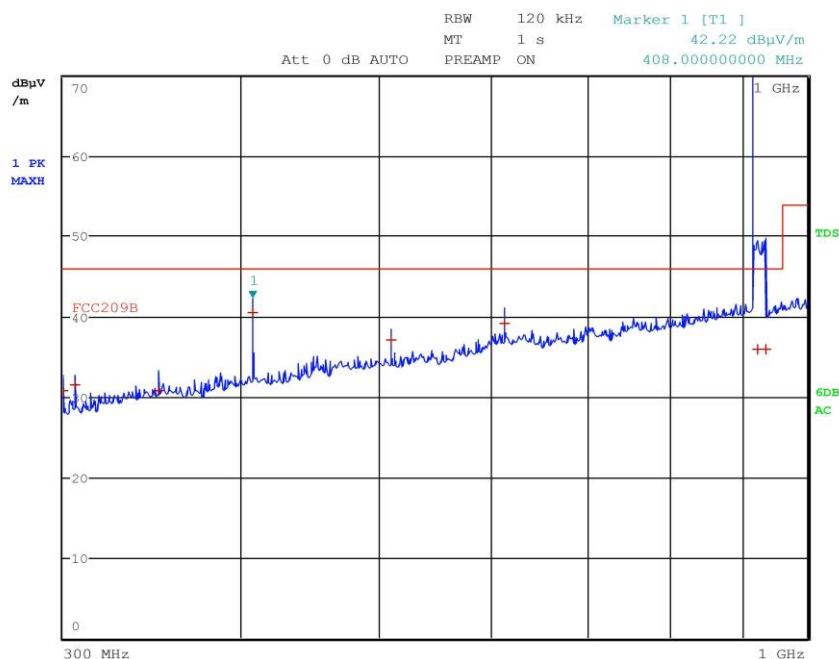
Graphs Legend

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

Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049101
Test Spec



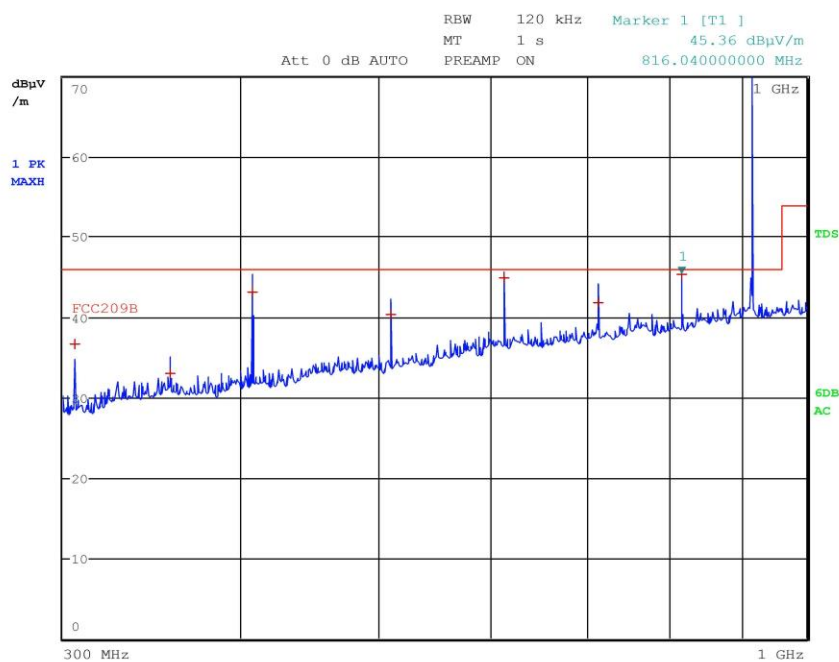
Final Measurement

Meas Time: 1 s
Margin: 6 dB
Subranges: 8

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	300.00000000 MHz	30.85	Quasi Peak	-15.17
1	306.00000000 MHz	31.55	Quasi Peak	-14.47
1	350.04000000 MHz	30.84	Quasi Peak	-15.18
1	408.00000000 MHz	40.45	Quasi Peak	-5.57
1	510.04000000 MHz	37.16	Quasi Peak	-8.86
1	612.00000000 MHz	39.16	Quasi Peak	-6.86
1	922.44000000 MHz	36.00	Quasi Peak	-10.02
1	934.12000000 MHz	35.89	Quasi Peak	-10.13



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049102
Test Spec



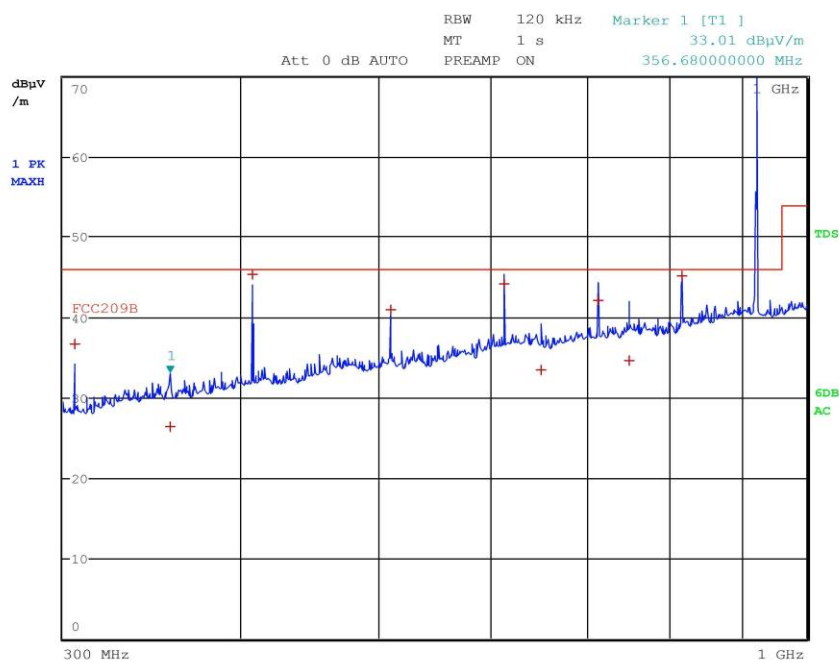
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 7

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	306.000000000 MHz	36.72	Quasi Peak	-9.30
1	357.000000000 MHz	33.08	Quasi Peak	-12.94
1	408.040000000 MHz	43.23	Quasi Peak	-2.79
1	510.040000000 MHz	40.32	Quasi Peak	-5.70
1	612.040000000 MHz	44.92	Quasi Peak	-1.10
1	714.000000000 MHz	41.78	Quasi Peak	-4.24
1	816.040000000 MHz	45.44	Quasi Peak	-0.58



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049103
Test Spec



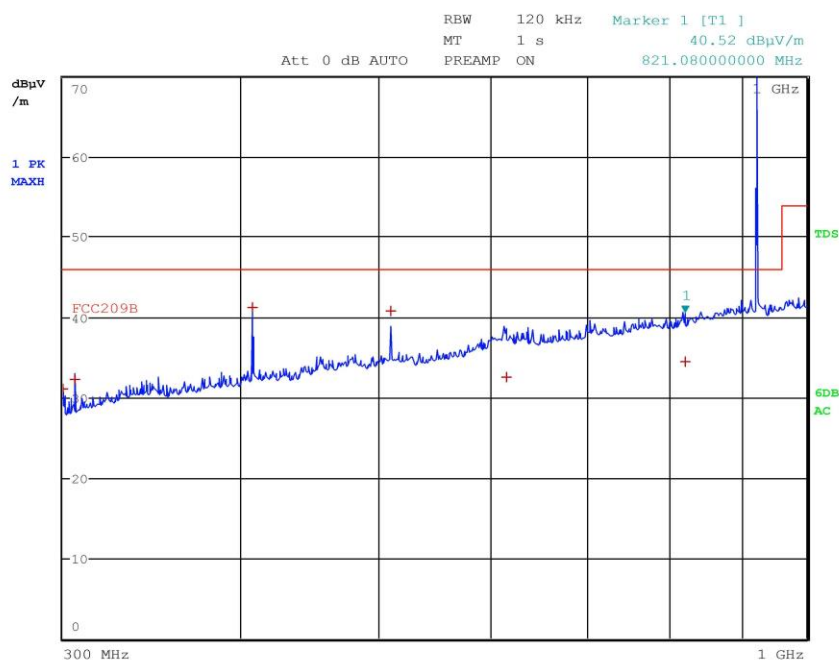
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 9

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	306.00000000 MHz	36.76	Quasi Peak	-9.26
1	356.68000000 MHz	26.37	Quasi Peak	-19.65
1	408.00000000 MHz	45.32	Quasi Peak	-0.70
1	510.04000000 MHz	40.99	Quasi Peak	-5.03
1	612.04000000 MHz	44.25	Quasi Peak	-1.77
1	649.96000000 MHz	33.39	Quasi Peak	-12.63
1	714.04000000 MHz	42.10	Quasi Peak	-3.92
1	750.00000000 MHz	34.62	Quasi Peak	-11.40
1	816.04000000 MHz	45.32	Quasi Peak	-0.70



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049104
Test Spec



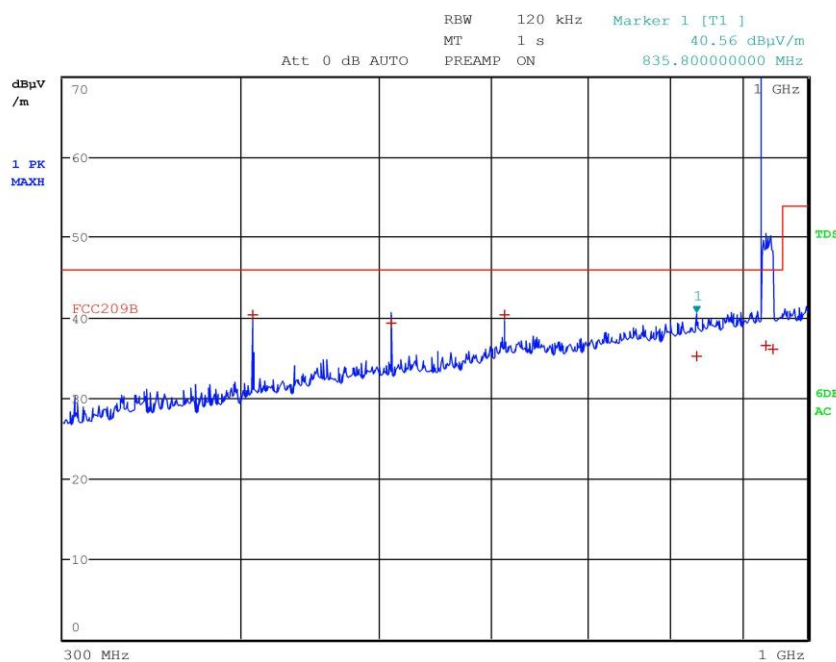
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	300.000000000 MHz	31.06	Quasi Peak	-14.96
1	306.000000000 MHz	32.27	Quasi Peak	-13.75
1	408.000000000 MHz	41.22	Quasi Peak	-4.80
1	510.040000000 MHz	40.74	Quasi Peak	-5.28
1	614.920000000 MHz	32.63	Quasi Peak	-13.39
1	821.080000000 MHz	34.54	Quasi Peak	-11.48



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049105
Test Spec



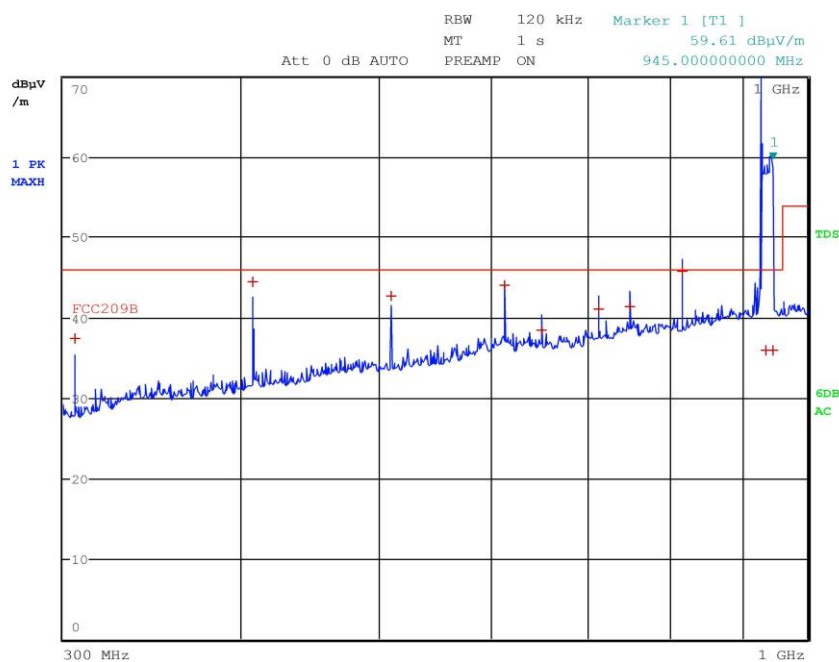
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	408.040000000 MHz	40.36	Quasi Peak	-5.66
1	510.040000000 MHz	39.39	Quasi Peak	-6.63
1	612.000000000 MHz	40.33	Quasi Peak	-5.69
1	835.800000000 MHz	35.19	Quasi Peak	-10.83
1	935.080000000 MHz	36.53	Quasi Peak	-9.49
1	946.080000000 MHz	36.08	Quasi Peak	-9.94



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049106
Test Spec



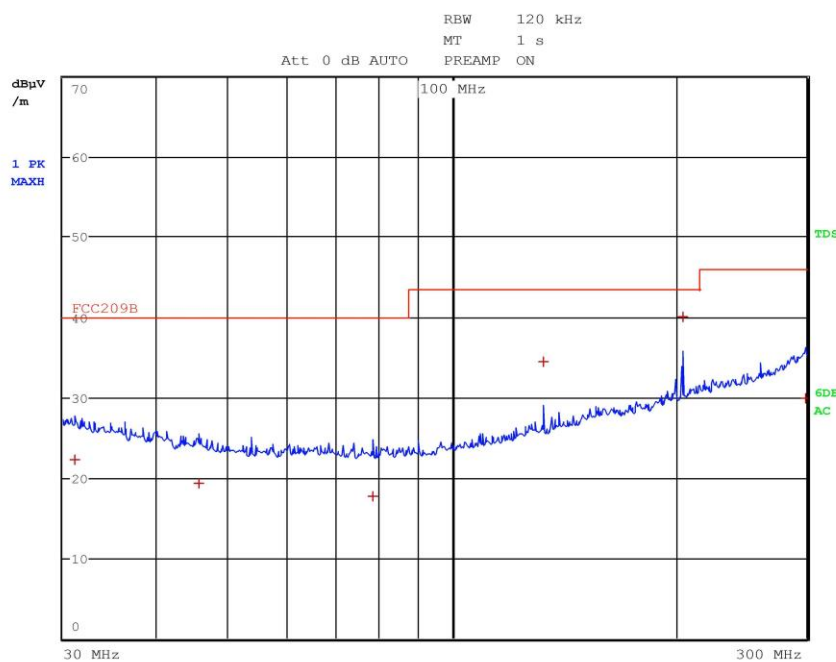
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 10

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	306.000000000 MHz	37.46	Quasi Peak	-8.56
1	408.040000000 MHz	44.53	Quasi Peak	-1.49
1	510.040000000 MHz	42.70	Quasi Peak	-3.32
1	612.040000000 MHz	44.09	Quasi Peak	-1.93
1	650.000000000 MHz	38.39	Quasi Peak	-7.63
1	714.040000000 MHz	41.10	Quasi Peak	-4.92
1	750.000000000 MHz	41.46	Quasi Peak	-4.56
1	816.040000000 MHz	45.76	Quasi Peak	-0.26
1	934.840000000 MHz	35.93	Quasi Peak	-10.09
1	945.000000000 MHz	36.00	Quasi Peak	-10.02



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049107
Test Spec



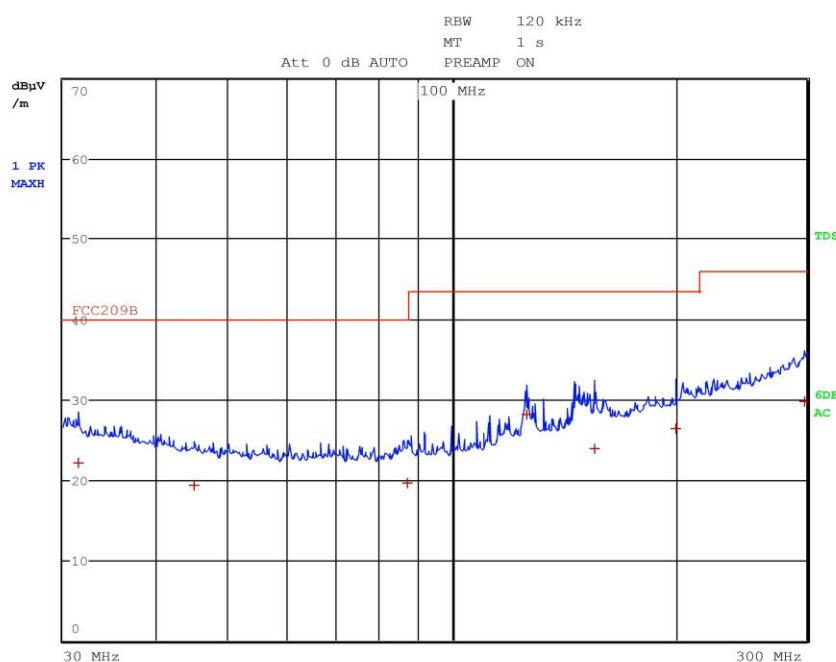
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	31.040000000 MHz	22.25	Quasi Peak	-17.75
1	45.600000000 MHz	19.28	Quasi Peak	-20.72
1	78.200000000 MHz	17.68	Quasi Peak	-22.32
1	132.600000000 MHz	34.53	Quasi Peak	-8.99
1	204.000000000 MHz	40.12	Quasi Peak	-3.40
1	298.440000000 MHz	29.91	Quasi Peak	-16.11



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049108
Test Spec



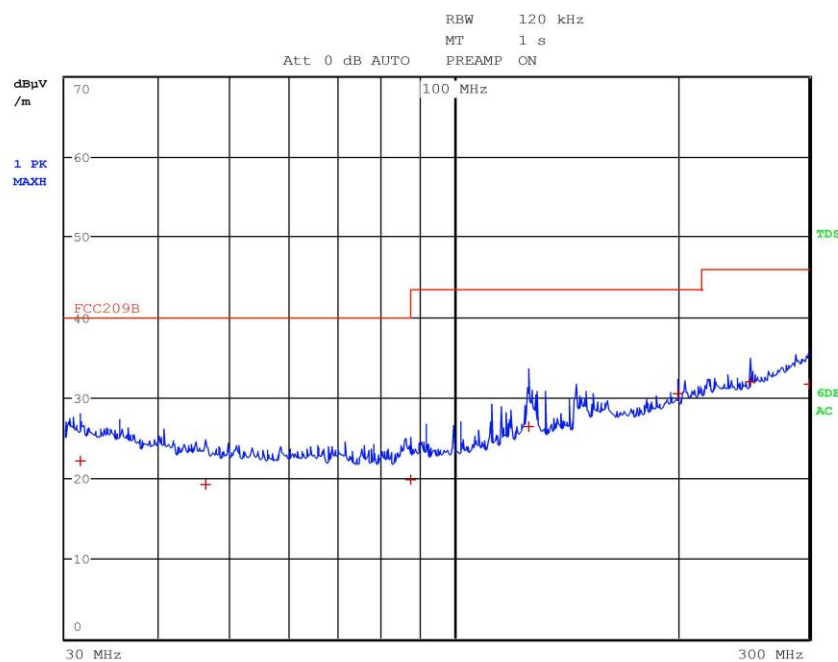
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 7

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	31.40000000 MHz	22.08	Quasi Peak	-17.92
1	44.96000000 MHz	19.33	Quasi Peak	-20.67
1	87.16000000 MHz	19.65	Quasi Peak	-20.35
1	125.84000000 MHz	28.10	Quasi Peak	-15.42
1	155.44000000 MHz	23.91	Quasi Peak	-19.61
1	200.00000000 MHz	26.40	Quasi Peak	-17.12
1	298.20000000 MHz	29.85	Quasi Peak	-16.17



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049109
Test Spec



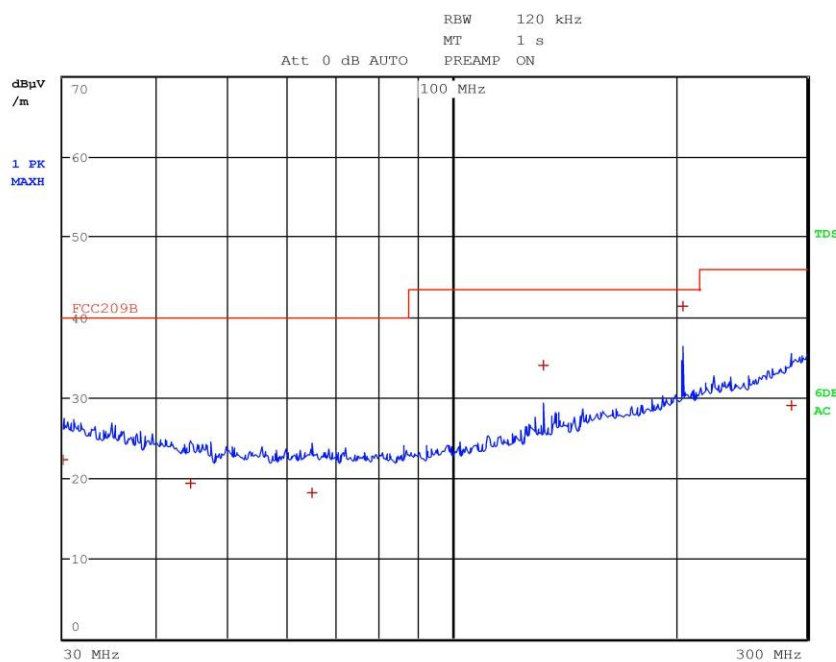
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 7

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	31.44000000 MHz	22.08	Quasi Peak	-17.92
1	46.32000000 MHz	19.19	Quasi Peak	-20.81
1	87.44000000 MHz	19.75	Quasi Peak	-20.25
1	125.84000000 MHz	26.35	Quasi Peak	-17.17
1	200.00000000 MHz	30.48	Quasi Peak	-13.04
1	249.96000000 MHz	31.97	Quasi Peak	-14.05
1	299.96000000 MHz	31.71	Quasi Peak	-14.31



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049110
Test Spec



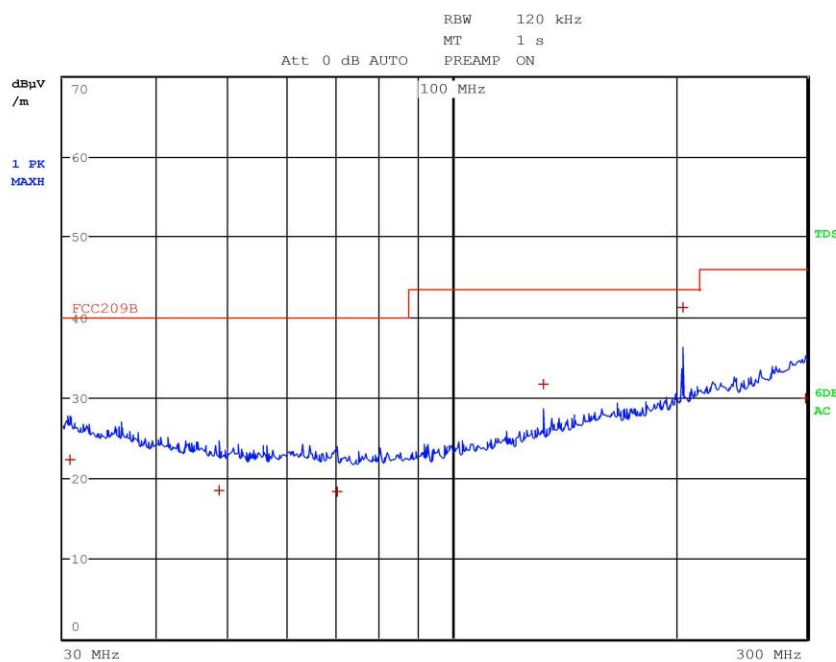
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	30.04000000 MHz	22.29	Quasi Peak	-17.71
1	44.48000000 MHz	19.28	Quasi Peak	-20.72
1	64.72000000 MHz	18.18	Quasi Peak	-21.82
1	132.60000000 MHz	33.98	Quasi Peak	-9.54
1	204.00000000 MHz	41.37	Quasi Peak	-2.15
1	285.48000000 MHz	29.04	Quasi Peak	-16.98



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049111
Test Spec



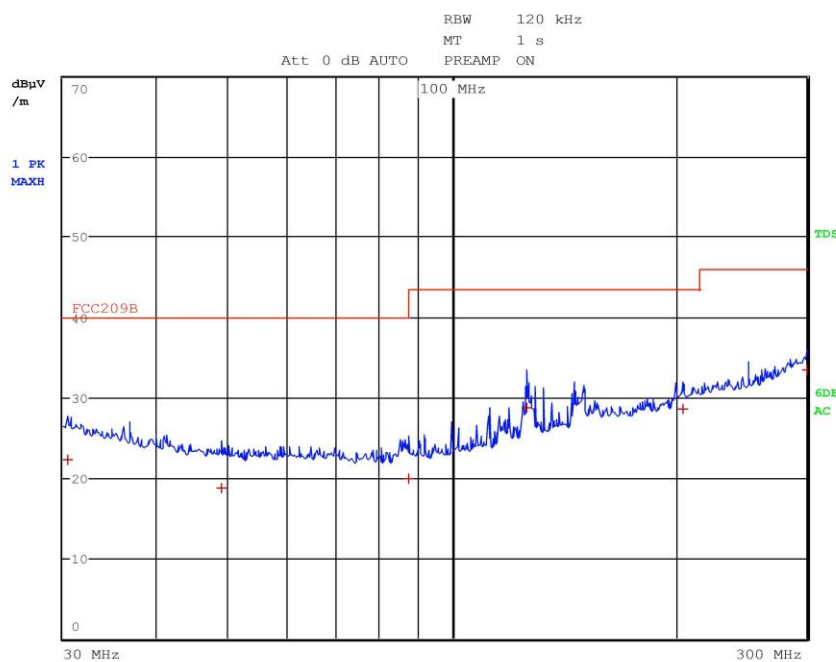
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	30.680000000 MHz	22.29	Quasi Peak	-17.71
1	48.640000000 MHz	18.52	Quasi Peak	-21.48
1	70.000000000 MHz	18.30	Quasi Peak	-21.70
1	132.560000000 MHz	31.63	Quasi Peak	-11.89
1	204.000000000 MHz	41.21	Quasi Peak	-2.31
1	299.120000000 MHz	29.95	Quasi Peak	-16.07



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezzo 17049112
Test Spec



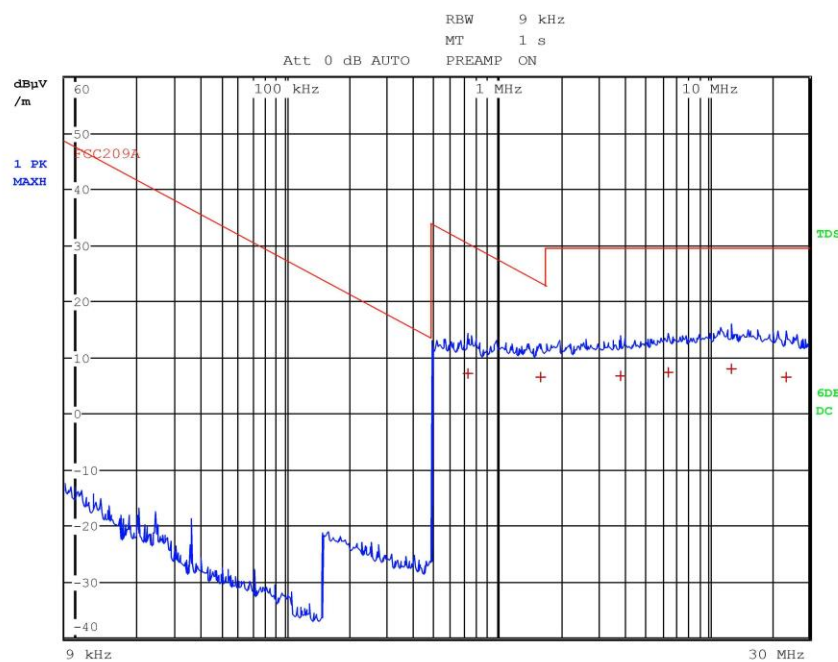
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	30.360000000 MHz	22.33	Quasi Peak	-17.67
1	49.040000000 MHz	18.69	Quasi Peak	-21.31
1	87.400000000 MHz	19.94	Quasi Peak	-20.06
1	125.800000000 MHz	28.77	Quasi Peak	-14.75
1	204.040000000 MHz	28.59	Quasi Peak	-14.93
1	300.000000000 MHz	33.45	Quasi Peak	-12.57



Meas Type Emission 10m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049113
Test Spec



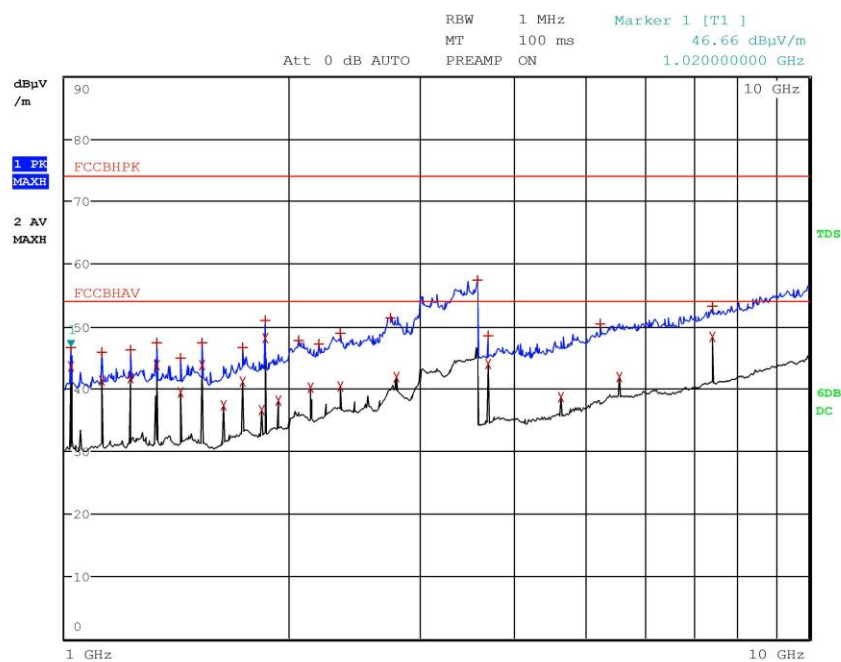
Final Measurement

Meas Time: 1 s
Margin: 20 dB
Subranges: 6

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
1	726.00000000 kHz	7.18	Quasi Peak	-23.21
1	1.606000000 MHz	6.47	Quasi Peak	-17.02
1	3.862000000 MHz	6.68	Quasi Peak	-22.86
1	6.474000000 MHz	7.31	Quasi Peak	-22.23
1	12.958000000 MHz	7.98	Quasi Peak	-21.56
1	23.350000000 MHz	6.55	Quasi Peak	-22.99



Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049118
Test Spec





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Via della Fisica, 20
36016 Thiene (VI)



LAB N° 0168

Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049118
Test Spec

Final Measurement

Meas Time: 100 ms
Margin: 20 dB
Peaks: 34

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
2	1.020000000 GHz	43.64	Average	-10.34
1	1.020000000 GHz	46.66	Max Peak	-27.32
2	1.122000000 GHz	41.32	Average	-12.66
1	1.122000000 GHz	45.90	Max Peak	-28.08
2	1.224000000 GHz	41.65	Average	-12.33
1	1.224000000 GHz	46.23	Max Peak	-27.75
2	1.326000000 GHz	43.73	Average	-10.25
1	1.326000000 GHz	47.42	Max Peak	-26.56
2	1.428000000 GHz	39.38	Average	-14.60
1	1.428000000 GHz	44.95	Max Peak	-29.03
2	1.530000000 GHz	43.85	Average	-10.13
1	1.530000000 GHz	47.39	Max Peak	-26.59
2	1.632000000 GHz	37.29	Average	-16.69
2	1.734000000 GHz	41.20	Average	-12.78
1	1.734000000 GHz	46.54	Max Peak	-27.44
2	1.836000000 GHz	36.52	Average	-17.46
1	1.856000000 GHz	50.89	Max Peak	-23.09
2	1.856000000 GHz	48.16	Average	-5.82
2	1.938000000 GHz	38.19	Average	-15.79
1	2.064400000 GHz	47.66	Max Peak	-26.32
2	2.142000000 GHz	40.19	Average	-13.79
1	2.190800000 GHz	47.24	Max Peak	-26.74
1	2.345600000 GHz	48.85	Max Peak	-25.13
2	2.346000000 GHz	40.28	Average	-13.70
1	2.740800000 GHz	51.29	Max Peak	-22.69
2	2.784000000 GHz	41.84	Average	-12.14
1	3.598400000 GHz	57.36	Max Peak	-16.62
1	3.712000000 GHz	48.52	Max Peak	-25.46
2	3.712000000 GHz	43.97	Average	-10.01
2	4.639600000 GHz	38.72	Average	-15.26
1	5.251200000 GHz	50.47	Max Peak	-23.51
2	5.567600000 GHz	41.79	Average	-12.19
1	7.423600000 GHz	53.30	Max Peak	-20.68
2	7.423600000 GHz	48.34	Average	-5.64

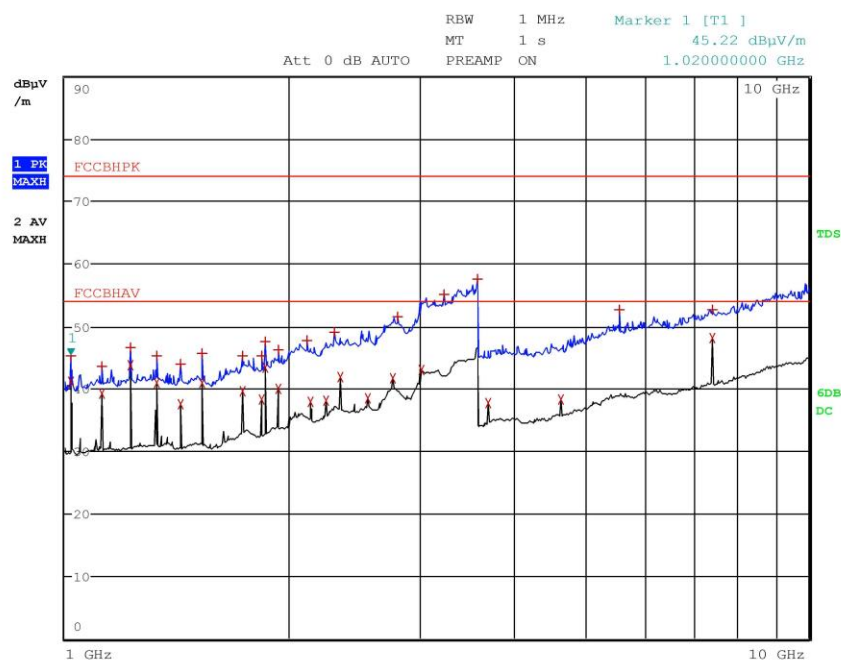


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Via della Fisica, 20
36016 Thiene (VI)



LAB N° 0168

Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049119
Test Spec





Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049119
Test Spec

Final Measurement

Meas Time: 100 ms
Margin: 20 dB
Peaks: 36

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
2	1.020000000 GHz	41.12	Average	-12.86
1	1.020000000 GHz	45.22	Max Peak	-28.76
2	1.122000000 GHz	39.17	Average	-14.81
1	1.122000000 GHz	43.63	Max Peak	-30.35
2	1.224000000 GHz	43.84	Average	-10.14
1	1.224000000 GHz	46.58	Max Peak	-27.40
2	1.326000000 GHz	40.85	Average	-13.13
1	1.326000000 GHz	45.29	Max Peak	-28.69
2	1.428000000 GHz	37.56	Average	-16.42
1	1.428000000 GHz	43.89	Max Peak	-30.09
2	1.530000000 GHz	40.95	Average	-13.03
1	1.530000000 GHz	45.73	Max Peak	-28.25
1	1.733600000 GHz	45.22	Max Peak	-28.76
2	1.734000000 GHz	39.56	Average	-14.42
2	1.836000000 GHz	38.34	Average	-15.64
1	1.836000000 GHz	45.35	Max Peak	-28.63
1	1.856000000 GHz	47.62	Max Peak	-26.36
2	1.856000000 GHz	43.36	Average	-10.62
1	1.938000000 GHz	46.31	Max Peak	-27.67
2	1.938000000 GHz	39.99	Average	-13.99
1	2.112400000 GHz	47.71	Max Peak	-26.27
2	2.142000000 GHz	37.82	Average	-16.16
2	2.244000000 GHz	38.12	Average	-15.86
1	2.300400000 GHz	49.05	Max Peak	-24.93
2	2.346000000 GHz	41.91	Average	-12.07
2	2.550400000 GHz	38.46	Average	-15.52
2	2.754000000 GHz	41.72	Average	-12.26
1	2.804400000 GHz	51.49	Max Peak	-22.49
2	3.014000000 GHz	43.04	Average	-10.94
1	3.233200000 GHz	55.17	Max Peak	-18.81
1	3.596400000 GHz	57.54	Max Peak	-16.44
2	3.712000000 GHz	37.63	Average	-16.35
2	4.639600000 GHz	38.26	Average	-15.72
1	5.570400000 GHz	52.72	Max Peak	-21.26
1	7.423600000 GHz	52.66	Max Peak	-21.32
2	7.423600000 GHz	48.21	Average	-5.77

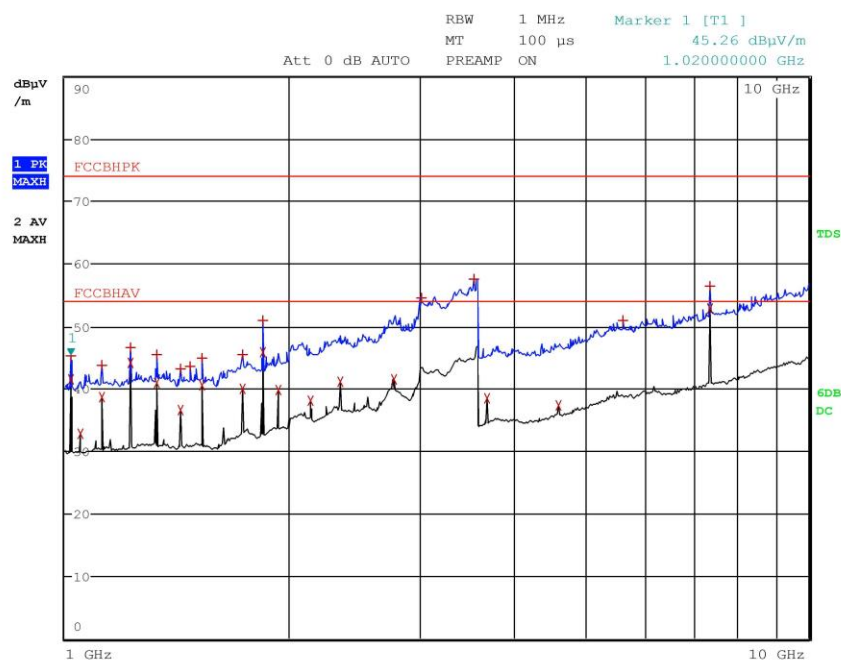


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Via della Fisica, 20
36016 Thiene (VI)



LAB N° 0168

Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049120
Test Spec





Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049120
Test Spec

Final Measurement

Meas Time: 100 ms
Margin: 20 dB
Peaks: 29

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
2	1.020000000 GHz	41.56	Average	-12.42
1	1.020000000 GHz	45.26	Max Peak	-28.72
2	1.050000000 GHz	32.71	Average	-21.27
2	1.122000000 GHz	38.66	Average	-15.32
1	1.122000000 GHz	43.74	Max Peak	-30.24
2	1.224000000 GHz	44.06	Average	-9.92
1	1.224000000 GHz	46.59	Max Peak	-27.39
2	1.326000000 GHz	40.96	Average	-13.02
1	1.326000000 GHz	45.49	Max Peak	-28.49
2	1.428000000 GHz	36.53	Average	-17.45
1	1.428000000 GHz	43.29	Max Peak	-30.69
1	1.471200000 GHz	43.58	Max Peak	-30.40
1	1.530000000 GHz	44.94	Max Peak	-29.04
2	1.530000000 GHz	40.48	Average	-13.50
1	1.734000000 GHz	45.54	Max Peak	-28.44
2	1.734000000 GHz	40.00	Average	-13.98
2	1.842800000 GHz	45.87	Average	-8.11
1	1.843200000 GHz	50.98	Max Peak	-23.00
2	1.938000000 GHz	39.72	Average	-14.26
2	2.142000000 GHz	38.05	Average	-15.93
2	2.346000000 GHz	41.20	Average	-12.78
2	2.764400000 GHz	41.49	Average	-12.49
1	3.011600000 GHz	54.59	Max Peak	-19.39
1	3.550000000 GHz	57.62	Max Peak	-16.36
2	3.686000000 GHz	38.52	Average	-15.46
2	4.607600000 GHz	37.32	Average	-16.66
1	5.615600000 GHz	50.98	Max Peak	-23.00
1	7.372000000 GHz	56.43	Max Peak	-17.55
2	7.372000000 GHz	52.91	Average	-1.07

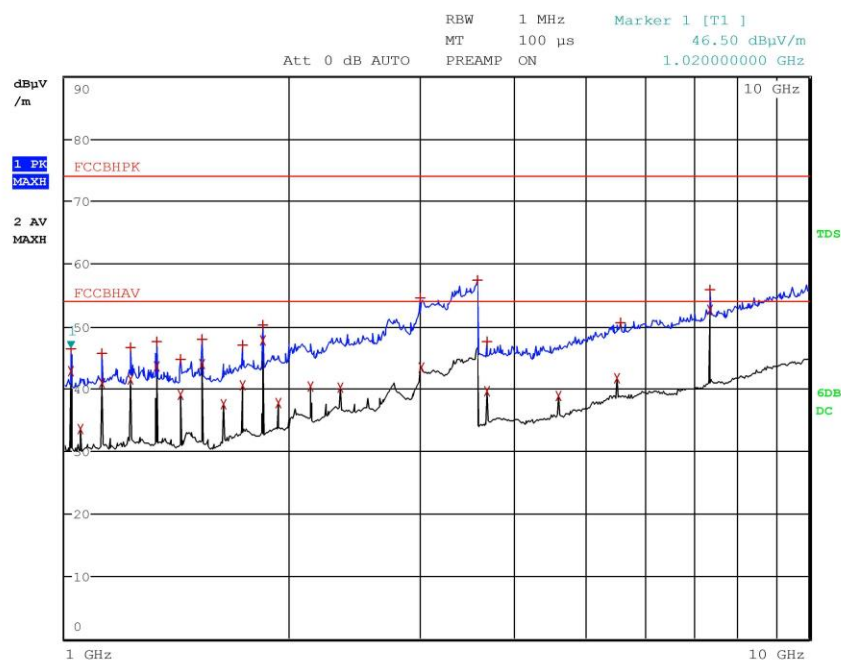


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Centro Misure Compatibilità S.r.l.
Via della Fisica, 20
36016 Thiene (VI)



LAB N° 0168

Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049121
Test Spec





Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049121
Test Spec

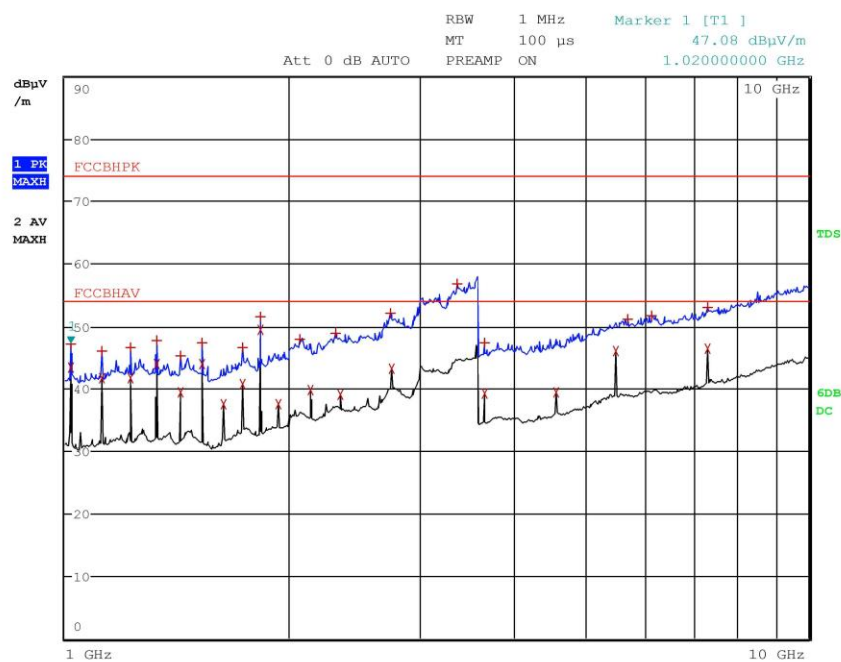
Final Measurement

Meas Time: 100 ms
Margin: 20 dB
Peaks: 31

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
2	1.020000000 GHz	42.87	Average	-11.11
1	1.020000000 GHz	46.50	Max Peak	-27.48
2	1.050000000 GHz	33.59	Average	-20.39
2	1.122000000 GHz	40.88	Average	-13.10
1	1.122000000 GHz	45.70	Max Peak	-28.28
2	1.224000000 GHz	41.57	Average	-12.41
1	1.224000000 GHz	46.62	Max Peak	-27.36
2	1.326000000 GHz	43.52	Average	-10.46
1	1.326000000 GHz	47.63	Max Peak	-26.35
2	1.428000000 GHz	39.06	Average	-14.92
1	1.428000000 GHz	44.77	Max Peak	-29.21
2	1.530000000 GHz	43.90	Average	-10.08
1	1.530000000 GHz	48.00	Max Peak	-25.98
2	1.632000000 GHz	37.53	Average	-16.45
1	1.734000000 GHz	46.92	Max Peak	-27.06
2	1.734000000 GHz	40.58	Average	-13.40
1	1.842800000 GHz	50.11	Max Peak	-23.87
2	1.843200000 GHz	47.74	Average	-6.24
2	1.938000000 GHz	37.75	Average	-16.23
2	2.142000000 GHz	40.39	Average	-13.59
2	2.346000000 GHz	40.23	Average	-13.75
1	3.002800000 GHz	54.63	Max Peak	-19.35
2	3.012400000 GHz	43.32	Average	-10.66
1	3.596400000 GHz	57.44	Max Peak	-16.54
1	3.686000000 GHz	47.53	Max Peak	-26.45
2	3.686000000 GHz	39.56	Average	-14.42
2	4.607600000 GHz	38.76	Average	-15.22
2	5.529200000 GHz	41.62	Average	-12.36
1	5.590000000 GHz	50.53	Max Peak	-23.45
1	7.372000000 GHz	55.87	Max Peak	-18.11
2	7.372000000 GHz	52.57	Average	-1.41



Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049122
Test Spec





Meas Type Emission 3m
Equipment under Test
Manufacturer
OP Condition
Operator Bertezolo 17049122
Test Spec

Final Measurement

Meas Time: 100 ms
Margin: 20 dB
Peaks: 33

Trace	Frequency	Level (dBμV/m)	Detector	Delta Limit/dB
2	1.020000000 GHz	43.35	Average	-10.63
1	1.020000000 GHz	47.08	Max Peak	-26.90
2	1.122000000 GHz	41.67	Average	-12.31
1	1.122000000 GHz	46.12	Max Peak	-27.86
2	1.224000000 GHz	41.68	Average	-12.30
1	1.224000000 GHz	46.65	Max Peak	-27.33
2	1.326000000 GHz	43.90	Average	-10.08
1	1.326000000 GHz	47.77	Max Peak	-26.21
2	1.428000000 GHz	39.49	Average	-14.49
1	1.428000000 GHz	45.24	Max Peak	-28.74
2	1.530000000 GHz	43.94	Average	-10.04
1	1.530000000 GHz	47.46	Max Peak	-26.52
2	1.632000000 GHz	37.52	Average	-16.46
2	1.734000000 GHz	40.83	Average	-13.15
1	1.734000000 GHz	46.67	Max Peak	-27.31
1	1.830000000 GHz	51.55	Max Peak	-22.43
2	1.830000000 GHz	49.43	Average	-4.55
2	1.938000000 GHz	37.55	Average	-16.43
1	2.068800000 GHz	48.00	Max Peak	-25.98
2	2.142000000 GHz	39.89	Average	-14.09
1	2.312000000 GHz	48.95	Max Peak	-25.03
2	2.346400000 GHz	39.09	Average	-14.89
1	2.738800000 GHz	52.14	Max Peak	-21.84
2	2.745600000 GHz	43.26	Average	-10.72
1	3.370800000 GHz	56.82	Max Peak	-17.16
1	3.660400000 GHz	47.43	Max Peak	-26.55
2	3.660400000 GHz	39.19	Average	-14.79
2	4.575200000 GHz	39.49	Average	-14.49
2	5.490400000 GHz	46.13	Average	-7.85
1	5.709200000 GHz	51.17	Max Peak	-22.81
1	6.150000000 GHz	51.71	Max Peak	-22.27
1	7.320400000 GHz	52.95	Max Peak	-21.03
2	7.320400000 GHz	46.42	Average	-7.56