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### TEST REPORT

Application No.: SZEM1811009930CR

Applicant: Shenzhen Delux Industry Co., Ltd.

Address of Applicant: Delux Industrial Park, Lanzhu Street New Pingshan Districtc, Shenzhen

City, China 518118

Manufacturer: Wuhu Delux Mobile Internet Device Company Limited

Address of Manufacturer: Delux Industrial Park, Xici 3 Road, Xinwu Development Zone, Wanzhi Town,

Wuhu County, Anhui Province, China

Factory: Wuhu Delux Mobile Internet Device Company Limited

Address of Factory: Delux Industrial Park, Xici 3 Road, Xinwu Development Zone, Wanzhi Town,

Wuhu County, Anhui Province, China

**Equipment Under Test (EUT):** 

**EUT Name:** Wireless Mouse

Model No.: M618X
Trade mark: DELUX

**FCC ID:** SGPM6181901

Standard(s): 47 CFR Part 15, Subpart C 15.249

**Date of Receipt:** 2018-11-20

**Date of Test:** 2018-12-04 to 2018-12-06

**Date of Issue:** 2018-12-13

Test Result: Pass\*



EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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|         | Revision Record |            |          |          |  |  |  |  |
|---------|-----------------|------------|----------|----------|--|--|--|--|
| Version | Chapter         | Date       | Modifier | Remark   |  |  |  |  |
| 01      |                 | 2018-12-13 |          | Original |  |  |  |  |
|         |                 |            |          |          |  |  |  |  |
|         |                 |            |          |          |  |  |  |  |

| Authorized for issue by: |                          |   |
|--------------------------|--------------------------|---|
|                          | Co. Ci                   |   |
|                          | Leo Li /Project Engineer |   |
|                          | EvicFu                   |   |
|                          | Eric Fu /Reviewer        | - |



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### 2 Test Summary

| Radio Spectrum Technical Requirement |                                     |        |                                     |        |  |  |  |
|--------------------------------------|-------------------------------------|--------|-------------------------------------|--------|--|--|--|
| Item                                 | Standard                            | Method | Requirement                         | Result |  |  |  |
| Antenna Requirement                  | 47 CFR Part 15,<br>Subpart C 15.249 | N/A    | 47 CFR Part 15, Subpart<br>C 15.203 | Pass   |  |  |  |

| Radio Spectrum Matter Part                                 |                                     |   |   |        |  |  |
|--|-------------------------------------|---|---|--------|--|--|
| Item   | Standard                            | Method                                    | Requirement   | Result |  |  |
| Conducted Emissions<br>at AC Power Line<br>(150kHz-30MHz)  | 47 CFR Part 15,<br>Subpart C 15.249 | ANSI C63.10 (2013)<br>Section 6.2         | 47 CFR Part 15, Subpart<br>C 15.207                         | Pass   |  |  |
| 20dB Bandwidth   | 47 CFR Part 15,<br>Subpart C 15.249 | ANSI C63.10 (2013)<br>Section 6.9         | 47 CFR Part 15, Subpart<br>C 15.215                         | Pass   |  |  |
| Field Strength of the<br>Fundamental Signal<br>(15.249(a)) | 47 CFR Part 15,<br>Subpart C 15.249 | ANSI C63.10 (2013)<br>Section 6.5&6.6     | 47 CFR Part 15, Subpart<br>C 15.249(a)                      | Pass   |  |  |
| Restricted Band<br>Around Fundamental<br>Frequency         | 47 CFR Part 15,<br>Subpart C 15.249 | ANSI C63.10 (2013)<br>Section 6.4&6.5&6.6 | 47 CFR Part 15, Subpart<br>C 15.205 & 15.249(d) &<br>15.209 | Pass   |  |  |
| Radiated Emissions   | 47 CFR Part 15,<br>Subpart C 15.249 | ANSI C63.10 (2013)<br>Section 6.4&6.5&6.6 | 47 CFR Part 15, Subpart<br>C 15.209 & 15.249 (a),(d)        | Pass   |  |  |



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### 4 General Information

### 4.1 Details of E.U.T.

| Power supply:        | DC 5V   |
|----------------------|---|
|                      | Lithium Ion Battery: 3.7V 800mAh rechargeable battery which charged by USB port |
| Cable:               | Type C cable: 140cm shielded  |
| Operation Frequency: | 2402-2480MHz  |
| Type of Modulation:  | GFSK  |
| Channel Number:      | 16  |
| Antenna Type:        | PCB Antenna   |
| Antenna Gain:        | 0dBi  |

#### **Channel lists:**

| Ch No. | Frequency | Ch No. | Frequency | Ch No. | Frequency |
|--------|-----------|--------|-----------|--------|-----------|
| 1      | 2402MHz   | 7      | 2436MHz   | 13     | 2459MHz   |
| 2      | 2406MHz   | 8      | 2437MHz   | 14     | 2462MHz   |
| 3      | 2410MHz   | 9      | 2441MHz   | 15     | 2477MHz   |
| 4      | 2417MHz   | 10     | 2447MHz   | 16     | 2480MHz   |
| 5      | 2419MHz   | 11     | 2452MHz   |        |           |
| 6      | 2428MHz   | 12     | 2455MHz   |        |           |

Using test software was control EUT work in continuous transmitter and receiver mode.and select test channel as below:

| Channel                    | Frequency |
|----------------------------|-----------|
| The lowest channel (CH1)   | 2402MHz   |
| The middle channel (CH9)   | 2441MHz   |
| The highest channel (CH16) | 2480MHz   |



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### 4.2 Description of Support Units

| Description | Manufacturer | Model No. | Serial No.       |
|-------------|--------------|-----------|------------------|
| PC          | Lenovo       | 6234      | REF. No.:SEA1902 |

### 4.3 Measurement Uncertainty

| No. | Item                            | Measurement Uncertainty   |
|-----|---------------------------------|---------------------------|
| 1   | Radio Frequency                 | ± 7.25 x 10 <sup>-8</sup> |
| 2   | Duty cycle                      | ± 0.37%                   |
| 3   | Occupied Bandwidth              | ± 3%                      |
| 4   | RF conducted power              | ± 0.75dB                  |
| 5   | RF power density                | ± 2.84dB                  |
| 6   | Conducted Spurious emissions    | ± 0.75dB                  |
| 7   | DE Dadiated never               | ± 4.5dB (below 1GHz)      |
| /   | RF Radiated power               | ± 4.8dB (above 1GHz)      |
| 0   | Dadiated Couries and anies test | ± 4.5dB (Below 1GHz)      |
| 8   | Radiated Spurious emission test | ± 4.8dB (Above 1GHz)      |
| 9   | Temperature test                | ± 1 ℃                     |
| 10  | Humidity test                   | ± 3%                      |
| 11  | Supply voltages                 | ± 1.5%                    |
| 12  | Time                            | ± 3%                      |



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#### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC

Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### • FCC -Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

### 4.6 Deviation from Standards

None

### 4.7 Abnormalities from Standard Conditions

None



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### 5 Equipment List

| Conducted Emissions at AC Power Line (150kHz-30MHz) |                  |               |              |            |              |  |
|---|------------------|---------------|--------------|------------|--------------|--|
| Equipment   | Manufacturer     | Model No      | Inventory No | Cal Date   | Cal Due Date |  |
| Shielding Room                                      | ZhongYu Electron | GB-88         | SEM001-06    | 2017-05-10 | 2020-05-09   |  |
| Measurement Software                                | AUDIX            | e3 V5.4.1221d | N/A          | N/A        | N/A          |  |
| Coaxial Cable                                       | SGS              | N/A           | SEM024-01    | 2018-07-12 | 2019-07-11   |  |
| LISN  | Rohde & Schwarz  | ENV216        | SEM007-01    | 2018-09-25 | 2019-09-24   |  |
| LISN  | ETS-LINDGREN     | 3816/2        | SEM007-02    | 2018-04-02 | 2019-04-01   |  |
| EMI Test Receiver                                   | Rohde & Schwarz  | ESCI          | SEM004-02    | 2018-04-02 | 2019-04-01   |  |

| 20dB Bandwidth       |                      |                         |              |            |              |  |  |
|----------------------|----------------------|-------------------------|--------------|------------|--------------|--|--|
| Equipment            | Manufacturer         | Model No                | Inventory No | Cal Date   | Cal Due Date |  |  |
| DC Power Supply      | ZhaoXin              | RXN-305D                | SEM011-02    | 2018-09-25 | 2019-09-24   |  |  |
| Spectrum Analyzer    | Rohde & Schwarz      | FSP                     | SEM004-06    | 2018-09-27 | 2019-09-26   |  |  |
| Measurement Software | JS Tonscend          | JS1120-2<br>BT/WIFI V2. | N/A          | N/A        | N/A          |  |  |
| Coaxial Cable        | SGS                  | N/A                     | SEM031-02    | 2018-07-12 | 2019-07-11   |  |  |
| Attenuator           | Weinschel Associates | WA41                    | SEM021-09    | N/A        | N/A          |  |  |
| Signal Generator     | KEYSIGHT             | N5173B                  | SEM006-05    | 2018-09-27 | 2019-09-26   |  |  |
| Power Meter          | Rohde & Schwarz      | NRVS                    | SEM014-02    | 2018-09-25 | 2019-09-24   |  |  |

| Field Strength of the Fundamental Signal (15.249(a)) |  |                         |           |            |              |  |
|--|--|-------------------------|-----------|------------|--------------|--|
| Equipment  | Manufacturer                             | r Model No Inventory No |           | Cal Date   | Cal Due Date |  |
| 3m Semi-Anechoic<br>Chamber                          | AUDIX                                    | N/A                     | SEM001-02 | 2018-03-13 | 2021-03-12   |  |
| Measurement Software                                 | AUDIX                                    | e3 V8.2014-6-<br>27     | N/A       | N/A        | N/A          |  |
| Coaxial Cable  | SGS                                      | N/A                     | SEM026-01 | 2018-07-12 | 2019-07-11   |  |
| Spectrum Analyzer                                    | Rohde & Schwarz                          | FSU43                   | SEM004-08 | 2018-04-02 | 2019-04-01   |  |
| BiConiLog Antenna<br>(26-3000MHz)                    | ETS-Lindgren                             | 3142C                   | SEM003-01 | 2017-06-27 | 2020-06-26   |  |
| Horn Antenna<br>(1-18GHz)                            | Rohde & Schwarz                          | HF907                   | SEM003-07 | 2018-04-13 | 2021-04-12   |  |
| Horn Antenna<br>(15GHz-40GHz)                        | Schwarzbeck                              | BBHA 9170               | SEM003-15 | 2017-10-17 | 2020-10-16   |  |
| Pre-amplifier<br>(0.1-1300MHz)                       | HP                                       | 8447D                   | SEM005-02 | 2018-09-25 | 2019-09-24   |  |
| Pre-Amplifier<br>(0.1-26.5GHz)                       | Compliance<br>Directions Systems<br>Inc. | PAP-0126                | SEM004-11 | 2018-09-27 | 2019-09-26   |  |
| Pre-amplifier<br>(18-26GHz)                          | Rohde & Schwarz                          | CH14-H052               | SEM005-17 | 2018-04-02 | 2019-04-01   |  |
| Pre-amplifier Compliance Directions Systems Inc.     |  | PAP-2640-50             | SEM005-08 | 2018-04-02 | 2019-04-01   |  |

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| DC Power Supply     | Zhao Xin     | RXN-305D | SEM011-02 | 2018-09-25 | 2019-09-24 |
|---------------------|--------------|----------|-----------|------------|------------|
| Active Loop Antenna | ETS-Lindgren | 6502     | SEM003-08 | 2017-08-22 | 2020-08-21 |
| Band filter         | N/A          | N/A      | SEM023-01 | N/A        | N/A        |

| Equipment                         | Manufacturer                             | Model No            | Inventory No | Cal Date   | Cal Due Date |
|-----------------------------------|--|---------------------|--------------|------------|--------------|
| 3m Semi-Anechoic<br>Chamber       | AUDIX                                    | N/A                 | SEM001-02    | 2018-03-13 | 2021-03-12   |
| Measurement Software              | AUDIX                                    | e3 V8.2014-6-<br>27 | N/A          | N/A        | N/A          |
| Coaxial Cable                     | SGS                                      | N/A                 | SEM026-01    | 2018-07-12 | 2019-07-11   |
| Spectrum Analyzer                 | Rohde & Schwarz                          | FSU43               | SEM004-08    | 2018-04-02 | 2019-04-01   |
| BiConiLog Antenna<br>(26-3000MHz) | ETS-Lindgren                             | 3142C               | SEM003-01    | 2017-06-27 | 2020-06-26   |
| Horn Antenna<br>(1-18GHz)         | Rohde & Schwarz                          | HF907               | SEM003-07    | 2018-04-13 | 2021-04-12   |
| Horn Antenna<br>(15GHz-40GHz)     | Schwarzbeck                              | BBHA 9170           | SEM003-15    | 2017-10-17 | 2020-10-16   |
| Pre-amplifier<br>(0.1-1300MHz)    | HP                                       | 8447D               | SEM005-02    | 2018-09-25 | 2019-09-24   |
| Pre-Amplifier<br>(0.1-26.5GHz)    | Compliance<br>Directions Systems<br>Inc. | PAP-0126            | SEM004-11    | 2018-09-27 | 2019-09-26   |
| Pre-amplifier<br>(18-26GHz)       | Rohde & Schwarz                          | CH14-H052           | SEM005-17    | 2018-04-02 | 2019-04-01   |
| Pre-amplifier<br>(26GHz-40GHz)    | Compliance<br>Directions Systems<br>Inc. | PAP-2640-50         | SEM005-08    | 2018-04-02 | 2019-04-01   |
| DC Power Supply                   | Zhao Xin                                 | RXN-305D            | SEM011-02    | 2018-09-25 | 2019-09-24   |
| Active Loop Antenna               | ETS-Lindgren                             | 6502                | SEM003-08    | 2017-08-22 | 2020-08-21   |
| Band filter                       | N/A                                      | N/A                 | SEM023-01    | N/A        | N/A          |

| RE in Chamber                     |                      |                     |               |                           |                            |
|-----------------------------------|----------------------|---------------------|---------------|---------------------------|----------------------------|
| Test Equipment                    | Manufacturer         | Model No.           | Inventory No. | Cal. Date<br>(yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
| 3m Semi-Anechoic<br>Chamber       | ETS-LINDGREN         | N/A                 | SEM001-01     | 2017-08-05                | 2020-08-04                 |
| MXE EMI Receiver<br>(20Hz-8.4GHz) | Agilent Technologies | N9038A              | SEM004-05     | 2018-09-25                | 2019-09-24                 |
| BiConiLog Antenna<br>(26-3000MHz) | ETS-LINDGREN         | 3142C               | SEM003-01     | 2017-06-27                | 2020-06-26                 |
| Pre-amplifier<br>(0.1-1300MHz)    | Agilent Technologies | 8447D               | SEM005-01     | 2018-04-02                | 2019-04-01                 |
| Measurement Software              | AUDIX                | e3 V8.2014-6-<br>27 | N/A           | N/A                       | N/A                        |
| Coaxial Cable                     | SGS                  | N/A                 | SEM025-01     | 2018-07-12                | 2019-07-11                 |

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| Equipment                         | Manufacturer                             | Model No            | Inventory No | Cal Date   | Cal Due Date |  |
|-----------------------------------|--|---------------------|--------------|------------|--------------|--|
| 3m Semi-Anechoic<br>Chamber       | AUDIX                                    | N/A                 | SEM001-02    | 2018-03-13 | 2021-03-12   |  |
| Measurement Software              | AUDIX                                    | e3 V8.2014-6-<br>27 | N/A          | N/A        | N/A          |  |
| Coaxial Cable                     | SGS                                      | N/A                 | SEM026-01    | 2018-07-12 | 2019-07-11   |  |
| Spectrum Analyzer                 | Rohde & Schwarz                          | FSU43               | SEM004-08    | 2018-04-02 | 2019-04-01   |  |
| BiConiLog Antenna<br>(26-3000MHz) | ETS-Lindgren                             | 3142C               | SEM003-01    | 2017-06-27 | 2020-06-26   |  |
| Horn Antenna<br>(1-18GHz)         | Rohde & Schwarz                          | HF907               | SEM003-07    | 2018-04-13 | 2021-04-12   |  |
| Horn Antenna<br>(15GHz-40GHz)     | Schwarzbeck                              | BBHA 9170           | SEM003-15    | 2017-10-17 | 2020-10-16   |  |
| Pre-amplifier<br>(0.1-1300MHz)    | HP                                       | 8447D               | SEM005-02    | 2018-09-25 | 2019-09-24   |  |
| Pre-Amplifier<br>(0.1-26.5GHz)    | Compliance<br>Directions Systems<br>Inc. | PAP-0126            | SEM004-11    | 2018-09-27 | 2019-09-26   |  |
| Pre-amplifier<br>(18-26GHz)       | Rohde & Schwarz                          | CH14-H052           | SEM005-17    | 2018-04-02 | 2019-04-01   |  |
| Pre-amplifier<br>(26GHz-40GHz)    | I Directions Systems                     |                     | SEM005-08    | 2018-04-02 | 2019-04-01   |  |
| DC Power Supply                   | Zhao Xin                                 | RXN-305D            | SEM011-02    | 2018-09-25 | 2019-09-24   |  |
| Active Loop Antenna               | ETS-Lindgren                             | 6502                | SEM003-08    | 2017-08-22 | 2020-08-21   |  |
| Band filter                       | N/A                                      | N/A                 | SEM023-01    | N/A        | N/A          |  |

| General used equipmen                               | <u> </u>                                       | T        | 1            | T          | 1            |
|---|--|----------|--------------|------------|--------------|
| Equipment   | Manufacturer                                   | Model No | Inventory No | Cal Date   | Cal Due Date |
| Humidity/ Temperature<br>Indicator                  | Shanghai<br>Meteorological<br>Industry Factory | ZJ1-2B   | SEM002-03    | 2018-09-27 | 2019-09-26   |
| Humidity/ Temperature<br>Indicator                  | Shanghai<br>Meteorological<br>Industry Factory | ZJ1-2B   | SEM002-04    | 2018-09-27 | 2019-09-26   |
| Humidity/ Temperature Indicator                     | Mingle   | N/A      | SEM002-08    | 2018-09-27 | 2019-09-26   |
| Changchun Barometer Meteorological Industry Factory |  | DYM3     | SEM002-01    | 2018-04-08 | 2019-04-07   |



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### 6 Radio Spectrum Technical Requirement

### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

15.203 requirement:

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, 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.

#### 6.1.2 Conclusion

**EUT Antenna:** 

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.

Antenna location: Refer to Appendix(Internal photos)



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### 7 Radio Spectrum Matter Test Results

### 7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 Test Method: ANSI C63.10 (2013) Section 6.2

Limit:

| Fraguenay rango (MIII-) | Limit (dBuV) |           |  |  |
|-------------------------|--------------|-----------|--|--|
| Frequency range (MHz)   | Quasi-peak   | Average   |  |  |
| 0.15-0.5                | 66 to 56*    | 56 to 46* |  |  |
| 0.5-5                   | 56           | 46        |  |  |
| 5-30                    | 60           | 50        |  |  |

<sup>\*</sup> Decreases with the logarithm of the frequency.

#### 7.1.1 E.U.T. Operation

**Operating Environment:** 

Temperature: 22.5 °C Humidity: 58.6 % RH Atmospheric Pressure: 1020 mbar Test mode: h:Charge + TX mode\_Keep the EUT in charging and transmitting with modulation

mode.

#### 7.1.2 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a  $50 \text{ohm}/50 \mu\text{H} + 5 \text{ohm}$  linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

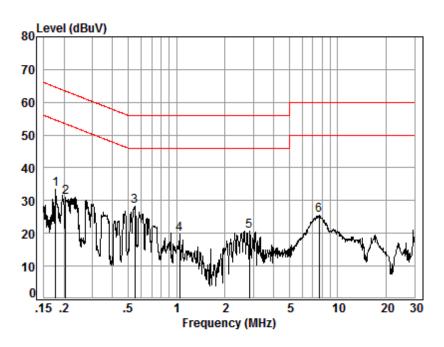
Remark: LISN=Read Level+ Cable Loss+ LISN Factor



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Mode:h; Line:Live Line



Site : Shielding Room

Condition: Line Job No. : 09930CR

Test mode: h

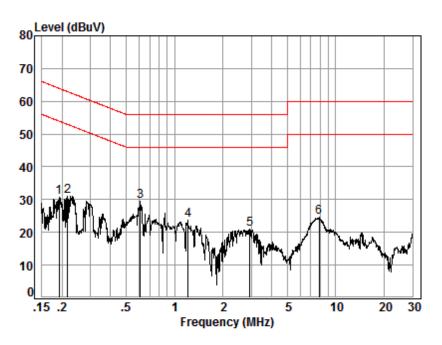
|   | Freq | Cable<br>Loss | LISN<br>Factor | Read<br>Level |       | Limit<br>Line |        | Remark |  |
|---|------|---------------|----------------|---------------|-------|---------------|--------|--------|--|
|   | MHz  | dB            | dB             | dBuV          | dBuV  | dBuV          | ——dB   |        |  |
| 1 | 0.18 | 0.02          | 9.66           | 23.76         | 33.44 | 54.59         | -21.15 | Peak   |  |
| 2 | 0.21 | 0.02          | 9.66           | 21.44         | 31.12 | 53.40         | -22.28 | Peak   |  |
| 3 | 0.55 | 0.06          | 9.67           | 18.49         | 28.22 | 46.00         | -17.78 | Peak   |  |
| 4 | 1.04 | 0.09          | 9.74           | 9.86          | 19.69 | 46.00         | -26.31 | Peak   |  |
| 5 | 2.82 | 0.16          | 9.71           | 10.84         | 20.71 | 46.00         | -25.29 | Peak   |  |
| 6 | 7.65 | 0.17          | 9.80           | 15.68         | 25.65 | 50.00         | -24.35 | Peak   |  |



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Mode:h; Line:Neutral Line



Site : Shielding Room

Condition: Neutral Job No. : 09930CR

Test mode: h

|   | Freq | Cable<br>Loss | LISN<br>Factor | Read<br>Level |       | Limit<br>Line |        | Remark |
|---|------|---------------|----------------|---------------|-------|---------------|--------|--------|
|   | MHz  | dB            | dB             | dBuV          | dBuV  | dBuV          | dB     |        |
| 1 | 0.19 | 0.02          | 9.64           | 21.02         | 30.68 | 53.93         | -23.25 | Peak   |
| 2 | 0.22 | 0.03          | 9.64           | 21.44         | 31.11 | 52.92         | -21.81 | Peak   |
| 3 | 0.61 | 0.07          | 9.64           | 19.68         | 29.39 | 46.00         | -16.61 | Peak   |
| 4 | 1.21 | 0.11          | 9.70           | 13.86         | 23.67 | 46.00         | -22.33 | Peak   |
| 5 | 2.93 | 0.16          | 9.68           | 11.17         | 21.01 | 46.00         | -24.99 | Peak   |
| 6 | 7.89 | 0.17          | 9.79           | 14.59         | 24.55 | 50.00         | -25.45 | Peak   |



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### 7.2 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215 Test Method: ANSI C63.10 (2013) Section 6.9

Limit: N/A

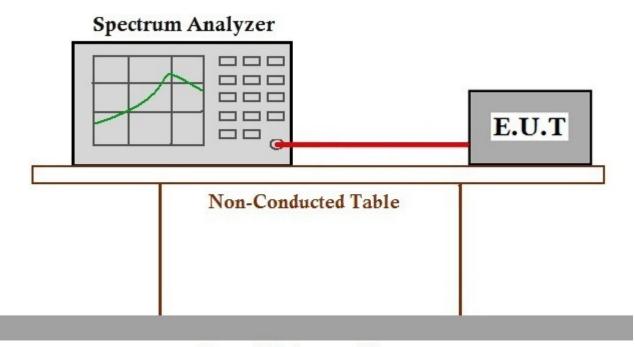
### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.2 °C Humidity: 57.8 % RH Atmospheric Pressure: 1020 mbar

Test mode g:TX mode\_Keep the EUT in transmitting with modulation mode.

### 7.2.2 Test Setup Diagram



### Ground Reference Plane

#### 7.2.3 Measurement Procedure and Data

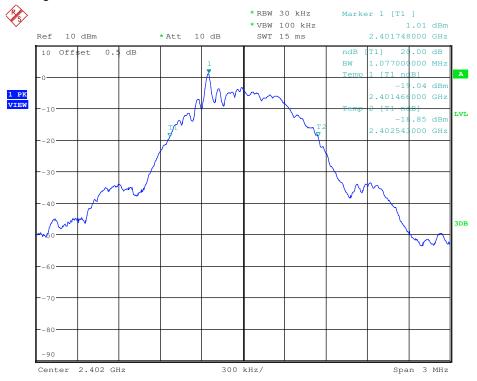
| Test channel | 20dB bandwidth (MHz) | Results |
|--------------|----------------------|---------|
| Lowest       | 1.077                | Pass    |
| Middle       | 1.077                | Pass    |
| Highest      | 1.077                | Pass    |



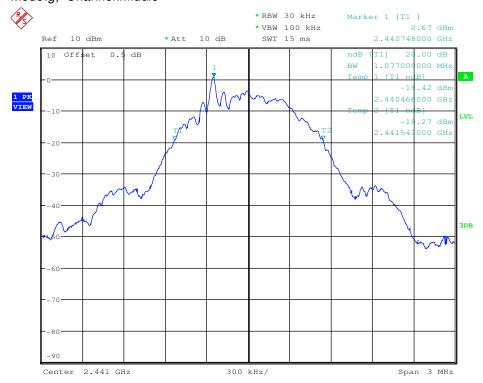
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### Mode:g; Channel:Low



### Mode:g; Channel:middle

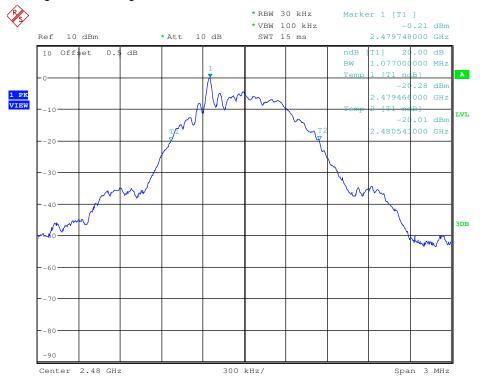




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### Mode:g; Channel:High





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### 7.3 Field Strength of the Fundamental Signal (15.249(a))

Test Requirement 47 CFR Part 15, Subpart C 15.249(a)
Test Method: ANSI C63.10 (2013) Section 6.5&6.6

Measurement Distance: 3m

Limit:

| Frequency         | Limit (dBuV/m @3m) | Remark        |
|-------------------|--------------------|---------------|
| 0400MH- 0400 FMH- | 94.0               | Average Value |
| 2400MHz-2483.5MHz | 114.0              | Peak Value    |

### Average value:

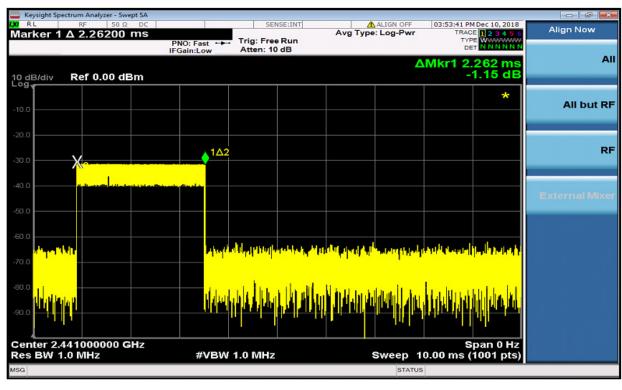
|                    | Average value=Peak value + PDCF  |
|--------------------|----------------------------------|
| Calculate Formula: | PDCF=20 log(Duty cycle)          |
|                    | Duty cycle= T on time / T period |
|                    | Ton time =2.2620ms               |
| Test data:         | T period =100ms                  |
|                    | PCDF value= -32.91dB             |

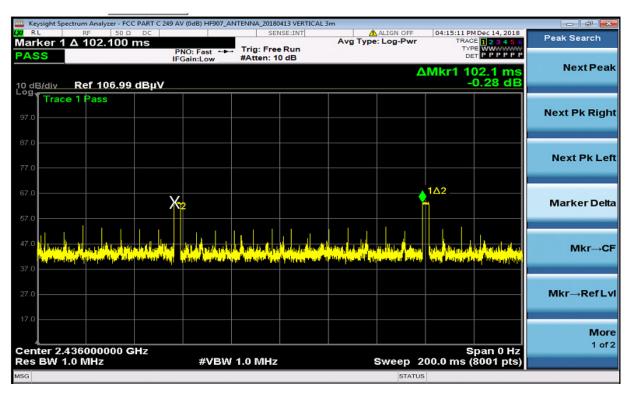


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#### **Test Plot:**







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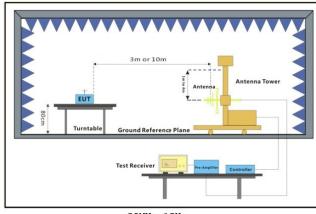
#### 7.3.1 E.U.T. Operation

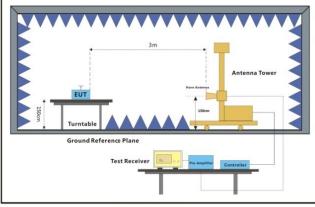
Operating Environment:

Temperature: 21.5 °C Humidity: 58 % RH Atmospheric Pressure: 1020 mbar

Test mode g:TX mode\_Keep the EUT in transmitting with modulation mode.

#### 7.3.2 Test Setup Diagram





30MHz-1GHz

Above 1GHz

#### 7.3.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

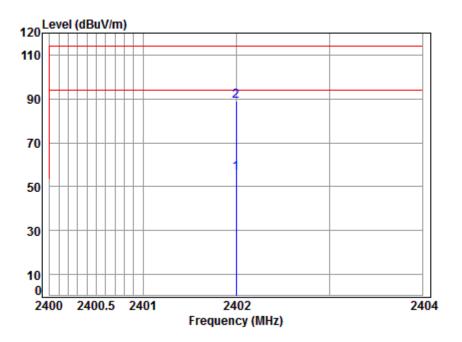
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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Mode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

1

Mode : 2402 Field strength

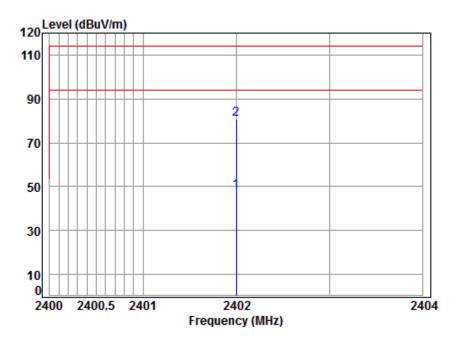
| Freq                 |    |      | Preamp<br>Factor |      |        |        |    |   |
|----------------------|----|------|------------------|------|--------|--------|----|---|
| MHz                  | dB | dB/m | dB               | dBuV | dBuV/m | dBuV/m | dB |   |
| 2402.000<br>2402.000 |    |      |                  |      |        |        |    | _ |



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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

1

Mode : 2402 Field strength

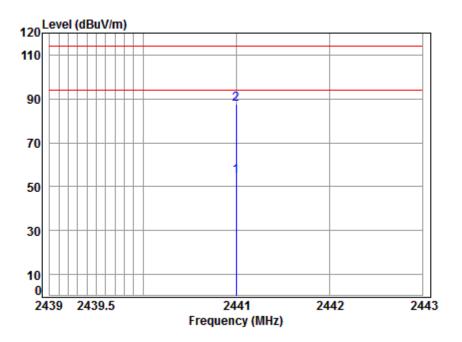
| Freq Loss Factor Factor Level Line  | Limit Remark |
|---|--------------|
| MHz dB dB/m dB dBuV dBuV/m dBuV/n   | dB —         |
| 2402.000 5.49 28.54 41.18 54.97 47.82 94.00<br>2402.000 5.49 28.54 41.18 87.88 80.73 114.00 | _            |



Report No.: SZEM181100993004

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Mode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2441 Field strength

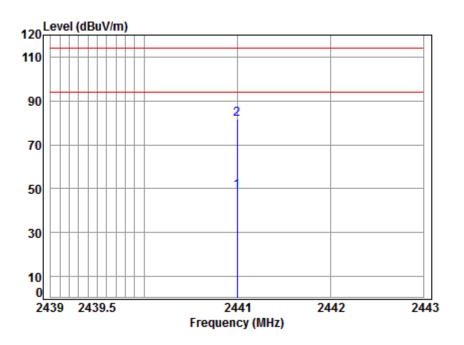
Ant Preamp Cable Read Limit 0ver Loss Factor Factor Level Level Line Limit Remark Freq dBuV dBuV/m dBuV/m MHz dB dB/m dΒ dB 2441.000 5.54 28.60 41.19 61.85 54.80 94.00 -39.20 Average 2441.000 5.54 28.60 41.19 94.76 87.71 114.00 -26.29 peak



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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

1

Mode : 2441 Field strength

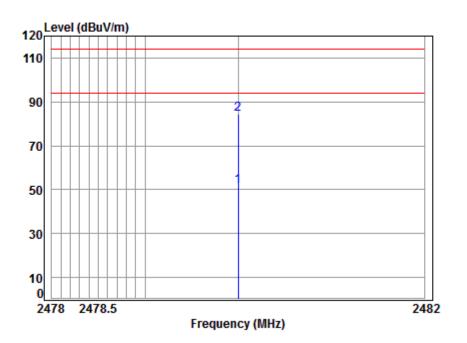
| Freq                 |    |      | Preamp<br>Factor |      |        |        |    | Remark |
|----------------------|----|------|------------------|------|--------|--------|----|--------|
| MHz                  | dB | dB/m | dB               | dBuV | dBuV/m | dBuV/m | dB |        |
| 2441.000<br>2441.000 |    |      |                  |      |        |        |    | _      |



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Mode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2480 Field strength

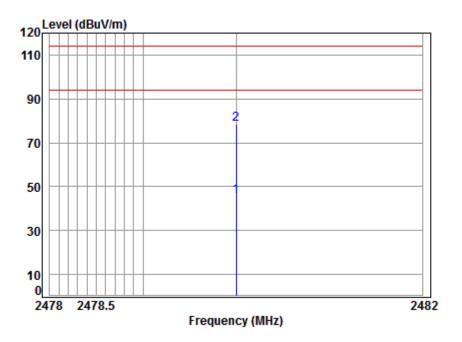
Ant Preamp Cable Read Limit 0ver Loss Factor Factor Level Level Line Limit Remark Freq dBuV dBuV/m dBuV/m MHz dΒ dB/m dΒ dB 2480.000 5.59 28.67 41.21 58.57 51.62 94.00 -42.38 Average 2480.000 5.59 28.67 41.21 91.48 84.53 114.00 -29.47 peak



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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

Mode : 2480 Field strength

Ant Preamp Cable Read Limit 0ver Loss Factor Factor Level Level Line Limit Remark Freq dBuV dBuV/m dBuV/m MHz dΒ dB/m dΒ dB 2480.000 5.59 28.67 41.21 52.58 45.63 94.00 -48.37 Average 2480.000 5.59 28.67 41.21 85.49 78.54 114.00 -35.46 peak



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### 7.4 Restricted Band Around Fundamental Frequency

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.249(d) & 15.209

Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6

Measurement Distance: 3m

Limit:

| Frequency     | Limit (dBuV/m @3m) | Remark           |
|---------------|--------------------|------------------|
| 30MHz-88MHz   | 40.0               | Quasi-peak Value |
| 88MHz-216MHz  | 43.5               | Quasi-peak Value |
| 216MHz-960MHz | 46.0               | Quasi-peak Value |
| 960MHz-1GHz   | 54.0               | Quasi-peak Value |
| Above 1GHz    | 54.0               | Average Value    |
| Above 1GHz    | 74.0               | Peak Value       |

Emission 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 to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

#### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 21.5 °C Humidity: 56 % RH Atmospheric Pressure: 1020 mbar

Pretest these g:TX mode Keep the EUT in transmitting with modulation mode.

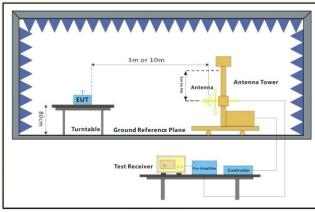
modes to find h:Charge + TX mode Keep the EUT in charging and transmitting with modulation

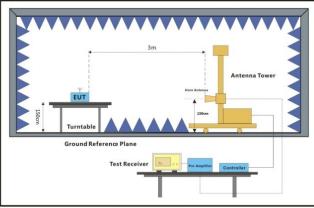
the worst case: mode.

The worst case h:Charge + TX mode\_Keep the EUT in charging and transmitting with modulation

for final test: mode.

### 7.4.2 Test Setup Diagram





30MHz-1GHz Above 1GHz

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#### 7.4.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

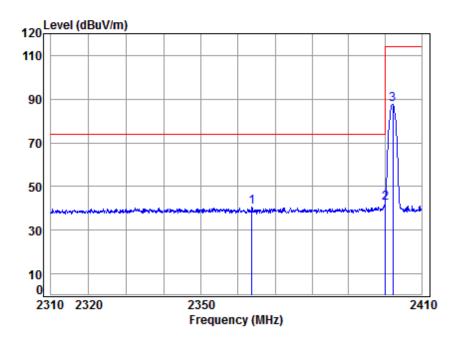
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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Mode:h; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

1 2 3

Mode : 2402 Bandedge

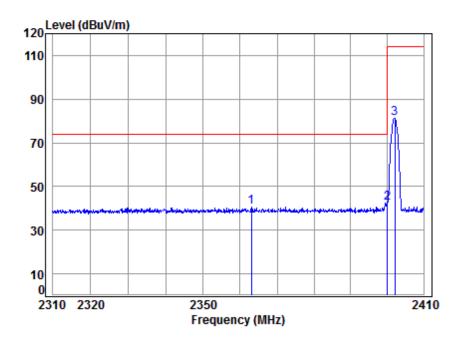
| _ |          |       |        |        |       |        |        |        |        |  |
|---|----------|-------|--------|--------|-------|--------|--------|--------|--------|--|
|   |          | Cable | Ant    | Preamp | Read  |        | Limit  | 0ver   |        |  |
|   | Freq     | Loss  | Factor | Factor | Level | Level  | Line   | Limit  | Remark |  |
|   |          |       |        |        |       |        |        |        |        |  |
|   | MHz      | dB    | dB/m   | dB     | dBuV  | dBuV/m | dBuV/m | dB     |        |  |
|   |          |       |        |        |       |        |        |        |        |  |
|   | 2363.674 | 5.44  | 28.47  | 41.16  | 47.68 | 40.43  | 74.00  | -33.57 | Peak   |  |
|   | 2400.000 | 5.49  | 28.54  | 41.18  | 49.53 | 42.38  | 74.00  | -31.62 | peak   |  |
|   | 2402.047 | 5.49  | 28.54  | 41.18  | 94.70 | 87.55  | 114.00 | -26.45 | neak   |  |



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Mode:h; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

Mode : 2402 Bandedge

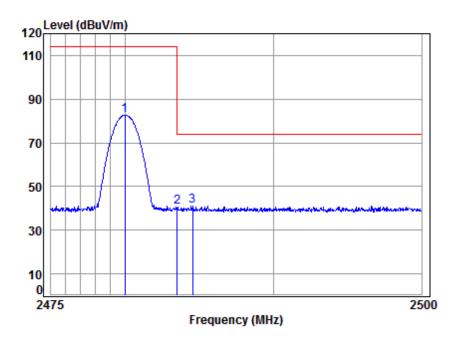
|        | Freq                 |      |       | Preamp<br>Factor |       |        |        |        |      |
|--------|----------------------|------|-------|------------------|-------|--------|--------|--------|------|
|        | MHz                  | dB   | dB/m  | dB               | dBuV  | dBuV/m | dBuV/m | dB     |      |
| 1<br>2 | 2362.973<br>2400.000 |      |       |                  |       |        |        |        |      |
| 3      | 2402.047             | 5.49 | 28.54 | 41.18            | 88.44 | 81.29  | 114.00 | -32.71 | peak |



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Mode:h; Polarization:Horizontal; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2480 Bandedge

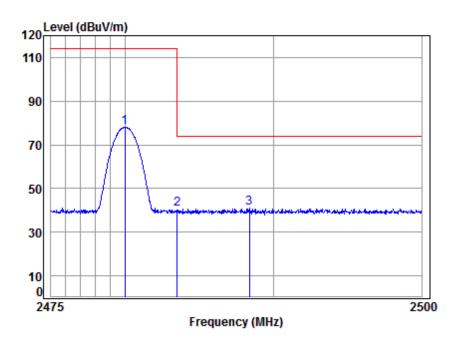
|   | Freq     |      |       | Preamp<br>Factor |       |        |        |        | Remark |
|---|----------|------|-------|------------------|-------|--------|--------|--------|--------|
|   | MHz      | dB   | dB/m  | dB               | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 2479.980 | 5.59 | 28.67 | 41.21            | 89.67 | 82.72  | 114.00 | -31.28 | peak   |
| 2 | 2483.500 | 5.60 | 28.67 | 41.21            | 47.46 | 40.52  | 74.00  | -33.48 | peak   |
| 3 | 2484.520 | 5.60 | 28.67 | 41.21            | 47.95 | 41.01  | 74.00  | -32.99 | Peak   |



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Mode:h; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

Mode : 2480 Bandedge

| ouc | . 270    | JO Dan | ucusc  |        |       |        |        |        |        |   |
|-----|----------|--------|--------|--------|-------|--------|--------|--------|--------|---|
|     |          | Cable  | Ant    | Preamp | Read  |        | Limit  | 0ver   |        |   |
|     | Freq     | Loss   | Factor | Factor | Level | Level  | Line   | Limit  | Remark |   |
|     |          |        |        |        |       |        |        |        |        | _ |
|     | MHz      | dB     | dB/m   | dB     | dBuV  | dBuV/m | dBuV/m | dB     |        |   |
|     |          |        |        |        |       |        |        |        |        |   |
| 1   | 2479.980 | 5.59   | 28.67  | 41.21  | 84.98 | 78.03  | 114.00 | -35.97 | peak   |   |
| 2   | 2483.500 | 5.60   | 28.67  | 41.21  | 47.74 | 40.80  | 74.00  | -33.20 | peak   |   |
| 3   | 2488.344 | 5.60   | 28.68  | 41.21  | 47.79 | 40.86  | 74.00  | -33.14 | Peak   |   |



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### 7.5 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.249 (a),(d)

Test Method: ANSI C63.10 (2013) Section 6.4&6.5&6.6

Limit:

| Frequency(MHz) | Field strength (microvolts/meter) | Limit<br>(dBuV/m) | Detector | Measurement Distance (meters) |
|----------------|-----------------------------------|-------------------|----------|-------------------------------|
| 0.009-0.490    | 2400/F(kHz)                       | -                 | -        | 300                           |
| 0.490-1.705    | 24000/F(kHz)                      | -                 | -        | 30                            |
| 1.705-30       | 30                                | -                 | -        | 30                            |
| 30-88          | 100                               | 40.0              | QP       | 3                             |
| 88-216         | 150                               | 43.5              | QP       | 3                             |
| 216-960        | 200                               | 46.0              | QP       | 3                             |
| 960-1000       | 500                               | 54.0              | QP       | 3                             |
| Above 1000     | 500                               | 54.0              | AV       | 3                             |



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### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 21.9 °C Humidity: 44.1 % RH Atmospheric Pressure: 1020 mbar

Pretest these g:TX mode\_Keep the EUT in transmitting with modulation mode.

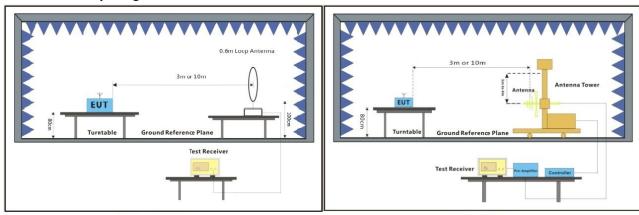
modes to find h:Charge + TX mode\_Keep the EUT in charging and transmitting with modulation

the worst case: mode.

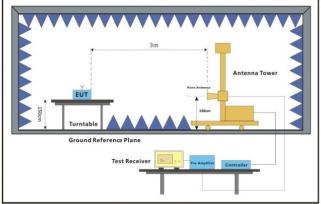
The worst case g:TX mode\_Keep the EUT in transmitting with modulation mode.

for final test:

### 7.5.2 Test Setup Diagram



Below 30MHz 30MHz-1GHz



Above 1GHz



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#### 7.5.3 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

#### Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 3) Scan from 9kHz to 25GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



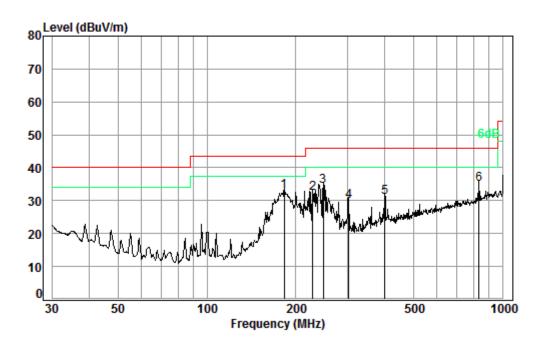
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30MHz~1GHz

QP value:Mode: g; Polarization:

Horizontal



Condition: 3m HORIZONTAL

Job No. : 09930CR

Test mode: g

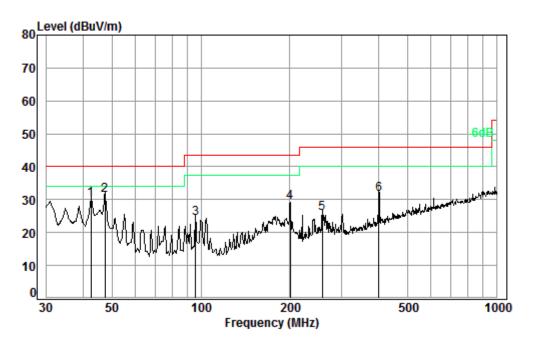
|      |        | Cable | Ant    | Preamp | Read  |         | Limit     | 0ver   |
|------|--------|-------|--------|--------|-------|---------|-----------|--------|
|      | Freq   | Loss  | Factor | Factor | Level | Level   | Line      | Limit  |
|      |        |       |        |        |       | ID. 1// | -ID- 1//- |        |
|      | MHz    | dB    | aB/m   | dB     | aBuv  | aBuv/m  | aBuv/m    | dB     |
| 1 pp | 182.56 | 1.37  | 15.98  | 26.96  | 42.46 | 32.85   | 43.50     | -10.65 |
| 2    | 227.69 | 1.56  | 17.83  | 26.82  | 39.64 | 32.21   | 46.00     | -13.79 |
| 3    | 247.68 | 1.66  | 18.92  | 26.76  | 40.49 | 34.31   | 46.00     | -11.69 |
| 4    | 301.42 | 1.90  | 19.65  | 26.65  | 35.05 | 29.95   | 46.00     | -16.05 |
| 5    | 399.03 | 2.20  | 22.38  | 27.18  | 33.72 | 31.12   | 46.00     | -14.88 |
| 6    | 830.40 | 3.33  | 28.91  | 27.45  | 30.22 | 35.01   | 46.00     | -10.99 |



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Mode: g; Polarization: Vertical



Condition: 3m VERTICAL Job No. : 09930CR

Test mode: g

|      |        | Cable | Ant    | Preamp | Read  |        | Limit  | 0ver   |
|------|--------|-------|--------|--------|-------|--------|--------|--------|
|      | Freq   | Loss  | Factor | Factor | Level | Level  | Line   | Limit  |
| _    |        |       |        |        |       |        |        |        |
|      | MHz    | dB    | dB/m   | dB     | dBuV  | dBuV/m | dBuV/m | dB     |
|      |        |       |        |        |       |        |        |        |
| 1    | 42.60  | 0.66  | 16.57  | 27.42  | 40.31 | 30.12  | 40.00  | -9.88  |
| 2 pp | 47.49  | 0.75  | 14.96  | 27.41  | 43.04 | 31.34  | 40.00  | -8.66  |
| 3    | 96.10  | 1.16  | 13.66  | 27.35  | 36.80 | 24.27  | 43.50  | -19.23 |
| 4    | 200.69 | 1.40  | 16.53  | 26.90  | 38.18 | 29.21  | 43.50  | -14.29 |
| 5    | 257.42 | 1.71  | 19.06  | 26.74  | 31.70 | 25.73  | 46.00  | -20.27 |
| 6    | 399.03 | 2.20  | 22.38  | 27.18  | 34.21 | 31.61  | 46.00  | -14.39 |

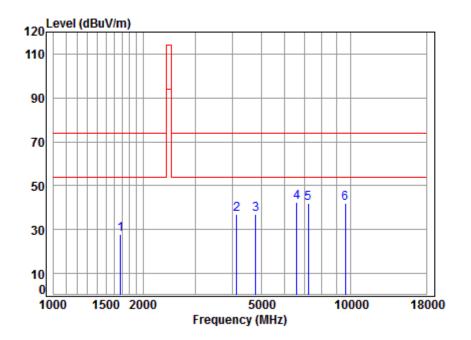


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Above 1GHz

Mode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2402 TX RSE

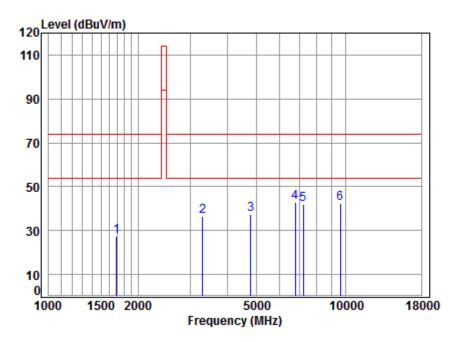
|   | Freq     |       |       | Preamp<br>Factor |       |        |        |        | Remark |
|---|----------|-------|-------|------------------|-------|--------|--------|--------|--------|
|   | MHz      | dB    | dB/m  | dB               | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 1682.477 | 5.25  | 26.60 | 40.82            | 36.95 | 27.98  | 74.00  | -46.02 | peak   |
| 2 | 4133.699 | 7.14  | 32.95 | 42.91            | 39.81 | 36.99  | 74.00  | -37.01 | peak   |
| 3 | 4804.000 | 7.89  | 33.97 | 43.61            | 38.67 | 36.92  | 74.00  | -37.08 | peak   |
| 4 | 6602.265 | 11.24 | 35.66 | 42.32            | 37.96 | 42.54  | 74.00  | -31.46 | peak   |
| 5 | 7206.000 | 10.08 | 36.07 | 41.86            | 37.48 | 41.77  | 74.00  | -32.23 | peak   |
|   | 9608.000 |       |       |                  |       |        |        |        | •      |



Report No.: SZEM181100993004

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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel:Low



Site : chamber

Condition: 3m VERTICAL Job No : 09930CR

Mode : 2402 TX RSE

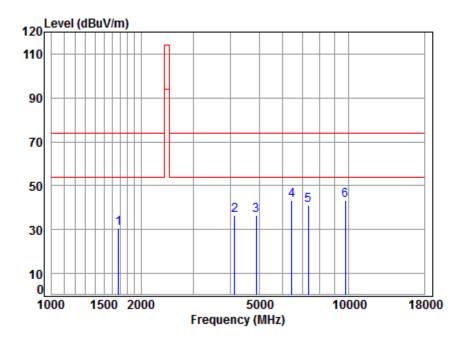
|   | Freq     |       |       | Preamp<br>Factor |       |        |        |        | Remark |
|---|----------|-------|-------|------------------|-------|--------|--------|--------|--------|
|   | MHz      | dB    | dB/m  | dB               | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 1692.231 | 5.24  | 26.64 | 40.83            | 36.38 | 27.43  | 74.00  | -46.57 | peak   |
| 2 | 3308.894 | 6.29  | 31.41 | 41.86            | 40.68 | 36.52  | 74.00  | -37.48 | peak   |
| 3 | 4804.000 | 7.89  | 33.97 | 43.61            | 39.02 | 37.27  | 74.00  | -36.73 | peak   |
| 4 | 6776.265 | 10.75 | 35.77 | 42.18            | 38.53 | 42.87  | 74.00  | -31.13 | peak   |
| 5 | 7206.000 | 10.08 | 36.07 | 41.86            | 37.76 | 42.05  | 74.00  | -31.95 | peak   |
| 6 | 9608,000 | 10.75 | 37.67 | 38.43            | 32.59 | 42.58  | 74.00  | -31.42 | neak   |



Report No.: SZEM181100993004

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Mode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:Middle



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2441 TX RSE

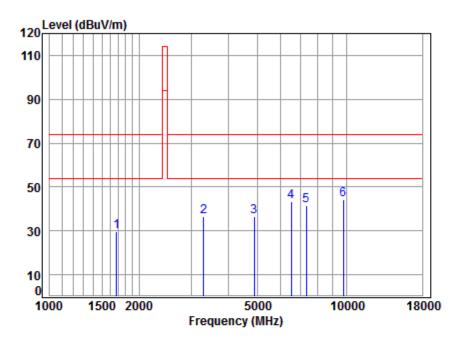
|   | Freq     |       |       | Preamp<br>Factor |       |        |        |        | Remark |
|---|----------|-------|-------|------------------|-------|--------|--------|--------|--------|
|   | MHz      | dB    | dB/m  | dB               | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 1682.477 | 5.25  | 26.60 | 40.82            | 39.35 | 30.38  | 74.00  | -43.62 | peak   |
| 2 | 4133.699 | 7.14  | 32.95 | 42.91            | 39.17 | 36.35  | 74.00  | -37.65 | peak   |
| 3 | 4882.000 | 7.97  | 34.06 | 43.69            | 38.05 | 36.39  | 74.00  | -37.61 | peak   |
| 4 | 6432.732 | 11.41 | 35.54 | 42.46            | 38.77 | 43.26  | 74.00  | -30.74 | peak   |
| 5 | 7323.000 | 10.05 | 36.16 | 41.77            | 36.62 | 41.06  | 74.00  | -32.94 | peak   |
| 6 | 9764.000 | 10.82 | 37.76 | 38.17            | 33.02 | 43.43  | 74.00  | -30.57 | neak   |



Report No.: SZEM181100993004

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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel: Middle



Site : chamber Condition: 3m VERTICAL Job No : 09930CR

Mode : 2441 TX RSE

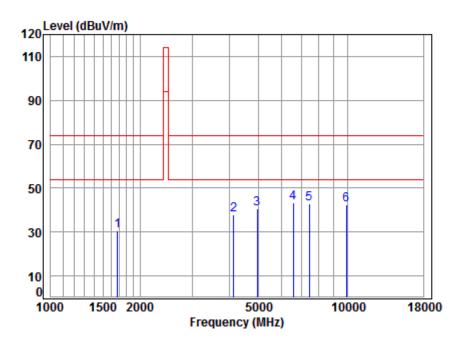
|   |          | Cable | Ant     | Preamp | Read  |           | Limit     | 0ver   |        |
|---|----------|-------|---------|--------|-------|-----------|-----------|--------|--------|
|   | Freq     | Loss  | Factor  | Factor | Level | Level     | Line      | Limit  | Remark |
|   | MHz      | dB    | dR/m    | dB     |       | dBuV/m    | dBuV/m    | dB     |        |
|   | 1112     | u.b   | ub/ III | ub.    | aba*  | abav, iii | abav, III | u.     |        |
| 1 | 1682.477 | 5.25  | 26.60   | 40.82  | 38.42 | 29.45     | 74.00     | -44.55 | peak   |
| 2 | 3308.894 | 6.29  | 31.41   | 41.86  | 40.68 | 36.52     | 74.00     | -37.48 | peak   |
| 3 | 4882.000 | 7.97  | 34.06   | 43.69  | 38.23 | 36.57     | 74.00     | -37.43 | peak   |
| 4 | 6507.536 | 11.52 | 35.60   | 42.40  | 38.84 | 43.56     | 74.00     | -30.44 | peak   |
| 5 | 7323.000 | 10.05 | 36.16   | 41.77  | 37.16 | 41.60     | 74.00     | -32.40 | peak   |
| 6 | 9764.000 | 10.82 | 37.76   | 38.17  | 33.68 | 44.09     | 74.00     | -29.91 | peak   |



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hMode:g; Polarization:Horizontal; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m HORIZONTAL

Job No : 09930CR

Mode : 2480 TX RSE

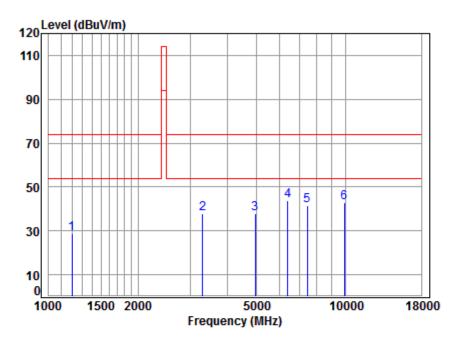
|   |          | Cable | Ant    | Preamp | Read  |        | Limit  | 0ver   |        |  |  |
|---|----------|-------|--------|--------|-------|--------|--------|--------|--------|--|--|
|   | Freq     | Loss  | Factor | Factor | Level | Level  | Line   | Limit  | Remark |  |  |
|   |          |       |        |        |       |        |        |        |        |  |  |
|   | MHz      | dB    | dB/m   | dB     | dBuV  | dBuV/m | dBuV/m | dB     |        |  |  |
|   |          |       |        |        |       |        |        |        |        |  |  |
| 1 | 1682.477 | 5.25  | 26.60  | 40.82  | 39.76 | 30.79  | 74.00  | -43.21 | peak   |  |  |
| 2 | 4133.699 | 7.14  | 32.95  | 42.91  | 40.65 | 37.83  | 74.00  | -36.17 | peak   |  |  |
| 3 | 4960.000 | 8.05  | 34.15  | 43.76  | 42.23 | 40.67  | 74.00  | -33.33 | peak   |  |  |
| 4 | 6564.209 | 11.35 | 35.64  | 42.35  | 38.72 | 43.36  | 74.00  | -30.64 | peak   |  |  |
| 5 | 7440.000 | 10.02 | 36.25  | 41.69  | 38.36 | 42.94  | 74.00  | -31.06 | peak   |  |  |
| 6 | 9920.000 | 10.90 | 37.85  | 37.93  | 31.73 | 42.55  | 74.00  | -31.45 | peak   |  |  |



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Mode:g; Polarization:Vertical; Modulation:GFSK; ; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 09930CR

Mode : 2480 TX RSE

| oue | . 240    | 50 IA | NJL    |        |       |        |        |        |        |   |
|-----|----------|-------|--------|--------|-------|--------|--------|--------|--------|---|
|     |          | Cable | Ant    | Preamp | Read  |        | Limit  | 0ver   |        |   |
|     | Freq     | Loss  | Factor | Factor | Level | Level  | Line   | Limit  | Remark |   |
|     |          |       |        |        |       |        |        |        |        | _ |
|     | MHz      | dB    | dB/m   | dB     | dBuV  | dBuV/m | dBuV/m | dB     |        |   |
|     | 4400 706 |       | 04.50  | 40.40  | 40.00 | 20.00  | 74.00  | 45 40  |        |   |
| 1   | 1199.726 | 4.42  | 24.59  | 40.48  | 40.29 | 28.82  | 74.00  | -45.18 | peak   |   |
| 2   | 3308.894 | 6.29  | 31.41  | 41.86  | 41.98 | 37.82  | 74.00  | -36.18 | peak   |   |
| 3   | 4960.000 | 8.05  | 34.15  | 43.76  | 39.36 | 37.80  | 74.00  | -36.20 | peak   |   |
| 4   | 6395.654 | 11.34 | 35.50  | 42.49  | 39.58 | 43.93  | 74.00  | -30.07 | peak   |   |
| 5   | 7440.000 | 10.02 | 36.25  | 41.69  | 37.13 | 41.71  | 74.00  | -32.29 | peak   |   |
| 6   | 9920.000 | 10.90 | 37.85  | 37.93  | 32.13 | 42.95  | 74.00  | -31.05 | peak   |   |



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### 8 Photographs

### 8.1 Test Setup

Refer to Setup Photos

### 8.2 EUT Constructional Details (EUT Photos)

Refer to EUT external and internal photos

- End of the Report -