

**Test report nr. 23211FCC12**

Measurements performed in accordance with:

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

**Product:** Transmitter  
**Tested model:** MOTXR  
**FCC ID** PMLMOTXR  
**Applicant:** Nice S.p.A.  
**Manufacturer:** Nice S.p.A.  
**Trademark:** Nice  
**Testing Laboratory** Nice S.p.A.  
Via Pezza Alta, 13  
I-31046 Rustignè di Oderzo (TV)  
**Registration number:** 771316  
**Date of receipt sample:** 2012-07-16  
**Testing date:** 2012-07-16 to 2012-07-19  
**Issue date:** 5 September 2012

**Tested by:** L. Pastres



**Checked by:** E. Campion



Notice: The result of tests and checks reported in this Test Report refer exclusively to the samples tested and described in the Report itself.  
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## 1

## General Description of Equipment under Test

### 1.1 Applicant

**Name:** Nice S.p.A.  
**Address:** via Pezza Alta, 13  
**Country:** 31046 Rustignè di Oderzo (TV) – Italy

### 1.2 Manufacturer

**Name:** Nice S.p.A.  
**Address:** via Pezza Alta, 13  
**Country:** 31046 Rustignè di Oderzo (TV) – Italy

### 1.3 Equipment classification

According to definition 15.3 (o) is a intentional Radiator operating within the Bands:

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

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

So it shall fulfil provisions of 47CFR Part 15 Subpart B – Unintentional radiator and section 15.107 and 15.109.

**1.4 Basic Description of equipment under test**

| Parameters            | Value                                 |
|-----------------------|---------------------------------------|
| Type of equipment:    | LPD transmitter                       |
| Model:                | MOTXR                                 |
| FCC ID:               | PMLMOTXR                              |
| Trade Name:           | Nice                                  |
| Data cable:           | -                                     |
| Telecom cable:        | -                                     |
| Power supply type:    | internal battery                      |
| AC power input cable: | -                                     |
| DC power input cable: | 6VDC with internal battery 2 x CR2430 |

| Model | Description |
|-------|-------------|
| -     | -           |

**1.5 Feature of equipment under test**

| Parameters                                     | Value                                       |
|------------------------------------------------|---------------------------------------------|
| Power specification                            | Two internal battery CR2430                 |
| Operating frequency:                           | 433,92MHz                                   |
| Maximum RF output power:                       | 74.99 dBμV/m at 3m (peak 80.18dBμV/m at 3m) |
| Occupied Bandwidth                             | 42.2kHz at 99%<br>15.6kHz at -20dBc         |
| Emission Designator (ITU):                     | 42K2A1D                                     |
| Modulation:                                    | AM (OOK)                                    |
| Channel spacing:                               | no channel spacing                          |
| Antenna:                                       | integral                                    |
| Rx Sensitivity:                                | none                                        |
| Main SW identification:                        | none                                        |
| Main HW board identification:                  | PCB nr. 158-A                               |
| Peripherals included (for system application): | none                                        |
| Interfaces:                                    | none                                        |
| Integrated interfaces                          | none                                        |
| AC adapter:                                    | none                                        |

## 2

## Test configuration of equipment under test

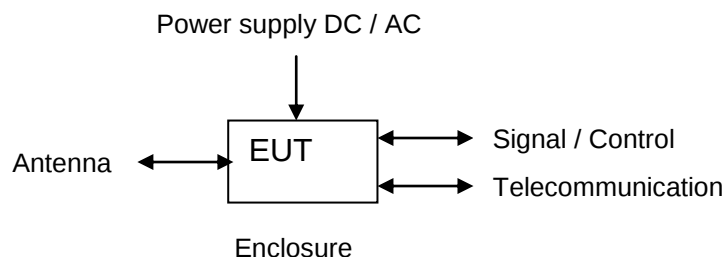
## 2.1 Environmental conditions

| 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 |
|--------------------------------|--------------|-------|
| Artificial finger for transmit | Nice         | none  |
|                                |              |       |
|                                |              |       |

## 2.3 Interface identification and connection diagram of test system



| # | Interface             | Description             | Maximum length | Ref. Document |
|---|-----------------------|-------------------------|----------------|---------------|
| 1 | Enclosure             | -                       | 84 x 75 x 37mm | -             |
| 2 | AC mains power input  | none                    | none           | none          |
| 3 | DC power port         | Two battery type CR2430 | none           | none          |
| 4 | Signal / control port | none                    | none           | none          |
| 5 | Antenna port          | none                    | none           | none          |

## 3

## Operation of equipment under test

## 3.1 Operating test conditions

| # | Description  |
|---|--------------|
| 1 | transmission |
| 2 | standby      |
|   |              |
|   |              |

## 4

## Tests identification and result

| CFR47<br>Part 15<br>Section | Title                                            | Operating<br>condition | Result |
|-----------------------------|--------------------------------------------------|------------------------|--------|
| 15.203<br>15.247 (b)(4)(i)  | Antenna requirements                             | not applicable         | -      |
| 15.207 (a)                  | Conducted emission                               | not applicable         | -      |
| 15.209 (a) (f)              | Radiated emission                                | #1<br>#2               | PASS   |
| 15.231 (a)                  | Timing of the transmitter                        | #1                     | PASS   |
| 15.231 (a)                  | Transmit behaviour after releasing the TX-button | #1                     | PASS   |
| 15.231 (b)                  | Radiated output power                            | #1                     | PASS   |
| 15.35 (c)                   | Typical pulse train of a signal                  | #1                     | PASS   |
| 15.231 (b)                  | Compliance with the limit of FCC                 | #1<br>#2               | PASS   |
| 15.231 (b)                  | Spurious emission - radiated                     | #1                     | PASS   |
| 15.231 (c)                  | Occupied bandwidth                               | #1                     | PASS   |

## 4.1 Methods of measurement

All compliance measurements have been carried out using the procedures described in the standard ANSI C63.4-2003 (excluding sub-par. 4.1.5.2, 5.7.9 and 14) 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 150kHz to tenth harmonic of fundamental.

## 5 Tests

### 5.1 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:                  | 10kHz to 6GHz    |
| IF bandwidth (below 150kHz):      | 200Hz            |
| IF bandwidth (below 30MHz):       | 9kHz             |
| IF bandwidth (below 1000MHz):     | 120kHz           |
| IF bandwidth (above 1000MHz):     | 1MHz             |
| EMC class:                        | B                |

#### Limits <sup>(1)</sup>:

| Frequency [MHz] | Field Strength ( $\mu$ 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: <sup>(1)</sup> to convert the measuring distance from 3m to 300m and 30m to 300m a correction factor from 40dB/decade was used

#### Test Data.:

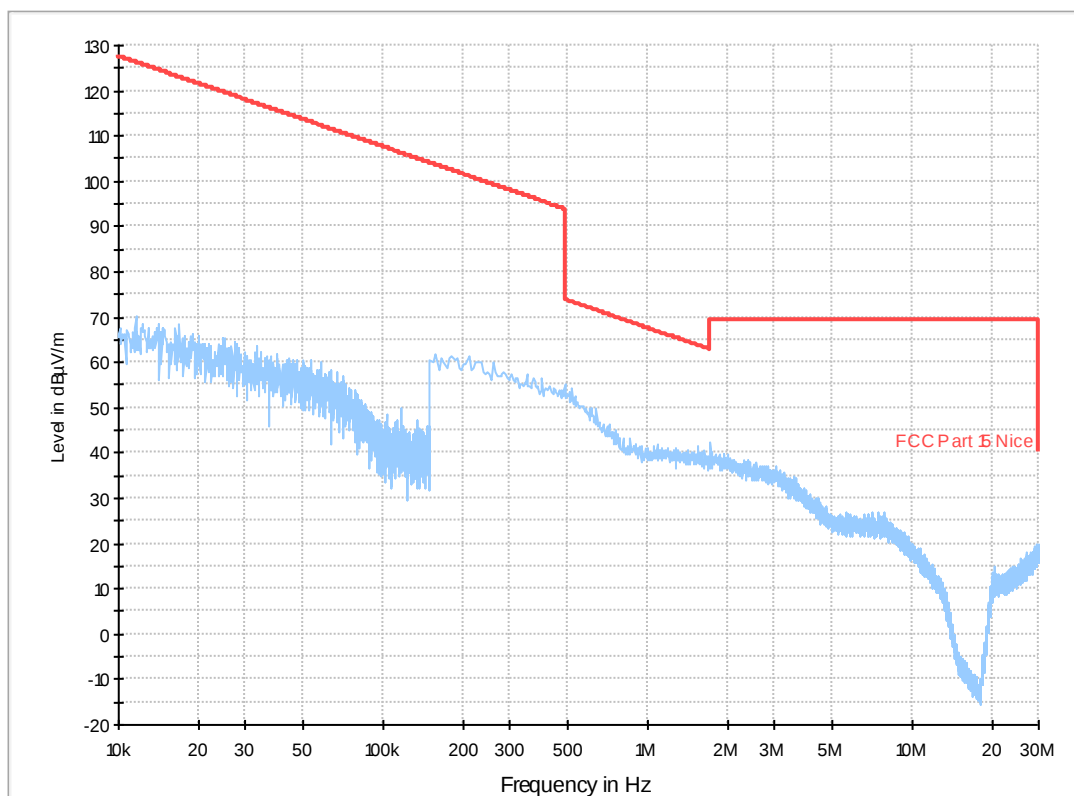
| Port under test | Operating condition | Result   |
|-----------------|---------------------|----------|
| Enclosure       | #1, 2               | Complies |

#### Comments:

the results on this report are related to the worst case when the product was tested on three axes (X, Y, Z)

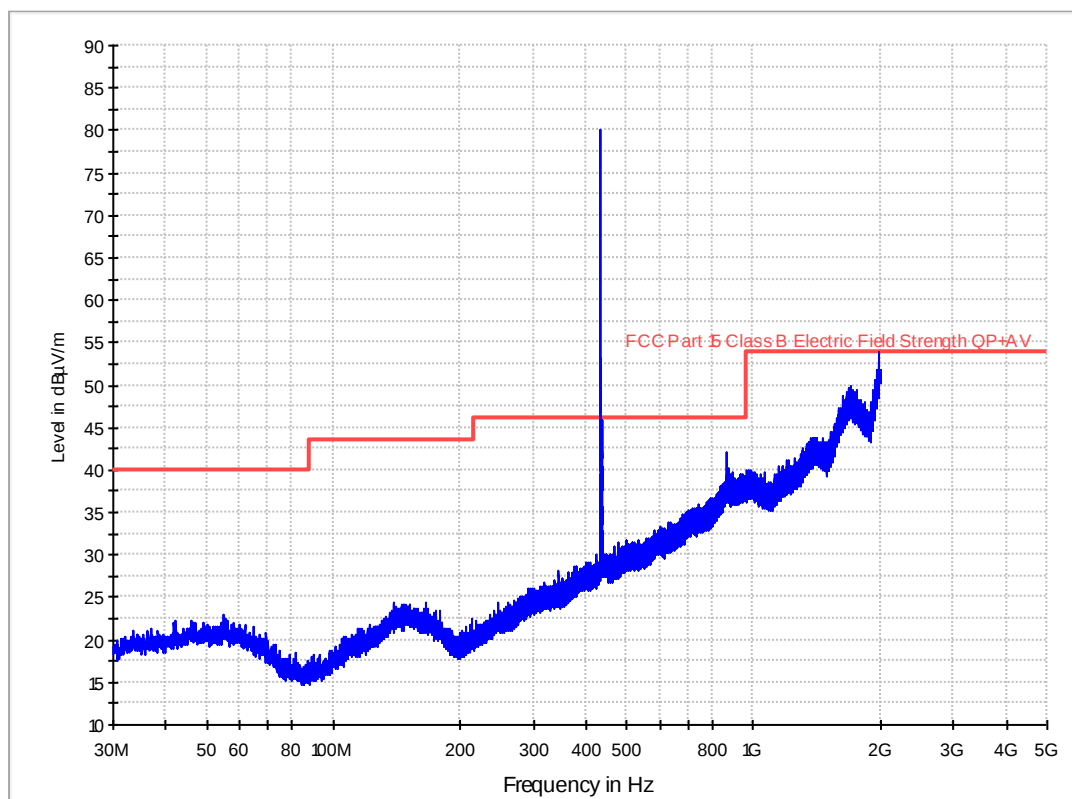
Transmit

## EMC32 Report



Transmit

## EMC32 Report



## Result Table\_Single

| Frequency (MHz) | MaxPeak (dBμV/m) | QuasiPeak (dBμV/m) | Average (dBμV/m) | RMS (dBμV/m) | MinPeak (dBμV/m) |
|-----------------|------------------|--------------------|------------------|--------------|------------------|
| 32.400000       | ---              | 15.5               | ---              | ---          | ---              |
| 46.400000       | ---              | 16.7               | ---              | ---          | ---              |
| 103.880000      | ---              | 14.5               | ---              | ---          | ---              |
| 154.760000      | ---              | 18.2               | ---              | ---          | ---              |
| 172.200000      | ---              | 17.8               | ---              | ---          | ---              |
| 362.600000      | ---              | 21.3               | ---              | ---          | ---              |
| 433.920000      | ---              | 82.0               | ---              | ---          | ---              |
| 862.960000      | ---              | 32.6               | ---              | ---          | ---              |
| 867.880000      | ---              | 39.4               | ---              | ---          | ---              |

(continuation of the "Result Table\_Single" table from column 6 ...)

| Frequency (MHz) | CAverage (dBμV/m) | CRMS (dBμV/m) | ACVideo (dBμV/m) | Meas. Time (ms) | Bandwidth (kHz) |
|-----------------|-------------------|---------------|------------------|-----------------|-----------------|
| 32.400000       | ---               | ---           | ---              | 1000.000        | 120.000         |
| 46.400000       | ---               | ---           | ---              | 1000.000        | 120.000         |
| 103.880000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 154.760000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 172.200000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 362.600000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 433.920000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 862.960000      | ---               | ---           | ---              | 1000.000        | 120.000         |
| 867.880000      | ---               | ---           | ---              | 1000.000        | 120.000         |

(continuation of the "Result Table\_Single" table from column 11 ...)

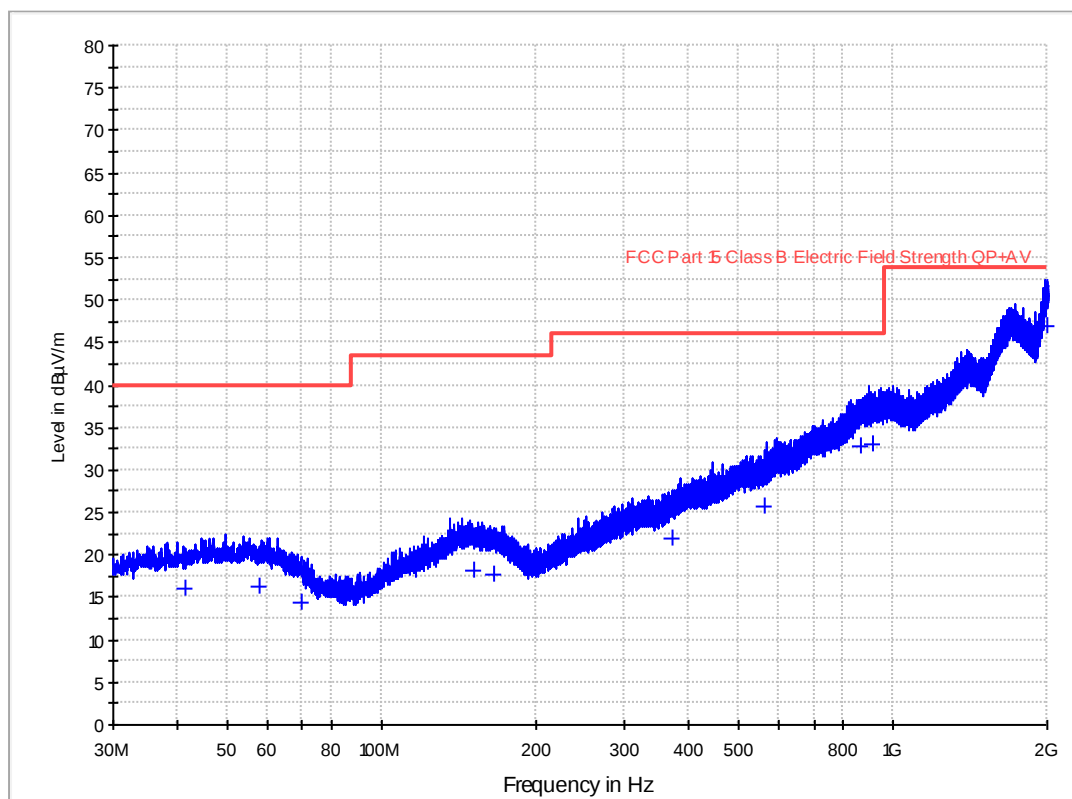
| Frequency (MHz) | Antenna height (cm) | Polarity | Turntable position (deg) | Corr. (dB) | Comment |
|-----------------|---------------------|----------|--------------------------|------------|---------|
| 32.400000       | 100.0               | H        | 0.0                      | 11.5       |         |
| 46.400000       | 100.0               | H        | 0.0                      | 12.7       |         |
| 103.880000      | 120.0               | H        | 180.0                    | 11.1       |         |
| 154.760000      | 100.0               | H        | 180.0                    | 14.7       |         |
| 172.200000      | 120.0               | V        | 90.0                     | 14.4       |         |
| 362.600000      | 100.0               | H        | 270.0                    | 18.0       |         |
| 433.920000      | 100.0               | H        | 180.0                    | 20.3       |         |
| 862.960000      | 100.0               | H        | 90.0                     | 28.0       |         |
| 867.880000      | 100.0               | H        | 0.0                      | 28.2       |         |

## Margin QP

| Frequency (MHz) | Margin QP (dB) |
|-----------------|----------------|
| 32.400000       | 24.5           |
| 46.400000       | 23.3           |
| 103.880000      | 29.0           |
| 154.760000      | 25.3           |
| 172.200000      | 25.7           |
| 362.600000      | 24.7           |
| 862.960000      | 13.4           |
| 867.880000      | 6.6            |

Standby

## EMC32 Report



## 5.2 Timing of the transmitter

### Specify:

|                |                                  |
|----------------|----------------------------------|
| Base standard: | CFR47 Part 15 Section 15.231 (a) |
|----------------|----------------------------------|

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:        | 1MHz                            |
| VBW:        | 3MHz                            |

### Test Data:

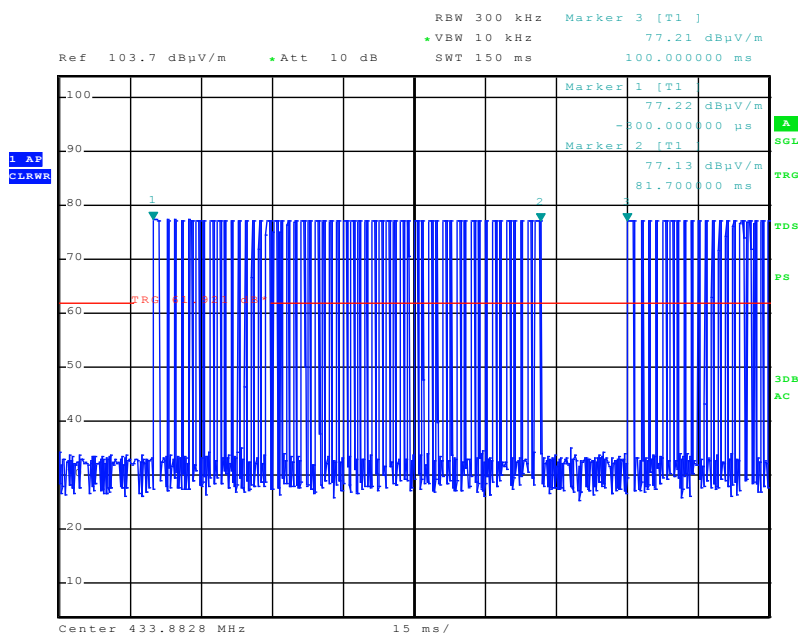
|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Timing of the transmitter:            | 100ms = 82.5ms + 27.5ms                    |
| Transmit button pressed shorter than: | -                                          |
| Pulse train length:                   | 82.5ms (Frame), pause 27.5ms               |
| ON Time:                              | 1.5ms + 52x1ms + 1.5ms = 55ms (worst case) |
| OFF Time:                             | (82.5ms - 55ms) = 27.5ms (worst case)      |

### Comments:

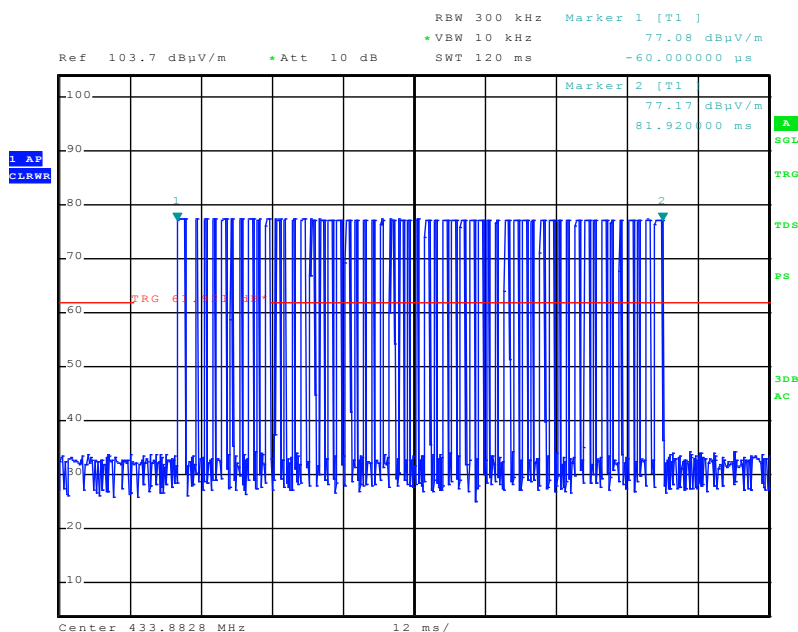
From Technical file, the frame during 82.5ms. The pause during 27.5ms. Total Timing = 82.5ms + 27.5ms = 100ms  
 The start bit during 1.5ms, the stop bit during 1.5ms. Every bit during 1.5ms.  
 When bit = "1" the timing is: 1ms on and 0.5ms off  
 When bit = "0" the timing is: 0.5ms on and 1ms off

# FCC test report

Following pictures are only for view the type of impulse.



Date: 19.JUL.2012 17:36:57



Date: 19.JUL.2012 17:37:49

## 5.3 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:        | 1MHz                            |
| VBW:        | 3MHz                            |

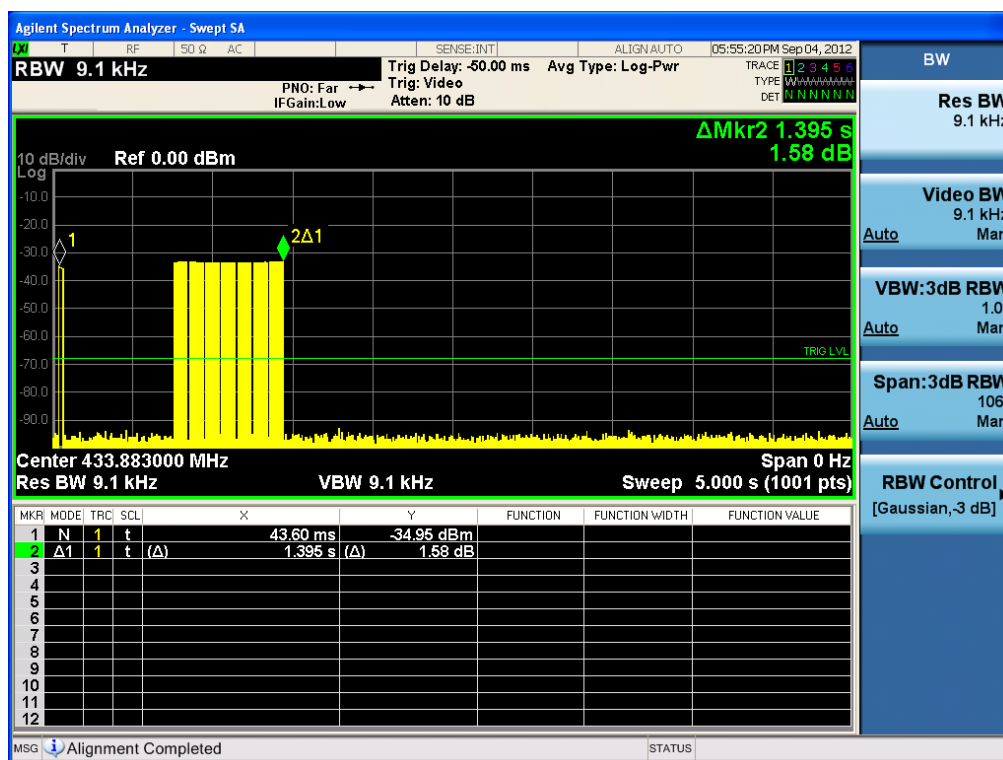
## Test data:

|        |             |
|--------|-------------|
| T1:    | 0s          |
| T2:    | 1.395s      |
| T2-T1: | 1.395s < 5s |

## Comments:

The worst case is when it push rapidly the button 1 two time and immediately push the left buttons. Normally the transmit stop immediately after the release of button.

*At marker 1 the transmitter send a transmission because the button was pushed, at marker 2 the product stop any transmission.*



## 5.4 Radiated output power

## Specify:

Base standard: FCC 15.231 (b)

## Test Requirements:

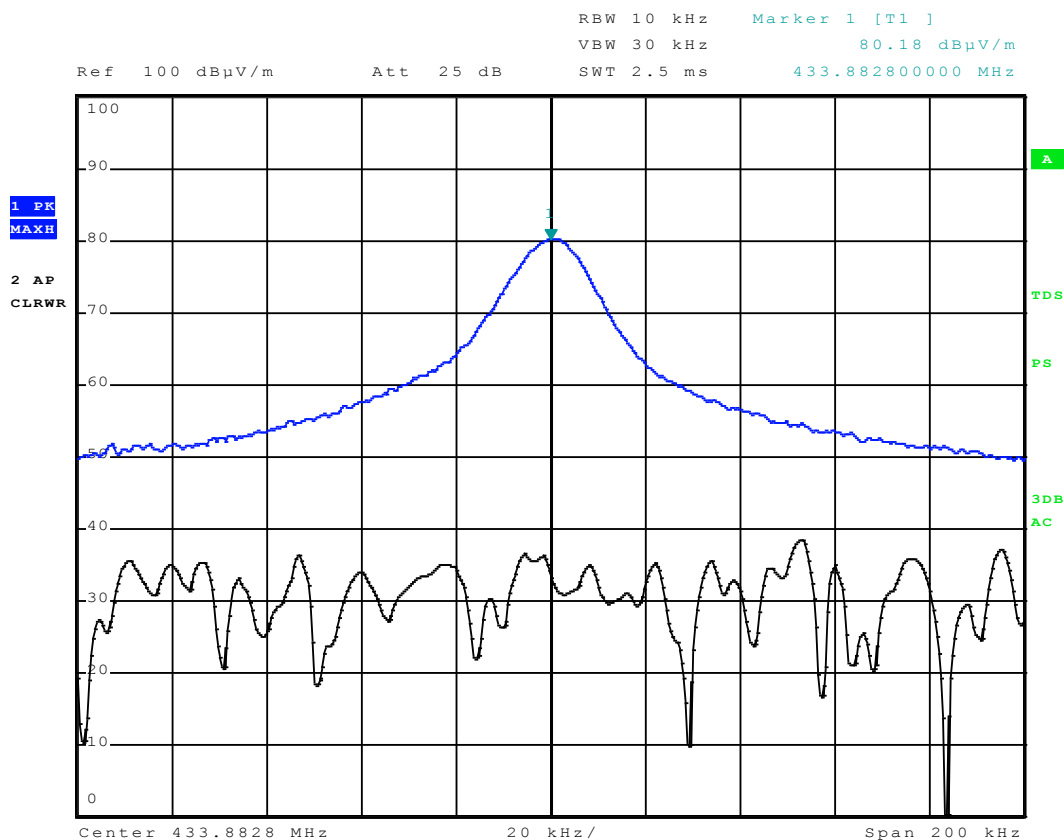
RBW / VBW:

200Hz ( $f < 150\text{kHz}$ )  
9kHz ( $150\text{kHz} < f < 30\text{MHz}$ )  
120kHz ( $30\text{MHz} < f < 1000\text{MHz}$ )  
1MHz ( $f > 1000\text{MHz}$ )

## Test data:

Output radiated power (3m of distance): 80.18dB $\mu$ V/m (peak) at distance of 3m at 433.8828MHz

## Comments:

*the results on this report are related to the the worst case when the product was tested on three axes (X, Y, Z)*

Date: 19.JUL.2012 16:47:57

## 5.5 Typical pulse train of a signal

**Specify:**

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

**Test Setup:**

|      |      |
|------|------|
| RBW: | 1MHz |
| VBW: | 3MHz |

**Test Data:**

|                                                                   |                                                          |
|-------------------------------------------------------------------|----------------------------------------------------------|
| Duty-cycle                                                        | 55%                                                      |
| TX on                                                             | 55ms                                                     |
| TX off                                                            | 45ms                                                     |
| Average correction factor ( $20 \cdot \log(\text{duty cycle})$ ): | $20 \log (55\text{ms} / 100\text{ms}) = - 5.19\text{dB}$ |

**Comments:**

From technical file, the frame during 82.5ms. The pause during 27.5ms. Total Timing = 82.5ms + 27.5ms = 100ms

The start bit during 1.5ms, the stop bit during 1.5ms. Every bit during 1.5ms.

When bit = "1" the timing is: 1ms ON and 0.5ms OFF

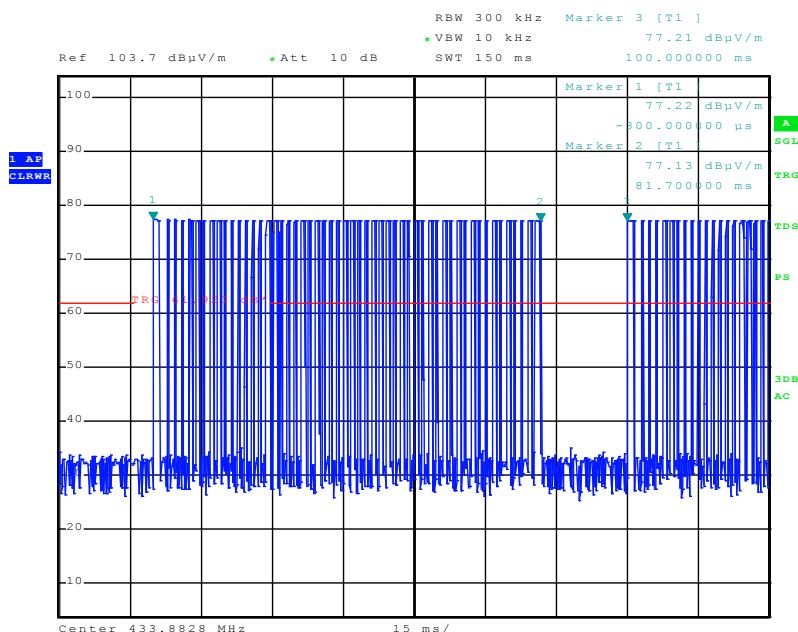
When bit = "0" the timing is: 0.5ms ON and 1ms OFF

In worst case with all bit at "1" the Tx ON = 1.5ms + 52 x 1ms + 1.5ms = 55ms and Tx OFF = 100ms – 55ms = 45ms. Therefore the duty-cycle =  $(55/100) \times 100 = 55\%$  in worst case.

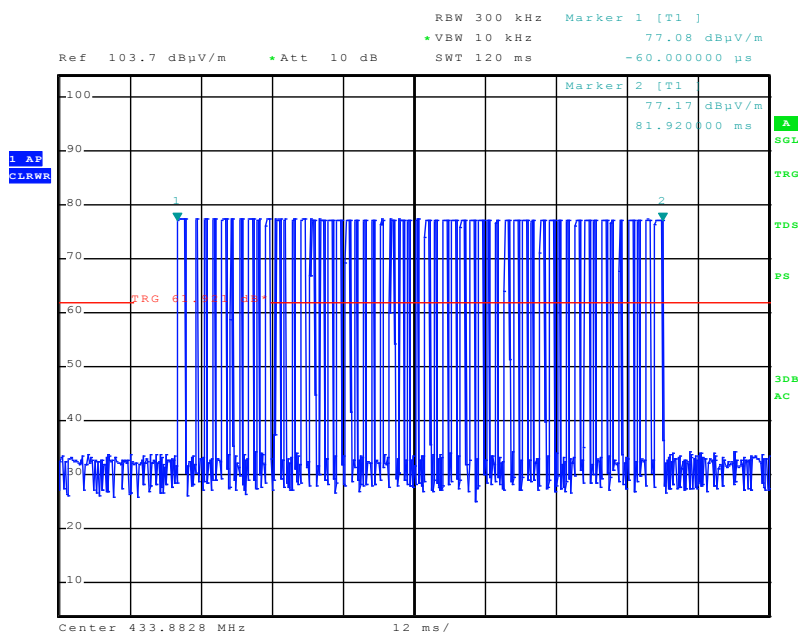
In real case not all bit are at "1" but some are at "1" and some at "0", averaging 50%, therefore in real case the average correction is less than of worst case (with 50% bit at "1" and 50% bit at "0", the averaging correction is -11.21dB instead -5.19dB).

# FCC test report

Following pictures are only for view the type of impulse.



Date: 19.JUL.2012 17:36:57



Date: 19.JUL.2012 17:37:49

## 5.6 Compliance with the limit of FCC

**Specify:**

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

**Test Setup:**

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

**Limits:**

| Frequency [MHz] | Field Strength of the fundamental                                                                                  | Field Strength of spurious emissions                                                                          |
|-----------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 40,66 – 40,70   | 2 250 $\mu\text{V/m}$ / 67dB $\mu\text{V/m}$                                                                       | 225 $\mu\text{V/m}$ / 47dB $\mu\text{V/m}$                                                                    |
| 70 – 130        | 1 250 $\mu\text{V/m}$ / 62dB $\mu\text{V/m}$                                                                       | 125 $\mu\text{V/m}$ / 42dB $\mu\text{V/m}$                                                                    |
| 130 - 174       | 1 250 $\mu\text{V/m}$ to 3 750 $\mu\text{V/m}$ <sup>(1)</sup><br>62 $\mu\text{V/m}$ to 71,5 $\mu\text{V/m}$        | 125 $\mu\text{V/m}$ to 375 $\mu\text{V/m}$ <sup>(1)</sup><br>42dB $\mu\text{V/m}$ to 51,5dB $\mu\text{V/m}$   |
| 174 – 260       | 3 750 $\mu\text{V/m}$ / 71,5dB $\mu\text{V/m}$                                                                     | 375 $\mu\text{V/m}$ / 51,5dB $\mu\text{V/m}$                                                                  |
| 260 – 470       | 3 750 $\mu\text{V/m}$ to 12 500 $\mu\text{V/m}$ <sup>(1)</sup><br>71,5 dB $\mu\text{V/m}$ to 82 dB $\mu\text{V/m}$ | 375 $\mu\text{V/m}$ to 1 250 $\mu\text{V/m}$ <sup>(1)</sup><br>51,5dB $\mu\text{V/m}$ to 62dB $\mu\text{V/m}$ |
| above 470       | 12 500 $\mu\text{V/m}$ / 82dB $\mu\text{V/m}$                                                                      | 1 250 $\mu\text{V/m}$ / 62dB $\mu\text{V/m}$                                                                  |

Note: <sup>(1)</sup> 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:                           |                                                                                         |
| Calculated average (3m of distance): | (80.18 – 5.19) dB $\mu\text{V/m}$ = 74.99 dB $\mu\text{V/m}$ < 80,82 dB $\mu\text{V/m}$ |

**Comments:**

*the results on this report are related to the the worst case when the product was tested on three axes (X, Y, Z)*

## 5.7 Spurious emission - radiated

## Specify:

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

## Test Setup:

-

## Limits:

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

Note: <sup>(1)</sup> 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 [MHz] | Peak Amplitude of emission (dB $\mu$ V/m) | Average Amplitude of emission (dB $\mu$ V/m) | Limit maximum allowed emission power | Actual attenuation below frequency of operation (dB) | Results             |
|-----------------|-------------------------------------------|----------------------------------------------|--------------------------------------|------------------------------------------------------|---------------------|
| 433,8828        | 80.18                                     | 74.99                                        | 80,83dB $\mu$ V/m                    | 5.82                                                 | operating frequency |
| 867,7656        | 50.08                                     | 44.89                                        | -20dBc                               | 35.83                                                | complies            |
| 1301,6484       | 56.82                                     | 51.63                                        | 54,0dB $\mu$ V/m                     | 2.37                                                 | complies            |
| 1735,5312       | 52.85                                     | 47.66                                        | -20dBc                               | 33.16                                                | complies            |
| 2169,414        | 44.31                                     | 39.12                                        | -20dBc                               | 41.7                                                 | complies            |
| 2603,2968       | 47.13                                     | 41.94                                        | -20dBc                               | 38.88                                                | complies            |
| 3037,1796       | 52.76                                     | 47.57                                        | -20dBc                               | 33.25                                                | complies            |
| 3471,0624       | 57.76                                     | 52.57                                        | -20dBc                               | 28.25                                                | complies            |
| 3904,9452       | 49.06                                     | 43.87                                        | 54,0dB $\mu$ V/m                     | 10.13                                                | complies            |
| 4338,828        | 44.79                                     | 39.6                                         | 54,0dB $\mu$ V/m                     | 14.4                                                 | complies            |

## Comments:

The real margin is more than the value indicated because the averaging correction is calculated for worst case and not for real case.

*The results on this report are related to the worst case when the product was tested on three axes (X, Y, Z)*

## 5.8 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: | 3kHz  |
| VBW: | 10kHz |

## Limits:

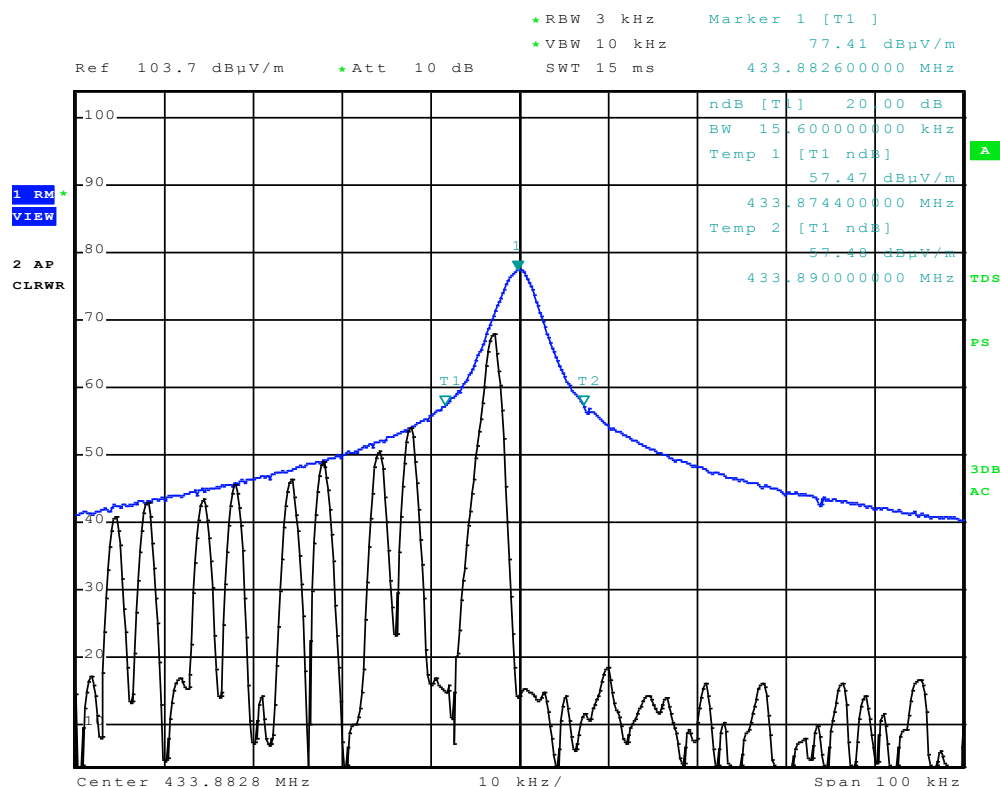
< 0,25% of the centre frequency, here 1,08MHz

## Test Data:

|                              |         |
|------------------------------|---------|
| Occupied bandwidth at -20dB: | 15,6kHz |
|------------------------------|---------|

## Comments:

-



Date: 19.JUL.2012 17:31:53

## 6

## Measurement and Test Equipment instrumentation

| Code | nr. | Manufacturer            | Model         | Serial number | Date of Calibration | Calibration Due |
|------|-----|-------------------------|---------------|---------------|---------------------|-----------------|
| ANA  | 7   | Agilent                 | N9020A        | MY48011101    | 10/02/2012          | 10/02/2013      |
| ANA  | 11  | Rohde & Schwarz         | FSL3          | 102362        | 02/05/2012          | 02/05/2014      |
| ANT  | 1   | EMCO                    | 3121C<br>DB-4 | 9312-901      |                     |                 |
| ANT  | 3   | Schwarzbeck             | VULB9160      | 3180          | 07/06/2011          | 07/06/2013      |
| ANT  | 4   | AH System               | SAS-571       | 684           | 08/06/2011          | 08/06/2013      |
| ANT  | 5   | AH System               | SAS-562B      | 236           | 06/06/2011          | 06/06/2013      |
| ANT  | 6   | AH System               | SAS-571       | 1025          | 08/06/2011          | 08/06/2013      |
| ANT  | 7   | Aaronia                 | BicoLOG 30100 | 1293          | 07/06/2011          | 07/06/2013      |
| ANT  | 9   | Schwarzbeck             | VHBA 9123     | 525           | 30/09/2011          | 30/09/2013      |
| ATT  | 1   | -                       | PE7021-6      |               | 21/06/2011          | 21/06/2013      |
| ATT  | 2   | Tyco<br>Electronics Co. | 50WCW         | -             | 22/06/2011          | 22/06/2013      |
| ATT  | 5   | RADIAL                  | R414.710.000  | -             | 23/05/2008          | 23/05/2013      |
| ATT  | 6   | RADIAL                  | R414.710.000  | -             | 23/05/2008          | 23/05/2013      |

| Code | nr. | Manufacturer    | Model                | Serial number    | Date of Calibration | Calibration Due |
|------|-----|-----------------|----------------------|------------------|---------------------|-----------------|
| ATT  | 7   | RADIAL          | R414.720.000         | -                | 23/05/2008          | 23/05/2013      |
| CAV  | 1   | Rohde & Schwarz | HFU2-Z5              | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 2   | Rohde & Schwarz | HFU2-Z4              | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 3   | TESEO           | CAVO A               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 4   | TESEO           | CAVO B               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 5   | TESEO           | CAVO C               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 6   | TESEO           | CAVO D               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 7   | TESEO           | CAVO E               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 13  | TESEO           | CAVO G               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 14  | TESEO           | CAVO H               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 15  | TESEO           | CAVO I               | -                | 22/06/2011          | 22/06/2013      |
| CAV  | 16  | Rohde & Schwarz | 9111505/200 (CAVO J) | 5995-12-161-6890 | 22/06/2011          | 22/06/2013      |

| Code | nr. | Manufacturer | Model              | Serial number | Date of Calibration | Calibration Due |
|------|-----|--------------|--------------------|---------------|---------------------|-----------------|
| CAV  | 17  | Nice         | CAVO K             | -             | 22/06/2011          | 22/06/2013      |
| CAV  | 18  | Nice         | CAVO L             | -             | 22/06/2011          | 22/06/2013      |
| CAV  | 19  | Nice         | Cavo M             | -             | 22/06/2011          | 22/06/2013      |
| CAV  | 20  | Nice         | Cavo N             | -             | 22/06/2011          | 22/06/2013      |
| CAV  | 21  | Nice         | Cavo P             | -             | 22/06/2011          | 22/06/2013      |
| CDN  | 1   | FCC          | FCC 801-M2-16A-SPJ | 5024          | 09/06/2011          | 09/06/2013      |
| CDN  | 2   | FCC          | FCC 801-M3-16A-S   | 5032          | 09/06/2011          | 09/06/2013      |
| CDN  | 3   | FCC          | FCC801-150-50 CDN  | 05031 & 05032 |                     |                 |
| CDN  | 4   | FCC          | FCC 801-M1-16A     | 7035          | 09/06/2011          | 09/06/2013      |
| CDN  | 5   | FCC          | FCC 801-150-50-CDN | 07113 & 07114 |                     |                 |
| CDN  | 6   | FCC          | FCC 801-M4-16A     | 100726        | 24/01/2012          | 24/01/2014      |
| CDN  | 7   | FCC          | FCC-801-M5-16A     | 100727        | 24/01/2012          | 24/01/2014      |
| CSA  | 1   | TESEO        | EN 55022           | NSA           | 12/08/2010          | 12/08/2012      |
|      |     |              |                    | CISPR 16-1-4  | 14/04/2009          | 14/04/2014      |
|      |     |              |                    | EN 61000-4-3  | 10/08/2010          | 10/08/2012      |
| ECL  | 1   | FCC          | F-203I-23          | 466           | 09/06/2011          | 09/06/2013      |

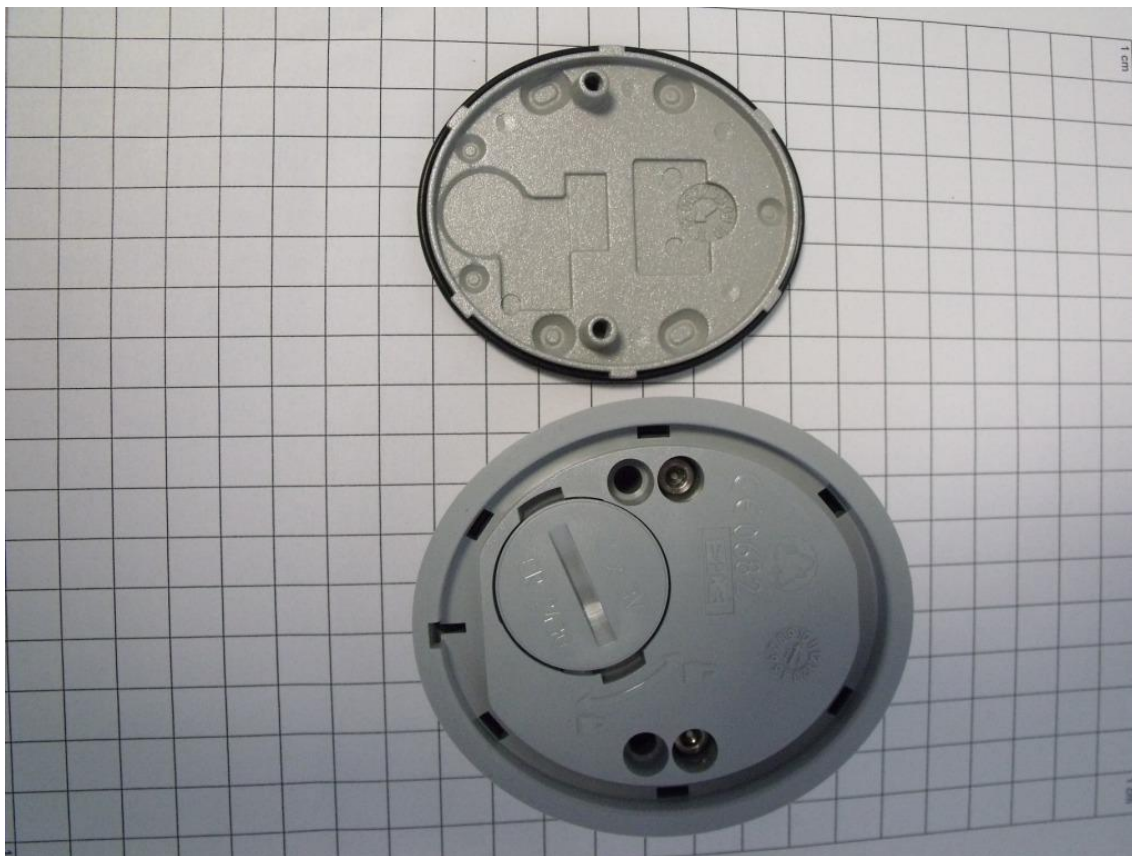
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|------|-----|-----------------|----------------|---------------|---------------------|-----------------|
| ECL  | 2   | FCC             | F-203I-CF-23MM | 445           |                     |                 |
| GEN  | 7   | Rohde & Schwarz | SML 03         | 102178        | 25/01/2012          | 25/01/2014      |
| GEN  | 8   | Agilent         | N5182A         | MY48180288    | 22/09/2011          | 22/09/2012      |
| LIS  | 2   | Rohde & Schwarz | ESH2-Z5        | 100183        | 09/06/2011          | 09/06/2013      |
| PAS  | 1   | FCC             | F-202          | 197           | 29/05/2009          | 29/05/2013      |
| POW  | 1   | Rohde & Schwarz | NRVD           | 101221        | 18/06/2012          | 18/06/2014      |
| POW  | 2   | Rohde & Schwarz | NRV-Z5         | 100314        | 20/06/2012          | 20/06/2014      |
| POW  | 3   | Rohde & Schwarz | NRV-Z5         | 100315        | 20/06/2012          | 20/06/2014      |
| PRE  | 2   | Schwarzbeck     | BBV 9718       | 9718-178      | 13/04/2012          | 13/04/2014      |
| RIC  | 1   | Rohde & Schwarz | ESCI           | 100140        | 25/01/2012          | 25/01/2013      |
| SCO  | 7   | FCC             | F-51           | 454           | 09/06/2011          | 07/06/2013      |
| SCO  | 8   | Teseo           | EQ-51-1        | D047          | 07/06/2011          | 07/06/2013      |
| SCO  | 9   | FCC             | F-33-4         | 63            | 09/06/2011          | 09/06/2013      |
| SOF  | 1   | Rohde & Schwarz | EMC32          | V5.20.2       |                     |                 |

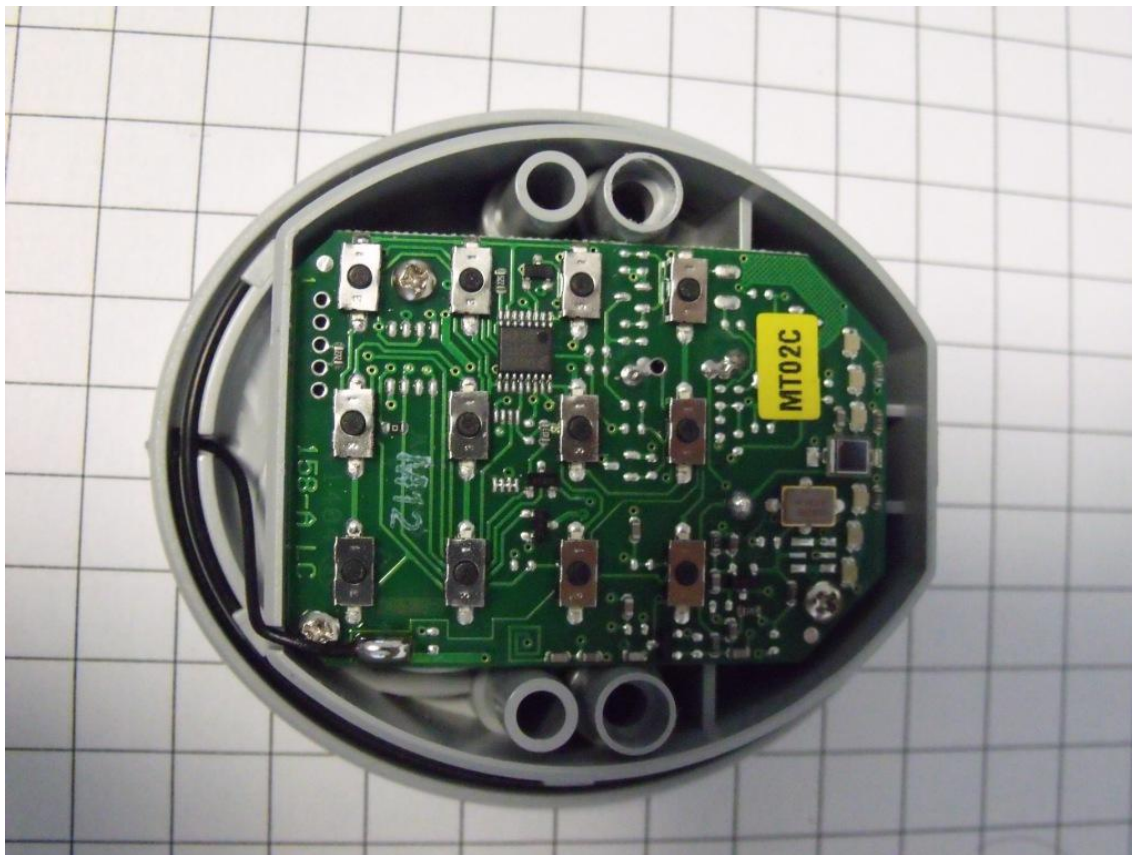
## 7

## Photographic Documentation

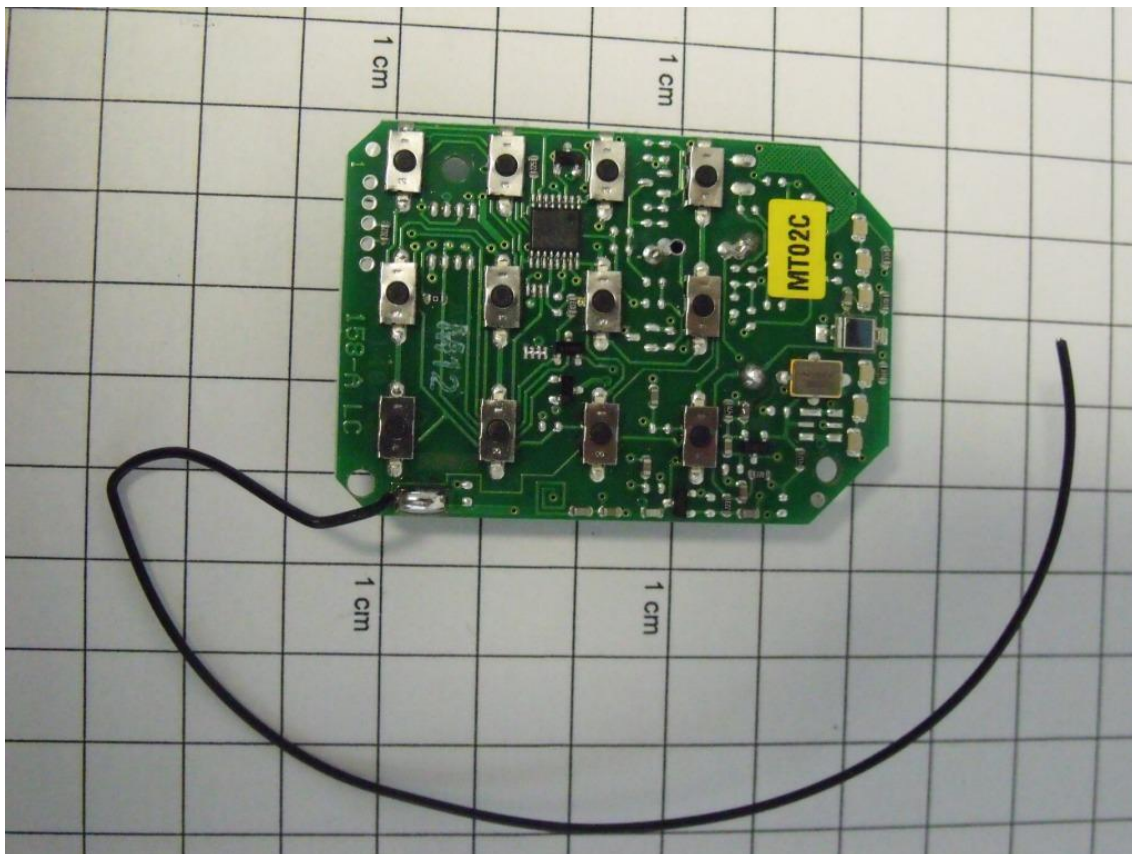
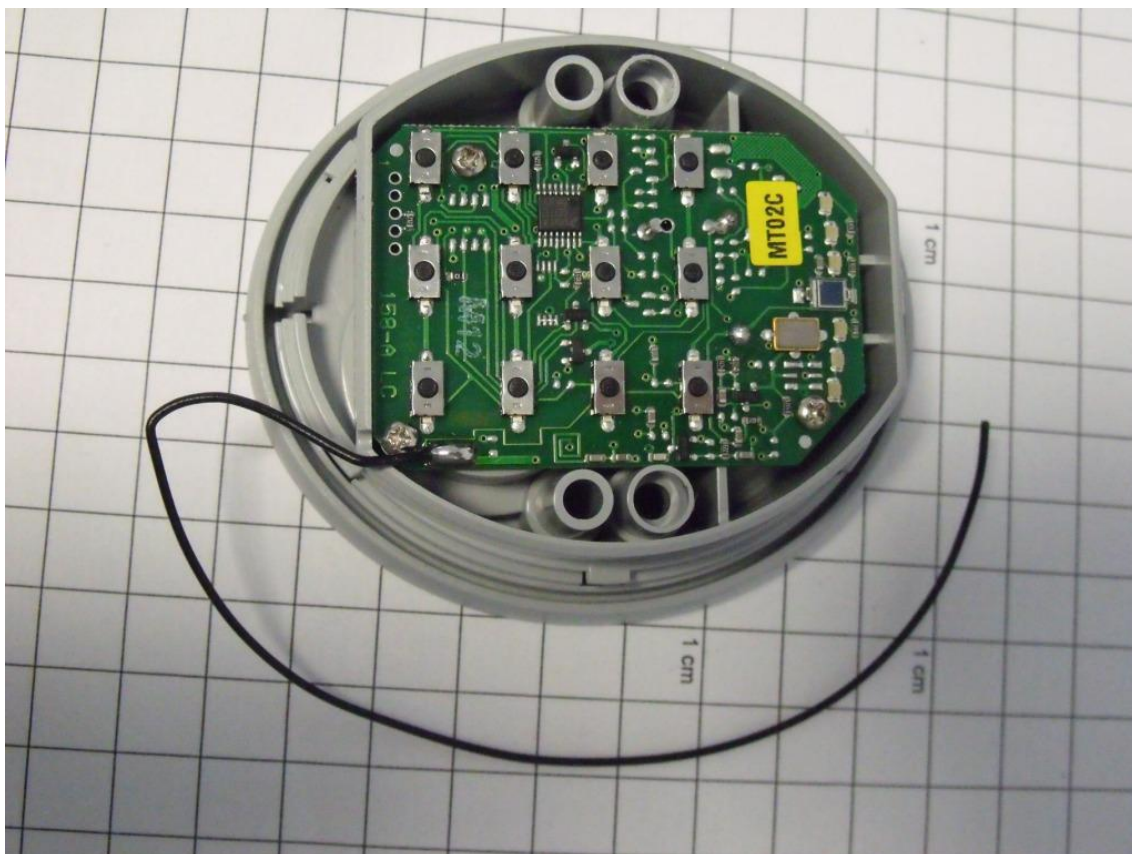
## 8.1 EUT Identification

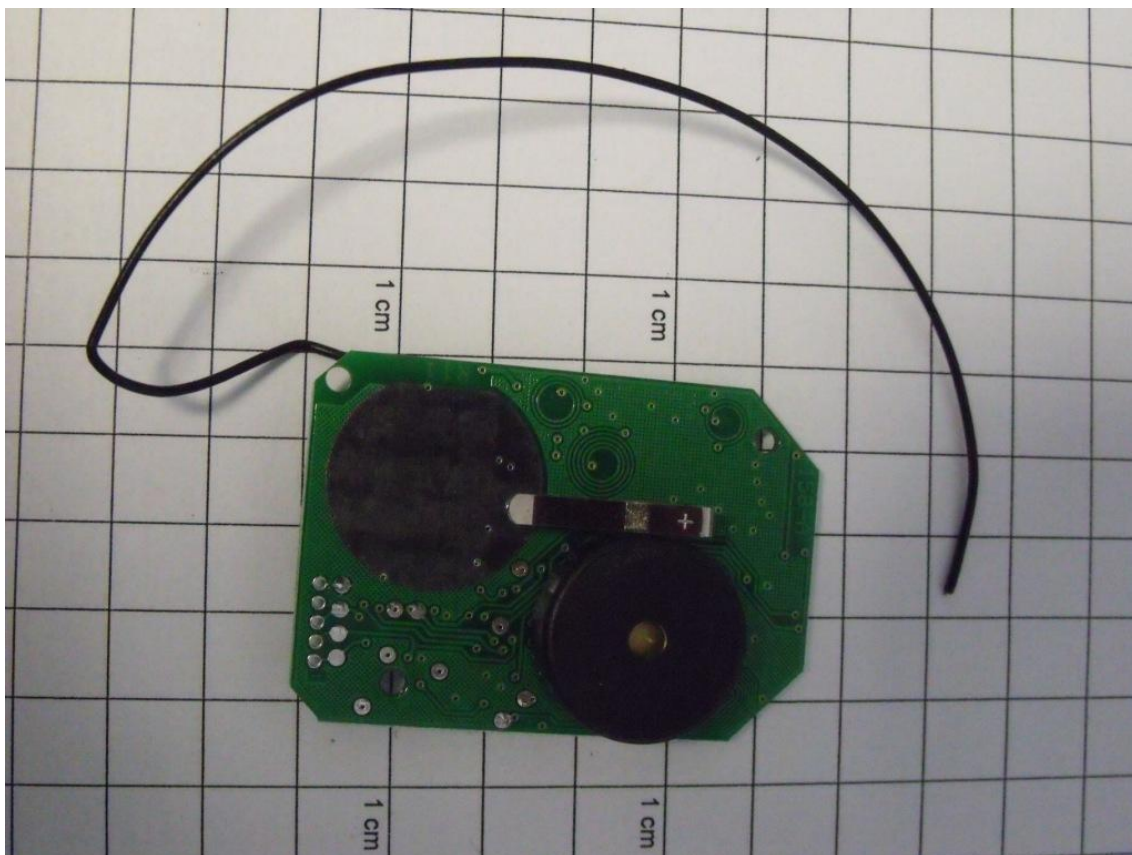




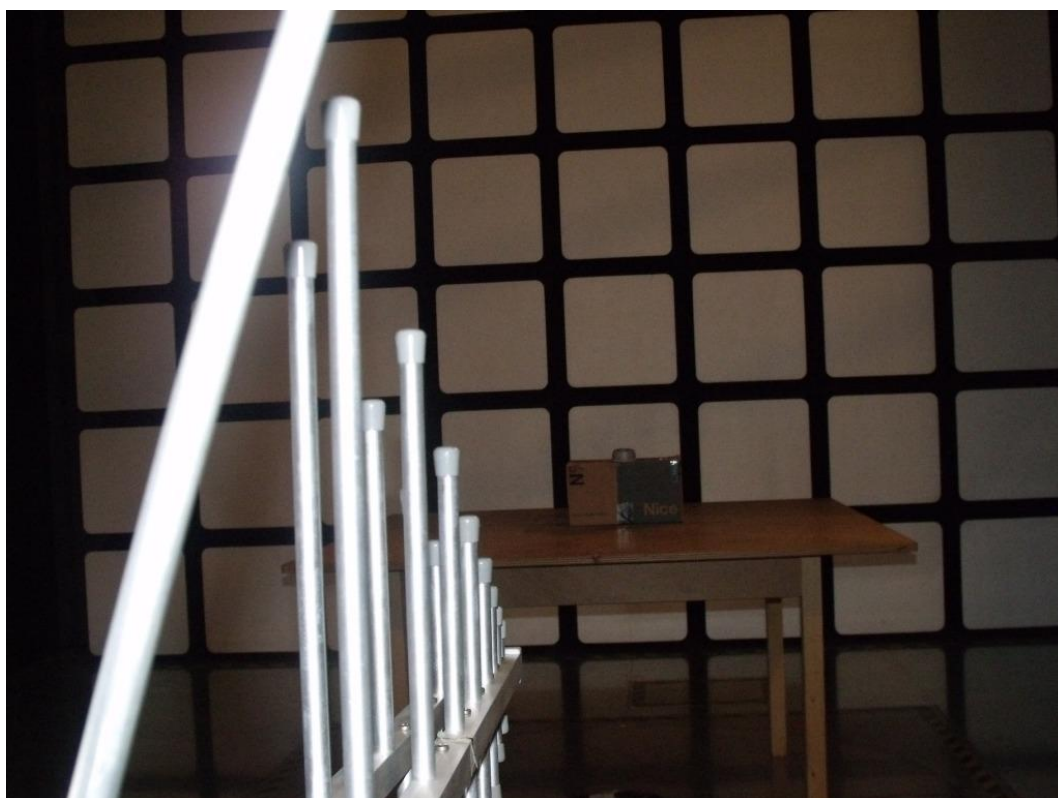


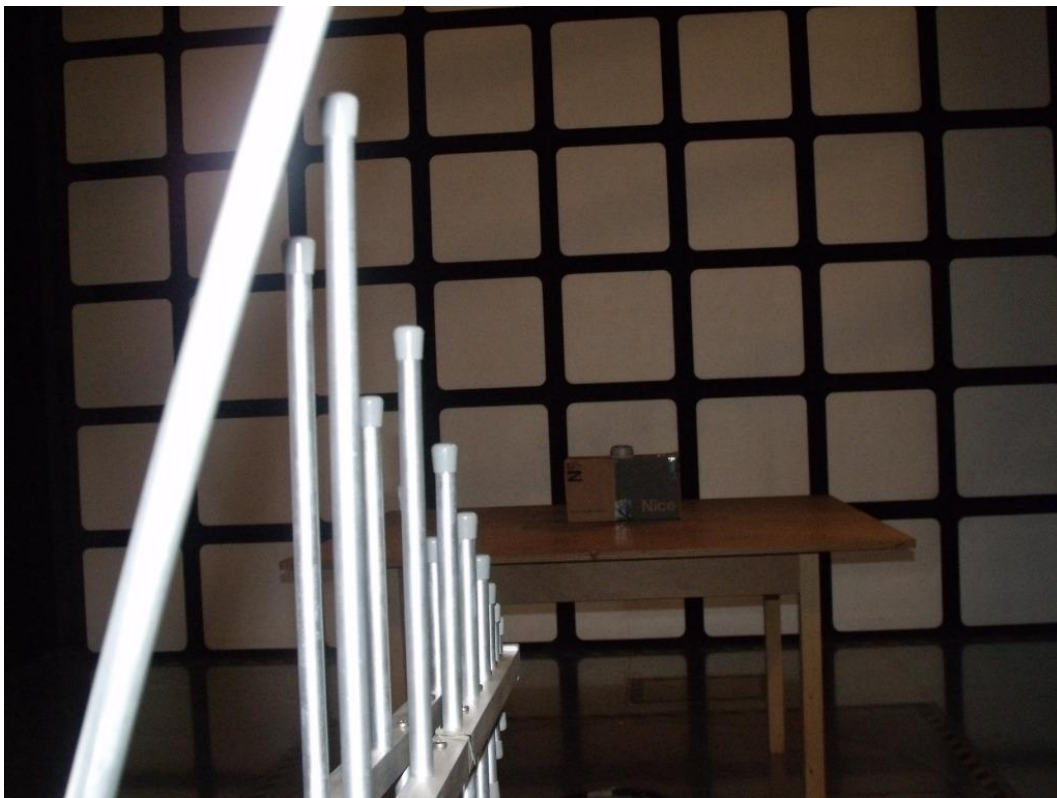
## FCC test report





## 8.2 Test Set-up





## Annex 1

## Site Validation

## FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division  
7435 Oakland Mills Road  
Columbia, MD 21046

July 29, 2010

Registration Number: 771316

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

Attention: Oscar Marchetto

Re: Measurement facility located at Via Pezza Alta, 13 - I-31046 Oderzo

Date of Listing: July 29, 2010

Dear Sir or Madam:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to 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 the file must be updated for any changes made to the facility and the registration must be renewed at least every three years. Please also note that this registration does not recognize the measurement facility to perform testing for products authorized under the Declaration of Conformity (DoC) process. In order to test products subject to DoC authorization process, a measurement facility must be accredited and recognized by the FCC.

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](http://www.fcc.gov) under E-Filing, OET Equipment Authorization Electronic Filing, Test Facilities.

Sincerely,



Katie Hawkins  
Electronics Engineer