

# FCC Radio Test Report

## FCC ID: OMOLTV-BBQ1

This report concerns (check one): ☒ Original Grant ☐ Class II Change

**Project No.** : 1901C026  
**Equipment** : La Crosse View BBQ sensor  
**Model Name** : LTV-BBQ1  
**Series Models** : LTV-BBQ1-INT, LTV-BBQ1vX, LTV-BBQ1vX-INT,  
LTV-BBQ1-XX, LTV-BBQ1-XX-INT  
**Applicant** : La Crosse Technology Ltd.  
**Address** : 2809 Losey Blvd. S. La Crosse Wisconsin 54601  
United States.

**Date of Receipt** : Jan. 07, 2019  
**Date of Test** : Jan. 07, 2019 ~ Jan. 10, 2019  
**Issued Date** : Jan. 21, 2019  
**Tested by** : BTL Inc.

**Testing Engineer** : Rose Liu  
(Rose Liu)

**Technical Manager** : David Mao  
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**Authorized Signatory** : Steven Lu  
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# B T L I N C .

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Certificate #5123.02

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**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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**BTL's** laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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### REPORT ISSUED HISTORY

| Report Version | Description                                | Issued Date   |
|----------------|--------------------------------------------|---------------|
| R00            | Original Issue                             | Jan. 17, 2019 |
| R01            | Modified the type error on page 32 and 33. | Jan. 21, 2019 |

## 1. GENERAL SUMMARY

Equipment : La Crosse View BBQ sensor  
Brand Name : LA CROSSE TECHNOLOGY  
Model Name : LTV-BBQ1  
Series Models : LTV-BBQ1-INT, LTV-BBQ1vX, LTV-BBQ1vX-INT, LTV-BBQ1-XX,  
LTV-BBQ1-XX-INT  
Applicant : La Crosse Technology Ltd.  
Manufacturer : La Crosse Technology  
Address : 2809 Losey Blvd. S. La Crosse Wisconsin 54601 United States  
Factory : La Crosse Technology  
Address : 2809 Losey Blvd. S. La Crosse Wisconsin 54601 United States  
Date of Test : Jan. 07, 2019 ~ Jan. 10, 2019  
Test Sample : Engineering Sample No: D190100097  
Standard(s) : FCC Part15, Subpart C(15.249)/ ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1901C026) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC Part15, Subpart C (15.249) |                            |          |          |
|--------------------------------|----------------------------|----------|----------|
| StandardSection                | Test Item                  | Judgment | Remark   |
| 15.207                         | Conducted Emission         | N/A      | Note (1) |
| 15.209<br>15.249               | Radiated Spurious Emission | PASS     |          |
| -                              | Bandwidth                  | PASS     |          |

NOTE:

- (1)"N/A" denotes test is not applicable in this test report.
- (2) EUT is used new battery.

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

## 2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor)  $k=1.96$  or  $k=2$ (which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2 \times U_c(y)$ .

The BTL measurement uncertainty as below table:

### A. Radiated Measurement:

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U, (dB) |
|-----------|--------|-----------------------------|------------|---------|
| DG-CB03   | CISPR  | 9 kHz~30 MHz                | V          | 3.79    |
|           |        | 9 kHz~30 MHz                | H          | 3.57    |
|           |        | 30 MHz~200 MHz              | V          | 3.82    |
|           |        | 30 MHz~200 MHz              | H          | 3.60    |
|           |        | 200 MHz~1,000 MHz           | V          | 3.86    |
|           |        | 200 MHz~1,000 MHz           | H          | 3.94    |
|           |        | 1 GHz~18 GHz                | V          | 3.12    |
|           |        | 1 GHz~18 GHz                | H          | 3.68    |
|           |        | 18 GHz~40 GHz               | V          | 4.15    |
|           |        | 18 GHz~40 GHz               | H          | 4.14    |

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

### 3.GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                     |                                                                                                                                                                                                                                               |             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Equipment           | La Crosse View BBQ sensor                                                                                                                                                                                                                     |             |
| Brand Name          | LA CROSSE TECHNOLOGY                                                                                                                                                                                                                          |             |
| Model Name          | LTV-BBQ1                                                                                                                                                                                                                                      |             |
| Series Model        | LTV-BBQ1-INT, LTV-BBQ1vX, LTV-BBQ1vX-INT, LTV-BBQ1-XX, LTV-BBQ1-XX-INT                                                                                                                                                                        |             |
| Model Difference    | X can be 0~9, the difference for different version are the product shell color, software, and packaging upgrade version number, when upgrade a version the number progressed to next number. These differences do not affect the RF function. |             |
| Product Description | Operation Frequency                                                                                                                                                                                                                           | 915 MHz     |
|                     | Modulation Technology                                                                                                                                                                                                                         | FSK         |
|                     | Data rate                                                                                                                                                                                                                                     | 9.6bps      |
|                     | Field Strength                                                                                                                                                                                                                                | 72.71dBuV/m |
| PowerSource         | 2*AAA Battery supplied                                                                                                                                                                                                                        |             |
| Power Rating        | DC 3V                                                                                                                                                                                                                                         |             |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. Channel List:

| Channe | Frequency (MHz) |
|--------|-----------------|
| 01     | 915             |

Table for Filed Antenna:

3.

| Ant. | Manufacturer | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|--------------|------------|--------------|-----------|------------|
| 1    | N/A          | N/A        | PCB          | N/A       | 0          |

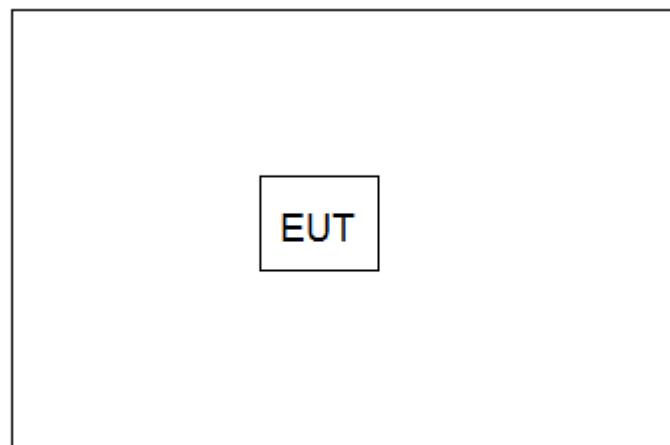
### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Pretest Mode | Description |
|--------------|-------------|
| Mode 1       | TX Mode     |

| Final Test Mode | Description |
|-----------------|-------------|
| Mode 1          | TX Mode     |

### 3.3 BLOCKDIAGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED



### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. |
|------|-----------|-----------|----------------|------------|
| -    | -         | -         | -              | -          |

| Item | Shielded Type | Ferrite Core | sLength | Note |
|------|---------------|--------------|---------|------|
| -    | -             | -            | -       | -    |

## 4. EMC EMISSION TEST

### 4.1 RADIATED EMISSION MEASUREMENT

#### 4.1.1 RADIATED EMISSION LIMITS (FCC 15.209 and 15.249)

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009~0.490       | 2400/F(KHz)                       | 300                           |
| 0.490~1.705       | 24000/F(KHz)                      | 30                            |
| 1.705~30.0        | 30                                | 30                            |
| 30~88             | 100                               | 3                             |
| 88~216            | 150                               | 3                             |
| 216~960           | 200                               | 3                             |
| 960~1000          | 500                               | 3                             |

Harmonic emissions limits comply with below 54dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

| Fundamental Frequency | Field Strength of Fundamental (micorvolts/meter) | Field Strength of Harmonics (micorvolts/meter) |
|-----------------------|--------------------------------------------------|------------------------------------------------|
| 902-928 MHz           | 50                                               | 500                                            |

#### LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.209 )

| FREQUENCY (MHz) | (dBuV/m) (at 3m) |         |
|-----------------|------------------|---------|
|                 | PEAK             | AVERAGE |
| Above 1000      | 74               | 54      |

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

| Spectrum Parameter | Setting               |
|--------------------|-----------------------|
| Attenuation        | Auto                  |
| Start Frequency    | 1000 MHz              |
| Stop Frequency     | 10th carrier harmonic |

| Receiver Parameter     | Setting                           |
|------------------------|-----------------------------------|
| Attenuation            | Auto                              |
| Start ~ Stop Frequency | 9kHz~90kHz for PK/AVG detector    |
| Start ~ Stop Frequency | 90kHz~110kHz for QP detector      |
| Start ~ Stop Frequency | 110kHz~490kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490kHz~30MHz for QP detector      |
| Start ~ Stop Frequency | 30MHz~1000MHz for QP detector     |

## DWELL TIME OF PERIODIC OPERATION MEASUREMENT

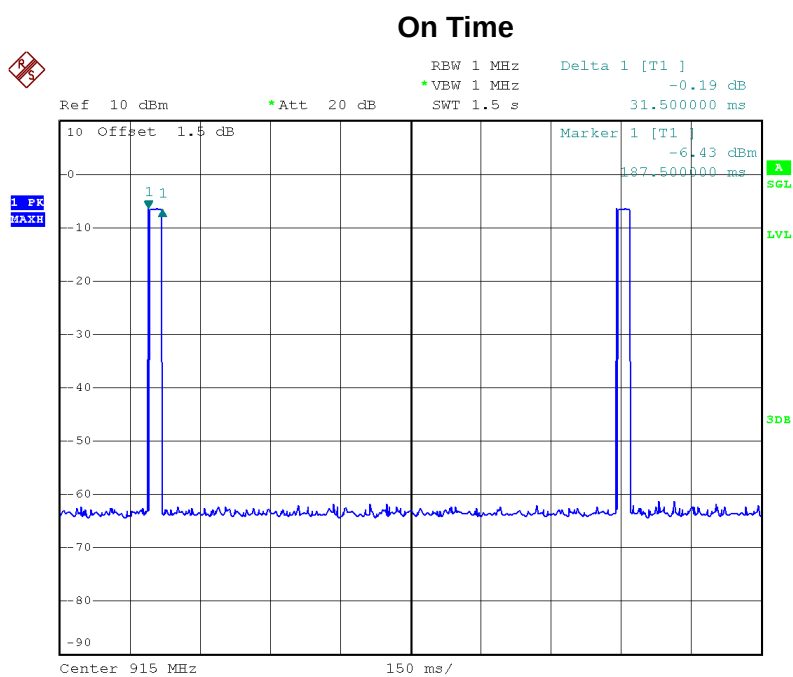
Duty Cycle = On Time/Total Time

$T_{ON}$ : 31.50 ms

$T_{Total}$ : 100 ms

Duty cycle=31.50/100= 31.5%

Average Reading = Peak value + 20log(Duty cycle) , AV=Peak-10.03



Date: 10.JAN.2019 19:38:53

#### 4.1.2 TESTPROCEDURE

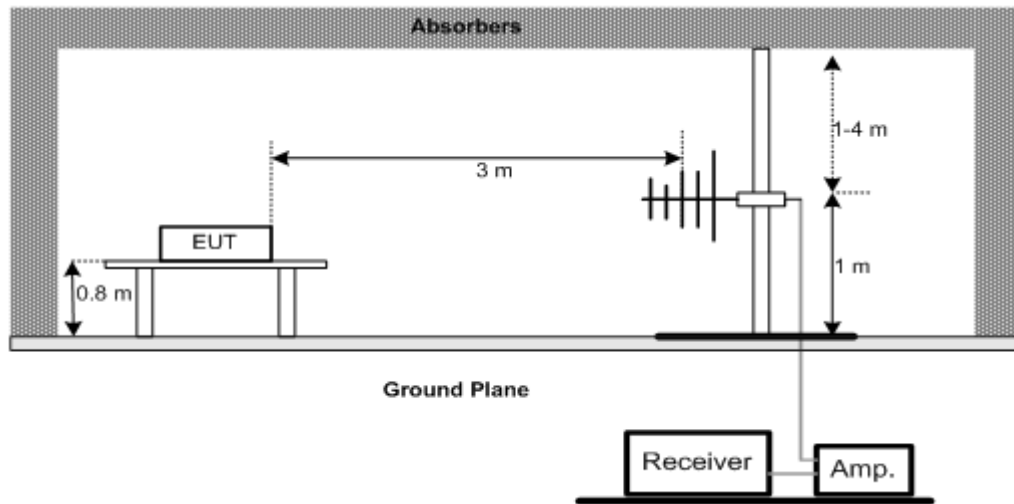
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m,the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATIONFROMTESTSTANDARD

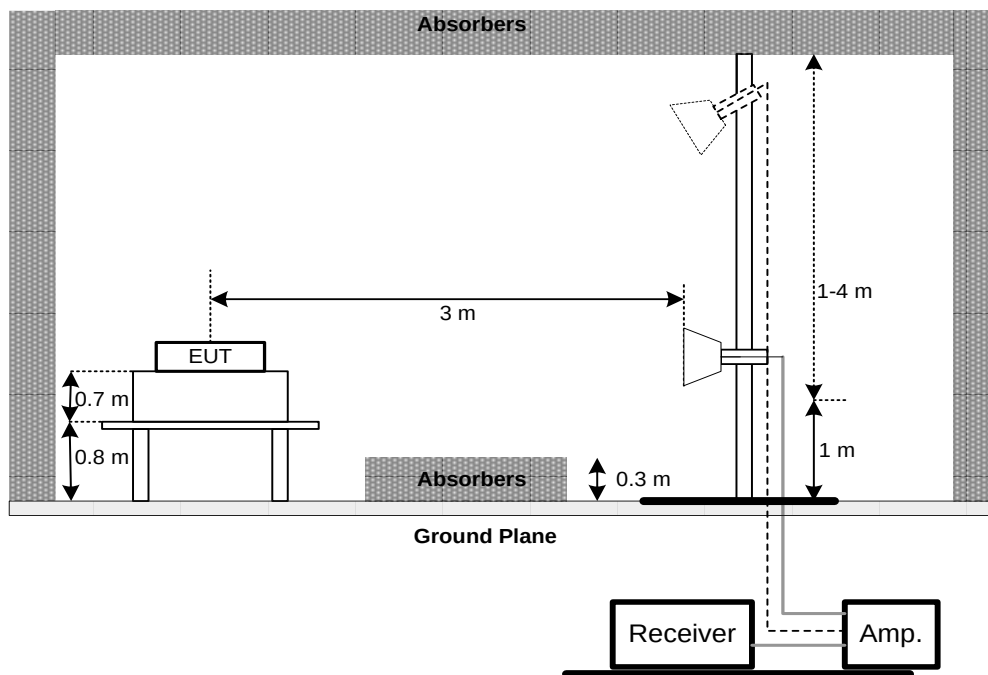
No deviation

#### 4.1.4 TESTSETUP

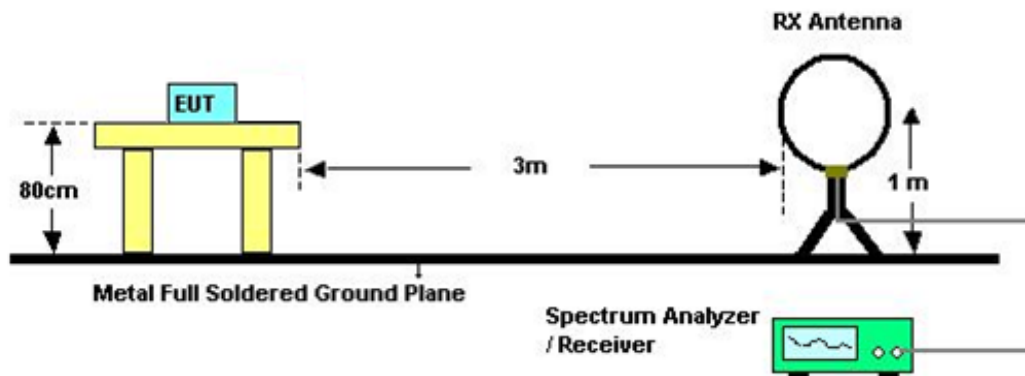
##### (A) Radiated Emission Test Set-Up Frequency Below 1 GHz



##### (B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(C) For radiated emissions below 30MHz



#### 4.1.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

#### 4.1.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 60% Test Voltage: DC 3V

#### 4.1.7 TEST RESULTS (BELOW 30MHz)

Please refer to the Appendix A.

Remark:

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);.
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor..

#### 4.1.8 TEST RESULTS (30 TO 1000 MHz)

Please refer to the Appendix B

#### 4.1.9 TEST RESULTS (ABOVE 1000 MHz)

Please refer to the Appendix C

Remark:

- (1) EUT Orthogonal Axis:  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (2) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

## 5. BANDWIDTH TEST

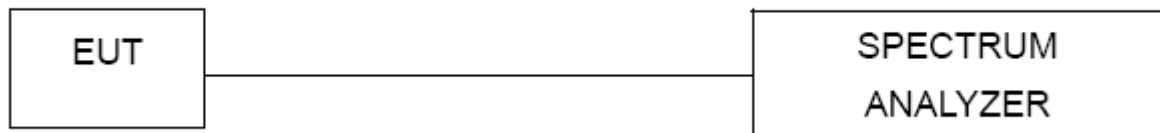
### 5.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 3kHz, VBW=3kHz, Sweep time = Auto.

### 5.2 DEVIATION FROM STANDARD

No deviation.

### 5.3 TEST SETUP



### 5.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

### 5.5 EUT TEST CONDITIONS

Temperature: 24.8°C    Relative Humidity: 63%    Test Voltage: DC 3V

### 5.6 TEST RESULTS

Please refer to the Appendix D

## 6. MEASUREMENT INSTRUMENTS LIST AND SETTING

| Radiated Emissions - 9 kHz to 30 MHz |                      |              |                              |            |                  |
|--------------------------------------|----------------------|--------------|------------------------------|------------|------------------|
| Item                                 | Kind of Equipment    | Manufacturer | Type No.                     | Serial No. | Calibrated until |
| 1                                    | Loop Antenna         | EM           | EM-6876-1                    | 230        | Feb. 07, 2019    |
| 2                                    | Cable                | emci         | EMC80-NM-NM-12000(9KHz-1GHz) | N/A        | N/A              |
| 3                                    | EMI Test Receiver    | R&S          | ESCI                         | 100382     | Mar. 11, 2019    |
| 4                                    | Measurement Software | Farad        | EZ-EMC Ver.NB-03A1-01        | N/A        | N/A              |

| Radiated Emissions - 30 MHz to 1 GHz |                      |              |                            |             |                  |
|--------------------------------------|----------------------|--------------|----------------------------|-------------|------------------|
| Item                                 | Kind of Equipment    | Manufacturer | Type No.                   | Serial No.  | Calibrated until |
| 1                                    | Antenna              | Schwarzbeck  | VULB9160                   | 9160-3232   | Mar. 11, 2019    |
| 2                                    | Amplifier            | HP           | 8447D                      | 2944A08908  | Mar. 11, 2019    |
| 3                                    | Receiver             | Agilent      | N9038A                     | MY52130039  | Aug. 11, 2019    |
| 4                                    | Cable                | emci         | LMR-400(30MHz-1GHz)(8m+5m) | N/A         | May 25, 2019     |
| 5                                    | Controller           | CT           | SC100                      | N/A         | N/A              |
| 6                                    | Controller           | MF           | MF-7802                    | MF780208416 | N/A              |
| 7                                    | Measurement Software | Farad        | EZ-EMC Ver.NB-03A1-01      | N/A         | N/A              |

| Radiated Emissions - Above 1 GHz |                                     |                |                       |               |                  |
|----------------------------------|-------------------------------------|----------------|-----------------------|---------------|------------------|
| Item                             | Kind of Equipment                   | Manufacturer   | Type No.              | Serial No.    | Calibrated until |
| 1                                | Double Ridged Guide Antenna         | ETS            | 3115                  | 75789         | Mar. 11, 2019    |
| 2                                | Broad-Band Horn Antenna             | Schwarzbeck    | BBHA 9170             | 9170319       | Jun. 30, 2019    |
| 3                                | Amplifier                           | Agilent        | 8449B                 | 3008A02274    | Mar. 11, 2019    |
| 4                                | Microwave Preamplifier With Adaptor | EMC INSTRUMENT | EMC2654045            | 980039 & HA01 | Mar. 11, 2019    |
| 5                                | Receiver                            | Agilent        | N9038A                | MY52130039    | Aug. 11, 2019    |
| 6                                | Controller                          | CT             | SC100                 | N/A           | N/A              |
| 7                                | Controller                          | MF             | MF-7802               | MF780208416   | N/A              |
| 8                                | Cable                               | mitron         | B10-01-01-12M         | 18072744      | Jul. 30, 2019    |
| 9                                | Measurement Software                | Farad          | EZ-EMC Ver.NB-03A1-01 | N/A           | N/A              |

| Bandwidth |                   |              |                                      |            |                  |
|-----------|-------------------|--------------|--------------------------------------|------------|------------------|
| Item      | Kind of Equipment | Manufacturer | Type No.                             | Serial No. | Calibrated until |
| 1         | Spectrum Analyzer | R&S          | FSP40                                | 100185     | Aug. 11, 2019    |
| 2         | Test Cable        | emci         | EMC104-SM-SM-9000(0.01GHz - 26.5GHz) | C-100      | N/A              |

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
All calibration period of equipment list is one year.

## 7. EUT TEST PHOTO

### Radiated Measurement Photos

9KHz to 30MHz



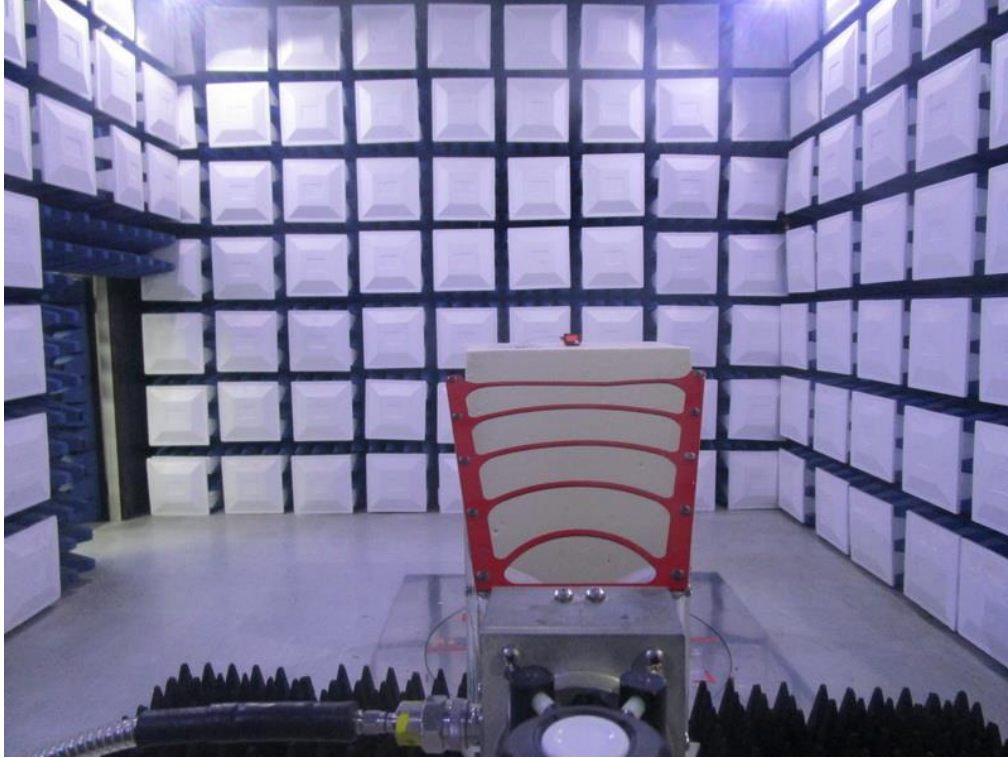
## Radiated Measurement Photos

30MHz to 1000MHz



## Radiated Measurement Photos

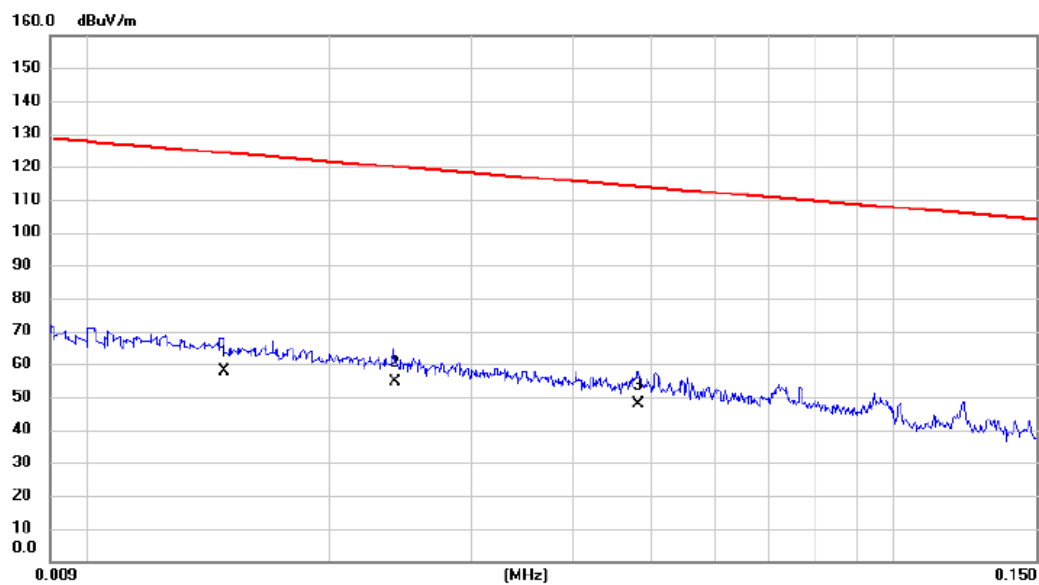
Above 1000MHz



## APPENDIX A -RADIATED EMISSION (9KHZ to 30MHZ)

|            |         |
|------------|---------|
| Test Mode: | TX Mode |
|------------|---------|

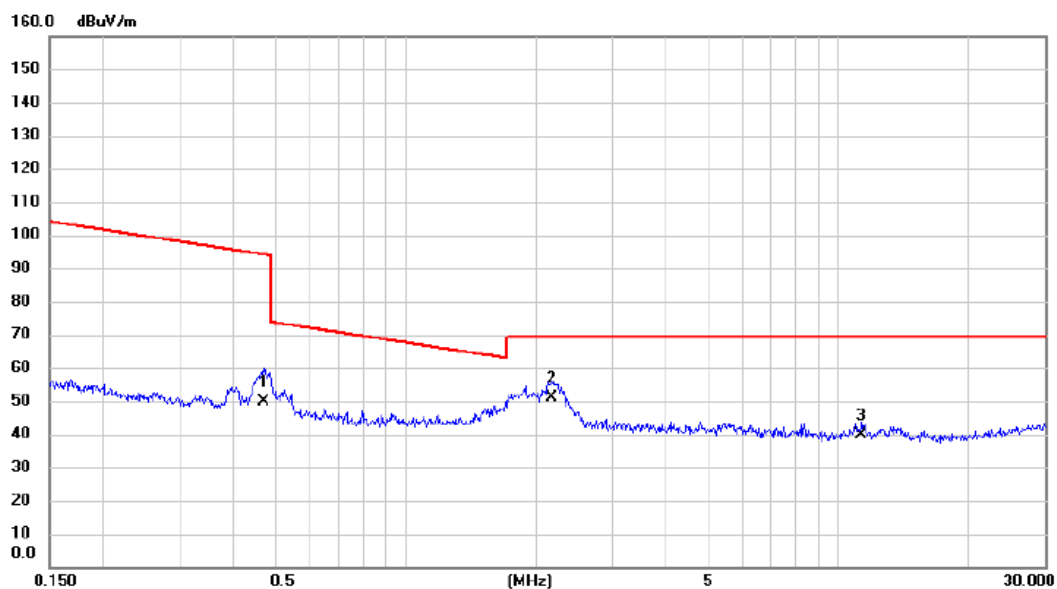
Ant 0°



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 0.0148       | 37.20                    | 20.75                   | 57.95                      | 124.20          | -66.25       | AVG      |         |
| 2   | *   | 0.0241       | 34.70                    | 19.95                   | 54.65                      | 119.96          | -65.31       | AVG      |         |
| 3   |     | 0.0483       | 28.20                    | 19.56                   | 47.76                      | 113.93          | -66.17       | AVG      |         |

Test Mode: TX Mode

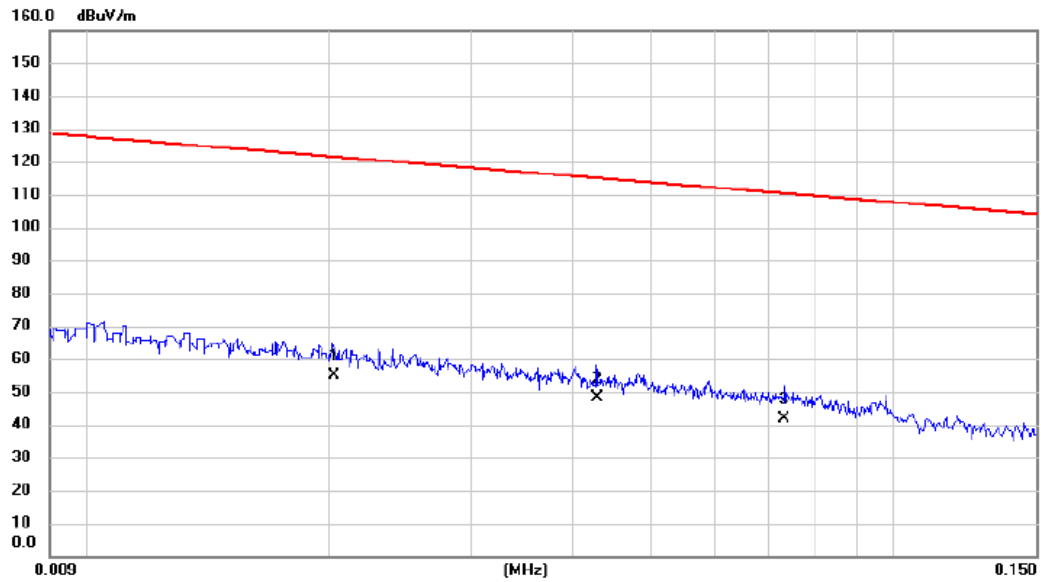
Ant 0°



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 0.4686       | 32.90                    | 16.97                   | 49.87                      | 94.19           | -44.32       | AVG      |         |
| 2   | *   | 2.1783       | 34.10                    | 17.01                   | 51.11                      | 69.54           | -18.43       | QP       |         |
| 3   |     | 11.3170      | 25.50                    | 14.45                   | 39.95                      | 69.54           | -29.59       | QP       |         |

|            |         |
|------------|---------|
| Test Mode: | TX Mode |
|------------|---------|

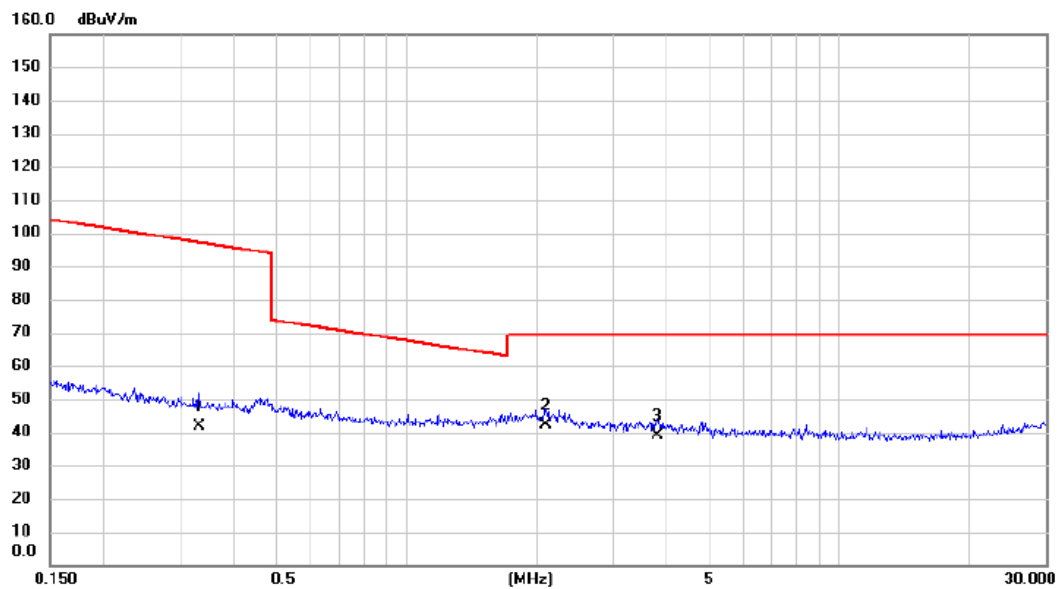
Ant 90°



| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz    | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   | *   | 0.0203 | 34.80         | 20.02          | 54.82       | 121.45 | -66.63 | AVG      |         |
| 2   |     | 0.0430 | 28.50         | 19.65          | 48.15       | 114.94 | -66.79 | AVG      |         |
| 3   |     | 0.0732 | 22.70         | 19.07          | 41.77       | 110.31 | -68.54 | AVG      |         |

Test Mode: TX Mode

Ant 90°

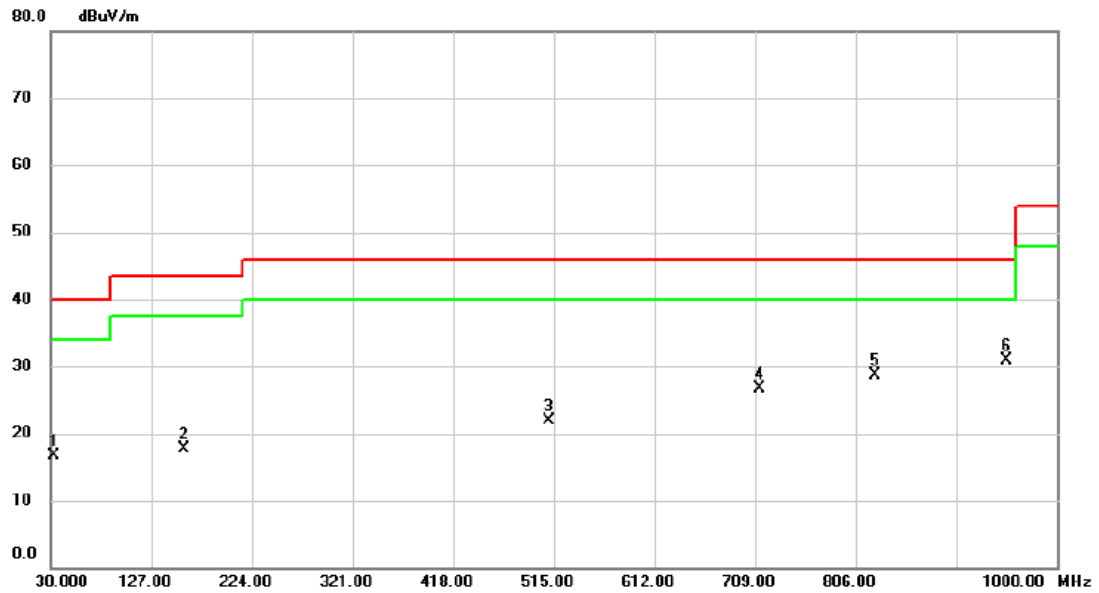


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 0.3321       | 24.90                    | 17.03                   | 41.93                      | 97.18           | -55.25       | AVG      |         |
| 2   | *   | 2.0990       | 25.10                    | 17.06                   | 42.16                      | 69.54           | -27.38       | QP       |         |
| 3   |     | 3.7994       | 23.20                    | 15.90                   | 39.10                      | 69.54           | -30.44       | QP       |         |

## APPENDIX B -RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode: TX Mode

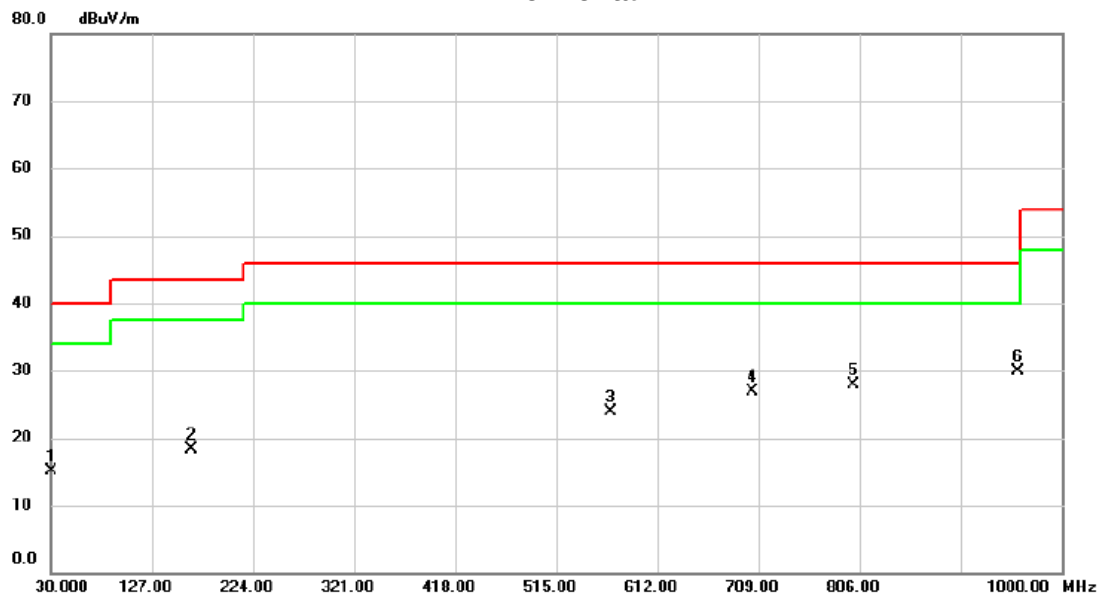
### Vertical



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 32.910       | 31.57                    | -14.94                  | 16.63                      | 40.00           | -23.37       | peak     |         |
| 2   |     | 158.525      | 28.48                    | -10.73                  | 17.75                      | 43.50           | -25.75       | peak     |         |
| 3   |     | 510.150      | 29.89                    | -7.91                   | 21.98                      | 46.00           | -24.02       | peak     |         |
| 4   |     | 712.880      | 29.77                    | -3.08                   | 26.69                      | 46.00           | -19.31       | peak     |         |
| 5   |     | 824.915      | 30.08                    | -1.43                   | 28.65                      | 46.00           | -17.35       | peak     |         |
| 6   | *   | 951.985      | 29.47                    | 1.36                    | 30.83                      | 46.00           | -15.17       | peak     |         |

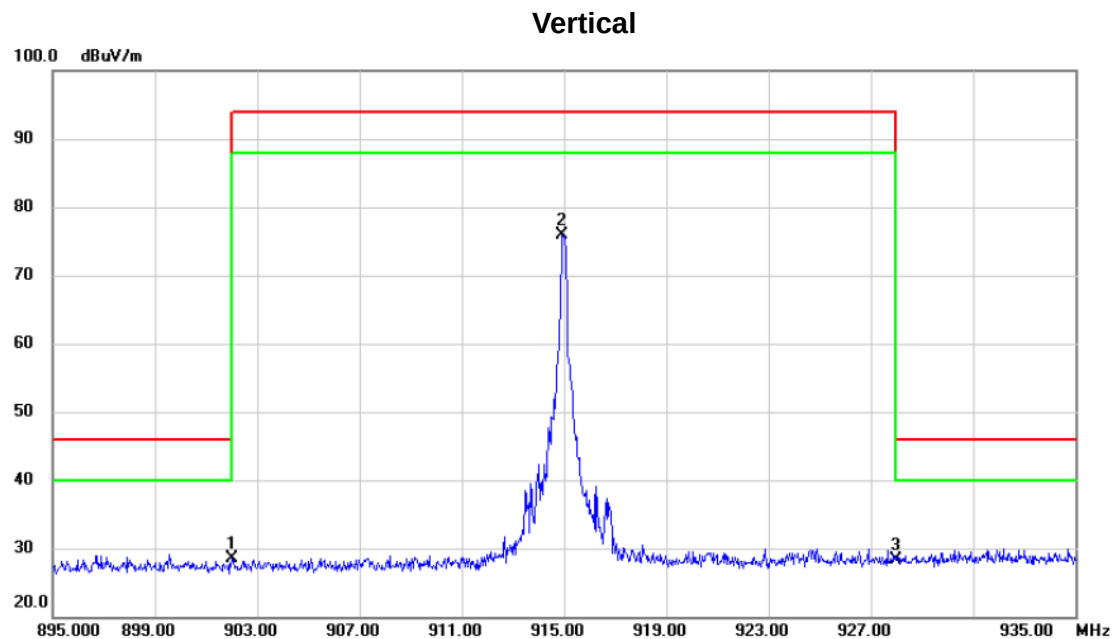
Test Mode: TX Mode

### Horizontal



| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|---------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 30.000  | 30.13         | -14.97         | 15.16       | 40.00  | -24.84 | peak     |         |
| 2   |     | 164.830 | 29.16         | -10.90         | 18.26       | 43.50  | -25.24 | peak     |         |
| 3   |     | 567.865 | 29.69         | -5.76          | 23.93       | 46.00  | -22.07 | peak     |         |
| 4   |     | 703.665 | 29.72         | -2.84          | 26.88       | 46.00  | -19.12 | peak     |         |
| 5   |     | 800.180 | 29.00         | -1.04          | 27.96       | 46.00  | -18.04 | peak     |         |
| 6   | *   | 957.805 | 28.64         | 1.22           | 29.86       | 46.00  | -16.14 | peak     |         |

Test Mode TX Mode\_915 MHz



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   | *   | 902.000      | 29.03                    | -0.52                   | 28.51                      | 46.00           | -17.49       | peak     |         |
| 2   |     | 914.940      | 75.82                    | 0.01                    | 75.83                      | 94.00           | -18.17       | peak     |         |
| 3   |     | 928.000      | 27.79                    | 0.52                    | 28.31                      | 46.00           | -17.69       | peak     |         |

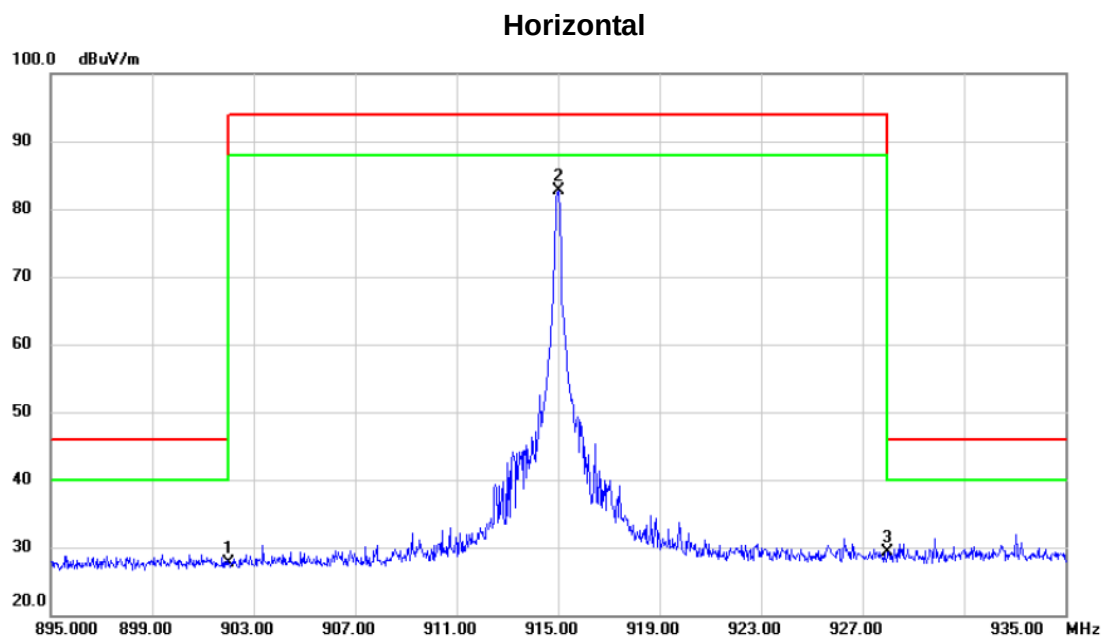
Remark:

(1) The QP value of fundamental frequency is:

QP Reading = Peak value + 20log(Duty cycle) , QP=Peak-10.03

| Frequency<br>(MHz) | Peak value<br>(dBuV/m) | QP value<br>(dBuV/m) | QP Limit<br>(dBuV/m) | Result |
|--------------------|------------------------|----------------------|----------------------|--------|
| 915                | 75.83                  | 65.80                | 94                   | PASS   |

Test Mode TX Mode\_915 MHz



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 902.000      | 28.28                    | -0.52                   | 27.76                      | 46.00           | -18.24       | peak     |         |
| 2   | *   | 915.020      | 82.73                    | 0.01                    | 82.74                      | 94.00           | -11.26       | peak     |         |
| 3   |     | 928.000      | 28.69                    | 0.52                    | 29.21                      | 46.00           | -16.79       | peak     |         |

Remark:

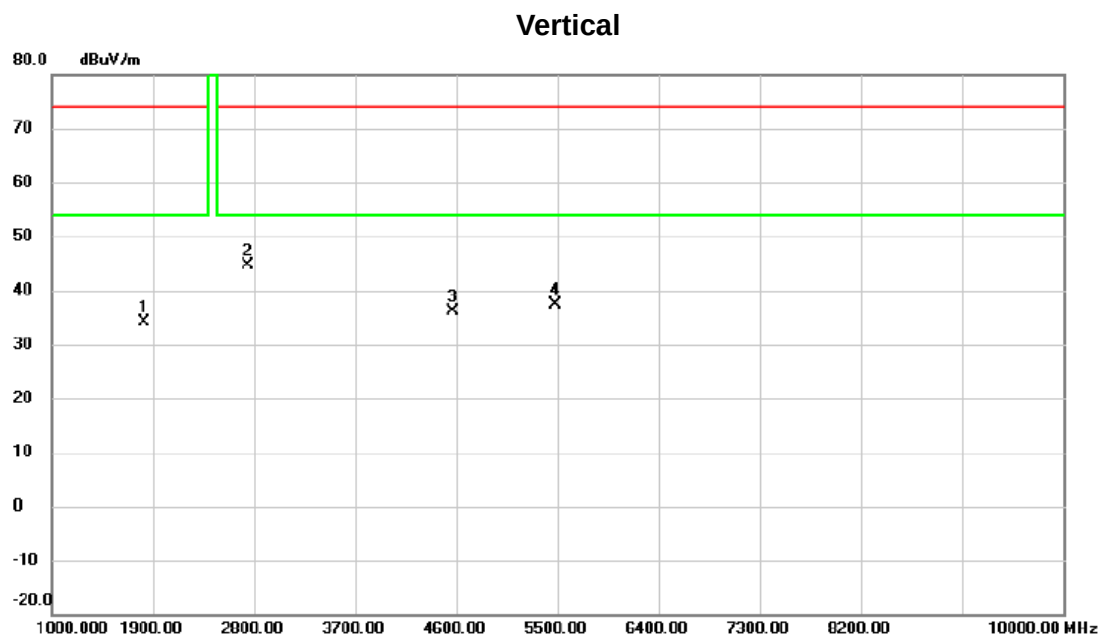
(1) The QP value of fundamental frequency is:

QP Reading = Peak value + 20log(Duty cycle) , QP=Peak-10.03

| Frequency<br>(MHz) | Peak value<br>(dBuV/m) | QP value<br>(dBuV/m) | QP Limit<br>(dBuV/m) | Result |
|--------------------|------------------------|----------------------|----------------------|--------|
| 915                | 82.74                  | 72.71                | 94                   | PASS   |

## APPENDIX C -RADIATED EMISSION (ABOVE 1000MHZ)

|                   |         |
|-------------------|---------|
| Orthogonal Axis : | X       |
| Test Mode :       | TX Mode |



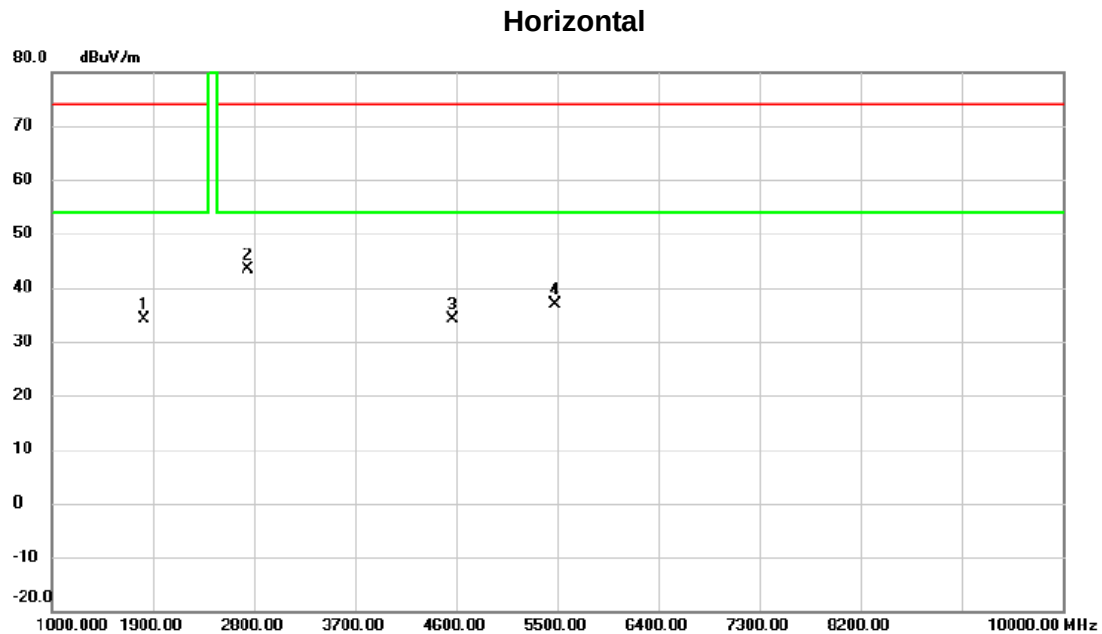
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 1823.500     | 37.92                    | -3.69                   | 34.23                      | 74.00           | -39.77       | peak     |         |
| 2   | *   | 2741.500     | 45.93                    | -1.23                   | 44.70                      | 74.00           | -29.30       | peak     |         |
| 3   |     | 4568.500     | 32.47                    | 3.69                    | 36.16                      | 74.00           | -37.84       | peak     |         |
| 4   |     | 5486.500     | 31.73                    | 5.61                    | 37.34                      | 74.00           | -36.66       | peak     |         |

Remark:

- (1) The average value of fundamental frequency is:  
Average Reading = Peak value + 20log(Duty cycle) , AV =Peak-10.03

| Frequency<br>(MHz) | Peak value<br>(dBuV/m) | AV value<br>(dBuV/m) | AV Limit<br>(dBuV/m) | Result |
|--------------------|------------------------|----------------------|----------------------|--------|
| 2741.5             | 44.70                  | 34.67                | 94                   | PASS   |

|                   |                |
|-------------------|----------------|
| Orthogonal Axis : | X              |
| Test Mode :       | TX Low Channel |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1   |     | 1823.500     | 37.77                    | -3.69                   | 34.08                      | 74.00           | -39.92       | peak     |         |
| 2   | *   | 2741.500     | 44.54                    | -1.23                   | 43.31                      | 74.00           | -30.69       | peak     |         |
| 3   |     | 4568.500     | 30.54                    | 3.69                    | 34.23                      | 74.00           | -39.77       | peak     |         |
| 4   |     | 5486.500     | 31.22                    | 5.61                    | 36.83                      | 74.00           | -37.17       | peak     |         |

Remark:

(1) The average value of fundamental frequency is:

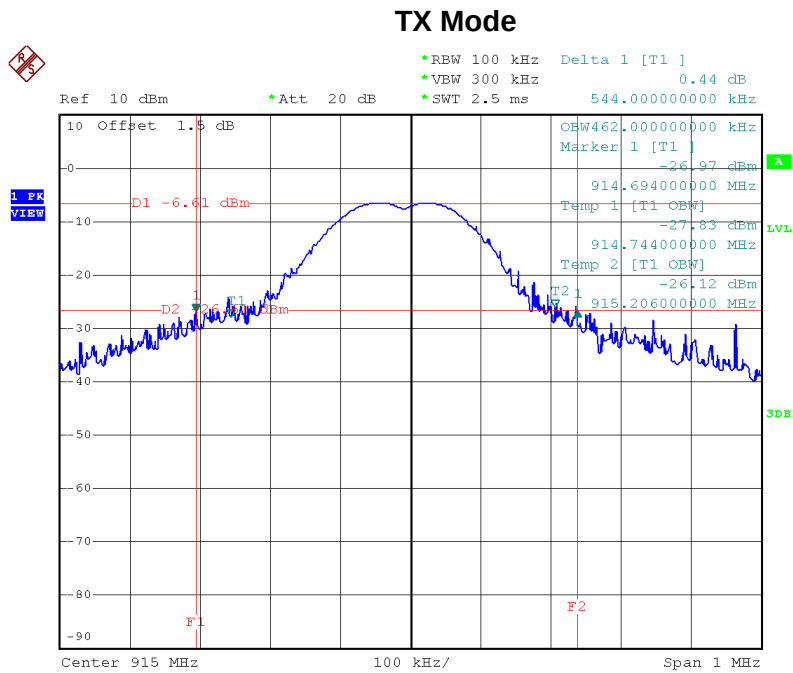
Average Reading = Peak value + 20log(Duty cycle) , AV =Peak-10.03

| Frequency<br>(MHz) | Peak value<br>(dBuV/m) | AV value<br>(dBuV/m) | AV Limit<br>(dBuV/m) | Result |
|--------------------|------------------------|----------------------|----------------------|--------|
| 2741.5             | 43.31                  | 33.28                | 94                   | PASS   |

## APPENDIX D - BANDWIDTH

|             |         |
|-------------|---------|
| Test Mode : | TX Mode |
|-------------|---------|

| Frequency (MHz) | 20dB Bandwidth (MHz) | 99% Occupied BW (MHz) |
|-----------------|----------------------|-----------------------|
| 915             | 0.544                | 0.462                 |



Date: 10.JAN.2019 19:58:49

End of Test Report