



## TEST REPORT

**Application No.:** SZCR2105021114AT  
**Applicant:** SHENZHEN DNS INDUSTRIES CO., LTD.  
**Address of Applicant:** 23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, China  
**Manufacturer:** SHENZHEN DNS INDUSTRIES CO., LTD.  
**Address of Manufacturer:** 23/F Building A, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian, Shenzhen, China  
**Equipment Under Test (EUT):**  
**EUT Name:** WIRELESS CHARGER, 2 in 1 Wireless Charging Station  
**Model No.:** WD-255B  
**FCC ID:** ZBCWD255B  
**Trade Mark:** DNS, omars, mbest, NOVOO, KEYMOX  
**Standard(s) :** 47 CFR Part 15, Subpart C  
**Date of Receipt:** 2021-05-20  
**Date of Test:** 2021-05-29 to 2021-06-15  
**Date of Issue:** 2021-06-22

|                     |              |
|---------------------|--------------|
| <b>Test Result:</b> | <b>Pass*</b> |
|---------------------|--------------|

\* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu  
EMC Laboratory Manager



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| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2021-06-22 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |  |                         |  |  |
|--------------------------|--|-------------------------|--|--|
| Authorized for issue by: |  |                         |  |  |
|                          |  | Leo Li                  |  |  |
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|                          |  | Eric Fu                 |  |  |
|                          |  | 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, Subpart C | N/A    | 47 CFR Part 15, Subpart C 15.203 | Pass   |

| Radio Spectrum Matter Part                                |                           |                                   |                                           |        |
|-----------------------------------------------------------|---------------------------|-----------------------------------|-------------------------------------------|--------|
| Item                                                      | Standard                  | Method                            | Requirement                               | Result |
| Conducted Emissions at AC Mains Power Port (150kHz-30MHz) | 47 CFR Part 15, Subpart C | ANSI C63.10 (2013) Section 6.2    | 47 CFR Part 15, Subpart C 15.207          | Pass   |
| Radiated Emissions (30MHz-1GHz)                           |                           | ANSI C63.10 (2013) Section 6.5    | 47 CFR Part 15, Subpart C 15.205 & 15.209 | Pass   |
| Radiated Emissions (9kHz-30MHz)                           |                           | ANSI C63.10 (2013) Section 6.4    | 47 CFR Part 15, Subpart C 15.205 & 15.209 | Pass   |
| 20dB Bandwidth                                            |                           | ANSI C63.10 (2013) Section 6.9.2  | 47 CFR Part 15, Subpart C 15.215          | Pass   |
| Restricted Bands                                          |                           | ANSI C63.10 (2013) Section 6.10.5 | 47 CFR Part 15, Subpart C 15.205          | Pass   |

N/A: No applicable



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## 4 General Information

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

|                      |                                                                            |
|----------------------|----------------------------------------------------------------------------|
| Power supply:        | Input: 12V/1.5A<br>Output 1: 5W/7.5W/10W<br>Output 2: 2.5W<br>Total: 12.5W |
| Operation frequency: | For Output 1: 112.4kHz to 148.4kHz<br>For Output 2: 325.2kHz to 327.6kHz   |
| Modulation type:     | Load modulation                                                            |
| Antenna type:        | Loop Antenna                                                               |

### 4.2 Description of Support Units

| Description  | Manufacturer | Model No.     | Serial No.        |
|--------------|--------------|---------------|-------------------|
| Adapter      | XIAOMI       | MDY-08        | REF. No.SEA05M02F |
| iWatch       | Apple        | Apple Watch 3 | N/A               |
| Type-C Cable | SGS          | N/A           | REF. No.SEA07B00  |
| iPhone 8     | Apple        | A1863         | REF. No.SEA16J00  |
| Mobile Phone | SAMSUNG      | SM-G9500      | REF. No.SEA16J00  |
| Mobile Phone | Nexus        | MRA58K        | REF. No.SEA16P00  |

### 4.3 Measurement Uncertainty

| Test Item                                                 | Measurement Uncertainty              |
|-----------------------------------------------------------|--------------------------------------|
| Conducted Emissions at AC Mains Power Port (150kHz-30MHz) | $\pm 3.0\text{dB}$ (150kHz to 30MHz) |
| Radiated Emissions (30MHz-1GHz)                           | $\pm 4.5\text{dB}$                   |
| Radiated Emissions (9kHz-30MHz)                           | $\pm 4.5\text{dB}$                   |
| 20dB Bandwidth                                            | $\pm 3\%$                            |
| Restricted Bands                                          | $\pm 3\%$                            |

**Remark:**

The  $U_{\text{lab}}$  (lab Uncertainty) is less than  $U_{\text{CISPR}}$  (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

#### 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:

- **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 (Member No. 1937)**

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. Shenzhen EMC laboratory 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 Mains Power Port (150kHz-30MHz) |                  |                 |              |            |              |
|-----------------------------------------------------------|------------------|-----------------|--------------|------------|--------------|
| Equipment                                                 | Manufacturer     | Model No        | Inventory No | Cal Date   | Cal Due Date |
| Shielding Room                                            | ZhongYu Electron | GB-88           | SEM001-06    | 2019-06-13 | 2022-06-12   |
| EMI Test Receiver                                         | Rohde&Schwarz    | ESCI            | SEM004-02    | 2021-03-24 | 2022-03-23   |
| Measurement Software                                      | AUDIX            | e3 V8.2014-6-27 | N/A          | N/A        | N/A          |
| Coaxial Cable                                             | SGS              | N/A             | SEM024-01    | 2020-07-10 | 2021-07-09   |
| LISN                                                      | Rohde&Schwarz    | ENV216          | SEM007-01    | 2020-09-23 | 2021-09-22   |
| LISN                                                      | ETS-LINDGREN     | 3816/2          | SEM007-02    | 2021-03-24 | 2022-03-25   |

| Radiated Emissions (30MHz-1GHz) |                      |                 |              |            |              |
|---------------------------------|----------------------|-----------------|--------------|------------|--------------|
| Equipment                       | Manufacturer         | Model No        | Inventory No | Cal Date   | Cal Due Date |
| 10m Semi-Anechoic Chamber       | SAEMC                | FSAC1018        | SEM001-03    | 2021-03-27 | 2024-03-26   |
| MXE EMI receiver                | KEYSIGHT             | N9038A          | SEM004-16    | 2020-11-02 | 2021-11-01   |
| Trilog-Broadband Antenna        | Schwarzbeck          | VULB9168        | SEM003-18    | 2019-08-08 | 2022-08-07   |
| Pre-amplifier                   | Sonoma Instrument Co | 310N            | SEM005-04    | 2021-04-08 | 2022-04-07   |
| Loop Antenna                    | ETS-Lindgren         | 6502            | SEM003-08    | 2020-08-14 | 2023-08-13   |
| Measurement Software            | AUDIX                | e3 V8.2014-6-27 | N/A          | N/A        | N/A          |
| Coaxial Cable                   | SGS                  | N/A             | SEM029-01    | 2020-07-10 | 2021-07-09   |

| Radiated Emissions (9kHz-30MHz) |                      |                 |              |            |              |
|---------------------------------|----------------------|-----------------|--------------|------------|--------------|
| Equipment                       | Manufacturer         | Model No        | Inventory No | Cal Date   | Cal Due Date |
| 10m Semi-Anechoic Chamber       | SAEMC                | FSAC1018        | SEM001-03    | 2021-03-27 | 2024-03-26   |
| MXE EMI receiver                | KEYSIGHT             | N9038A          | SEM004-16    | 2020-11-02 | 2021-11-01   |
| Trilog-Broadband Antenna        | Schwarzbeck          | VULB9168        | SEM003-18    | 2019-08-08 | 2022-08-07   |
| Pre-amplifier                   | Sonoma Instrument Co | 310N            | SEM005-04    | 2021-04-08 | 2022-04-07   |
| Loop Antenna                    | ETS-Lindgren         | 6502            | SEM003-08    | 2020-08-14 | 2023-08-13   |
| Measurement Software            | AUDIX                | e3 V8.2014-6-27 | N/A          | N/A        | N/A          |
| Coaxial Cable                   | SGS                  | N/A             | SEM029-01    | 2020-07-10 | 2021-07-09   |



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| 20dB Bandwidth                              |                              |                 |              |            |              |
|---------------------------------------------|------------------------------|-----------------|--------------|------------|--------------|
| Equipment                                   | Manufacturer                 | Model No        | Inventory No | Cal Date   | Cal Due Date |
| Shielding Room                              | SAEMC                        | MSR733          | SEM001-09    | 2019-06-13 | 2022-06-12   |
| DC Power Supply                             | Rohde & Schwarz              | NGSM 32/10      | SEM011-04    | 2021-03-23 | 2022-03-22   |
| Signal Analyzer                             | Rohde & Schwarz              | FSV40           | SEM008-04    | 2021-03-24 | 2022-03-23   |
| Signal Generator                            | KEYSIGHT                     | N5173B          | SEM006-05    | 2020-09-23 | 2021-09-22   |
| Measurement Software                        | TST                          | TST PASS V1.0.5 | N/A          | N/A        | N/A          |
| Coaxial Cable                               | SGS                          | N/A             | SEM031-02    | 2020-07-10 | 2021-07-09   |
| Attenuator                                  | Huber+Suhner                 | 6620_SMA-50-1   | SEM021-09    | 2021-04-08 | 2022-04-07   |
| Programmable Temperature & Humidity Chamber | Votsch Industrietechnik GmbH | VT 4002         | SEM002-15    | 2021-03-23 | 2022-03-22   |

| Restricted Bands                            |                              |                 |              |            |              |
|---------------------------------------------|------------------------------|-----------------|--------------|------------|--------------|
| Equipment                                   | Manufacturer                 | Model No        | Inventory No | Cal Date   | Cal Due Date |
| Shielding Room                              | SAEMC                        | MSR733          | SEM001-09    | 2019-06-13 | 2022-06-12   |
| DC Power Supply                             | Rohde & Schwarz              | NGSM 32/10      | SEM011-04    | 2021-03-23 | 2022-03-22   |
| Signal Analyzer                             | Rohde & Schwarz              | FSV40           | SEM008-04    | 2021-03-24 | 2022-03-23   |
| Signal Generator                            | KEYSIGHT                     | N5173B          | SEM006-05    | 2020-09-23 | 2021-09-22   |
| Measurement Software                        | TST                          | TST PASS V1.0.5 | N/A          | N/A        | N/A          |
| Coaxial Cable                               | SGS                          | N/A             | SEM031-02    | 2020-07-10 | 2021-07-09   |
| Attenuator                                  | Huber+Suhner                 | 6620_SMA-50-1   | SEM021-09    | 2021-04-08 | 2022-04-07   |
| Programmable Temperature & Humidity Chamber | Votsch Industrietechnik GmbH | VT 4002         | SEM002-15    | 2021-03-23 | 2022-03-22   |

| General used equipment          |                                           |          |              |            |              |
|---------------------------------|-------------------------------------------|----------|--------------|------------|--------------|
| Equipment                       | Manufacturer                              | Model No | Inventory No | Cal Date   | Cal Due Date |
| Humidity/ Temperature Indicator | Shanghai Meteorological Industry Factory  | ZJ1-2B   | SEM002-04    | 2020-09-15 | 2021-09-14   |
| Humidity/ Temperature Indicator | Mingle                                    | N/A      | SEM002-08    | 2020-09-15 | 2021-09-14   |
| Barometer                       | Changchun Meteorological Industry Factory | DYM3     | SEM002-01    | 2021-03-30 | 2022-03-29   |



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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

#### 6.1.2 Conclusion

Standard 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 use an unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

This requirement does not apply to carrier current devices or to devices operated under the provisions of §§ 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site.

However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement.

Refer to internal photos



## 7 Radio Spectrum Matter Test Results

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

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

Limit:

| Frequency of emission(MHz) | Conducted limit(dBμV) |           |
|----------------------------|-----------------------|-----------|
|                            | Quasi-peak            | Average   |
| 0.15-0.5                   | 66 to 56*             | 56 to 46* |
| 0.5-5                      | 56                    | 46        |
| 5-30                       | 60                    | 50        |

\*Decreases with the logarithm of the frequency.

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

Operating Environment:

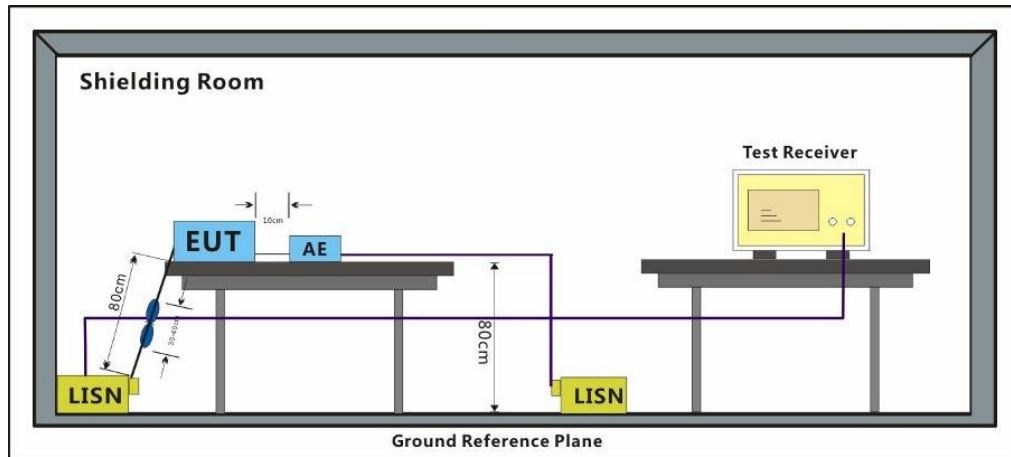
Temperature: 24.0 °C Humidity: 59.3 % RH Atmospheric Pressure: 1010 mbar

#### 7.1.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                    |
|-----------------------|-----------|----------------------------------------------------------------|
| Pre-scan              | 00        | Charge mode_Keep the EUT charging(Output1: 5W)                 |
| Pre-scan              | 01        | Charge mode_Keep the EUT charging(Output1: 7.5W)               |
| Pre-scan              | 02        | Charge mode_Keep the EUT charging(Output1: 10W)                |
| Final test            | 03        | Charge mode_Keep the EUT charging(Output 2: 2.5W)              |
| Pre-scan              | 04        | Charge mode_Keep the EUT chargingOutput1: 5W+Output 2: 2.5W)   |
| Pre-scan              | 05        | Charge mode_Keep the EUT chargingOutput1: 7.5W+Output 2: 2.5W) |
| Final test            | 06        | Charge mode_Keep the EUT chargingOutput1: 10W+Output 2: 2.5W)  |



### 7.1.3 Test Setup Diagram



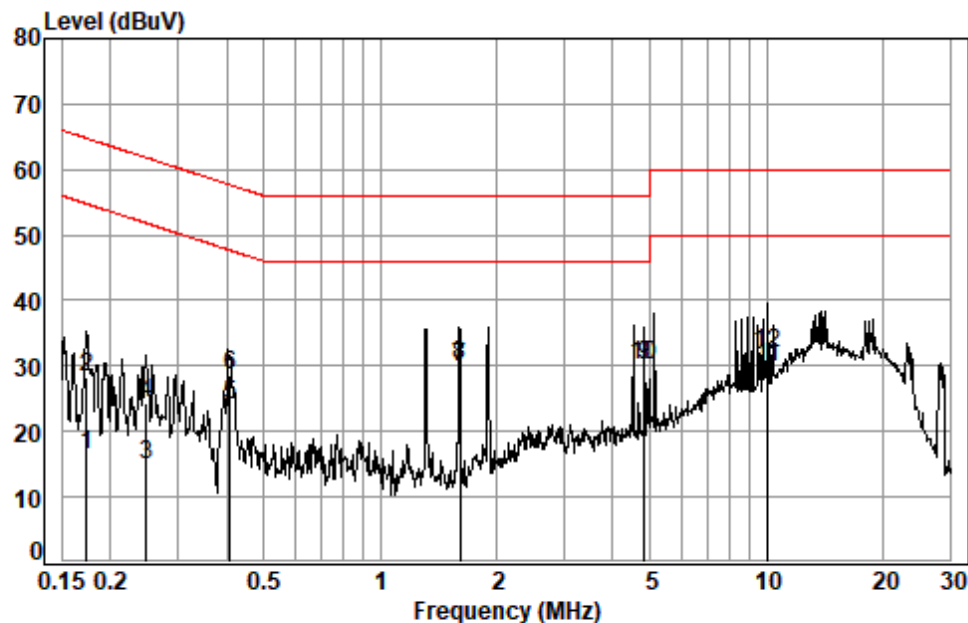
### 7.1.4 Measurement Procedure and Data

- 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 50ohm/50μH + 5ohm 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



Test Mode: 03; Line: Live line

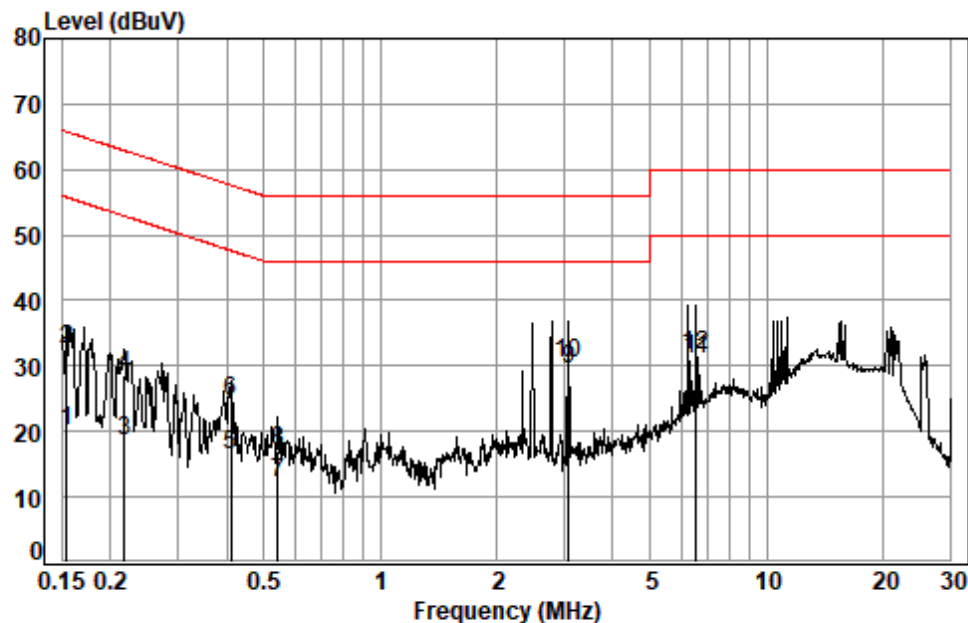


Site : Shielding Room  
Condition: Line  
Job No. : 21114AT  
Test mode: 03

|    | Freq    | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|----|---------|------------|-------------|------------|-------|------------|------------|---------|
|    | MHz     | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1  | 0.1740  | 0.03       | 9.71        | 6.70       | 16.44 | 54.77      | -38.33     | Average |
| 2  | 0.1740  | 0.03       | 9.71        | 18.45      | 28.19 | 64.77      | -36.58     | QP      |
| 3  | 0.2481  | 0.05       | 9.74        | 5.07       | 14.86 | 51.82      | -36.96     | Average |
| 4  | 0.2481  | 0.05       | 9.74        | 14.46      | 24.25 | 61.82      | -37.57     | QP      |
| 5  | 0.4083  | 0.06       | 9.76        | 14.19      | 24.01 | 47.68      | -23.67     | Average |
| 6  | 0.4083  | 0.06       | 9.76        | 18.76      | 28.58 | 57.68      | -29.10     | QP      |
| 7  | 1.6064  | 0.12       | 9.80        | 19.80      | 29.72 | 46.00      | -16.28     | Average |
| 8  | 1.6064  | 0.12       | 9.80        | 20.24      | 30.16 | 56.00      | -25.84     | QP      |
| 9  | 4.8211  | 0.16       | 9.92        | 19.95      | 30.03 | 46.00      | -15.97     | Average |
| 10 | 4.8211  | 0.16       | 9.92        | 20.04      | 30.12 | 56.00      | -25.88     | QP      |
| 11 | 10.0797 | 0.16       | 10.20       | 19.41      | 29.77 | 50.00      | -20.23     | Average |
| 12 | 10.0797 | 0.16       | 10.20       | 21.56      | 31.92 | 60.00      | -28.08     | QP      |



Test Mode: 03; Line: Neutral Line

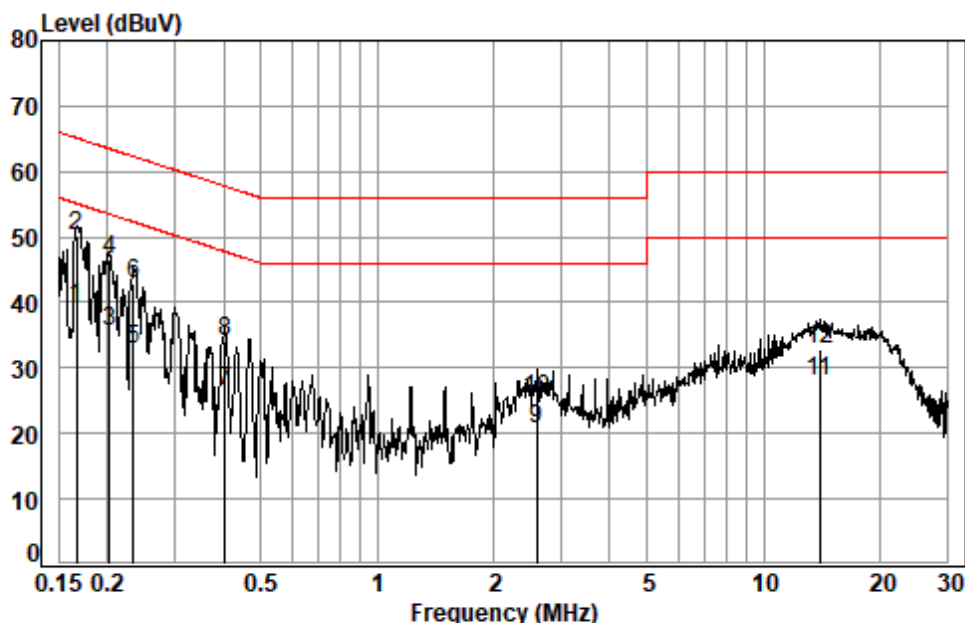


Site : Shielding Room  
Condition: Neutral  
Job No. : 21114AT  
Test mode: 03

|    | Freq   | Cable Loss | LISN Factor | Read Level | Limit Level | Limit Line | Over Limit | Remark  |
|----|--------|------------|-------------|------------|-------------|------------|------------|---------|
|    | MHz    | dB         | dB          | dBuV       | dBuV        | dBuV       | dB         |         |
| 1  | 0.1540 | 0.03       | 9.71        | 10.41      | 20.15       | 55.78      | -35.63     | Average |
| 2  | 0.1540 | 0.03       | 9.71        | 22.89      | 32.63       | 65.78      | -33.15     | QP      |
| 3  | 0.2174 | 0.04       | 9.72        | 8.73       | 18.49       | 52.92      | -34.43     | Average |
| 4  | 0.2174 | 0.04       | 9.72        | 18.83      | 28.59       | 62.92      | -34.33     | QP      |
| 5  | 0.4105 | 0.07       | 9.75        | 6.74       | 16.56       | 47.64      | -31.08     | Average |
| 6  | 0.4105 | 0.07       | 9.75        | 14.76      | 24.58       | 57.64      | -33.06     | QP      |
| 7  | 0.5436 | 0.08       | 9.76        | 2.23       | 12.07       | 46.00      | -33.93     | Average |
| 8  | 0.5436 | 0.08       | 9.76        | 7.06       | 16.90       | 56.00      | -39.10     | QP      |
| 9  | 3.0669 | 0.14       | 9.84        | 19.63      | 29.61       | 46.00      | -16.39     | Average |
| 10 | 3.0669 | 0.14       | 9.84        | 20.35      | 30.33       | 56.00      | -25.67     | QP      |
| 11 | 6.5732 | 0.16       | 10.02       | 20.98      | 31.16       | 50.00      | -18.84     | Average |
| 12 | 6.5732 | 0.16       | 10.02       | 21.45      | 31.63       | 60.00      | -28.37     | QP      |



Test Mode: 06; Line: Live line



Site : Shielding Room

Condition: Line

Job No. : 21114AT

Test mode: 06

|    | Freq    | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|----|---------|------------|-------------|------------|-------|------------|------------|---------|
|    | MHz     | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1  | 0.1668  | 0.03       | 9.71        | 29.48      | 39.22 | 55.12      | -15.90     | Average |
| 2  | 0.1668  | 0.03       | 9.71        | 40.32      | 50.06 | 65.12      | -15.06     | QP      |
| 3  | 0.2029  | 0.04       | 9.72        | 25.90      | 35.66 | 53.49      | -17.83     | Average |
| 4  | 0.2029  | 0.04       | 9.72        | 36.67      | 46.43 | 63.49      | -17.06     | QP      |
| 5  | 0.2341  | 0.04       | 9.73        | 23.11      | 32.88 | 52.30      | -19.42     | Average |
| 6  | 0.2341  | 0.04       | 9.73        | 33.23      | 43.00 | 62.30      | -19.30     | QP      |
| 7  | 0.4040  | 0.06       | 9.76        | 16.62      | 26.44 | 47.77      | -21.33     | Average |
| 8  | 0.4040  | 0.06       | 9.76        | 24.12      | 33.94 | 57.77      | -23.83     | QP      |
| 9  | 2.5807  | 0.14       | 9.82        | 10.67      | 20.63 | 46.00      | -25.37     | Average |
| 10 | 2.5807  | 0.14       | 9.82        | 15.34      | 25.30 | 56.00      | -30.70     | QP      |
| 11 | 13.9886 | 0.16       | 10.46       | 17.44      | 28.06 | 50.00      | -21.94     | Average |
| 12 | 13.9886 | 0.16       | 10.46       | 22.10      | 32.72 | 60.00      | -27.28     | QP      |

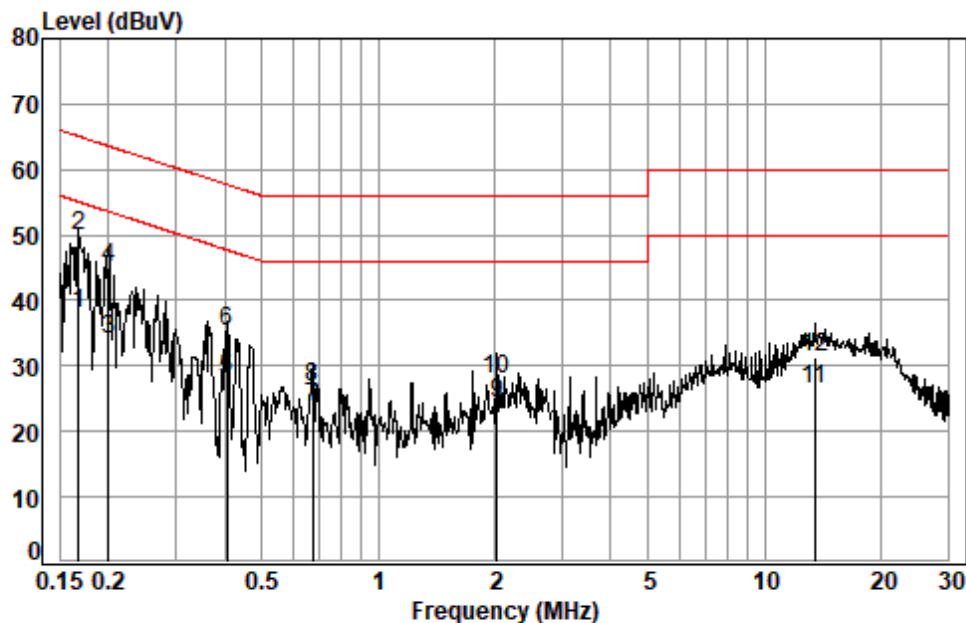


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Test Mode: 06; Line: Neutral Line



Site : Shielding Room  
Condition: Neutral  
Job No. : 21114AT  
Test mode: 06

|    | Freq    | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|----|---------|------------|-------------|------------|-------|------------|------------|---------|
|    | MHz     | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1  | 0.1677  | 0.03       | 9.71        | 28.42      | 38.16 | 55.08      | -16.92     | Average |
| 2  | 0.1677  | 0.03       | 9.71        | 40.02      | 49.76 | 65.08      | -15.32     | QP      |
| 3  | 0.1997  | 0.04       | 9.72        | 24.21      | 33.97 | 53.62      | -19.65     | Average |
| 4  | 0.1997  | 0.04       | 9.72        | 35.15      | 44.91 | 63.62      | -18.71     | QP      |
| 5  | 0.4061  | 0.06       | 9.75        | 18.18      | 27.99 | 47.73      | -19.74     | Average |
| 6  | 0.4061  | 0.06       | 9.75        | 25.38      | 35.19 | 57.73      | -22.54     | QP      |
| 7  | 0.6754  | 0.08       | 9.77        | 13.94      | 23.79 | 46.00      | -22.21     | Average |
| 8  | 0.6754  | 0.08       | 9.77        | 16.99      | 26.84 | 56.00      | -29.16     | QP      |
| 9  | 2.0333  | 0.13       | 9.81        | 14.36      | 24.30 | 46.00      | -21.70     | Average |
| 10 | 2.0333  | 0.13       | 9.81        | 18.13      | 28.07 | 56.00      | -27.93     | QP      |
| 11 | 13.4604 | 0.16       | 10.44       | 15.90      | 26.50 | 50.00      | -23.50     | Average |
| 12 | 13.4604 | 0.16       | 10.44       | 20.74      | 31.34 | 60.00      | -28.66     | QP      |



## 7.2 Radiated Emissions (30MHz-1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

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

Measurement Distance: 10m

Limit:

| Frequency(MHz) | Field strength(microvolts/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                            |
| Above 960      | 500                              | 3                            |

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, 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.

### 7.2.1 E.U.T. Operation

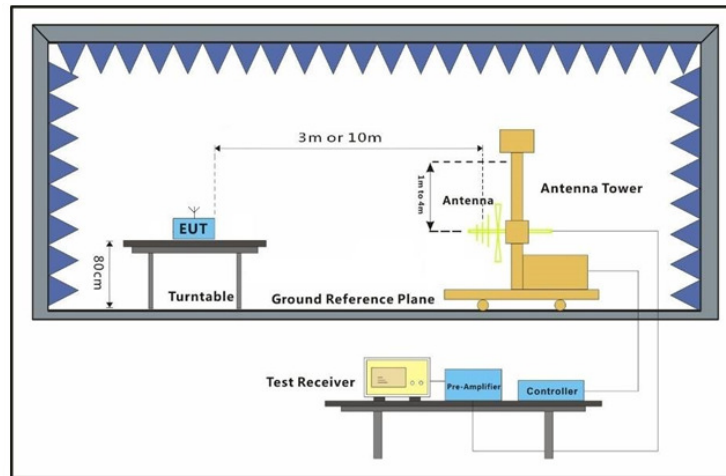
Operating Environment:

Temperature: 23.6 °C Humidity: 49.9 % RH Atmospheric Pressure: 1010 mbar

### 7.2.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                    |
|-----------------------|-----------|----------------------------------------------------------------|
| Pre-scan              | 00        | Charge mode_Keep the EUT charging(Output1: 5W)                 |
| Pre-scan              | 01        | Charge mode_Keep the EUT charging(Output1: 7.5W)               |
| Pre-scan              | 02        | Charge mode_Keep the EUT charging(Output1: 10W)                |
| Pre-scan              | 03        | Charge mode_Keep the EUT charging(Output 2: 2.5W)              |
| Pre-scan              | 04        | Charge mode_Keep the EUT chargingOutput1: 5W+Output 2: 2.5W)   |
| Pre-scan              | 05        | Charge mode_Keep the EUT chargingOutput1: 7.5W+Output 2: 2.5W) |
| Final test            | 06        | Charge mode_Keep the EUT chargingOutput1: 10W+Output 2: 2.5W)  |

### 7.2.3 Test Setup Diagram

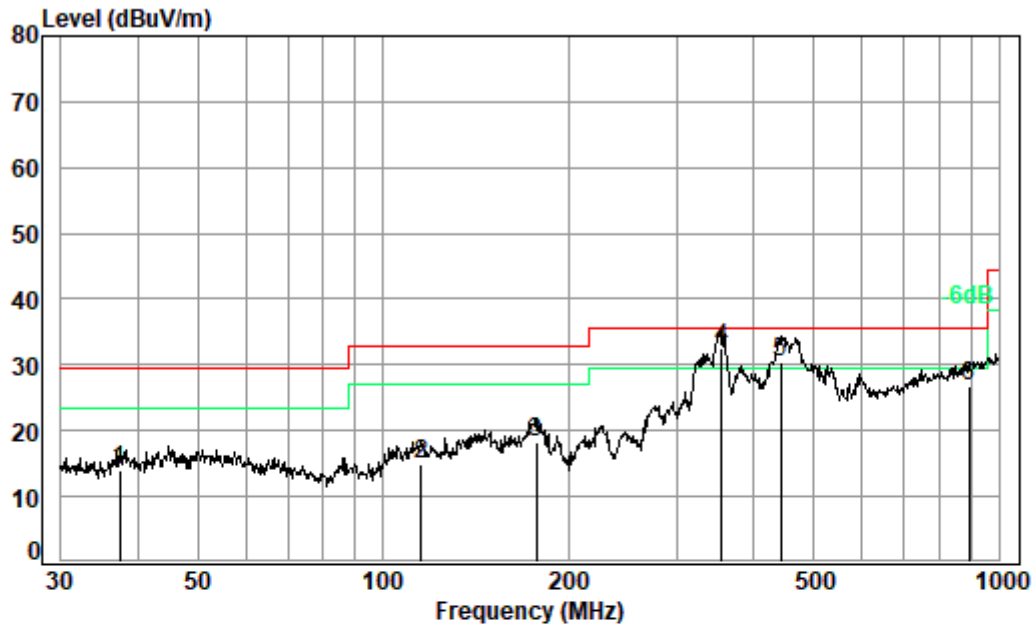


### 7.2.4 Measurement Procedure and Data

- The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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.
- Test the EUT in the lowest channel, the middle channel, the Highest channel
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.
- Repeat above procedures until all frequencies measured was complete.

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

Test Mode: 06; Polarity: Horizontal



Condition: 10m HORIZONTAL

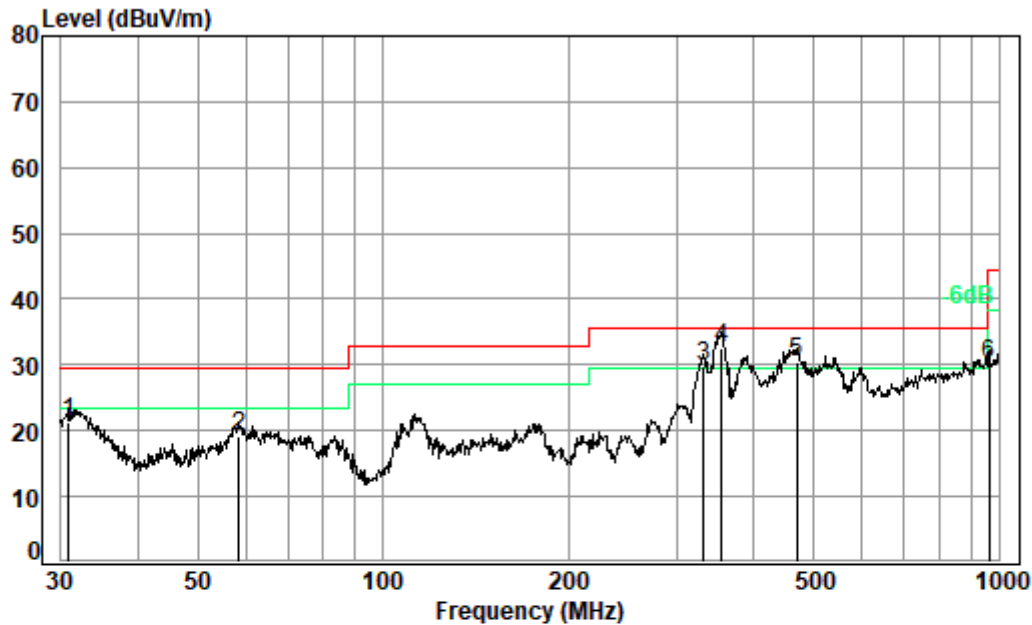
Job No. : 21114AT

Test Mode: 06

|      | Freq    | Read Level | Ant Factor | Cable Loss | Preamplifier Factor | Level  | Limit  | Over Limit | Remark |
|------|---------|------------|------------|------------|---------------------|--------|--------|------------|--------|
|      | MHz     | dBuV       | dB/m       | dB         | dB                  | dBuV/m | dBuV/m | dB         |        |
| 1    | 37.416  | 25.60      | 19.86      | 0.92       | 32.50               | 13.88  | 29.50  | -15.62     | QP     |
| 2    | 115.321 | 29.28      | 16.73      | 1.31       | 32.44               | 14.88  | 33.00  | -18.12     | QP     |
| 3    | 177.509 | 30.76      | 18.32      | 1.54       | 32.41               | 18.21  | 33.00  | -14.79     | QP     |
| 4 pp | 354.183 | 41.92      | 20.63      | 2.36       | 32.34               | 32.57  | 35.60  | -3.03      | QP     |
| 5    | 441.743 | 37.15      | 23.09      | 2.57       | 32.30               | 30.51  | 35.60  | -5.09      | QP     |
| 6    | 893.857 | 25.62      | 29.24      | 3.44       | 31.63               | 26.67  | 35.60  | -8.93      | QP     |



Test Mode: 06; Polarity: Vertical



Condition: 10m VERTICAL

Job No. : 21114AT

Test Mode: 06

|      | Freq    | Read Level | Ant Factor | Cable Loss | Preamp Factor | Level  | Limit  | Over Limit | Remark |
|------|---------|------------|------------|------------|---------------|--------|--------|------------|--------|
|      | MHz     | dBuV       | dB/m       | dB         | dB            | dBuV/m | dBuV/m | dB         |        |
| 1    | 30.853  | 34.33      | 18.64      | 0.88       | 32.50         | 21.35  | 29.50  | -8.15      | QP     |
| 2    | 58.407  | 30.99      | 19.58      | 1.04       | 32.49         | 19.12  | 29.50  | -10.38     | QP     |
| 3    | 331.355 | 39.29      | 20.50      | 2.25       | 32.37         | 29.67  | 35.60  | -5.93      | QP     |
| 4 pp | 354.183 | 41.87      | 20.63      | 2.36       | 32.34         | 32.52  | 35.60  | -3.08      | QP     |
| 5    | 470.523 | 36.26      | 23.70      | 2.69       | 32.30         | 30.35  | 35.60  | -5.25      | QP     |
| 6    | 965.542 | 27.57      | 29.98      | 3.60       | 31.00         | 30.15  | 44.40  | -14.25     | QP     |



The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$$L_3 / L_{10} = D_{10} / D_3$$

Note:

L<sub>3</sub>: Level @ 3m distance. Unit: uV/m;

L<sub>10</sub>: Level @ 10m distance. Unit: uV/m;

D<sub>3</sub>: 3m distance. Unit: m

D<sub>10</sub>: 10m distance. Unit: m

The level at 3m test distance is below:

| Frequency (MHz) | Level @ 10m (dBuV/m) | Level @ 10m (uV/m) | Level @ 3m (uV/m) | Level @ 3m (dBuV/m) | Limit @ 3m (dBuV/m) | Margin (dB) | Ant. Polarization |
|-----------------|----------------------|--------------------|-------------------|---------------------|---------------------|-------------|-------------------|
| 30.853          | 21.35                | 11.68              | 38.94             | 31.81               | 40.00               | -8.19       | V                 |
| 58.407          | 19.12                | 9.04               | 30.12             | 29.58               | 40.00               | -10.42      | V                 |
| 331.355         | 29.67                | 30.44              | 101.48            | 40.13               | 46.00               | -5.87       | V                 |
| 354.183         | 32.52                | 42.27              | 140.89            | 42.98               | 46.00               | -3.02       | V                 |
| 470.523         | 30.35                | 32.92              | 109.74            | 40.81               | 46.00               | -5.19       | V                 |
| 965.542         | 30.15                | 32.17              | 107.25            | 40.61               | 54.00               | -13.39      | V                 |
| 37.416          | 13.88                | 4.94               | 16.48             | 24.34               | 40.00               | -15.66      | H                 |
| 115.321         | 14.88                | 5.55               | 18.49             | 25.34               | 43.50               | -18.16      | H                 |
| 177.509         | 18.21                | 8.14               | 27.13             | 28.67               | 43.50               | -14.83      | H                 |
| 354.183         | 32.57                | 42.51              | 141.70            | 43.03               | 46.00               | -2.97       | H                 |
| 441.743         | 30.51                | 33.54              | 111.78            | 40.97               | 46.00               | -5.03       | H                 |
| 893.857         | 26.67                | 21.55              | 71.84             | 37.13               | 46.00               | -8.87       | H                 |



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### 7.3 Radiated Emissions (9kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

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

Measurement Distance: 3m

Limit:

| Frequency(MHz) | Field strength(microvolts/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                           |

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz. Radiated emission limits in these three bands are based on measurements employing an average detector, 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.

If field strength is measured at only a single point, then that point shall be at the radial from the EUT that produces the maximum emission at the frequency being measured, as described in 5.4. If that point is closer to the EUT than  $\lambda/2\pi$  and the limit distance is greater than  $\lambda/2\pi$ , the measurement shall be extrapolated to the limit distance by conservatively presuming that the field strength decreases at a 40 dB/decade of distance rate to the  $\lambda/2\pi$  distance, and at a 20 dB/decade of distance rate beyond  $\lambda/2\pi$ . This shall be accomplished using Equation (2):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(near\ field)}/d_{(10m)}\} + 20\log\{d_{(30/300m)}/d_{(near\ field)}\} \quad (2)$$

If the single point measured is at a distance greater than  $\lambda/2\pi$ , then extrapolation to the limit distance shall be calculated using Equation (3):

$$FS_{(10m)} = FS_{(30/300m)} + 20\log\{d_{(30/300m)}/d_{(10m)}\} \quad (3)$$

If both the single point and the limit distance are equal to or closer to the EUT than  $\lambda/2\pi$ , then extrapolation to the limit distance shall be calculated using Equation (4):

$$FS_{(10m)} = FS_{(30/300m)} + 40\log\{d_{(30/300m)}/d_{(10m)}\} \quad (4)$$

Remark:

$$d_{near\ field} = 47.77 / f_{MHz}$$

where  $f_{MHz}$  is the frequency of the emission being measured in MHz.

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

Operating Environment:

Temperature: 23.6 °C

Humidity: 49.9 % RH

Atmospheric Pressure: 1010 mbar



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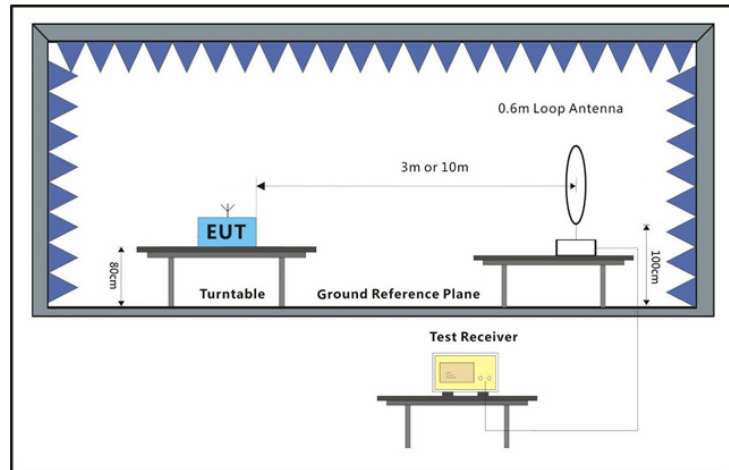
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### 7.3.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                    |
|-----------------------|-----------|----------------------------------------------------------------|
| Pre-scan              | 00        | Charge mode_Keep the EUT charging(Output1: 5W)                 |
| Pre-scan              | 01        | Charge mode_Keep the EUT charging(Output1: 7.5W)               |
| Pre-scan              | 02        | Charge mode_Keep the EUT charging(Output1: 10W)                |
| Pre-scan              | 03        | Charge mode_Keep the EUT charging(Output 2: 2.5W)              |
| Pre-scan              | 04        | Charge mode_Keep the EUT chargingOutput1: 5W+Output 2: 2.5W)   |
| Pre-scan              | 05        | Charge mode_Keep the EUT chargingOutput1: 7.5W+Output 2: 2.5W) |
| Final test            | 06        | Charge mode_Keep the EUT chargingOutput1: 10W+Output 2: 2.5W)  |

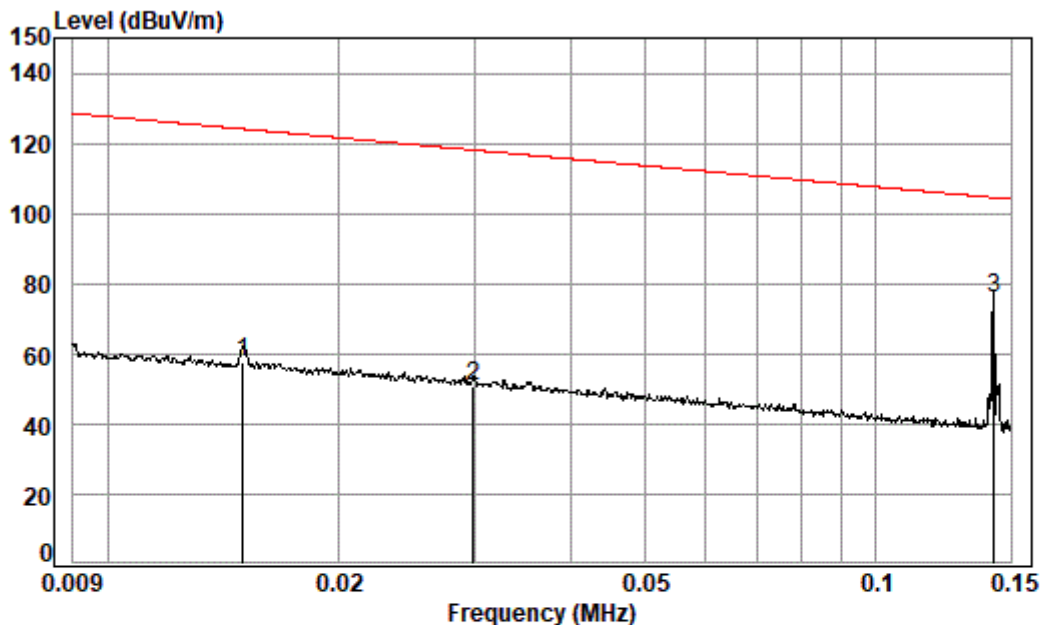
### 7.3.3 Test Setup Diagram



### 7.3.4 Measurement Procedure and Data

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

9kHz-150kHz



Condition: 3m

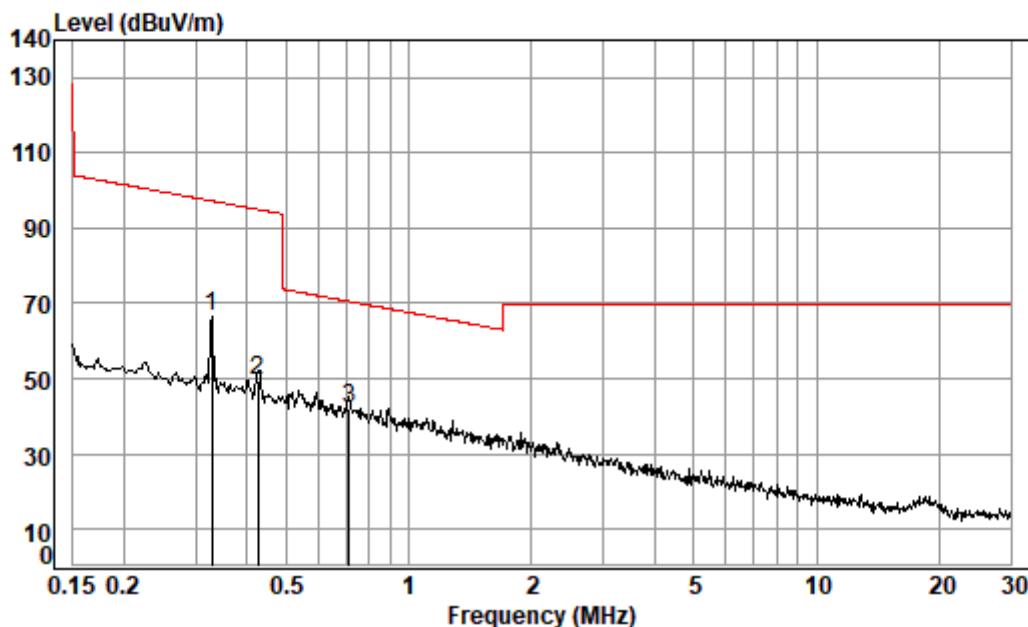
Job No. : 21114AT

Test Mode: 06

|      |       | Read  | Ant    | Cable | Preamp |        | Limit  | Over   |         |
|------|-------|-------|--------|-------|--------|--------|--------|--------|---------|
|      | Freq  | Level | Factor | Loss  | Factor | Level  | Line   | Limit  | Remark  |
|      | MHz   | dBuV  | dB/m   | dB    | dB     | dBuV/m | dBuV/m | dB     |         |
| 1    | 0.015 | 73.10 | 16.00  | 0.01  | 31.73  | 57.38  | 124.10 | -66.72 | Average |
| 2    | 0.030 | 70.02 | 12.66  | 0.01  | 32.17  | 50.52  | 118.09 | -67.57 | Average |
| 3 pp | 0.143 | 97.08 | 11.00  | 0.02  | 32.50  | 75.60  | 104.52 | -28.92 | Average |



150kHz-30MHz



Condition: 3m

Job No. : 21114AT

Test Mode: 06

|   |    | Freq  | Read Level | Ant Factor | Cable Loss | Preamp Factor | Level  | Limit Line | Over Limit | Remark  |
|---|----|-------|------------|------------|------------|---------------|--------|------------|------------|---------|
|   |    | MHz   | dBuV       | dB/m       | dB         | dB            | dBuV/m | dBuV/m     | dB         |         |
| 1 | av | 0.329 | 87.78      | 10.88      | 0.29       | 32.50         | 66.45  | 97.27      | -30.82     | Average |
| 2 |    | 0.426 | 70.66      | 10.86      | 0.38       | 32.50         | 49.40  | 95.02      | -45.62     | Average |
| 3 | pp | 0.712 | 63.23      | 10.83      | 0.61       | 32.50         | 42.17  | 70.55      | -28.38     | QP      |



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### 7.4 20dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215  
Test Method: ANSI C63.10 (2013) Section 6.9.2  
Limit: For report reference only

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

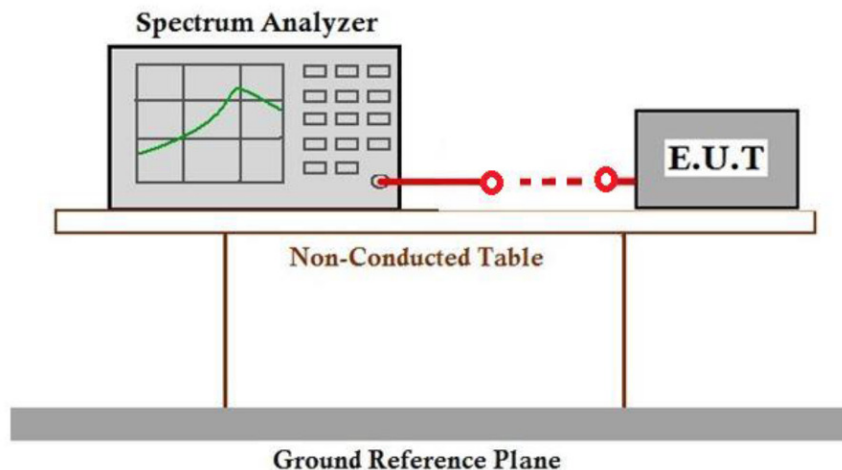
Operating Environment:

Temperature: 20.7 °C Humidity: 52.2 % RH Atmospheric Pressure: 1010 mbar

#### 7.4.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description                                                    |
|--------------------------|--------------|----------------------------------------------------------------|
| Pre-scan                 | 00           | Charge mode_Keep the EUT charging(Output1: 5W)                 |
| Pre-scan                 | 01           | Charge mode_Keep the EUT charging(Output1: 7.5W)               |
| Final test               | 02           | Charge mode_Keep the EUT charging(Output1: 10W)                |
| Final test               | 03           | Charge mode_Keep the EUT charging(Output 2: 2.5W)              |
| Pre-scan                 | 04           | Charge mode_Keep the EUT chargingOutput1: 5W+Output 2: 2.5W)   |
| Pre-scan                 | 05           | Charge mode_Keep the EUT chargingOutput1: 7.5W+Output 2: 2.5W) |
| Pre-scan                 | 06           | Charge mode_Keep the EUT chargingOutput1: 10W+Output 2: 2.5W)  |

#### 7.4.3 Test Setup Diagram



#### 7.4.4 Measurement Procedure and Data

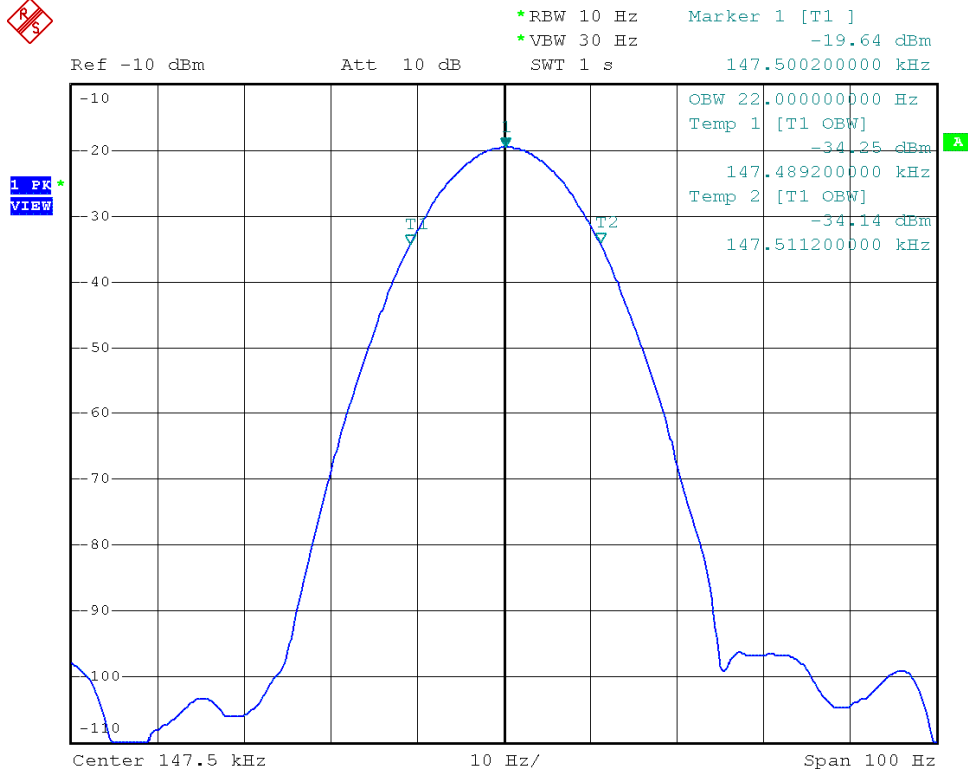


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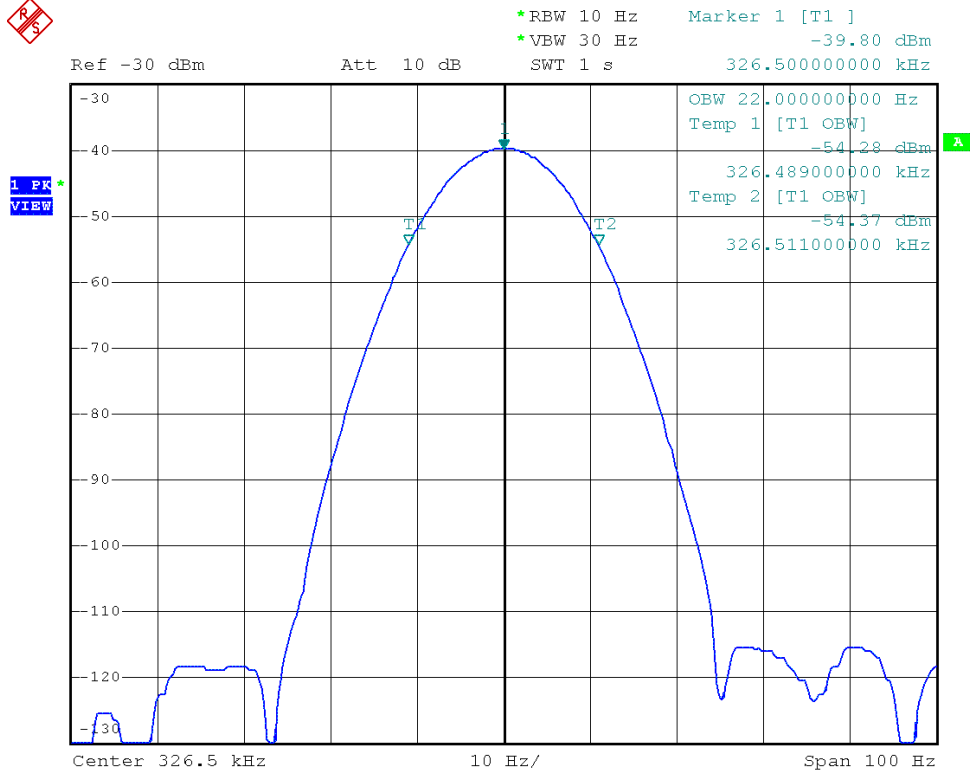
Mode 02:

| Test Frequency(KHz) | 20dB bandwidth (KHz) | Limit (KHz) | Results |
|---------------------|----------------------|-------------|---------|
| 147.5               | 0.022                | N/A         | Pass    |



Mode 03:

| Test Frequency(KHz) | 20dB bandwidth (KHz) | Limit (KHz) | Results |
|---------------------|----------------------|-------------|---------|
| 326.5               | 0.022                | N/A         | Pass    |



### 7.5 Restricted Bands

Test Requirement 47 CFR Part 15, Subpart C 15.205  
Test Method: ANSI C63.10 (2013) Section 6.10.5  
Limit: The fundamental wave could not fall in the restricted band 90KHz-110KHz and 0.495-0.505 MHz

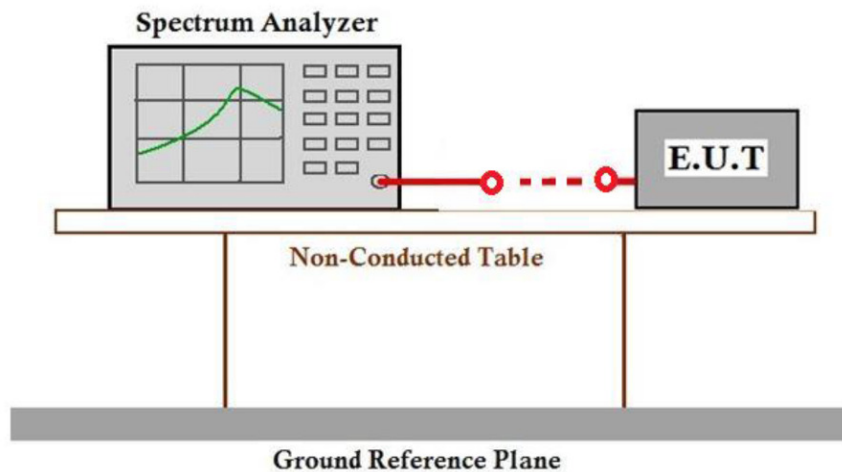
#### 7.5.1 E.U.T. Operation

Operating Environment:  
Temperature: 20.7 °C Humidity: 52.2 % RH Atmospheric Pressure: 1010 mbar

#### 7.5.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                    |
|-----------------------|-----------|----------------------------------------------------------------|
| Pre-scan              | 00        | Charge mode_Keep the EUT charging(Output1: 5W)                 |
| Pre-scan              | 01        | Charge mode_Keep the EUT charging(Output1: 7.5W)               |
| Final test            | 02        | Charge mode_Keep the EUT charging(Output1: 10W)                |
| Final test            | 03        | Charge mode_Keep the EUT charging(Output 2: 2.5W)              |
| Pre-scan              | 04        | Charge mode_Keep the EUT chargingOutput1: 5W+Output 2: 2.5W)   |
| Pre-scan              | 05        | Charge mode_Keep the EUT chargingOutput1: 7.5W+Output 2: 2.5W) |
| Pre-scan              | 06        | Charge mode_Keep the EUT chargingOutput1: 10W+Output 2: 2.5W)  |

#### 7.5.3 Test Setup Diagram



#### 7.5.4 Measurement Procedure and Data

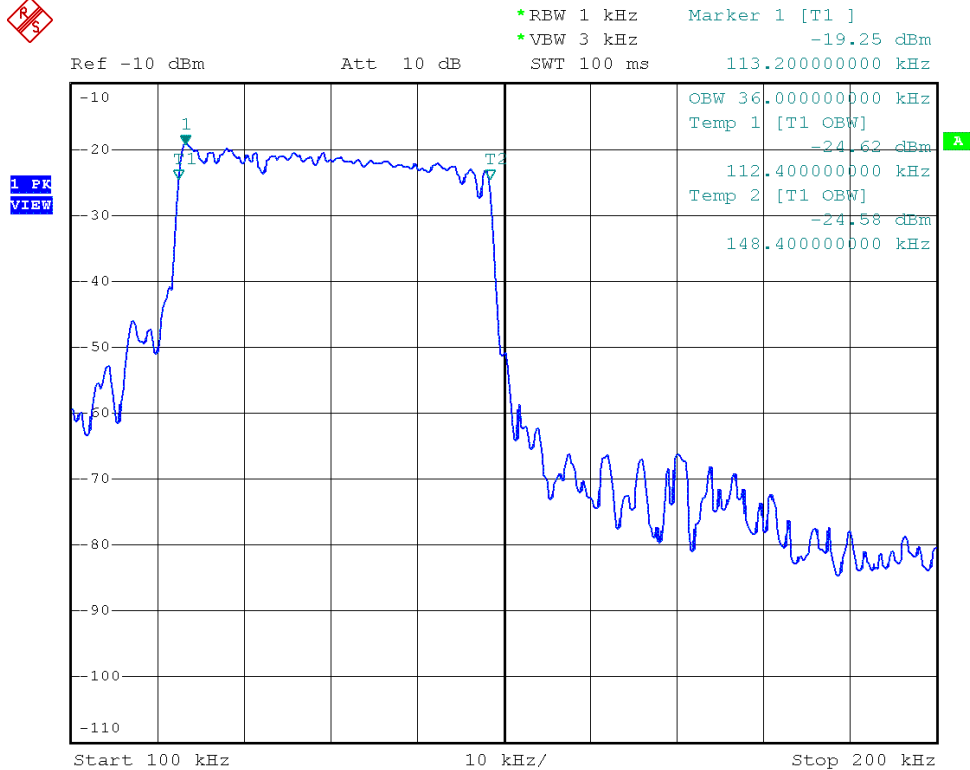


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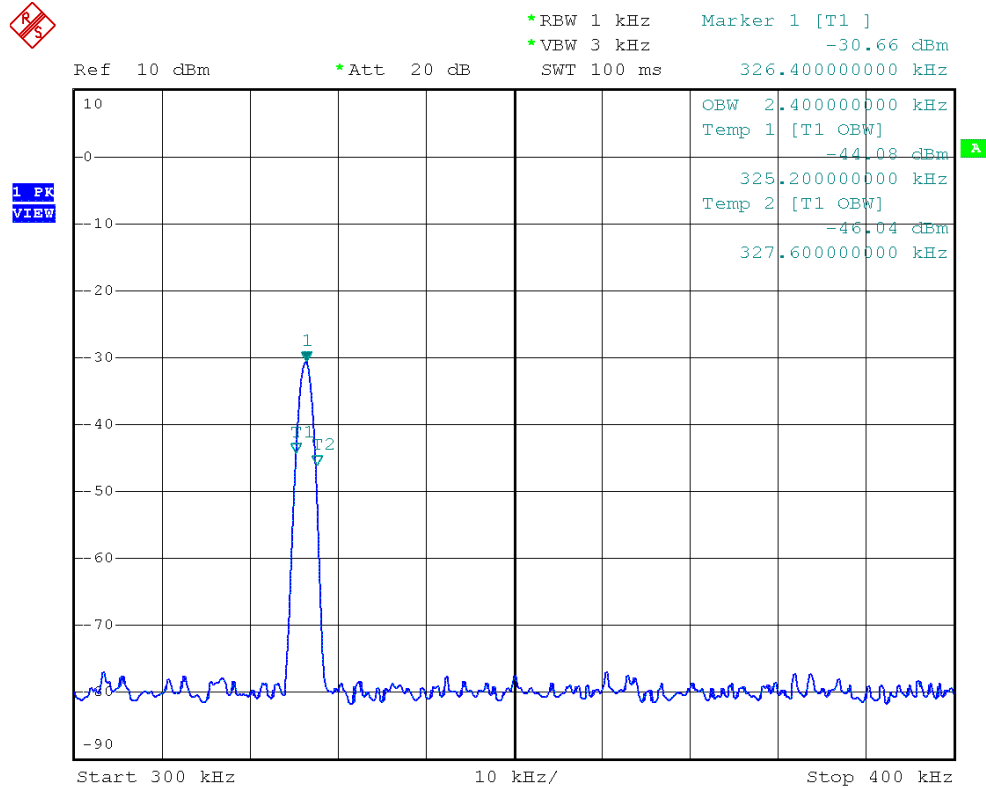
### Mode 02



According the test data above, the fundamental wave is not fall in the restricted band 90KHz-110KHz and 0.495-0.505 MHz, the field strength also meets the 15.209 requirement, please refer to clause 7.3.



Mode 03:



According the test data above, the fundamental wave is not fall in the restricted band 90KHz-110KHz and 0.495-0.505 MHz, the field strength also meets the 15.209 requirement, please refer to clause 7.3.



## 8 Test Setup Photo

Refer to test setup Photos for SZCR2105021114AT

## 9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for SZCR2105021114AT

- End of the Report -

