

Test report nr. 21711FCC17

Measurements performed in accordance with:

**FCC Rules: code of Federal Regulations (CFR) no. 47
PART 15 – RADIO FREQUENCY DEVICES**

Product: LPD transmitter

Tested model: DMBDI/U

FCC ID PMLDMBDIU

Applicant: Nice S.p.A.
Via Pezza Alta, 13 I-31046 Rustignè di Oderzo (TV)

Manufacturer: Nice S.p.A.
Via Pezza Alta, 13 I-31046 Rustignè di Oderzo (TV)

Trademark: Nice

Testing Laboratory Nice Laboratory

Registration number: 771316

Date of receipt sample: 12th June 2017

Testing date: 12th June 2017 to 19th June 2017

Issue date: 28 August 2017

Tested by: L. Pastres *L. Pastres*

Approved by: E. Campion *E. Campion*

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General Description of Equipment under Test**1.1 Applicant**

Name: Nice S.p.A.
Address: via Pezza alta, 13 I-31046 Rustignè di Oderzo (TV)
Country: ITALY

1.2 Manufacturer

Name: Nice S.p.A.
Address: via Pezza alta, 13 I-31046 Rustignè di Oderzo (TV)
Country: ITALY

1.3 Equipment classification

According to definition 15.3 (o) is an intentional Radiator operating within the Frequency: 433.92MHz.

So it shall fulfil provisions of 47CFR Part 15 Subpart C – international radiators – and Section 15.209.

According to definition 15.3 (z) is an unintentional Radiator:

So it shall fulfil provisions of 47CFR Part 15 Subpart B – Unintentional radiator and section 15.231.

1.4 Basic Description of equipment under test

Parameters	Value
Type of equipment:	LPD transmitter
Model:	DMBDI/U
FCC ID:	PMLDMBDIU
Trade Name:	Nice
Data cable:	N/A
Telecom cable:	N/A
Power supply type:	24Vdc (used the recommended power supply 100-240Vac with output 24Vdc) and supply distribution module
AC power input cable:	N/A
DC power input cable:	N/A

Model	Description
DMBDI/U	Transmitter radio at 433.92MHz

1.5 Feature of equipment under test

Parameters	Value
Power specification	LPD transmitter for tubular motor application Nice
Operating frequency:	433.92MHz
Maximum RF output power:	93.44 dB μ V/m (Peak) @ 3m 77.01 dB μ V/m (Average after correction)
Occupied Bandwidth (99% BW):	72.3kHz
Emission Designator (ITU):	72K3F1D
Modulation:	FSK
Channel spacing:	No channel
Antenna:	External with sma connector
Rx Sensitivity:	N/A
Main SW identification:	N/A
Main HW board identification:	N/A
Peripherals included (for system application):	N/A
Interfaces:	N/A
Integrated interfaces	N/A
AC adapter:	N/A

2

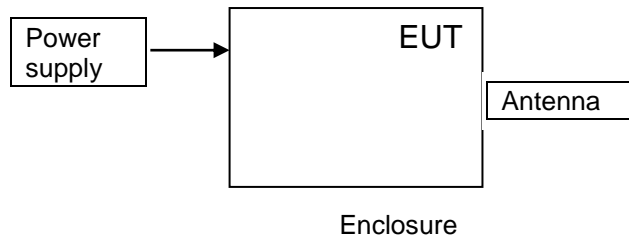
Test configuration of equipment under test**2.1 Environmental conditions**

Test conditions	Measured
Ambient temperature:	20 ÷ 25°C
Relative humidity:	50 ÷ 60%
Atmospheric pressure:	900 ÷ 1010mb

2.2 Description of support equipment

Equipment	Manufacturer	Model
power supply 100-240Vac; 50/60Hz; 0.88A; output 24Vdc; cURus	Mean Well	DR-15-24
Distribution power supply 24Vdc	Nice	DMBPD

2.3 Interface identification and connection diagram of test system



#	Interface	Description	Maximum length	Ref. Document
1	Enclosure	Plastic	-	-
2	AC mains power input	Power supply 24Vdc Mean Well model: DR-15-24	-	-
3	DC power port	24Vdc	-	-
4	Signal / control port	N/A	-	-
5	Antenna port	External with sma connector	-	-
6	Telecommunication	N/A	-	-

3

Operation of equipment under test**3.1 Operating test conditions**

#	Description
1	Standby mode
2	Transmission mode

4

Tests identification and result

CFR47 Part 15 Section	Title	Operating condition	Result
15.203 15.247 (b)(4)(i)	Antenna requirements	-	PASS
15.207 (a)	Conducted emission	#2	PASS
15.209 (a) (f)	Radiated emission	#1, #2	PASS
15.35 (c)	Timing of the transmitter	#2	PASS
15.231 (a)	Transmit behaviour after releasing the TX-button	-	PASS
15.231 (b)	Radiated output power	#2	PASS
15.35 (c)	Typical pulse train of a signal	#2	PASS
15.231 (c)	Compliance with the limit of FCC	#2	PASS
15.231 (a)	Spurious emission - radiated	#2	PASS
15.231 (a)	Occupied bandwidth	#2	PASS

4.1 Methods of measurement

All compliance measurements has been carried out using the procedures described in the standard ANSI C63.4-2014 (excluding sub-par. 4.1.5.2, 5.7.9 and 14), C63.10-2013 and Section 15.31 of CFR47 Part 15 – Subpart A (General).

4.2 Frequency range investigated

- a) Conducted emission tests: from 9kHz to 30MHz.
- b) Radiated emission tests: from 30MHz to tenth harmonic of fundamental.

5 Tests

5.1 Antenna requirements

Specify:

Base standard:	47CFR Part 15 Sections 15.203, 15.204
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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 requirements does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219 or 15.221. Further, this requirements does not apply to intentional radiators which, in accordance with Section 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.

Antenna Specification:

N° of authorized antenna type:	1
Antenna type:	External sma
Maximum total gain:	1dB
Power output at sma connector:	-4.58dBm + 1dB = -3.58dBm
ERP Peak calculated	-3.58dBm + 1 = 93.80dB μ V/m @ 3m

Antenna description:

No.	Manufacturer	Model Type
1	-	-

Comments:

-

5.2 Conduced emission

Specify:

Base standard:	47CFR Part 15 Section 15.207
----------------	------------------------------

- 1) The EUT was placed on wooden table size 80cm, raised 80cm in which is located 40cm away from the vertical wall shielded room.
- 2) Each EUT powered input cord was individually connected through a 50Ω/50μH LISN to the input power source.
- 3) Exploratory measurements were made identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
- 4) The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was than performed over the frequency range of 0,15MHz to 30MHz.
- 5) The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 10kHz during the measurements.
- 6) The measurements with Quasi-Peak detector are performed only for frequencies for which the Peak values are \geq (Q.P. limit – 6dB)

Test Requirements:

Test Setup:	ANSI C63.4
Limit of mains terminal disturbance voltage:	15.207 (a)
Frequency range:	9kHz – 150kHz 150kHz – 30MHz
IF Bandwidth:	200Hz 9kHz
EMC class	B
Uncertainty:	2.3dB

Limits ⁽¹⁾:

<i>Frequency [MHz]</i>	<i>Quasi-Peak (dBμV)</i>	<i>Average (dBμV)</i>
0,15 – 0,5	66 – 56	56 – 46
0,5 – 5	56	46
5 - 30	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

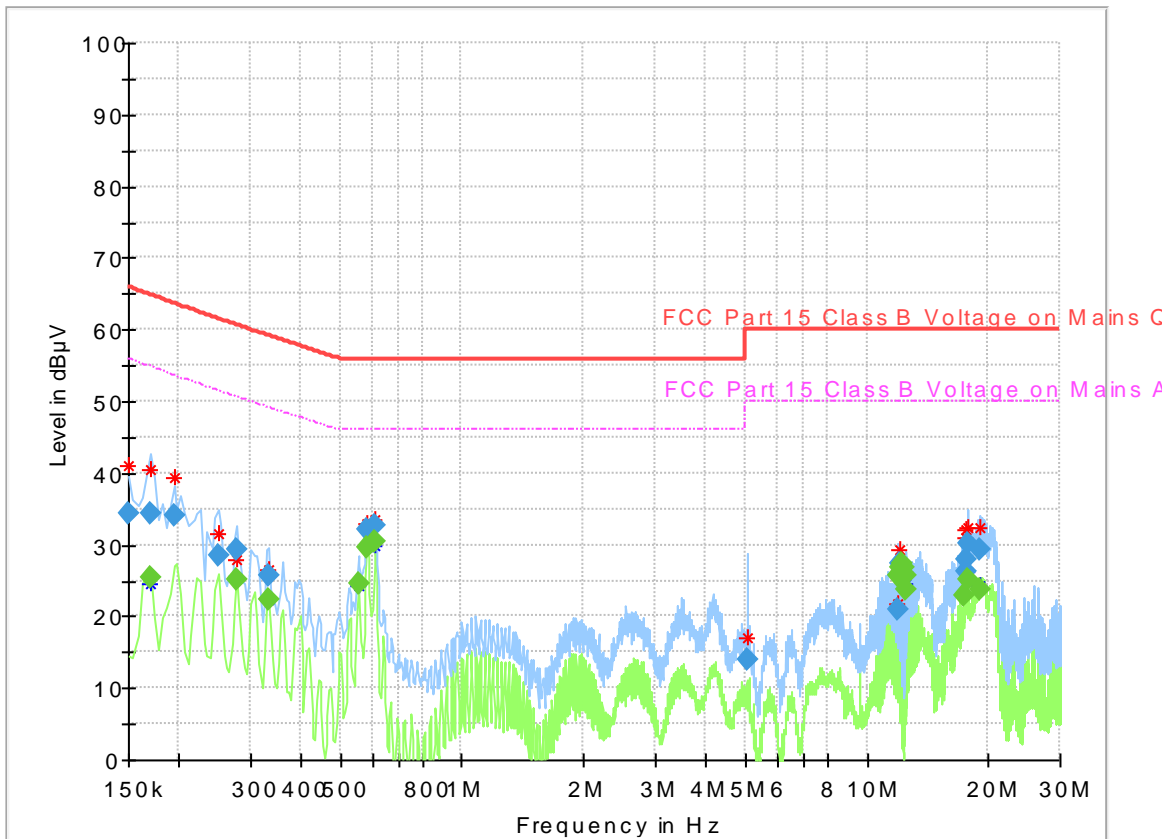
(2) The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

Test Data:

<i>Port under test</i>	<i>Operating condition</i>	<i>Result</i>
Power AC supply 120V, 60Hz	#2	Pass

Comments:

-



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.150000	34.29	---	66.00	31.71	1000.0	9.000	N	GND	1.7
0.170000	34.28	---	64.88	30.60	1000.0	9.000	N	GND	1.4
0.170000	---	25.50	54.87	29.37	1000.0	9.000	L1	GND	1.4
0.194000	34.13	---	63.72	29.60	1000.0	9.000	L1	GND	1.1
0.250000	28.52	---	61.56	33.04	1000.0	9.000	N	GND	0.7
0.278000	29.36	---	60.67	31.31	1000.0	9.000	L1	GND	0.5
0.278000	---	25.19	50.63	25.44	1000.0	9.000	L1	GND	0.5
0.334000	25.72	---	59.17	33.45	1000.0	9.000	L1	GND	0.4
0.334000	---	22.27	49.14	26.86	1000.0	9.000	L1	GND	0.4
0.554000	---	24.51	46.00	21.49	1000.0	9.000	L1	GND	0.1
0.582000	---	29.65	46.00	16.35	1000.0	9.000	L1	GND	0.1
0.582000	32.06	---	56.00	23.94	1000.0	9.000	L1	GND	0.1
0.610000	---	30.39	46.00	15.61	1000.0	9.000	L1	GND	0.0
0.610000	32.74	---	56.00	23.26	1000.0	9.000	L1	GND	0.0
5.070000	13.97	---	60.00	46.03	1000.0	9.000	N	GND	0.1
11.950000	20.83	---	60.00	39.17	1000.0	9.000	L1	GND	0.4
11.962000	---	25.64	50.00	24.36	1000.0	9.000	N	GND	0.4
12.078000	27.45	---	60.00	32.55	1000.0	9.000	N	GND	0.4
12.078000	---	26.85	50.00	23.15	1000.0	9.000	N	GND	0.4
12.194000	---	27.48	50.00	22.52	1000.0	9.000	N	GND	0.4
12.310000	---	26.85	50.00	23.15	1000.0	9.000	L1	GND	0.4
12.426000	---	25.58	50.00	24.42	1000.0	9.000	L1	GND	0.4
12.542000	---	23.66	50.00	26.34	1000.0	9.000	L1	GND	0.4
17.390000	---	22.83	50.00	27.17	1000.0	9.000	N	GND	0.7
17.574000	27.87	---	60.00	32.13	1000.0	9.000	L1	GND	0.7
17.634000	26.19	---	60.00	33.81	1000.0	9.000	L1	GND	0.7
17.694000	30.07	---	60.00	29.93	1000.0	9.000	N	GND	0.7
17.694000	---	25.25	50.00	24.75	1000.0	9.000	N	GND	0.7
19.086000	29.26	---	60.00	30.74	1000.0	9.000	N	GND	0.8
19.086000	---	23.64	50.00	26.36	1000.0	9.000	L1	GND	0.8

(continuation of the "Final_Result" table from column 15 ...)

5.3 Radiated emission

Specify:

Base standard: 47CFR Part 15 Section 15.209

- 1) The EUT was placed on turntable which is 0,8m above the ground plane.
- 2) The turntable shall rotate from 0° to 360° degrees to determine the position of maximum emission level.
- 3) The EUT is positioned 3m away from the receiving antenna which varied from 1 to 4m to find the highest emission.
- 4) The measurements were made with the detector set to PEAK and AVERAGE amplitude within a bandwidth of 100kHz below 1000MHz and 1MHz above 1000MHz.
- 5) The receiving antenna was positioned in both horizontal and vertical polarization.
- 6) The measurements with Quasi-Peak detector, below 1000MHz are performed only for frequencies for which the Peak values are \geq (Q.P. limit – 6dB).

Test Requirements:

Test Setup:	ANSI C63.4
Test facility:	Anechoic chamber
Test distance:	3m
Limits for radiated disturbances:	15.209 (a)
Frequency range:	30MHz to 6GHz
IF bandwidth (below 30MHz):	9kHz
IF bandwidth (below 1000MHz):	120kHz
IF bandwidth (above 1000MHz):	1MHz
EMC class:	B
Uncertainty:	4.6dB (< 1GHz) 4.7dB (> 1GHz)

Limits ⁽¹⁾:

Frequency [MHz]	Field Strength (μ V/m)	Measurement distance (m)
0,0009 – 0,490	2400/F(kHz)	300
0,490 – 1,750	24000/F(kHz)	30
1,750 - 30	30	30
30 - 88	100	30
88 -216	150	3
216 - 960	200	3
above 960	500	3

Note: ⁽¹⁾ to convert the measuring distance from 3m to 300m and 30m to 300m a correction factor from 40dB/decade was used

Test Data.:

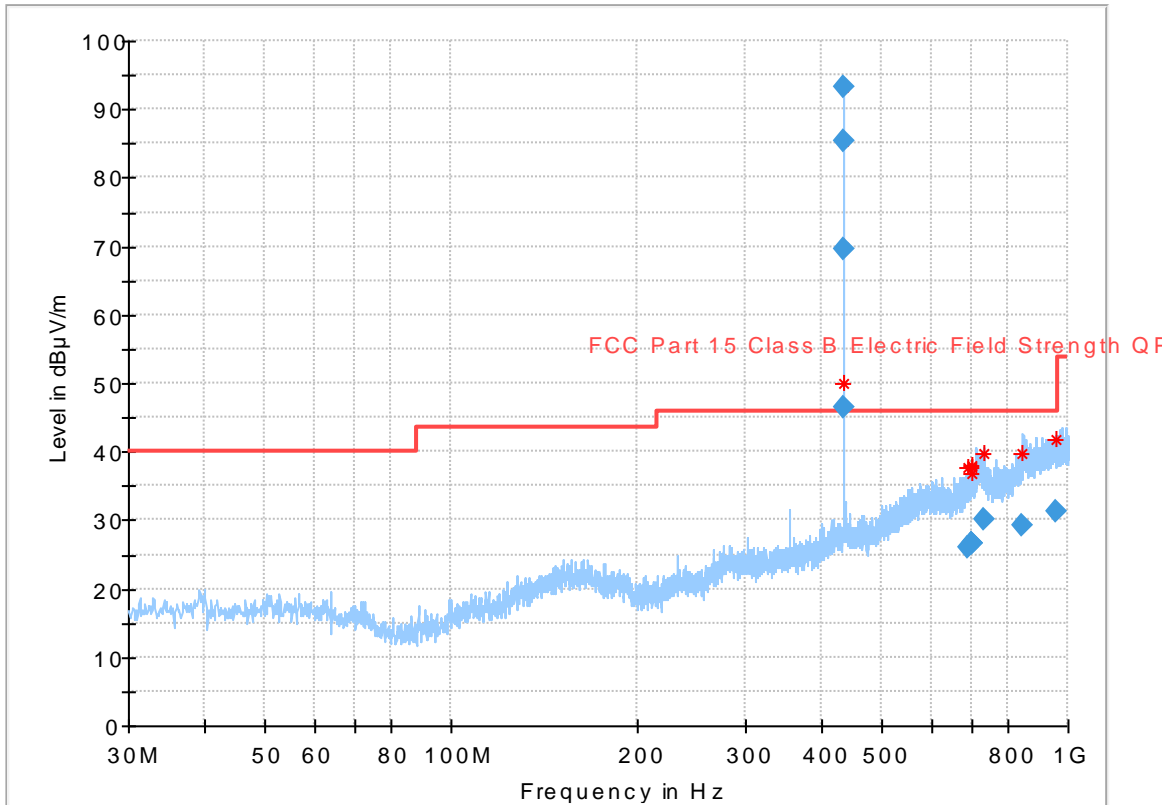
Port under test	Operating condition	Result
Enclosure	#1, #2	Complies

Comments:

The results represent the worst case of emissions between three polarizations verified (X, Y and Z). The table was rotate of 360° and antenna receiving moved from 1m to 4m to find the maximum emission. Oriented the antenna sma to have the maximum radiated power.

Transmission

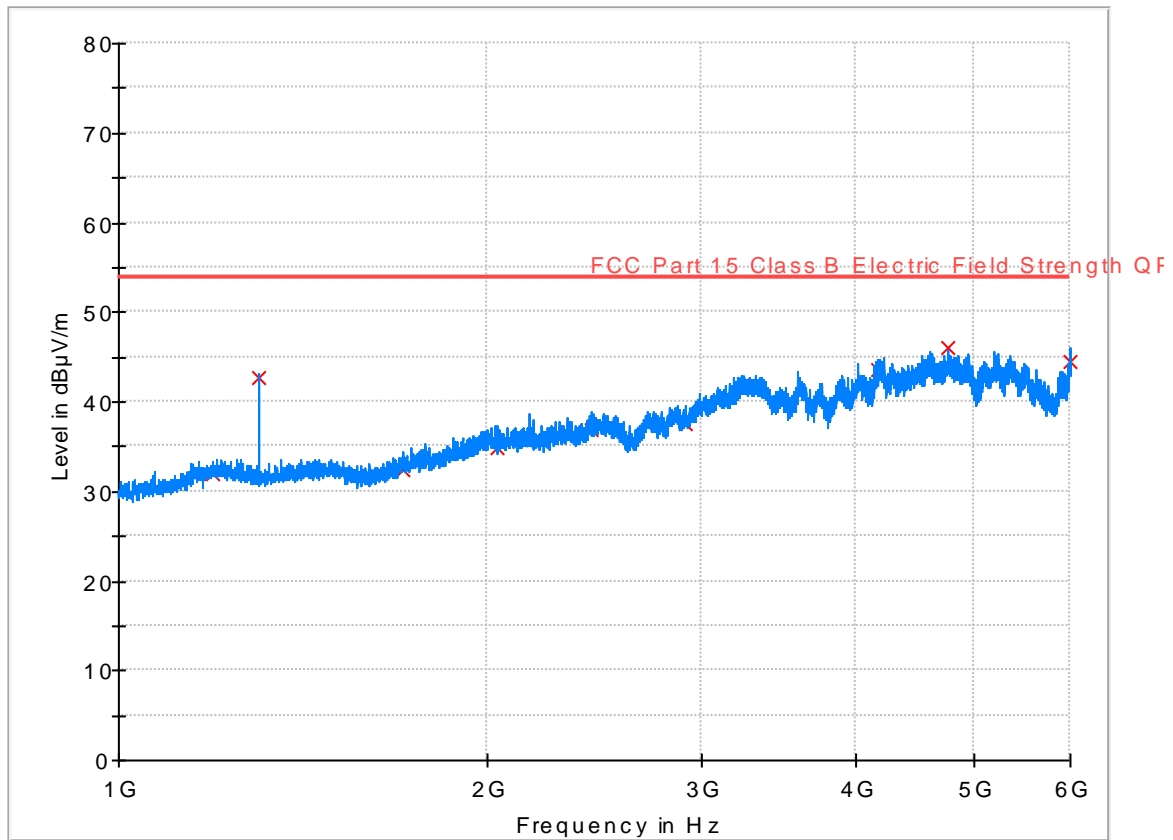
Full Spectrum



Final Result

Frequency (MHz)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Corr. (dB)
433.811000	-23.49	1000.0	120.000	100.0	V	23.1
433.908000	-47.22	1000.0	120.000	100.0	V	23.1
434.005000	-39.24	1000.0	120.000	100.0	V	23.1
434.102000	-0.51	1000.0	120.000	100.0	V	23.1
685.720000	20.03	1000.0	120.000	100.0	H	28.6
696.390000	19.46	1000.0	120.000	100.0	H	29.0
696.778000	19.40	1000.0	120.000	100.0	H	29.1
699.106000	19.27	1000.0	120.000	100.0	H	29.2
729.855000	15.93	1000.0	120.000	100.0	H	30.3
845.091000	16.70	1000.0	120.000	100.0	V	33.2
956.641000	14.65	1000.0	120.000	100.0	V	35.2

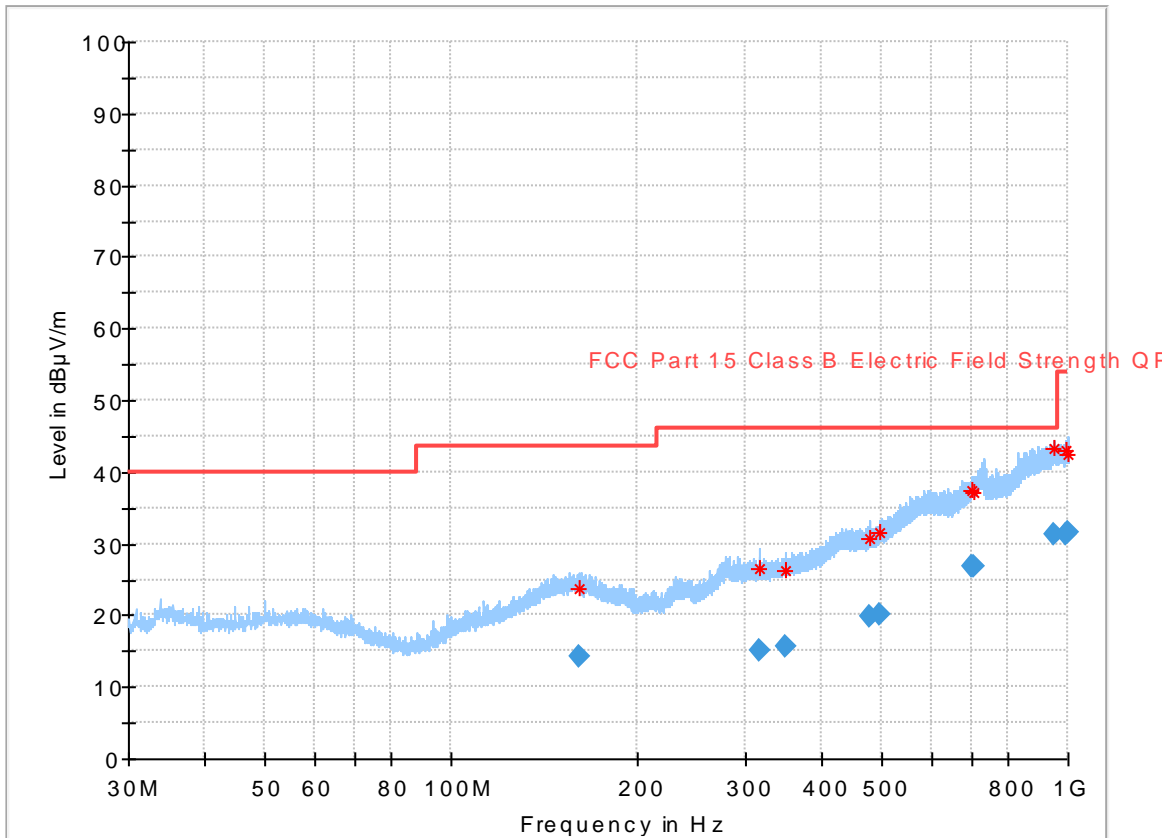
(continuation of the "Final_Result" table from column 16 ...)



Result Table_Single

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)	Comment
1194.000000	32.0	10.0	1000.000	100.0	V	0.0	-9.1	
1302.000000	42.7	10.0	1000.000	100.0	V	0.0	-10.2	
1710.000000	32.5	10.0	1000.000	100.0	V	0.0	-8.4	
2042.400000	34.9	10.0	1000.000	100.0	V	0.0	-5.4	
2434.400000	36.9	10.0	1000.000	100.0	V	0.0	-3.7	
2910.400000	37.6	10.0	1000.000	100.0	V	0.0	-1.7	
3250.400000	41.9	10.0	1000.000	100.0	V	0.0	1.8	
4182.800000	43.5	10.0	1000.000	100.0	V	0.0	4.9	
4773.200000	46.1	10.0	1000.000	100.0	V	0.0	6.1	
5998.400000	44.6	10.0	1000.000	100.0	V	0.0	11.6	

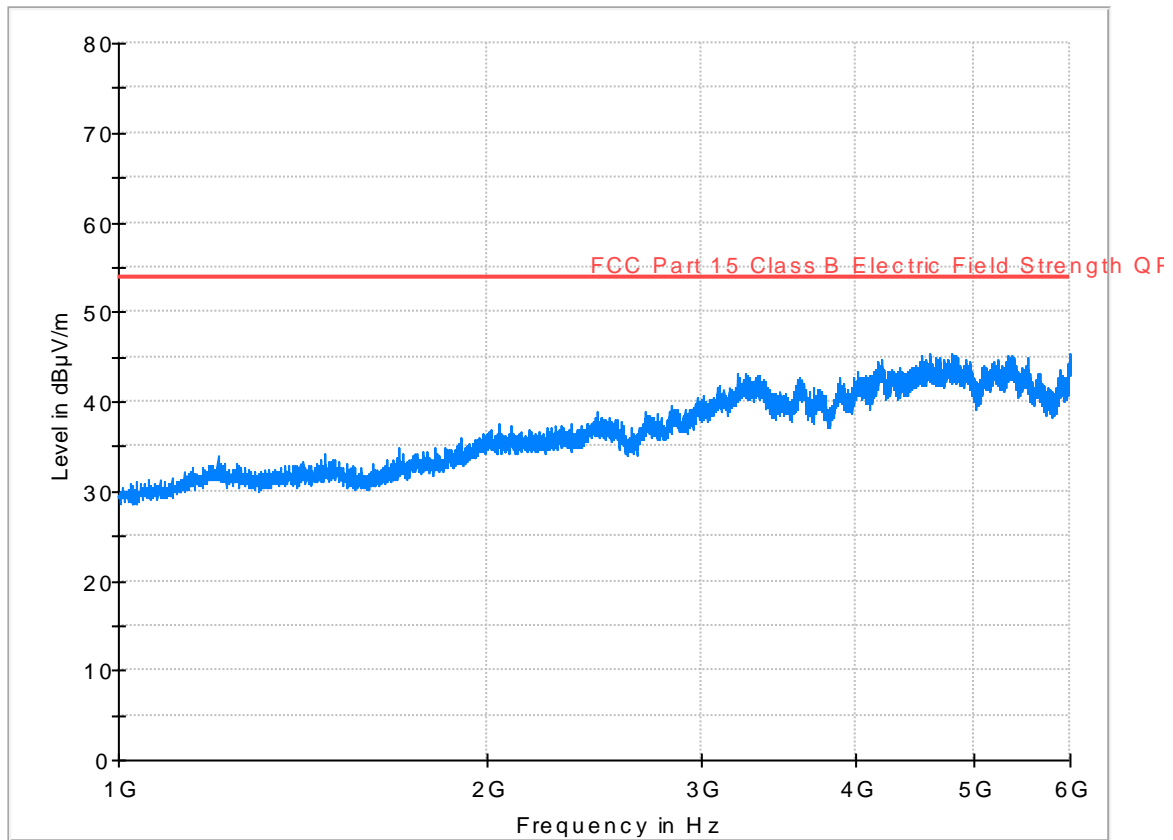
Standby



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
160.760000	14.36	43.50	29.14	1000.0	120.000	100.0	H	0.0	17.4
315.560000	15.08	46.00	30.92	1000.0	120.000	100.0	H	0.0	19.3
347.440000	15.66	46.00	30.34	1000.0	120.000	100.0	H	0.0	19.7
477.920000	19.74	46.00	26.26	1000.0	120.000	100.0	H	0.0	23.5
494.320000	20.23	46.00	25.77	1000.0	120.000	100.0	V	0.0	24.1
699.320000	26.72	46.00	19.28	1000.0	120.000	100.0	H	0.0	29.2
703.240000	26.94	46.00	19.06	1000.0	120.000	100.0	V	0.0	29.3
947.120000	31.24	46.00	14.76	1000.0	120.000	100.0	V	0.0	35.1
989.280000	31.41	53.90	22.49	1000.0	120.000	100.0	V	0.0	35.1
997.080000	31.53	53.90	22.37	1000.0	120.000	100.0	H	0.0	35.1

(continuation of the "Final_Result" table from column 16 ...)



5.4 Timing of the transmitter

Specify:

Base standard:	CFR47 Part 15 Section 15.35 (c)
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Unless otherwise specified, e.g. Section 15.225 (b), when the radiated emission limits are expressed in term of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0,1 seconds. As an alternative (provided the transmitter operates for longer than 0,1 seconds) or in cases where the pulse exceeds 0,1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0,1 second interval strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subjected to notification or verification.

Test requirements:

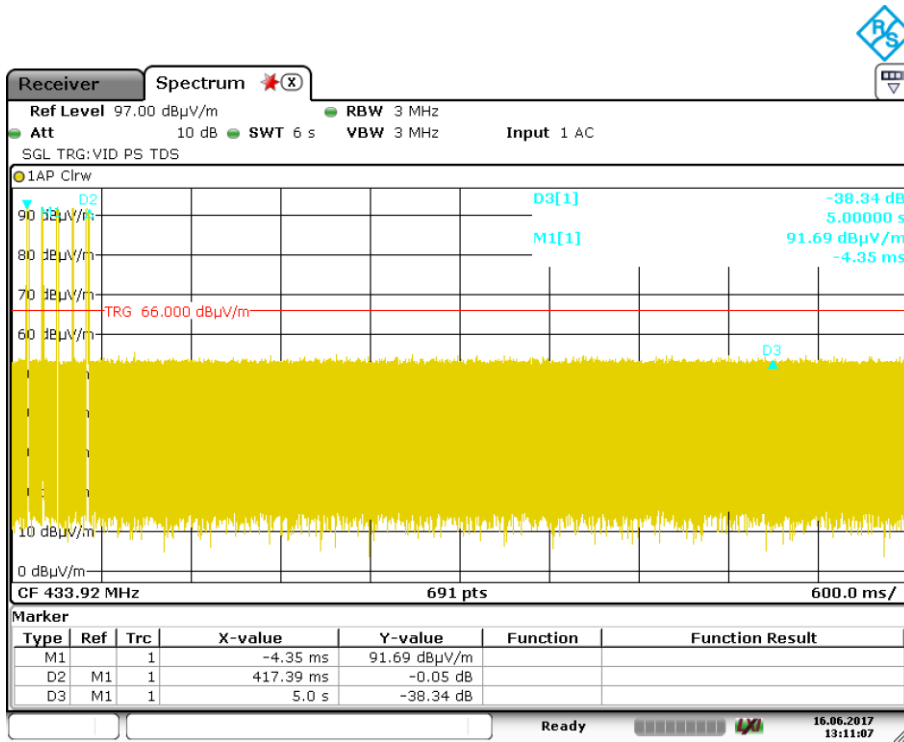
Test Setup:	CFR47 Part 15 Section 15.35 (c)
RBW:	300kHz
VBW:	1MHz
Uncertainty:	0.2 μ s

Test Data:

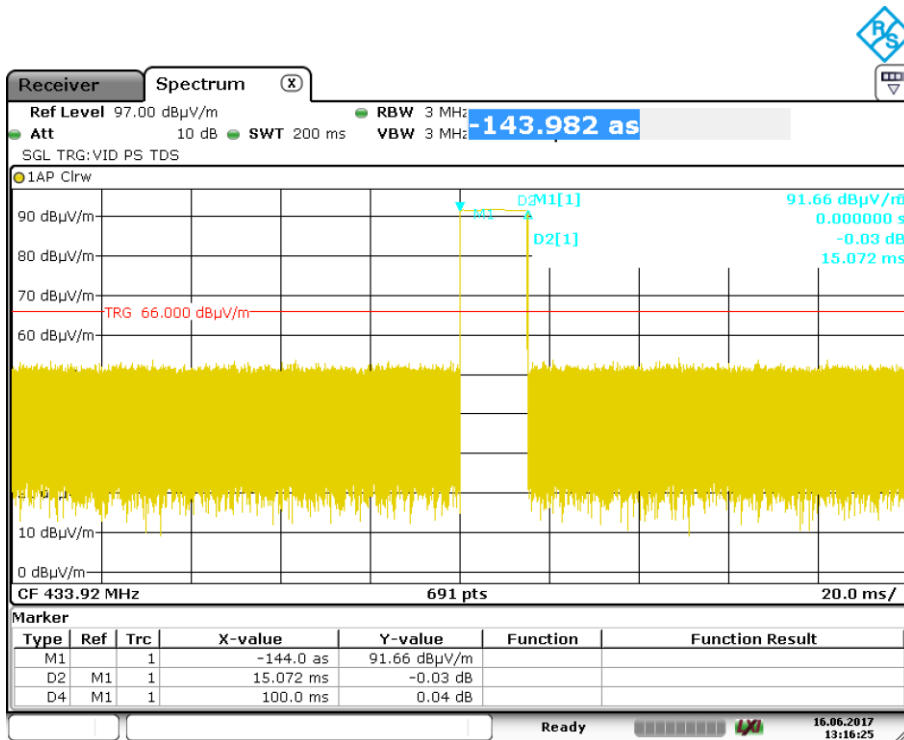
Frequency:	433.92MHz
Frame period:	-
Pause:	-
Pulse train length:	-
ON Time:	15.07ms
OFF Time:	100ms

Comments:

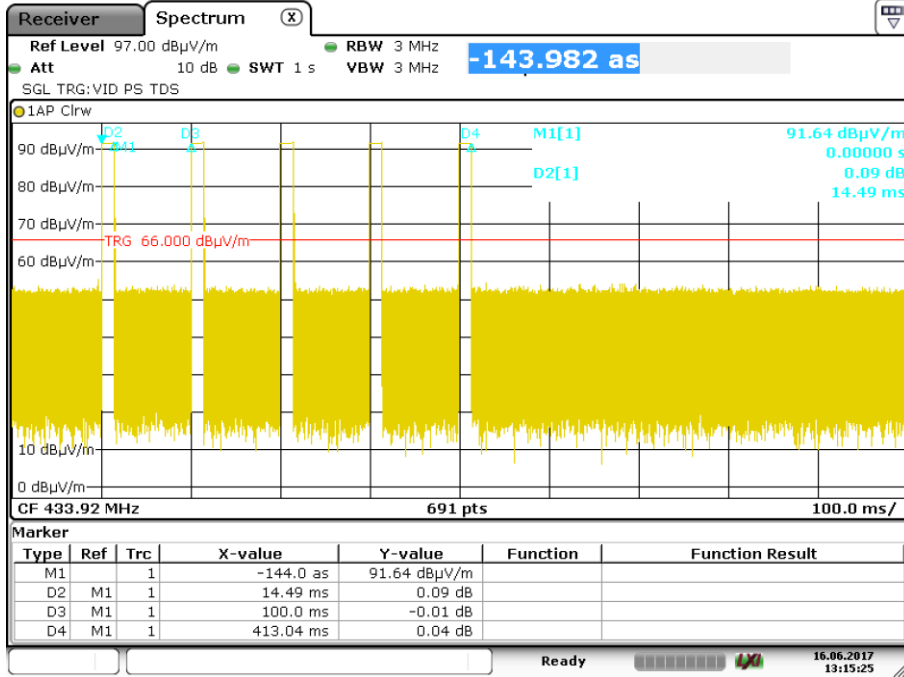
-



Date: 16.JUN.2017 13:11:07



Date: 16.JUN.2017 13:16:24



Date: 16.JUN.2017 13:15:25

5.5 Transmit behaviour after releasing the TX-button

Specify:

Base standard: 47CFR Part 15 Section 15.231 (a)

Test requirements:

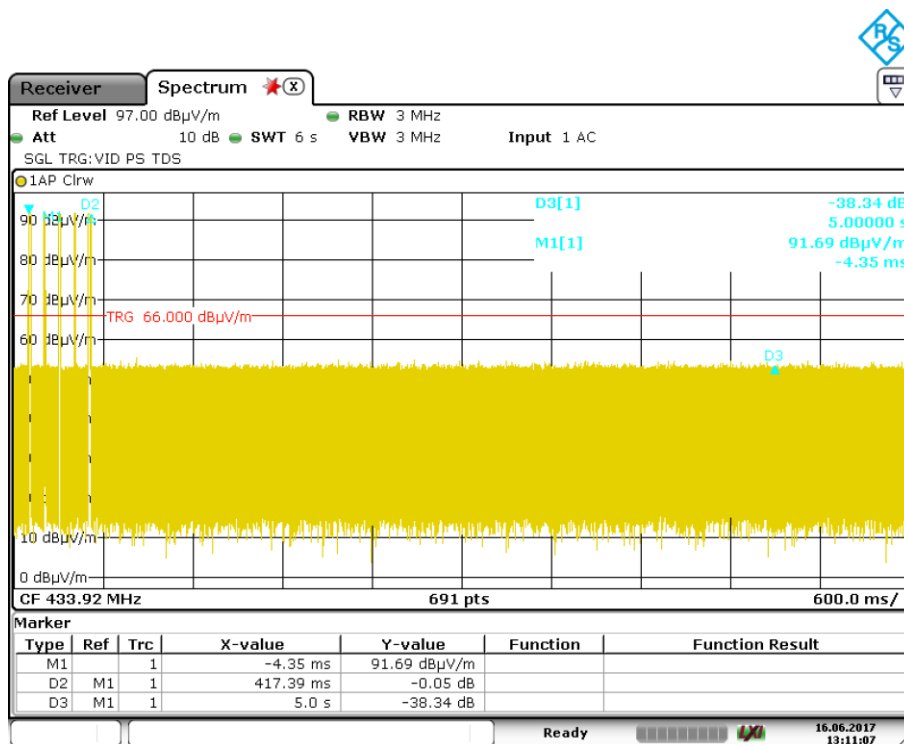
Test Setup:	47CFR Part 15 Section 15.35 (c)
RBW:	300kHz
VBW:	1MHz
Uncertainty:	0.2 μ s

Test data:

T1:	-
T2:	-
T2-T1:	417.39ms < 5s

Comments:

After activation of transmission the equipment send 13 pulses train and then goes in standby mode



Date: 16.JUN.2017 13:11:07

5.6 Radiated output power

Specify:

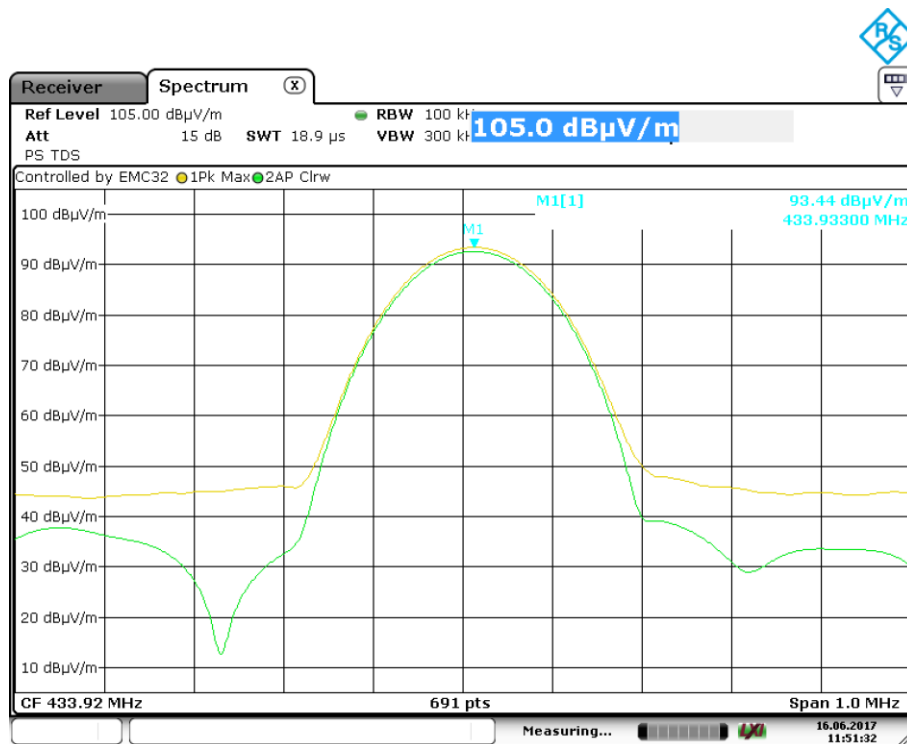
Base standard: FCC 15.231 (b)

Test Requirements:

RBW / VBW:	200Hz ($f < 150\text{kHz}$) 9kHz ($150\text{kHz} < f < 30\text{MHz}$) 120kHz ($30\text{MHz} < f < 1000\text{MHz}$) 1MHz ($f > 1000\text{MHz}$)
Uncertainty:	3.7dB

Test data:Output radiated power (3m of distance): 93.44 dB μ V/m (Peak) @ 3m**Comments:**

The results represent the worst case of emissions between three polarizations verified (X, Y and Z). The table was rotate of 360° and antenna receiving moved from 1m to 4m to find the maximum emission. Oriented the antenna sma to have the maximum radiated power.



Date: 16 JUN 2017 11:51:33

5.7 Typical pulse train of a signal

Specify:

Base standard: 47CFR Part 15 Section 15.35 (c)

Test Setup:

RBW: 300kHz

VBW: 1MHz

Uncertainty: 0.2 μ s

Test Data:

Duty-cycle 15.07%

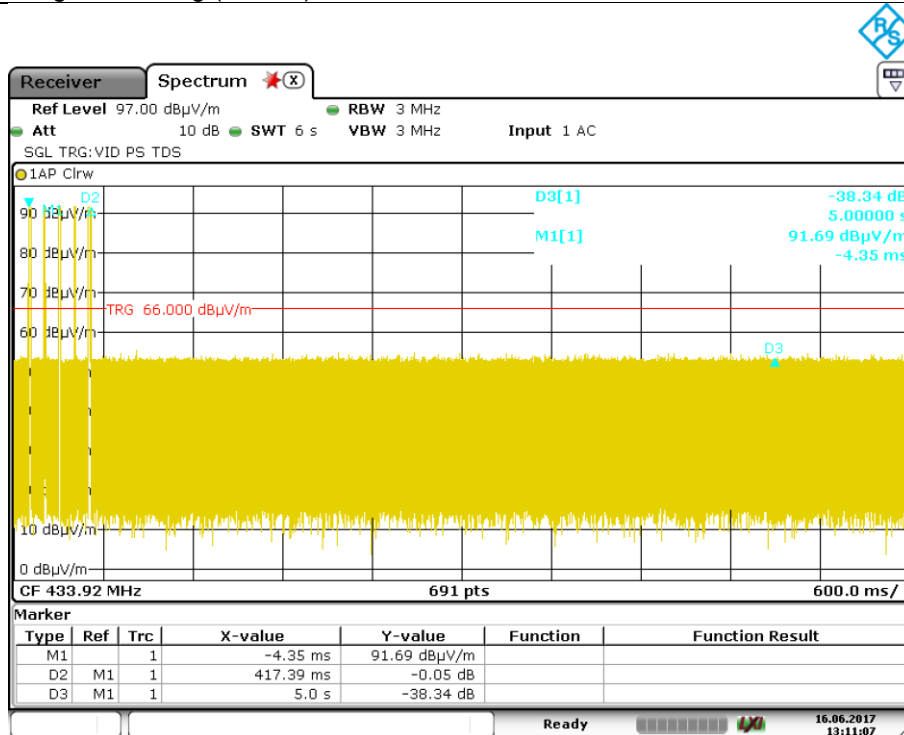
TX on 15.07ms

TX off 100ms

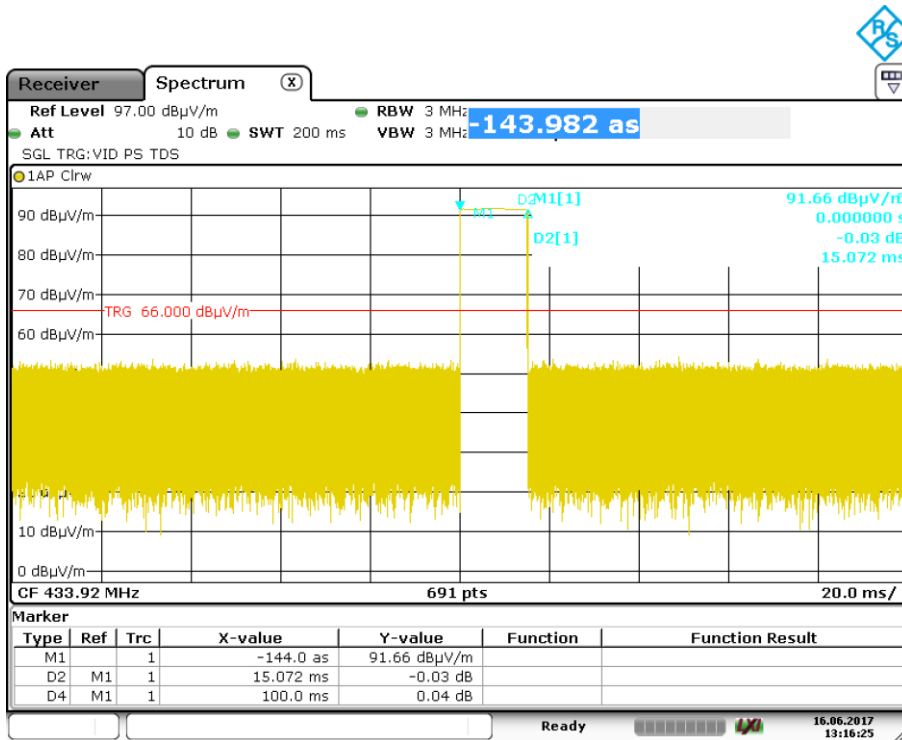
Average correction factor (20*log (duty cycle)):
 $20 \times \log (15.07 / 100) = -16.43\text{dB}$

Comments:

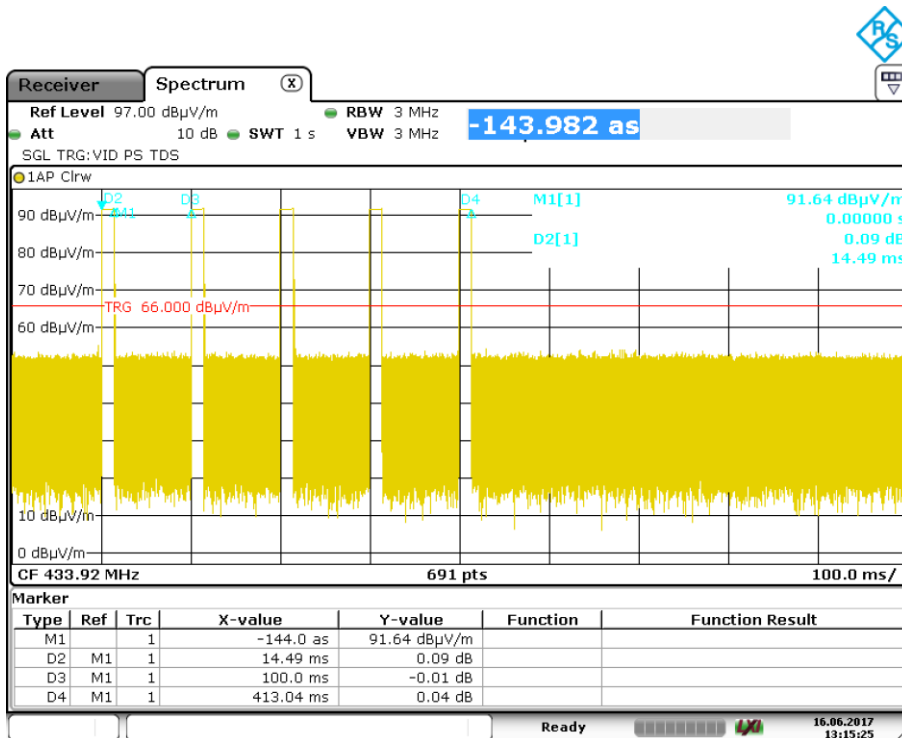
The impulse contain a train of 15.07ms and pause of 100ms.

Duty-cycle in 100ms = $15.07 / 100 = 0.1507$ Correction for average = $20 \times \log (0.1507) = -16.43\text{dB}$ 

Date: 16.JUN.2017 13:11:07



Date: 16.JUN.2017 13:16:24



Date: 16.JUN.2017 13:15:25

5.8 Compliance with the limit of FCC

Specify:

Base standard:	47CFRF Part 15 Section 15.231 (c)
----------------	-----------------------------------

Test Setup:

RBW / VBW:	200Hz (f < 150kHz) 9kHz (150kHz < f < 30MHz) 120kHz (30MHz < f < 1000MHz) 1MHz (f > 1000MHz)
Uncertainty:	3.7dB

Limits:

Frequency [MHz]	Field Strength of the fundamental	Field Strength of spurious emissions
40,66 – 40,70	2 250 μ V/m / 67dB μ V/m	225 μ V/m / 47dB μ V/m
70 – 130	1 250 μ V/m / 62dB μ V/m	125 μ V/m / 42dB μ V/m
130 - 174	1 250 μ V/m to 3 750 μ V/m ⁽¹⁾ 62 μ V/m to 71,5 μ V/m	125 μ V/m to 375 μ V/m ⁽¹⁾ 42dB μ V/m to 51,5dB μ V/m
174 – 260	3 750 μ V/m / 71,5dB μ V/m	375 μ V/m / 51,5dB μ V/m
260 – 470	3 750 μ V/m to 12 500 μ V/m ⁽¹⁾ 71,5 dB μ V/m to 82 dB μ V/m	375 μ V/m to 1 250 μ V/m ⁽¹⁾ 51,5dB μ V/m to 62dB μ V/m
above 470	12 500 μ V/m / 82dB μ V/m	1 250 μ V/m / 62dB μ V/m

Note: ⁽¹⁾ linear interpolations
for 130 to 174MHz the interpolation is: 56,8182*f – 6136,36 (f in MHz)
for 260 to 470MHz the interpolation is: 41,667*f – 7083,33 (f in MHz)

Test Result:

Frequency:	433.92MHz
Calculated average (3m of distance):	(93.44 – 16.43) = 77.01 dB μ V/m

Comments:

The results represent the worst case of emissions between three polarizations verified (X, Y and Z). The table was rotate of 360° and antenna receiving moved from 1m to 4m to find the maximum emission. Oriented the antenna sma to have the maximum radiated power.

5.9 Spurious emission - radiated

Specify:

Base standard: 47CFR Part 15 Section 15.231 (a)

Test Setup:

Uncertainty : 3.9dB

Limits:

Frequency [MHz]	Field Strength of the fundamental	Field Strength of spurious emissions
40,66 – 40,70	2 250 μ V/m / 67dB μ V/m	225 μ V/m / 47dB μ V/m
70 – 130	1 250 μ V/m / 62dB μ V/m	125 μ V/m / 42dB μ V/m
130 – 174	1 250 μ V/m to 3 750 μ V/m ⁽¹⁾ 62 μ V/m to 71,5 μ V/m	125 μ V/m to 375 μ V/m ⁽¹⁾ 42dB μ V/m to 51,5dB μ V/m
174 – 260	3 750 μ V/m / 71,5dB μ V/m	375 μ V/m / 51,5dB μ V/m
260 – 470	3 750 μ V/m to 12 500 μ V/m ⁽¹⁾ 71,5 dB μ V/m to 82 dB μ V/m	375 μ V/m to 1 250 μ V/m ⁽¹⁾ 51,5dB μ V/m to 62dB μ V/m
above 470	12 500 μ V/m / 82dB μ V/m	1 250 μ V/m / 62dB μ V/m

Note: ⁽¹⁾ linear interpolations
for 130 to 174MHz the interpolation is: $56,8182 \cdot f - 6136,36$ (f in MHz)
for 260 to 470MHz the interpolation is: $41,667 \cdot f - 7083,33$ (f in MHz)

Test Result:

Frequency [MHz]	Peak Amplitude of emission (dB μ V/m)	Average Amplitude of emission (dB μ V/m)	Limit maximum allowed emission power	Actual attenuation below frequency of operation (dB)	Results
433.9330	93.44	77.01	80.83dB μ V/m	3.29	operating frequency
867.866	27.81	11.38	60.83 dB μ V/m (-20dBc)	49.45	Complies
1301.730	47.00	30.57	54.0dB μ V/m	23.43	Complies
1737.670	36.97	20.54	60.83 dB μ V/m (-20dBc)	40.29	Complies
2169.690	43.19	26.76	60.83 dB μ V/m (-20dBc)	34.07	Complies
2603.475	40.14	23.71	60.83 dB μ V/m (-20dBc)	37.12	Complies
3037.275	45.48	29.05	60.83 dB μ V/m (-20dBc)	31.78	Complies
3471.295	45.36	28.93	60.83 dB μ V/m (-20dBc)	31.90	Complies
3905.795	45.11	28.68	54.0dB μ V/m	25.32	Complies
4339.270	48.57	32.14	54.0dB μ V/m	21.86	Complies

Comments:

The results represent the worst case of emissions between three polarizations verified (X, Y and Z). The table was rotate of 360° and antenna receiving moved from 1m to 4m to find the maximum emission. Oriented the antenna sma to have the maximum radiated power.

5.10 Occupied bandwidth

Specify:

Base standard: 47CFR Part 15.231 (c)

The bandwidth of the emission shall be no wider than 0,25% of the center frequency for devices operating above 70MHz and below 900MHz. For devices operating above 900MHz, the emission shall be no wider than 0,5% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier.

Test Setup:

RBW: 1kHz

VBW: 3kHz

Uncertainty: 20Hz

Limits:

< 0,25% of the centre frequency, here 4.57MHz

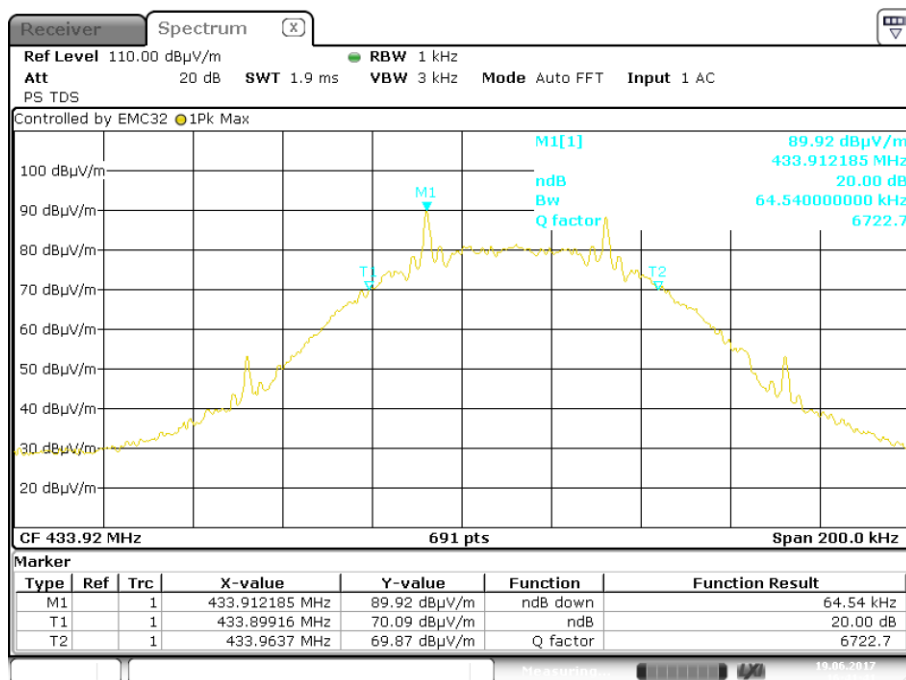
Test Data:

Occupied bandwidth at -20dB: 64.54kHz < 1.08MHz

Occupied bandwidth at 99%: 72.3kHz

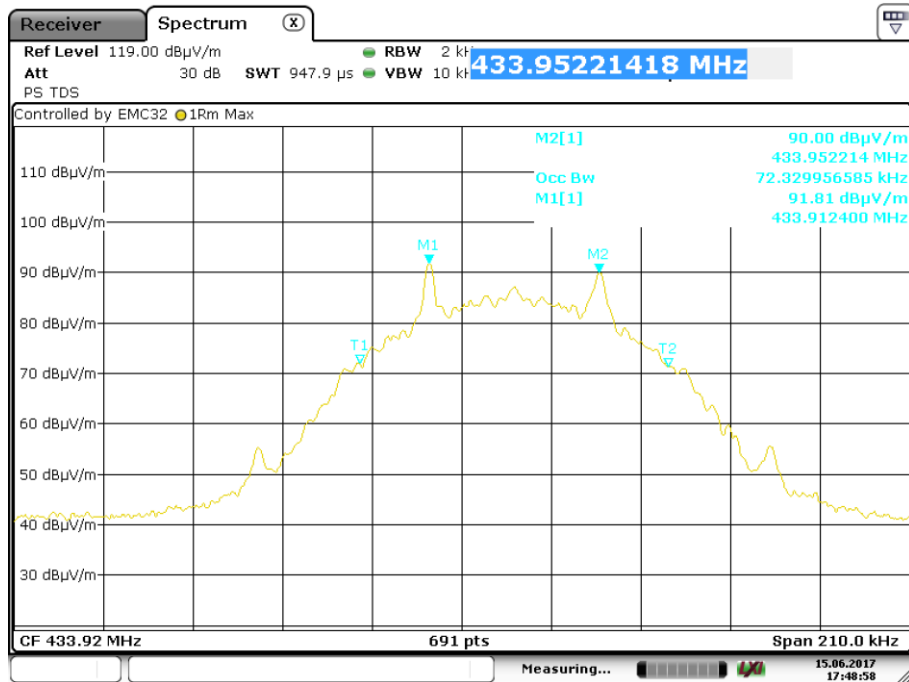
Comments:

-



Date: 19.JUN.2017 16:41:42

FCC test report



Date: 15.JUN.2017 17:48:59

6

Measurement and Test Equipment instrumentation

Code	nr.	Manufacturer	Model	Serial number	Date of Calibration	Calibration Due
ANA	7	Agilent	N9020A	MY48011101	16/04/2016	16/04/2018
ANT	3	Schwarzbeck	VULB9160	3180	24/07/2015	23/07/2017
ANT	4	AH System	SAS-571	684	23/07/2015	22/07/2017
ANT	6	AH System	SAS-571	1025	23/07/2015	22/07/2017
ANT	7	Aaronia	BicoLOG 30100	1293	23/07/2015	22/07/2017
CAV	1	Rohde & Schwarz	HFU2-Z5	-	18/09/2013	17/09/2017
CAV	2	Rohde & Schwarz	HFU2-Z4	-	18/09/2013	17/09/2017
CAV	3	TESEO	CAVO A	-	18/09/2013	17/09/2017
CAV	5	TESEO	CAVO C	-	18/09/2013	17/09/2017
CAV	6	TESEO	CAVO D	-	18/09/2013	17/09/2017
CAV	7	TESEO	CAVO E	-	18/09/2013	17/09/2017

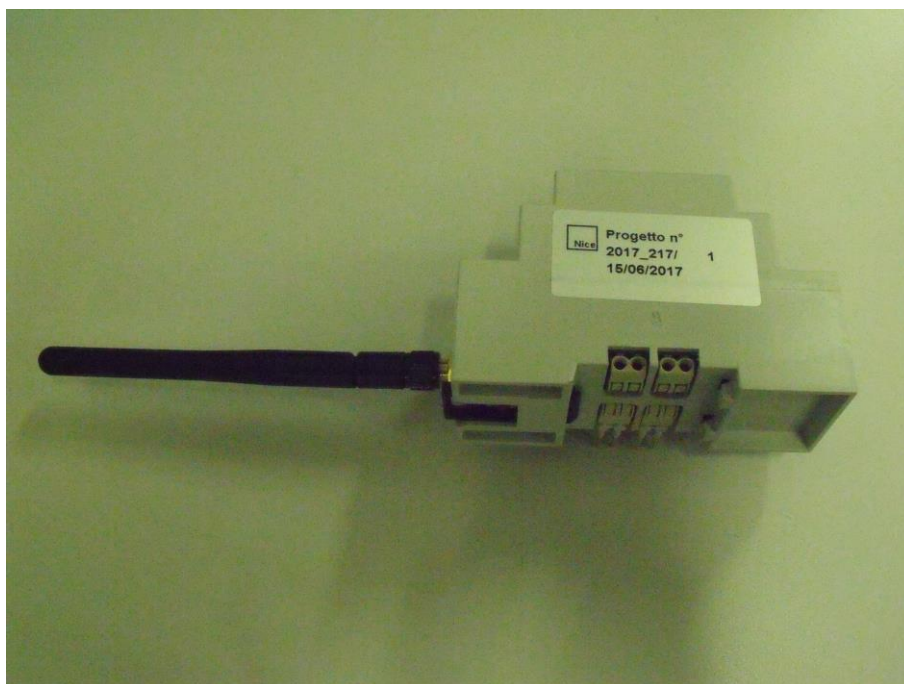
Code	nr.	Manufacturer	Model	Serial number	Date of Calibration	Calibration Due
CAV	13	TESEO	CAVO G	-	18/09/2013	17/09/2017
CAV	14	TESEO	CAVO H	-	18/09/2013	17/09/2017
CAV	15	TESEO	CAVO I	-	18/09/2013	17/09/2017
CAV	16	Rohde & Schwarz	9111505/200 (CAVO J)	5995-12-161- 6890	18/09/2013	17/09/2017
CAV	17	Nice	CAVO K	-	18/09/2013	17/09/2017
CAV	18	Nice	CAVO L	-	18/09/2013	17/09/2017
CAV	19	Nice	Cavo M	-	18/09/2013	17/09/2017
CAV	20	Nice	Cavo N	-	18/09/2013	17/09/2017
CAV	21	Nice	Cavo P	-	18/09/2013	17/09/2017
CAV	22	Nice	Cavo R	-	18/09/2013	17/09/2017
CSA	1	TESEO	EN 55022 EN 61004-3	NSA	11/07/2016	11/07/2017

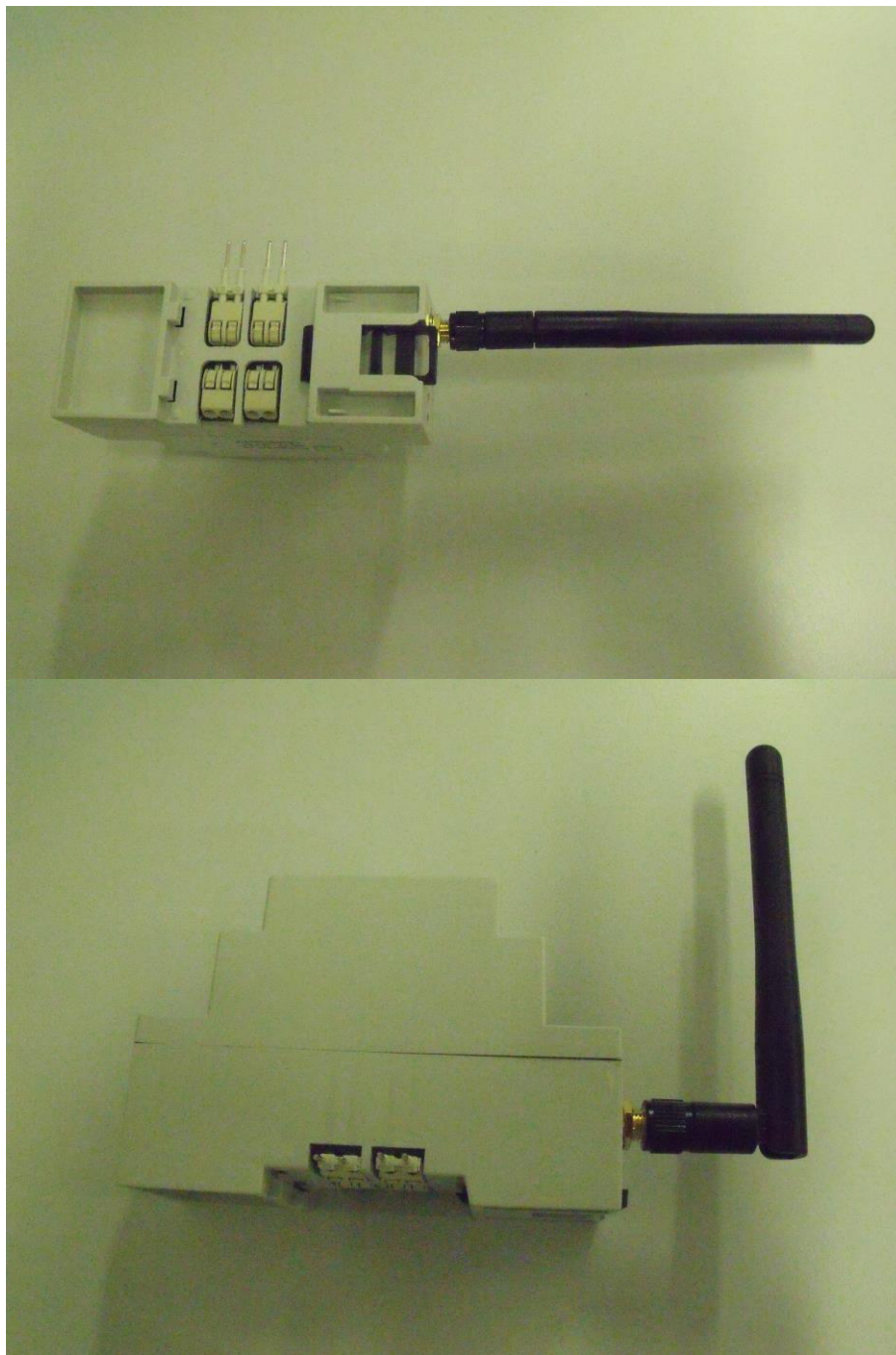
Code	nr.	Manufacturer	Model	Serial number	Date of Calibration	Calibration Due
CSA	1	TESEO	EN 55022 EN 610004-3	CISPR 16-1-4	11/08/2016	11/08/2017
CSA	1	TESEO	EN 55022 EN 610004-3	EN 61000-4-3	13/05/2017	13/05/2018
PRE	2	Schwarzbeck	BBV 9718	9718-178	04/08/2016	04/08/2018
RIC	2	Rohde & Schwarz	ESR 7	101498	15/11/2016	15/11/2017
SOF	1	Rohde & Schwarz	EMC32	V10.20	-	-

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Photographic Documentation

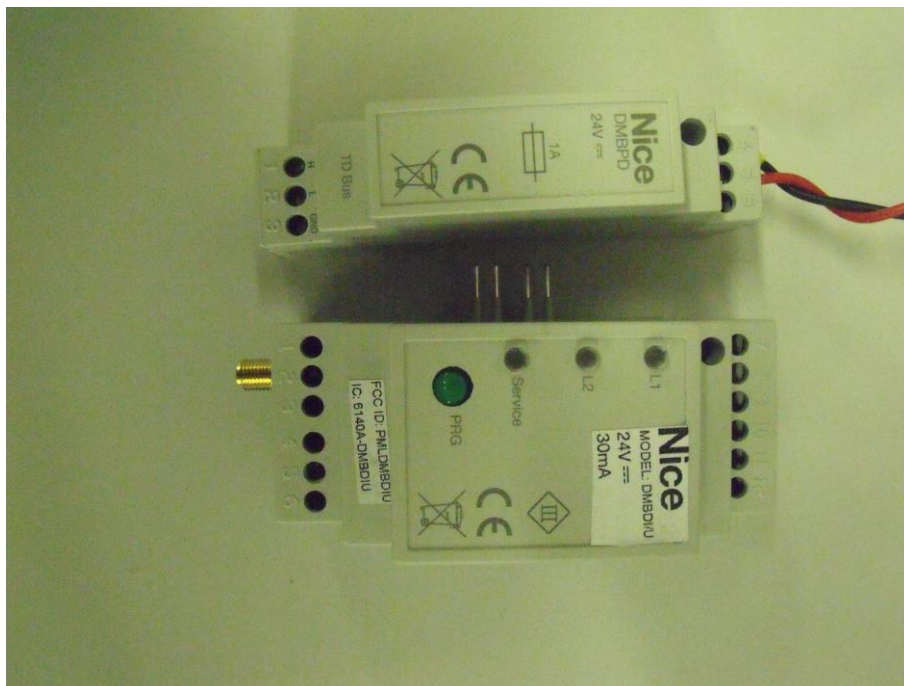
8.1 EUT Identification

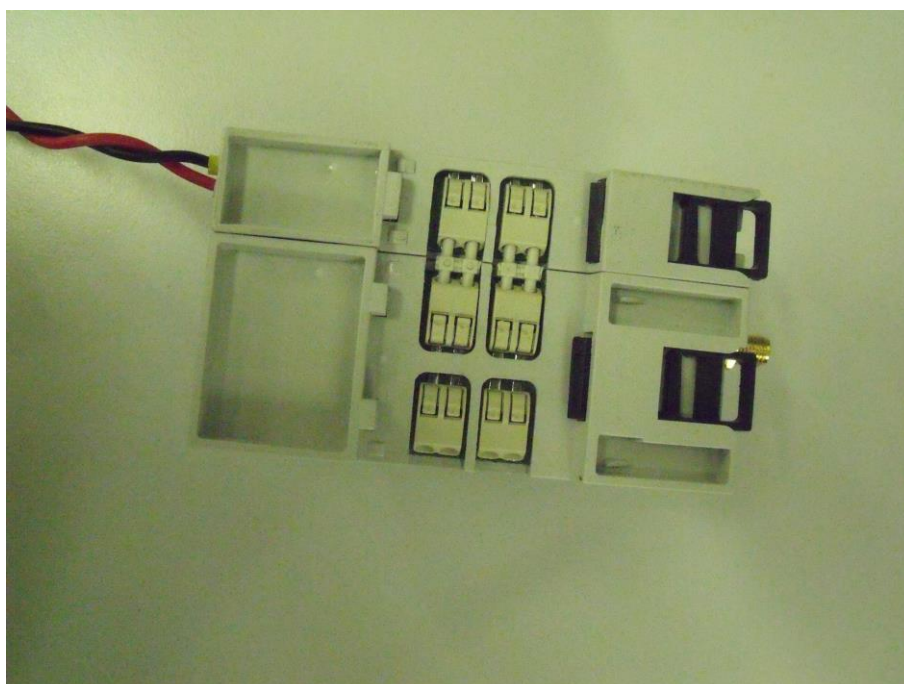
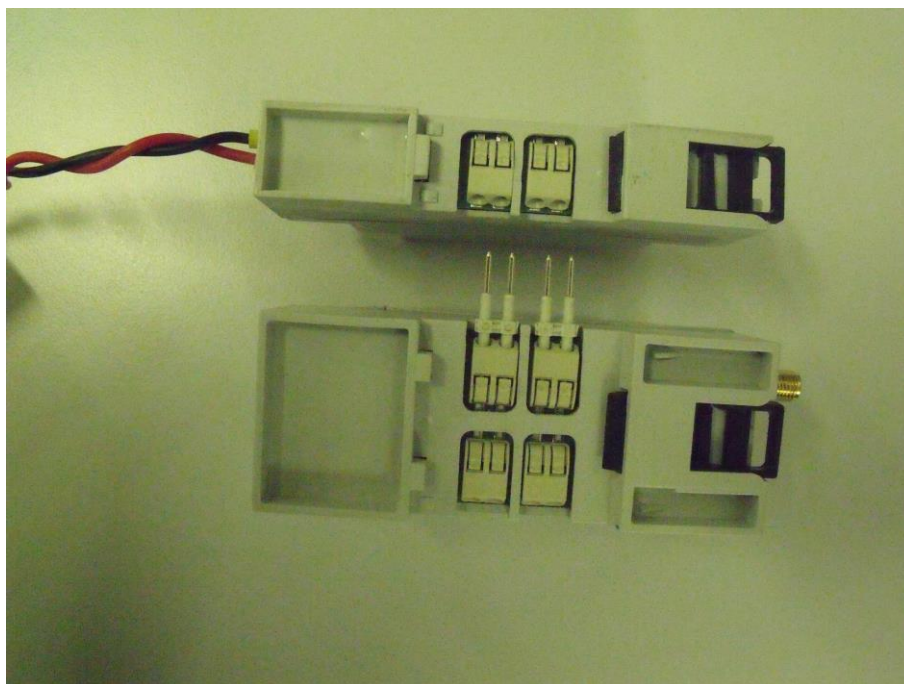


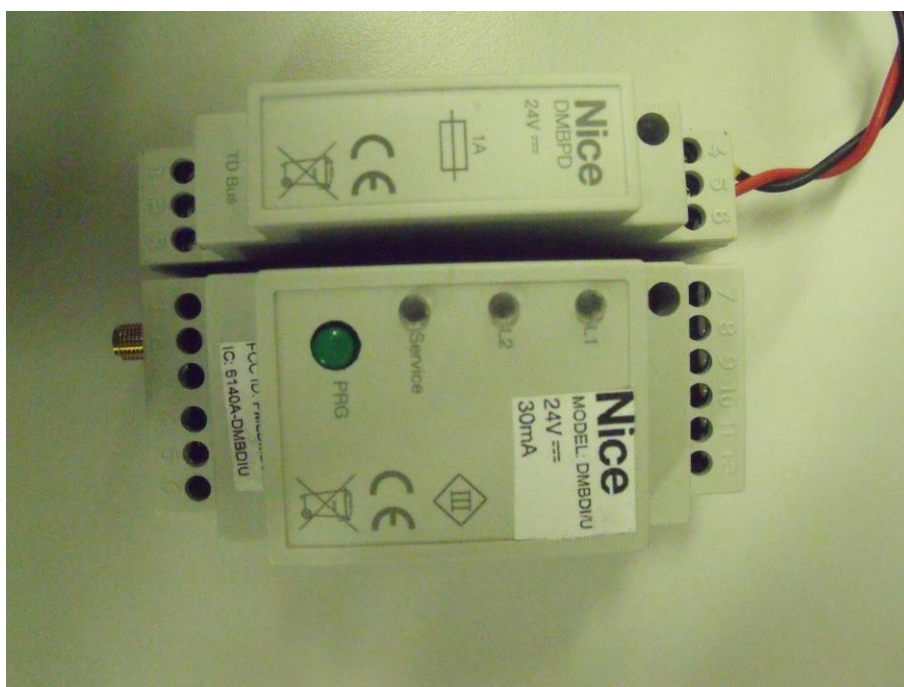


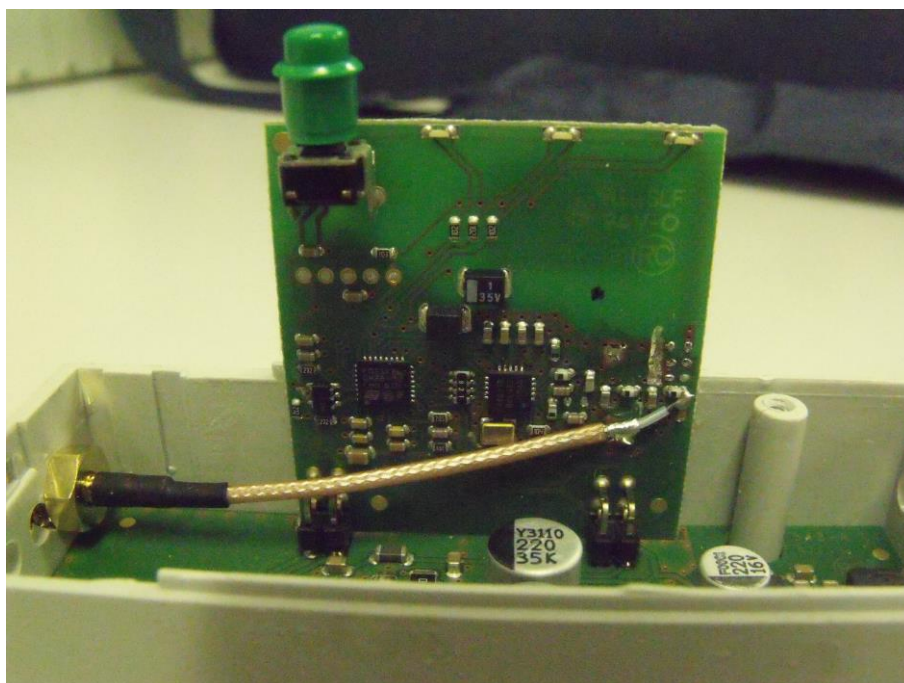
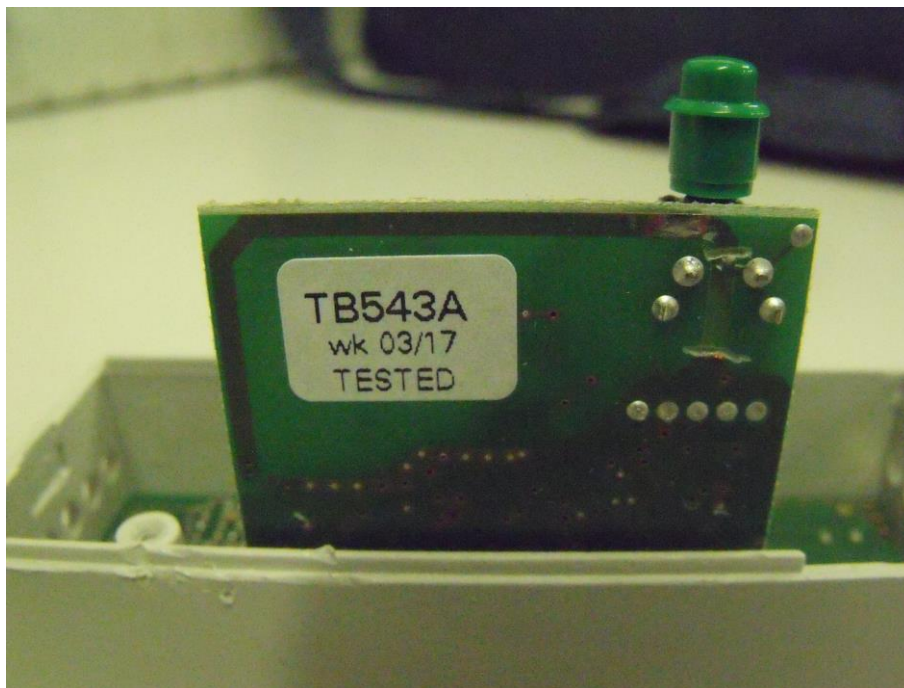


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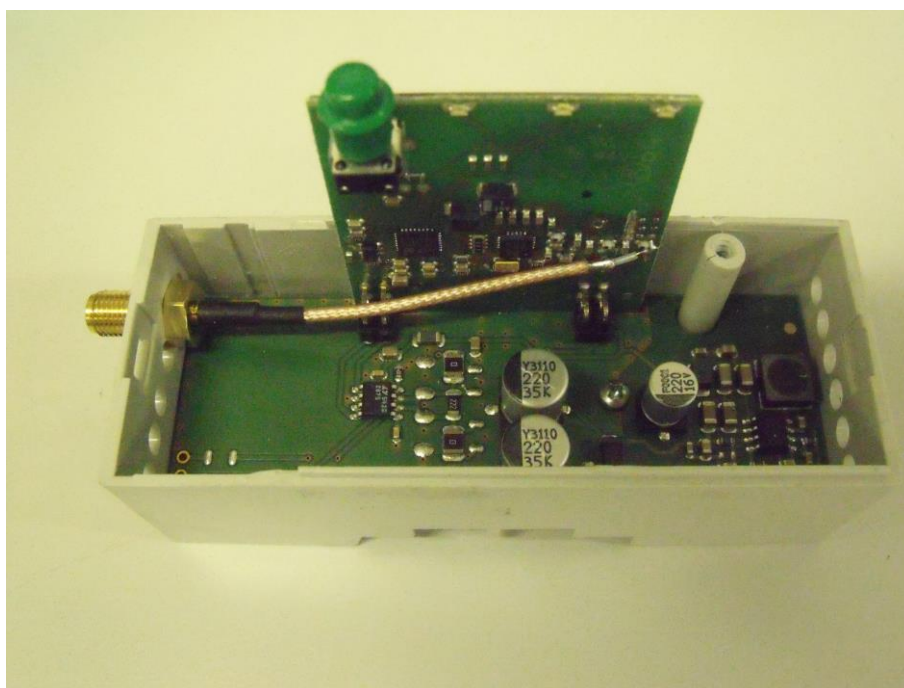
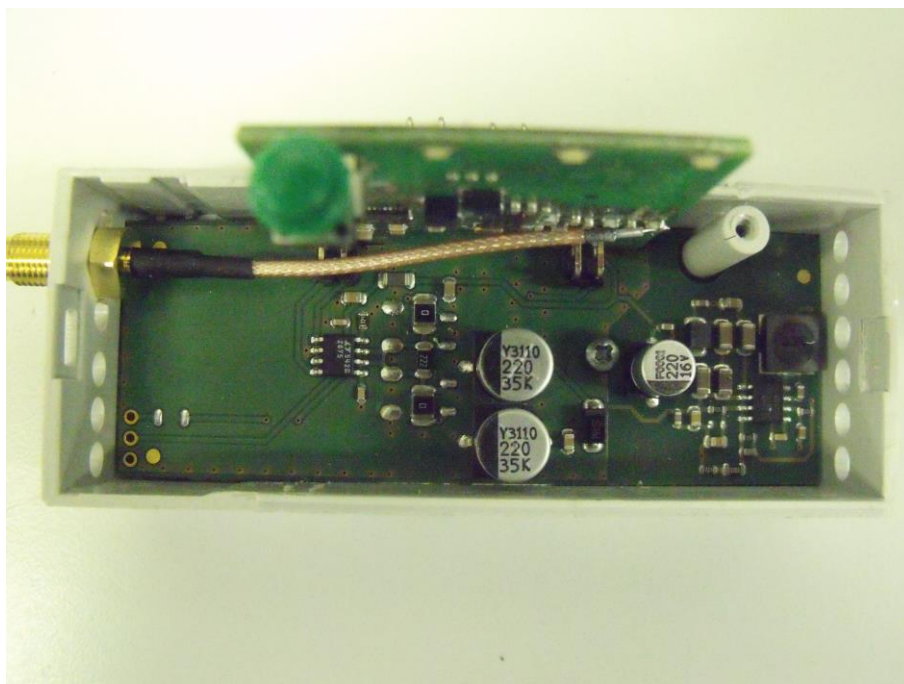


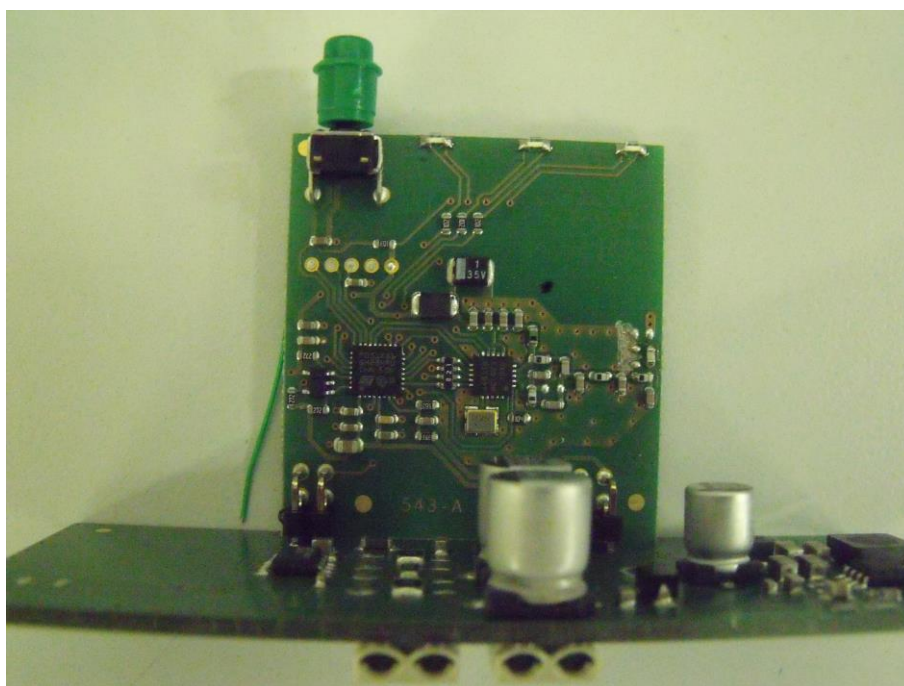
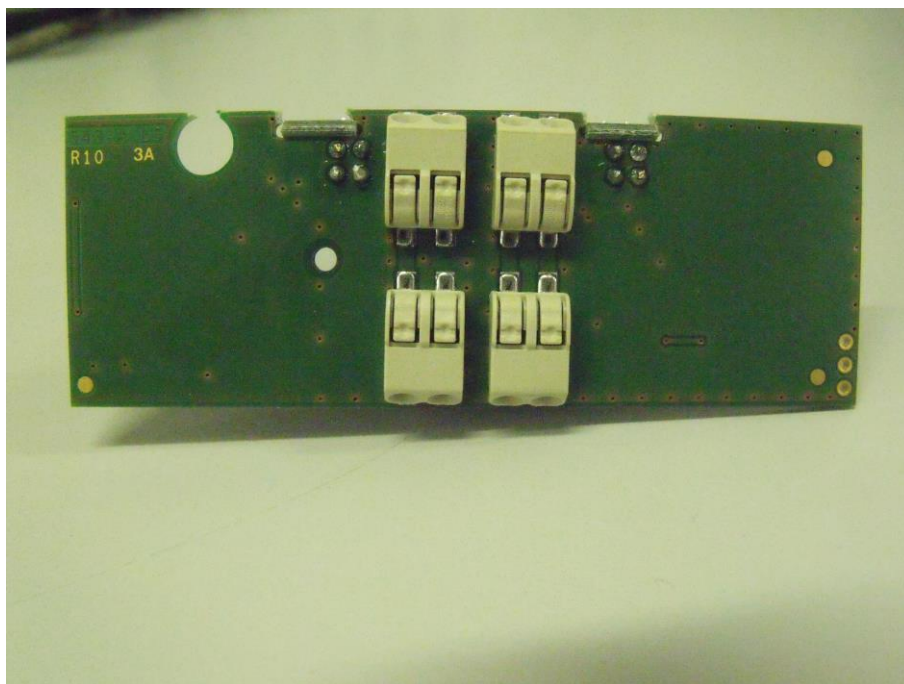




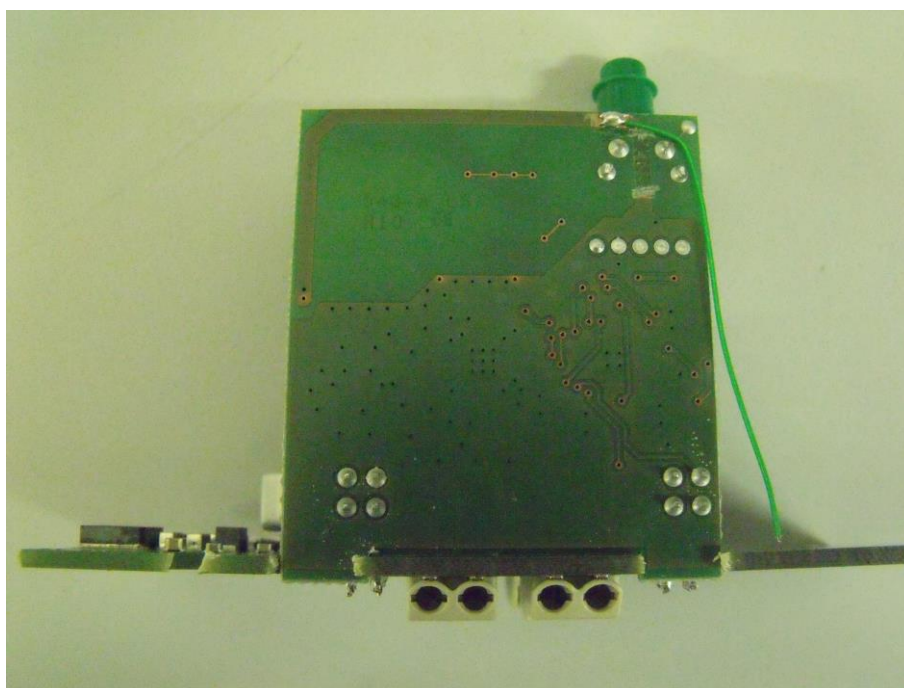
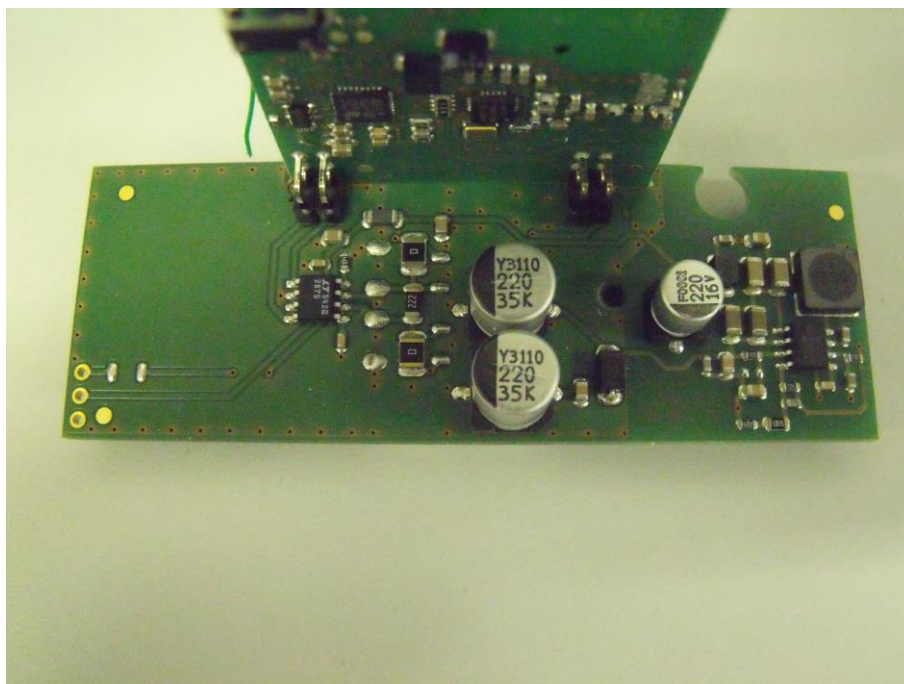


FCC test report



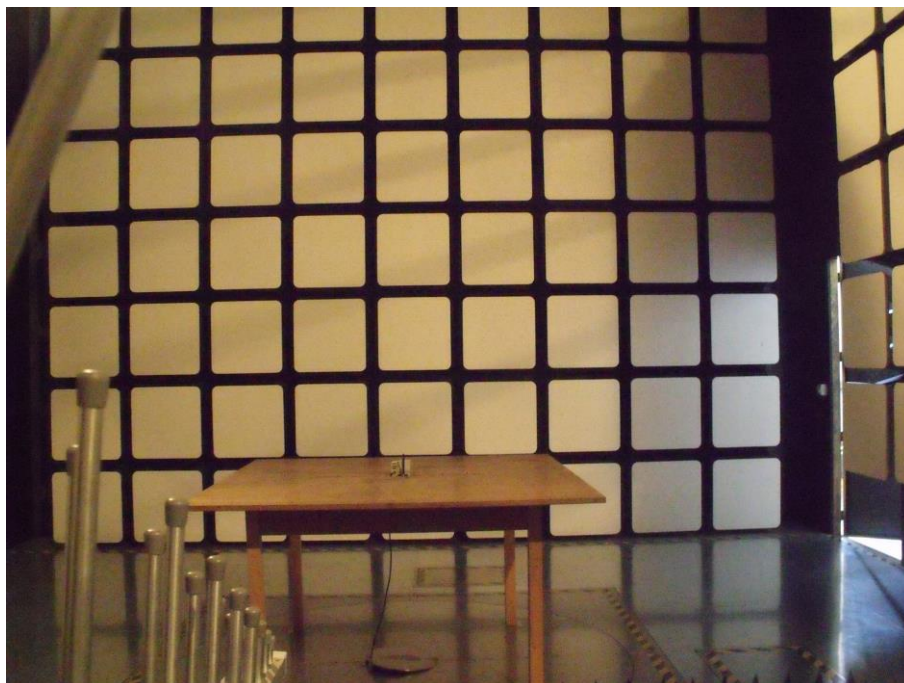


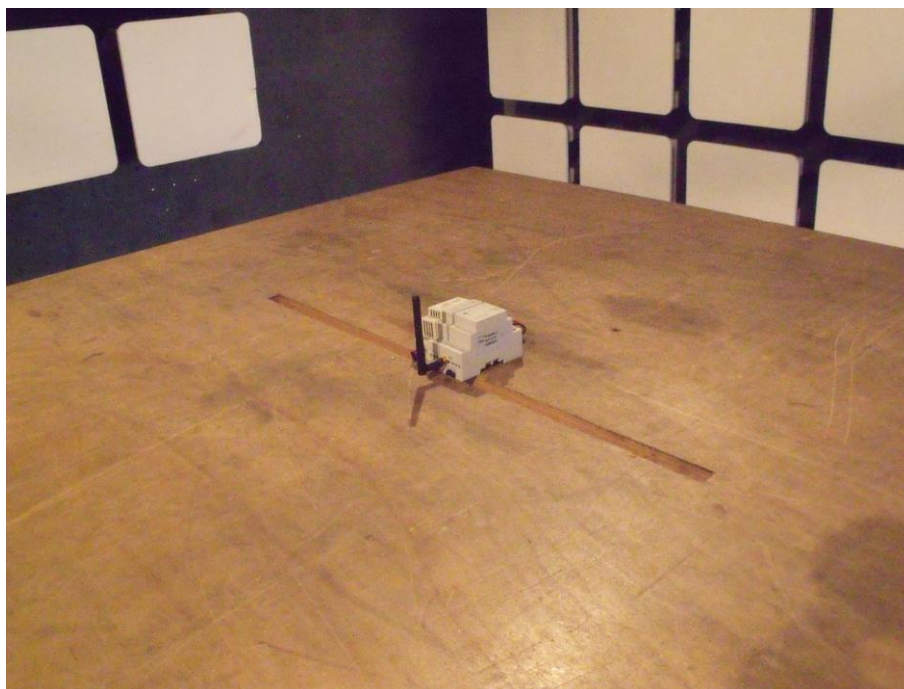
FCC test report

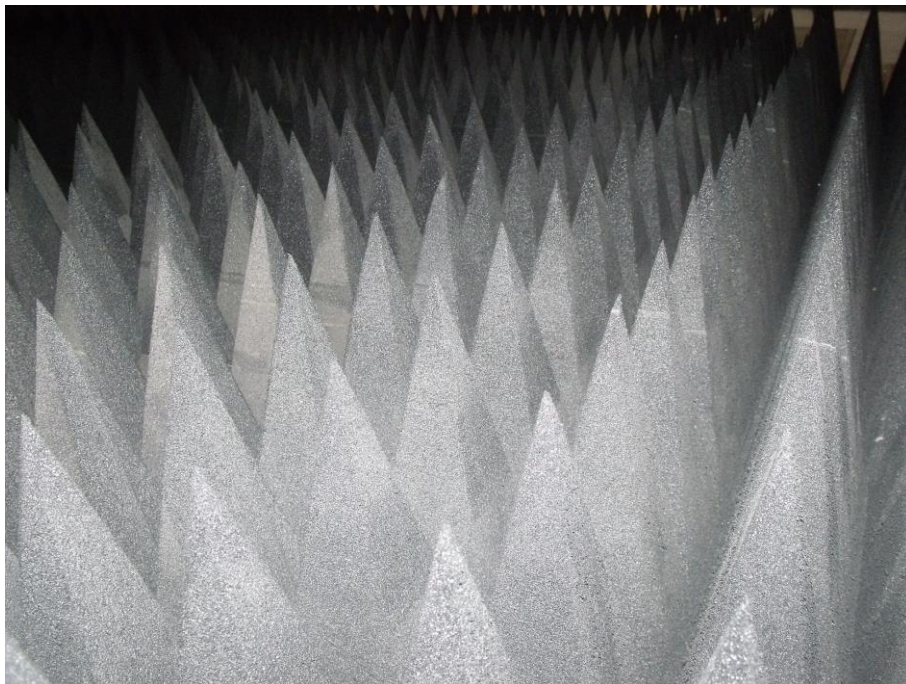
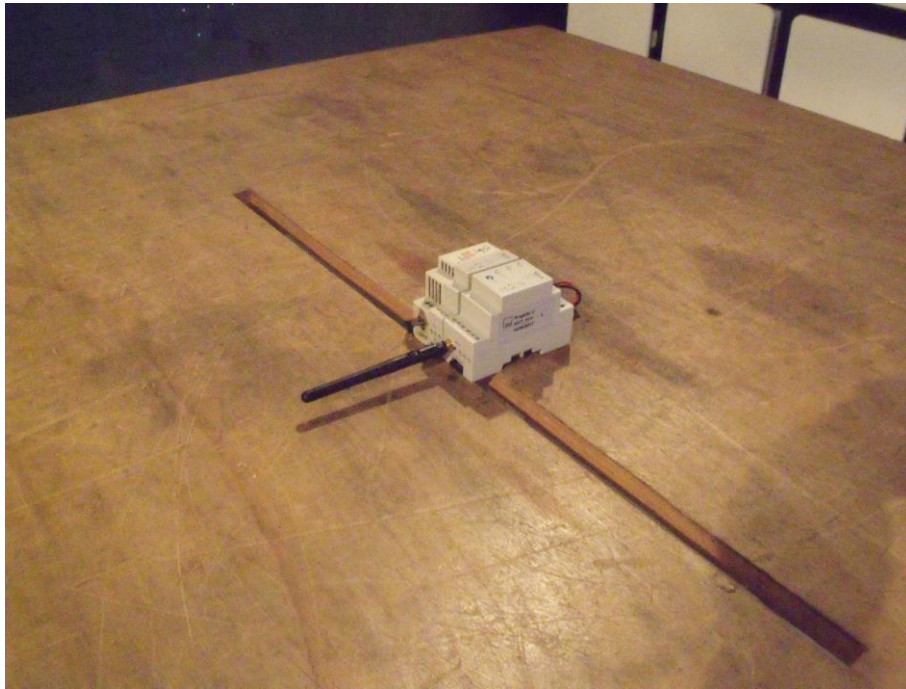


8.2 Test Set-up

Radiated emissions:







Absorbers on the floor for frequency > 1GHz according to C63.10 (2013)

Annex 1

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

July 22, 2016

Registration Number: 771316

NICE S.p.A.
Via Pezza Alta, 13,
Oderzo, 31046
Italy

Attention: Enrico Campion, Mr.

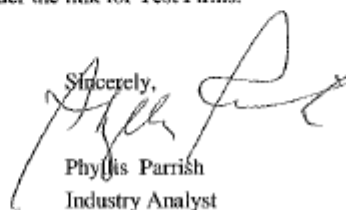
Re: Measurement facility located at Via Pezza Alta, 13 - I-31046 Oderzo
Anechoic chamber (3 meter)
Date of Renewal: July 22, 2016

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that pursuant to FCC Report and Order 14-208 this registration program will end July 12, 2017 and all testing for products subject to equipment authorization type Certification will be required to be tested at a testing facility that is accredited and recognized by the FCC as accredited.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov/eas under the link for Test Firms.

Sincerely,



Phyllis Parrish
Industry Analyst