

# EST REPORT

**Application No.:** SZCR2407002839AT  
**Applicant:** JEM ACCESSORIES INC.  
**Address of Applicant:** 32 Brunswick Avenue Edison New Jersey 08817 New Jersey  
**Manufacturer:** JEM ACCESSORIES INC.  
**Address of Manufacturer:** 32 Brunswick Avenue Edison New Jersey 08817 New Jersey  
**Factory:** Filsion Technology Company Limited  
**Address of Factory:** B13-7C, GuangLong Plaza, PingXin North Road, Longgang district, Shenzhen, China

### Equipment Under Test (EUT):

**EUT Name:** Smart Watch power bank  
**Model No.:** XBB8-1022-WHT  
**Trade Mark:** XTREME  
**FCC ID:** 2AHAS-XBB81022  
**Standard(s) :** 47 CFR Part 15, Subpart C  
**Date of Receipt:** 2024-07-22  
**Date of Test:** 2024-07-23 to 2024-07-25  
**Date of Issue:** 2024-07-26

|                     |              |
|---------------------|--------------|
| <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



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch (EMC Laboratory)

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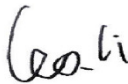
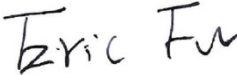
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| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2024-07-26 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |  |  |  |  |
|--------------------------|--|--|--|--|
| Authorized for issue by: |  |  |  |  |
|                          |  |   |  |  |
|                          |  | Leo Li/Project Engineer  |  |  |
|                          |  |  |  |  |
|                          |  | 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 |
| 20dB Bandwidth  | 47 CFR Part 15, Subpart C | ANSI C63.10 (2013) Section 6.9.2  | 47 CFR Part 15, Subpart C 15.215          | Pass   |
| Conducted Emissions at AC Mains Power Port (150kHz-30MHz) |                           | ANSI C63.10 (2013) Section 6.2    | 47 CFR Part 15, Subpart C 15.207          | Pass   |
| Restricted Bands  |                           | ANSI C63.10 (2013) Section 6.10.5 | 47 CFR Part 15, Subpart C 15.205          | Pass   |
| Radiated Emissions (9kHz-30MHz)                           |                           | ANSI C63.10 (2013) Section 6.4    | 47 CFR Part 15, Subpart C 15.205 & 15.209 | Pass   |
| Radiated Emissions (30MHz-1GHz)                           |                           | ANSI C63.10 (2013) Section 6.5    | 47 CFR Part 15, Subpart C 15.205 & 15.209 | Pass   |



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## 4 General Information

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

|                      |   |
|----------------------|---|
| Power supply:        | Input: DC 5V<br>Output: 2.5W<br>Lithium Ion Battery: DC 3.7V 1200mAh rechargeable battery which charged by USB port |
| Operation frequency: | 320.49kHz to 322.59kHz & 1.6687MHz to 1.6824MHz   |
| Modulation type:     | Load modulation   |
| Antenna type:        | Loop Antenna  |

Remark 1: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Remark 2: the frequency range 320.49kHz to 322.59kHz is for charging Series 5 and 1.6687MHz to 1.6824MHz is for charging A2474.

### 4.2 Description of Support Units

| Description  | Manufacturer | Model No. | Serial No.        |
|--------------|--------------|-----------|-------------------|
| Adapter      | Apple        | A1443     | REF. No.SEA05D11D |
| Type-C Cable | SGS          | N/A       | REF. No.SEA07B00  |
| Watch        | Apple        | Series 5  | REF. No.SEA32A00  |
| Watch        | Apple        | A2474     | REF. No.SEA32A01  |

### 4.3 Measurement Uncertainty

| Test Item   | Measurement Uncertainty                               |
|---|---|
| 20dB Bandwidth  | $\pm 0.3\%$   |
| Conducted Emissions at AC Mains Power Port (150kHz-30MHz) | $\pm 3.1\text{dB}$                                    |
| Restricted Bands  | $\pm 0.3\%$   |
| Radiated Emissions (9kHz-30MHz)                           | $\pm 3.6\text{dB}$                                    |
| Radiated Emissions (30MHz-1GHz)                           | $\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m |

Remark:

The  $U_{\text{lab}}$  (lab Uncertainty) is less than  $U_{\text{CISPR/ETSI}}$  (CISPR/ETSI 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.

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## 4.4 Test Location

All tests were performed at:

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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: CN1336

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

Designation Number: CN1336. Test Firm Registration Number: 787754.

### • 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

| 20dB Bandwidth       |                 |               |               |            |              |
|----------------------|-----------------|---------------|---------------|------------|--------------|
| Equipment            | Manufacturer    | Model No.     | Inventory No. | Cal Date   | Cal Due Date |
| DC Power Supply      | Zhao Xin        | PS-305D       | SEM011-13     | 2023-09-20 | 2024-09-19   |
| Spectrum Analyzer    | Rohde & Schwarz | FSP30         | SEM004-06     | 2023-09-19 | 2024-09-18   |
| Measurement Software | TST PASS        | TST PASS V2.0 | N/A           | N/A        | N/A          |
| Coaxial Cable        | SGS             | N/A           | SEM031-01     | 2024-07-06 | 2025-07-05   |
| Attenuator           | Huber+Suhner    | 6620_SMA-50-1 | SEM021-09     | 2024-03-27 | 2025-03-26   |

| 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     | 2022-05-14 | 2025-05-13   |
| EMI Test Receiver   | Rohde&Schwarz    | ESCI             | SEM004-02     | 2024-03-14 | 2025-03-13   |
| Measurement Software                                      | AUDIX            | e3 V8.2014-6-27a | N/A           | N/A        | N/A          |
| Coaxial Cable   | SGS              | N/A              | SEM024-01     | 2024-07-06 | 2025-07-05   |
| LISN  | Rohde&Schwarz    | ENV216           | SEM007-01     | 2023-09-19 | 2024-09-18   |
| LISN  | ETS-LINDGREN     | 3816/2           | SEM007-02     | 2024-03-14 | 2025-03-13   |

| Restricted Bands     |                 |               |               |            |              |
|----------------------|-----------------|---------------|---------------|------------|--------------|
| Equipment            | Manufacturer    | Model No.     | Inventory No. | Cal Date   | Cal Due Date |
| DC Power Supply      | Zhao Xin        | PS-305D       | SEM011-13     | 2023-09-20 | 2024-09-19   |
| Spectrum Analyzer    | Rohde & Schwarz | FSP30         | SEM004-06     | 2023-09-19 | 2024-09-18   |
| Measurement Software | TST PASS        | TST PASS V2.0 | N/A           | N/A        | N/A          |
| Coaxial Cable        | SGS             | N/A           | SEM031-01     | 2024-07-06 | 2025-07-05   |
| Attenuator           | Huber+Suhner    | 6620_SMA-50-1 | SEM021-09     | 2024-03-27 | 2025-03-26   |

| Radiated Emissions (9kHz-30MHz) |                      |           |               |            |              |
|---------------------------------|----------------------|-----------|---------------|------------|--------------|
| Equipment                       | Manufacturer         | Model No. | Inventory No. | Cal Date   | Cal Due Date |
| 10m Semi-Anechoic Chamber       | SAEMC                | FSAC1018  | SEM001-03     | 2024-03-26 | 2025-03-25   |
| MXE EMI receiver                | KEYSIGHT             | N9038A    | SEM004-16     | 2023-10-19 | 2024-10-18   |
| Trilog-Broadband Antenna        | Schwarzbeck          | VULB9168  | SEM003-18     | 2023-09-23 | 2025-09-22   |
| Pre-amplifier                   | Sonoma Instrument Co | 310N      | SEM005-04     | 2024-03-27 | 2025-03-26   |







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|----------------------|--------------|-----------------|-----------|------------|------------|
| Loop Antenna         | ETS-Lindgren | 6502            | SEM003-08 | 2023-11-20 | 2025-11-19 |
| Measurement Software | AUDIX        | e3 V8.2014-6-27 | N/A       | N/A        | N/A        |
| Coaxial Cable        | SGS          | N/A             | SEM029-01 | 2024-07-06 | 2025-07-05 |

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

| Equipment                | Manufacturer         | Model No.       | Inventory No. | Cal Date   | Cal Due Date |
|--------------------------|----------------------|-----------------|---------------|------------|--------------|
| 3m Semi-Anechoic Chamber | ETS-LINDGREN         | N/A             | SEM001-01     | 2023-06-19 | 2026-06-18   |
| MXE EMI Receiver         | Agilent Technologies | N9038A          | SEM004-15     | 2023-10-19 | 2024-10-18   |
| Pre-Amplifier            | Agilent Technologies | 8447D           | SEM005-01     | 2024-03-14 | 2025-03-13   |
| Measurement Software     | AUDIX                | e3 V8.2014-6-27 | N/A           | N/A        | N/A          |
| Coaxial Cable            | SGS                  | N/A             | SEM025-01     | 2024-07-06 | 2025-07-05   |

### General used equipment

| Equipment                       | Manufacturer                              | Model No. | Inventory No. | Cal Date   | Cal Due Date |
|---------------------------------|---|-----------|---------------|------------|--------------|
| Humidity/ Temperature Indicator | deli                                      | 8838      | SEM002-32     | 2023-07-28 | 2024-07-27   |
| Humidity/ Temperature Indicator | deli                                      | 8838      | SEM002-33     | 2023-07-28 | 2024-07-27   |
| Barometer                       | Changchun Meteorological Industry Factory | DYM3      | SEM002-01     | 2024-03-18 | 2025-03-17   |



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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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

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

Refer to the internal photos



## 7 Radio Spectrum Matter Test Results

### 7.1 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

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

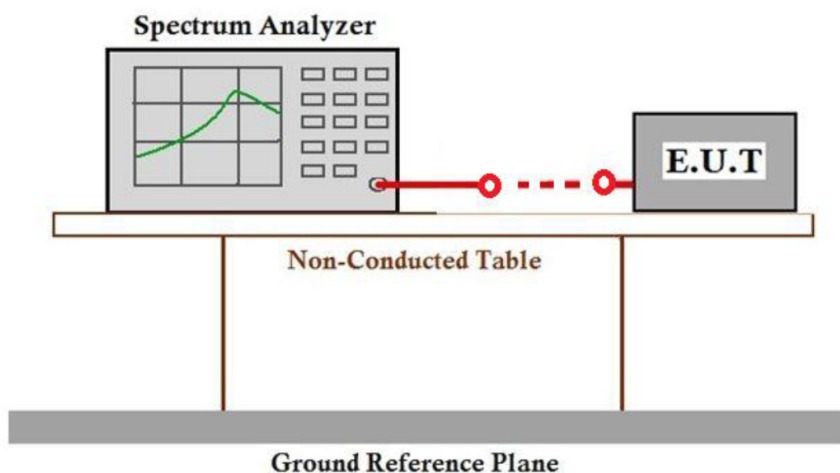
Operating Environment:

Temperature: 27.2 °C Humidity: 37.7 % RH Atmospheric Pressure: 1020 mbar

#### 7.1.2 Test Mode Description

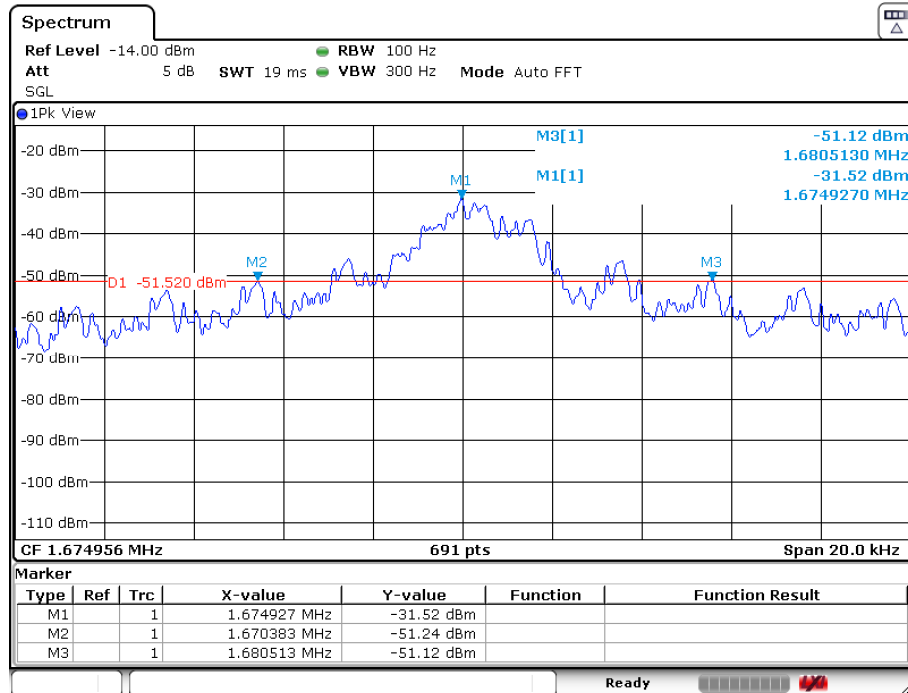
| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Pre-scan                 | 00           | Charging mode_Keep the EUT charging for iWatch(2.5W)(Series 5)  |
| Pre-scan                 | 01           | Charging mode_Keep the EUT charging for iWatch(2.5W)(A2474)   |
| Final test               | 03           | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(Series 5) |
| Final test               | 04           | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(A2474)    |

#### 7.1.3 Test Setup Diagram

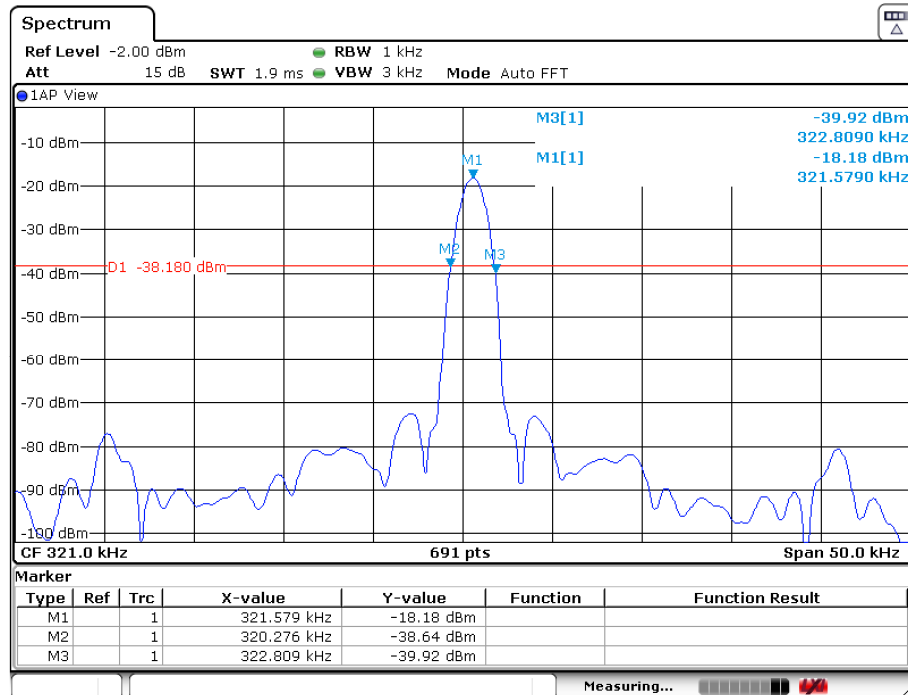


### 7.1.4 Measurement Procedure and Data

Mode: 04



Mode: 03



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### 7.2 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.

#### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.5 °C

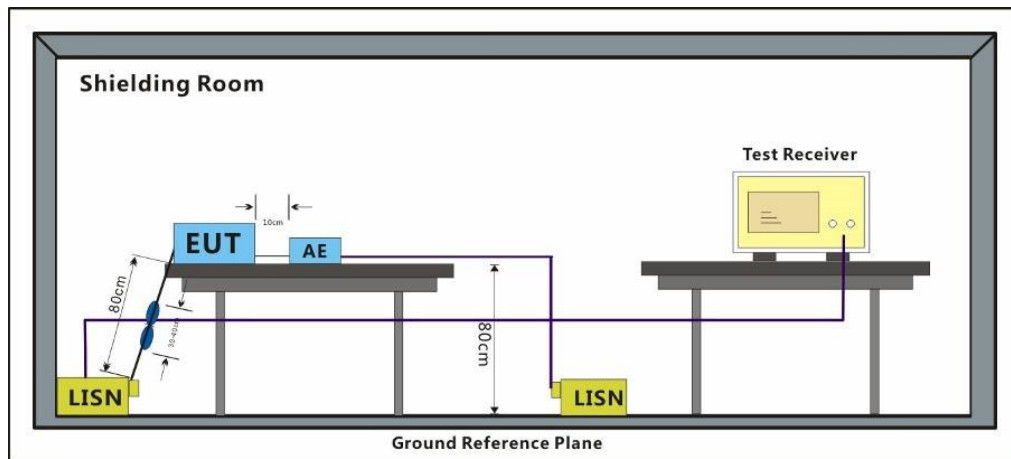
Humidity: 47.3 % RH

Atmospheric Pressure: 1020 mbar

#### 7.2.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description   |
|-----------------------|-----------|---|
| Final test            | 03        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(Series 5) |
| Final test            | 04        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(A2474)    |

#### 7.2.3 Test Setup Diagram





## 7.2.4 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: Level=Read Level+ Cable Loss+ LISN Factor



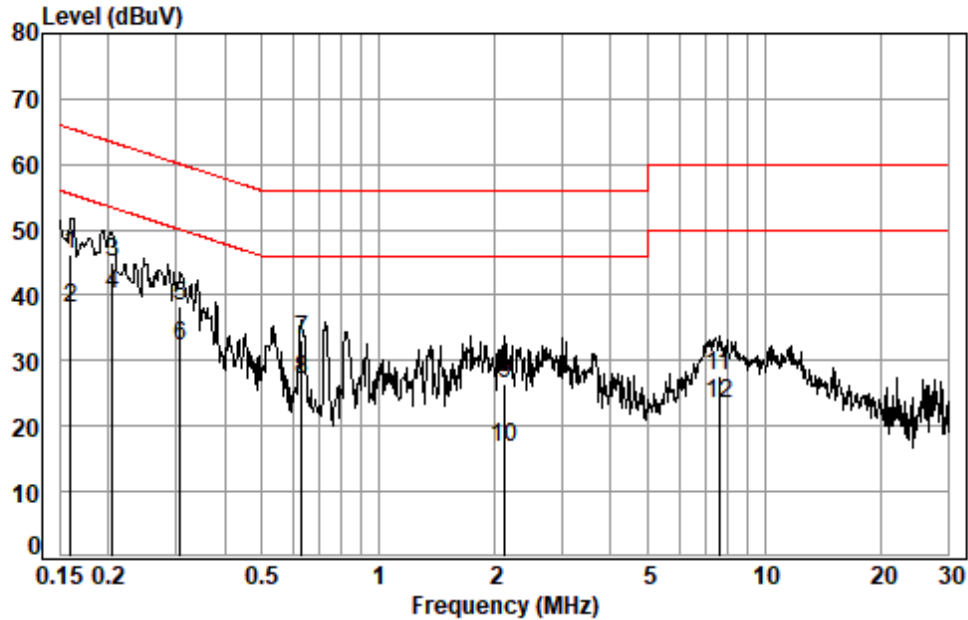
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240700283902

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Test Mode: 03; Line: Live line



Site : Shielding Room  
Condition: Line  
Job No. : 02839AT  
Test mode: 03

|     | Freq   | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|-----|--------|------------|-------------|------------|-------|------------|------------|---------|
|     | MHz    | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1   | 0.1598 | 0.02       | 9.89        | 36.22      | 46.13 | 65.47      | -19.34     | QP      |
| 2   | 0.1598 | 0.02       | 9.89        | 28.16      | 38.07 | 55.47      | -17.40     | Average |
| 3 * | 0.2050 | 0.02       | 9.93        | 35.06      | 45.01 | 63.40      | -18.39     | QP      |
| 4 * | 0.2050 | 0.02       | 9.93        | 30.34      | 40.29 | 53.40      | -13.11     | Average |
| 5   | 0.3067 | 0.03       | 10.01       | 28.26      | 38.30 | 60.06      | -21.76     | QP      |
| 6   | 0.3067 | 0.03       | 10.01       | 22.07      | 32.11 | 50.06      | -17.95     | Average |
| 7   | 0.6338 | 0.04       | 9.98        | 23.10      | 33.12 | 56.00      | -22.88     | QP      |
| 8   | 0.6338 | 0.04       | 9.98        | 16.92      | 26.94 | 46.00      | -19.06     | Average |
| 9   | 2.1326 | 0.07       | 10.01       | 16.30      | 26.38 | 56.00      | -29.62     | QP      |
| 10  | 2.1326 | 0.07       | 10.01       | 6.67       | 16.75 | 46.00      | -29.25     | Average |
| 11  | 7.6464 | 0.13       | 10.13       | 17.36      | 27.62 | 60.00      | -32.38     | QP      |
| 12  | 7.6464 | 0.13       | 10.13       | 13.09      | 23.35 | 50.00      | -26.65     | Average |



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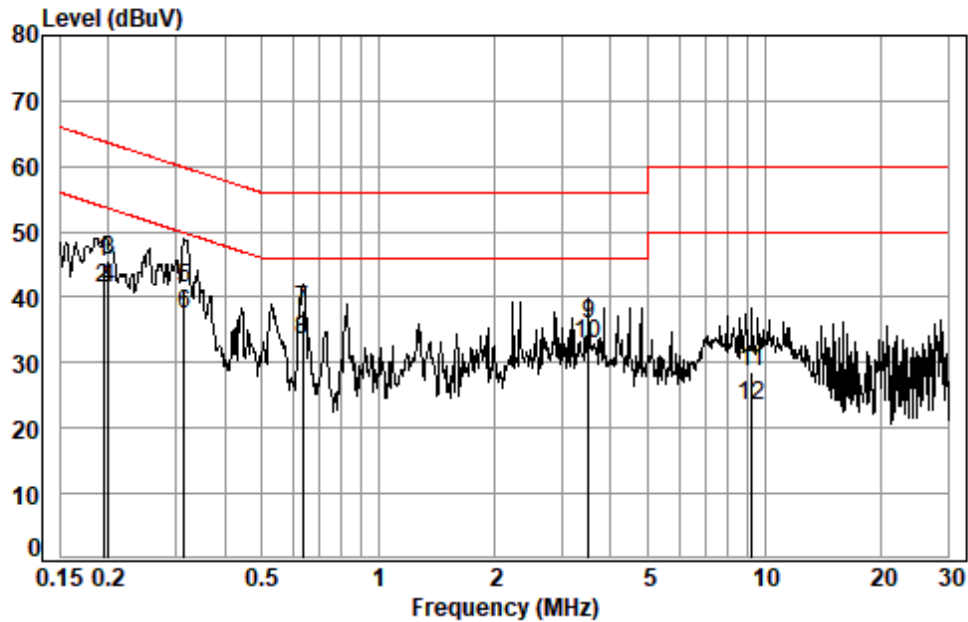
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240700283902

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Test Mode: 03; Line: Neutral Line



Site : Shielding Room  
Condition: Neutral  
Job No. : 02839AT  
Test mode: 03

|      | Cable  | LISN   | Read  | Limit | Over  |                      |
|------|--------|--------|-------|-------|-------|----------------------|
| Freq | Loss   | Factor | Level | Level | Line  | Limit Remark         |
| MHz  | dB     | dB     | dBuV  | dBuV  | dBuV  | dB                   |
| 1    | 0.1945 | 0.02   | 9.92  | 35.47 | 45.41 | 63.84 -18.43 QP      |
| 2    | 0.1945 | 0.02   | 9.92  | 31.39 | 41.33 | 53.84 -12.51 Average |
| 3 *  | 0.2007 | 0.02   | 9.92  | 35.75 | 45.69 | 63.58 -17.89 QP      |
| 4 *  | 0.2007 | 0.02   | 9.92  | 31.53 | 41.47 | 53.58 -12.11 Average |
| 5    | 0.3149 | 0.03   | 9.91  | 31.45 | 41.39 | 59.84 -18.45 QP      |
| 6    | 0.3149 | 0.03   | 9.91  | 27.43 | 37.37 | 49.84 -12.47 Average |
| 7    | 0.6372 | 0.04   | 9.97  | 28.03 | 38.04 | 56.00 -17.96 QP      |
| 8    | 0.6372 | 0.04   | 9.97  | 23.39 | 33.40 | 46.00 -12.60 Average |
| 9    | 3.5092 | 0.08   | 9.98  | 25.93 | 35.99 | 56.00 -20.01 QP      |
| 10   | 3.5092 | 0.08   | 9.98  | 22.69 | 32.75 | 46.00 -13.25 Average |
| 11   | 9.2532 | 0.16   | 10.24 | 18.04 | 28.44 | 60.00 -31.56 QP      |
| 12   | 9.2532 | 0.16   | 10.24 | 13.12 | 23.52 | 50.00 -26.48 Average |



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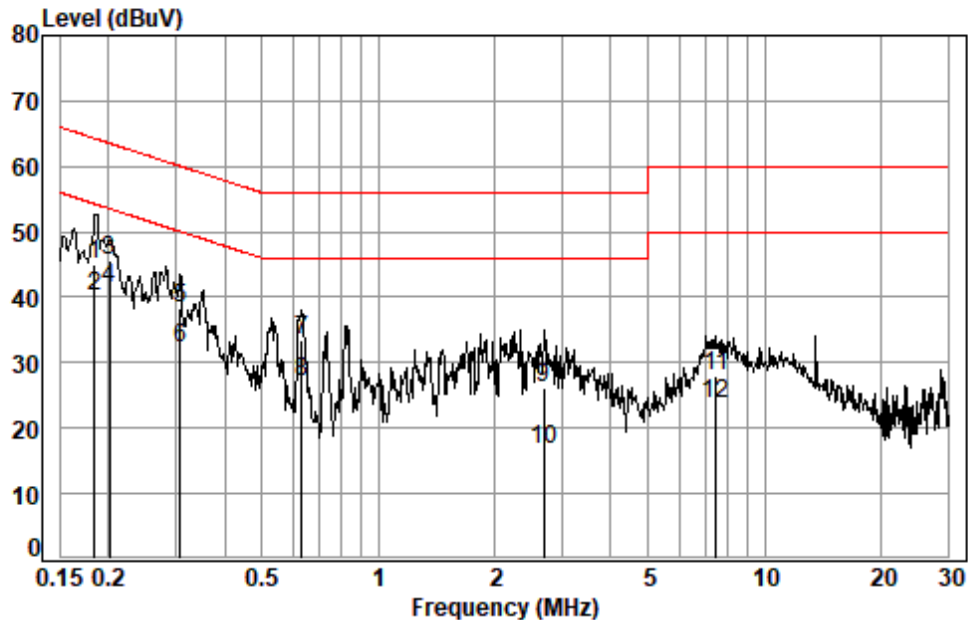
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240700283902

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Test Mode: 04; Line: Live line



Site : Shielding Room  
Condition: Line  
Job No. : 02839AT  
Test mode: 04

|     | Freq   | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|-----|--------|------------|-------------|------------|-------|------------|------------|---------|
|     | MHz    | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1   | 0.1844 | 0.02       | 9.92        | 35.10      | 45.04 | 64.28      | -19.24     | QP      |
| 2   | 0.1844 | 0.02       | 9.92        | 30.28      | 40.22 | 54.28      | -14.06     | Average |
| 3 * | 0.2018 | 0.02       | 9.93        | 35.71      | 45.66 | 63.54      | -17.88     | QP      |
| 4 * | 0.2018 | 0.02       | 9.93        | 31.50      | 41.45 | 53.54      | -12.09     | Average |
| 5   | 0.3067 | 0.03       | 10.01       | 28.29      | 38.33 | 60.06      | -21.73     | QP      |
| 6   | 0.3067 | 0.03       | 10.01       | 22.16      | 32.20 | 50.06      | -17.86     | Average |
| 7   | 0.6338 | 0.04       | 9.98        | 23.47      | 33.49 | 56.00      | -22.51     | QP      |
| 8   | 0.6338 | 0.04       | 9.98        | 16.92      | 26.94 | 46.00      | -19.06     | Average |
| 9   | 2.6783 | 0.07       | 10.03       | 16.21      | 26.31 | 56.00      | -29.69     | QP      |
| 10  | 2.6783 | 0.07       | 10.03       | 6.71       | 16.81 | 46.00      | -29.19     | Average |
| 11  | 7.4860 | 0.13       | 10.12       | 17.62      | 27.87 | 60.00      | -32.13     | QP      |
| 12  | 7.4860 | 0.13       | 10.12       | 13.59      | 23.84 | 50.00      | -26.16     | Average |



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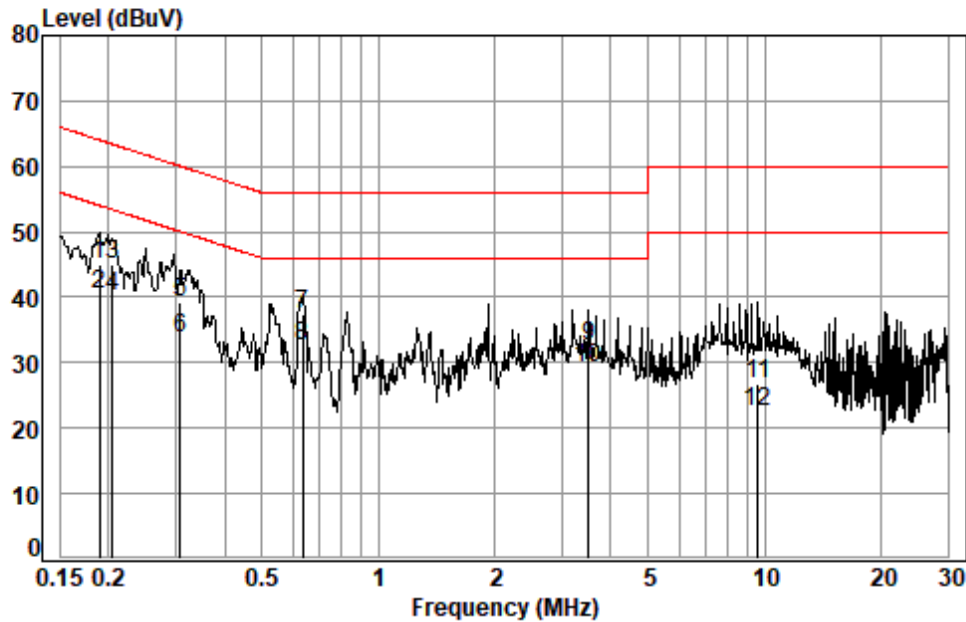
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SZEMC-TRF-01 Rev. A/1

Report No.: SZCR240700283902

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Test Mode: 04; Line: Neutral Line



Site : Shielding Room  
Condition: Neutral  
Job No. : 02839AT  
Test mode: 04

|     | Freq   | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark  |
|-----|--------|------------|-------------|------------|-------|------------|------------|---------|
|     | MHz    | dB         | dB          | dBuV       | dBuV  | dBuV       | dB         |         |
| 1   | 0.1894 | 0.02       | 9.91        | 35.09      | 45.02 | 64.06      | -19.04     | QP      |
| 2   | 0.1894 | 0.02       | 9.91        | 30.59      | 40.52 | 54.06      | -13.54     | Average |
| 3 * | 0.2050 | 0.02       | 9.92        | 35.15      | 45.09 | 63.40      | -18.31     | QP      |
| 4 * | 0.2050 | 0.02       | 9.92        | 30.16      | 40.10 | 53.40      | -13.30     | Average |
| 5   | 0.3067 | 0.03       | 9.91        | 29.36      | 39.30 | 60.06      | -20.76     | QP      |
| 6   | 0.3067 | 0.03       | 9.91        | 23.67      | 33.61 | 50.06      | -16.45     | Average |
| 7   | 0.6372 | 0.04       | 9.97        | 27.33      | 37.34 | 56.00      | -18.66     | QP      |
| 8   | 0.6372 | 0.04       | 9.97        | 22.65      | 32.66 | 46.00      | -13.34     | Average |
| 9   | 3.5092 | 0.08       | 9.98        | 22.50      | 32.56 | 56.00      | -23.44     | QP      |
| 10  | 3.5092 | 0.08       | 9.98        | 19.05      | 29.11 | 46.00      | -16.89     | Average |
| 11  | 9.6028 | 0.16       | 10.26       | 16.38      | 26.80 | 60.00      | -33.20     | QP      |
| 12  | 9.6028 | 0.16       | 10.26       | 11.98      | 22.40 | 50.00      | -27.60     | Average |



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### 7.3 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

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

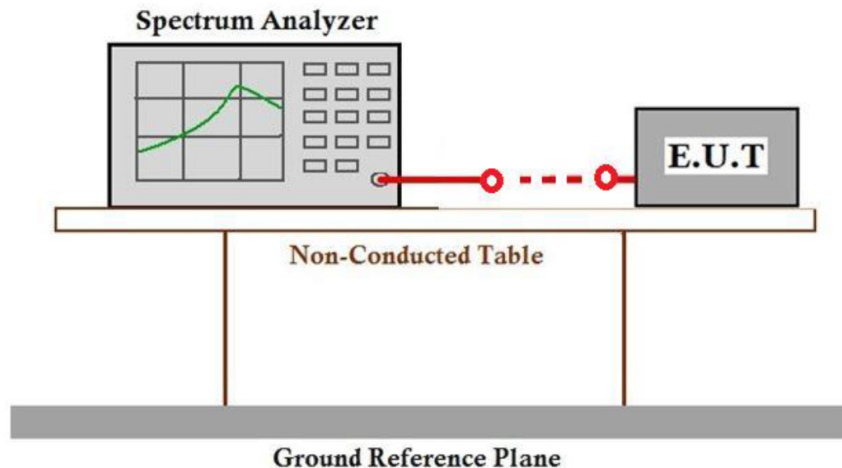
Operating Environment:

Temperature: 27.2 °C Humidity: 37.7 % RH Atmospheric Pressure: 1020 mbar

#### 7.3.2 Test Mode Description

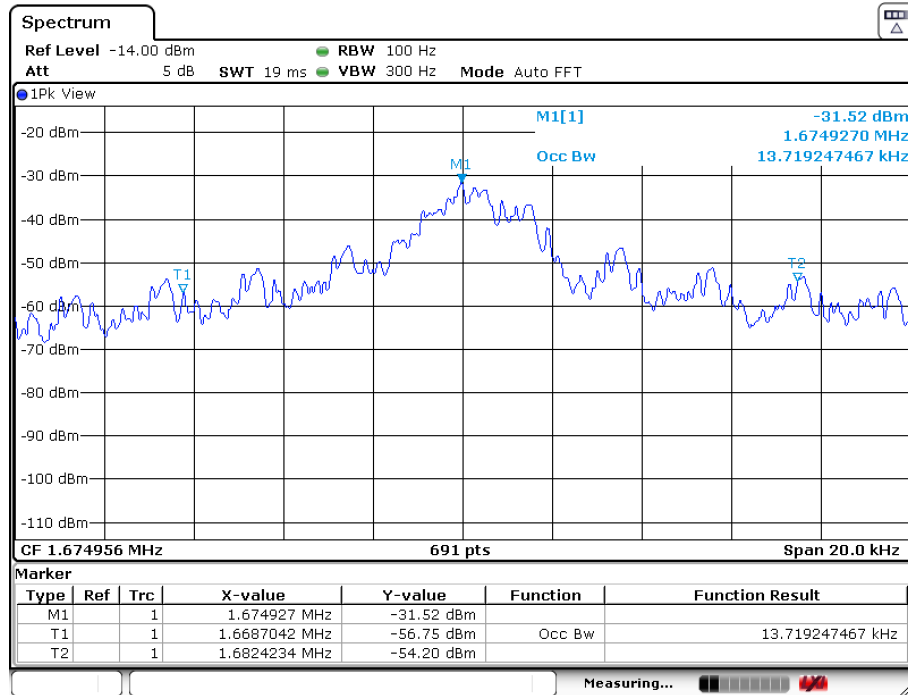
| Pre-scan /<br>Final test | Mode<br>Code | Description   |
|--------------------------|--------------|---|
| Pre-scan                 | 00           | Charging mode_Keep the EUT charging for iWatch(2.5W)(Series 5)  |
| Pre-scan                 | 01           | Charging mode_Keep the EUT charging for iWatch(2.5W)(A2474)   |
| Final test               | 03           | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(Series 5) |
| Final test               | 04           | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(A2474)    |

#### 7.3.3 Test Setup Diagram

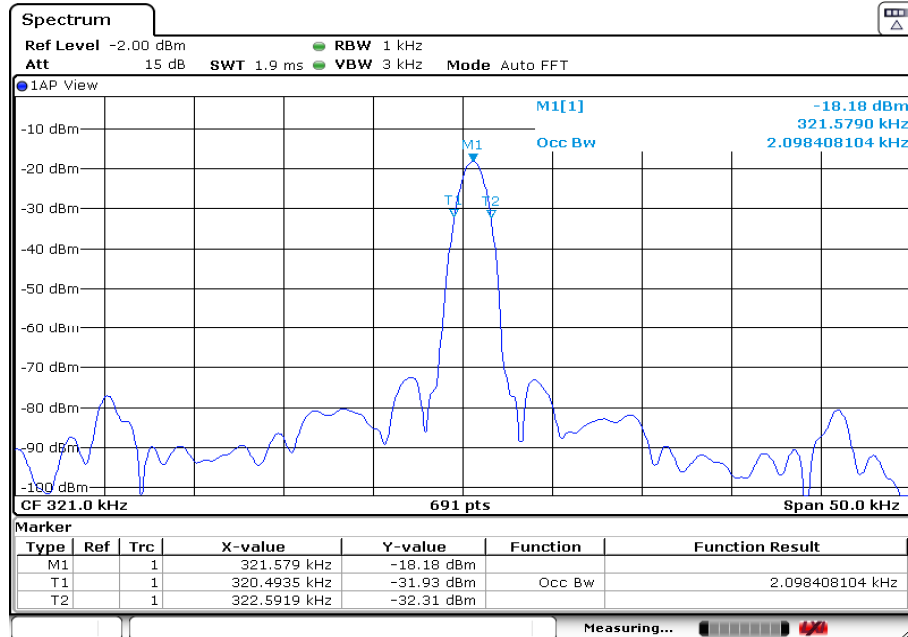


### 7.3.4 Measurement Procedure and Data

Mode: 04



Mode:03



## 7.4 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.

### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 23.6 °C

Humidity: 49.9 % RH

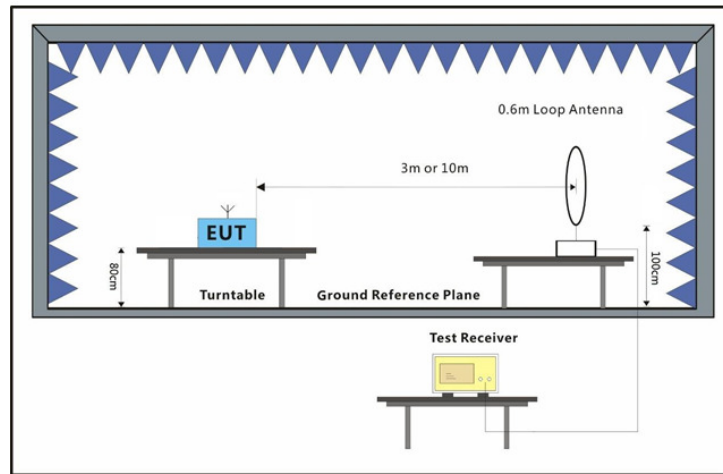
Atmospheric Pressure: 1020 mbar



### 7.4.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description   |
|-----------------------|-----------|---|
| Pre-scan              | 00        | Charging mode_Keep the EUT charging for iWatch(2.5W)(Series 5)  |
| Pre-scan              | 01        | Charging mode_Keep the EUT charging for iWatch(2.5W)(A2474)   |
| Final test            | 03        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(Series 5) |
| Final test            | 04        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(A2474)    |

### 7.4.3 Test Setup Diagram

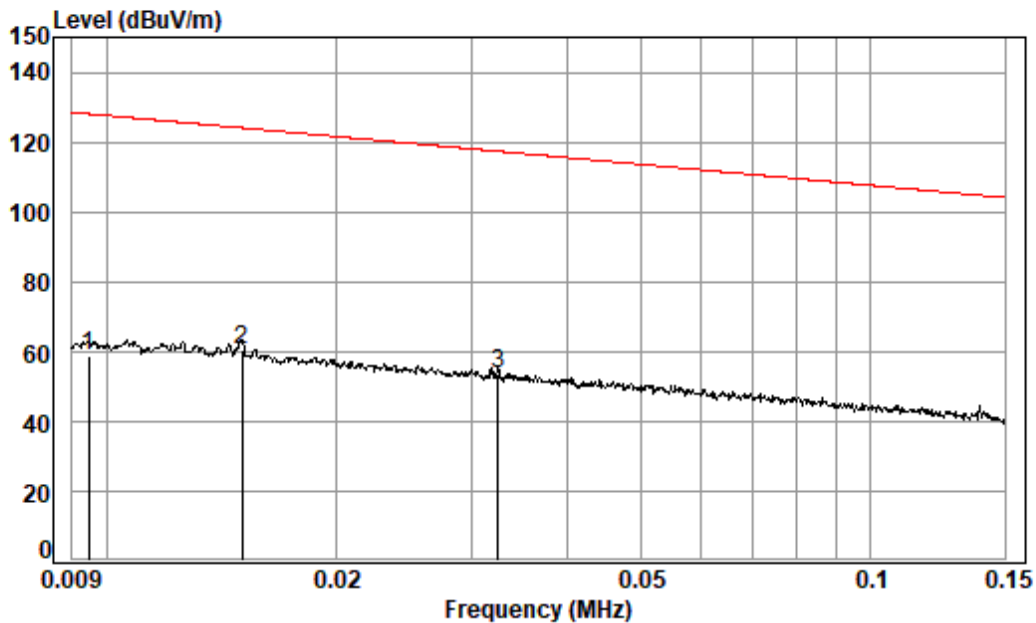


### 7.4.4 Measurement Procedure and Data

- All radiated emission measurements in terms of magnetic field strength shall be performed with a shielded loop antenna.
- For all radiated emission measurements in terms of magnetic field strength, the loop antenna were placed such that:
  - its centre shall be at 1.3 m height above the ground plane;
  - the projection of its centre onto the ground plane shall be at the specified measurement distance from the projection on the ground plane of the closest point on the boundary of the equipment under test (EUT); and
  - measurements shall be performed with the loop antenna placed vertically, in turn, in two polarizations (the measurement axis specified below is the line segment connecting the projections on the ground plane of the centre of the loop antenna and the centre of the EUT arrangement):
    - coaxial (loop plane perpendicular to the ground plane and to the measurement axis); and
    - coplanar (loop plane perpendicular to the ground plane and coplanar with the measurement axis).







Condition: 3m

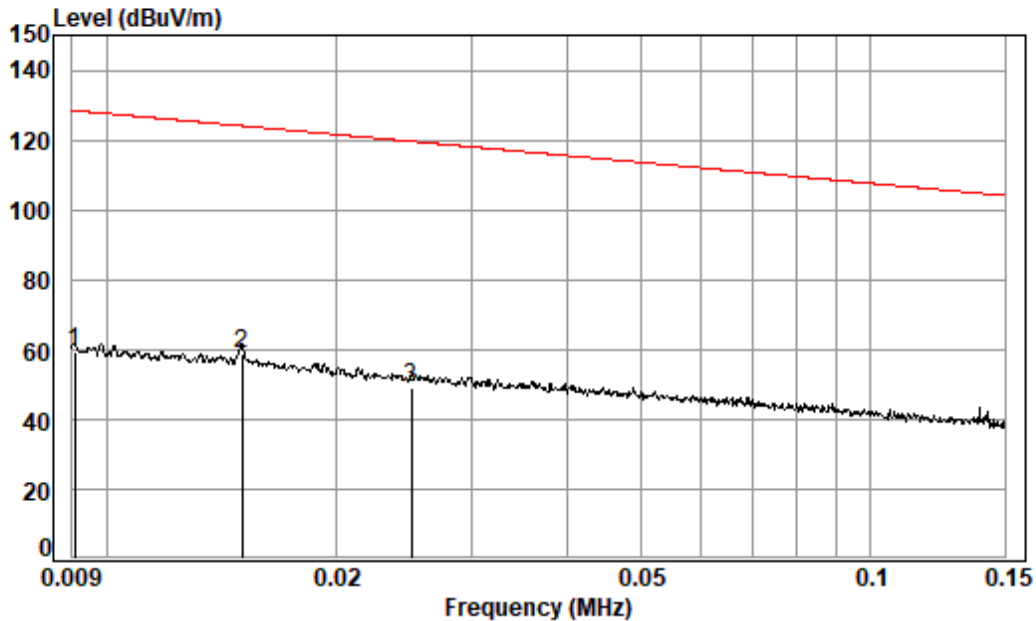
Job No. : 02839AT

Test Mode: 03

|      | 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    | 0.009 | 71.26      | 18.66      | 0.31       | 31.35               | 58.88  | 128.06 | -69.18     | Average |
| 2    | 0.015 | 75.86      | 15.96      | 0.31       | 31.85               | 60.28  | 124.05 | -63.77     | Average |
| 3 pp | 0.033 | 73.89      | 11.89      | 0.30       | 32.42               | 53.66  | 117.34 | -63.68     | Average |







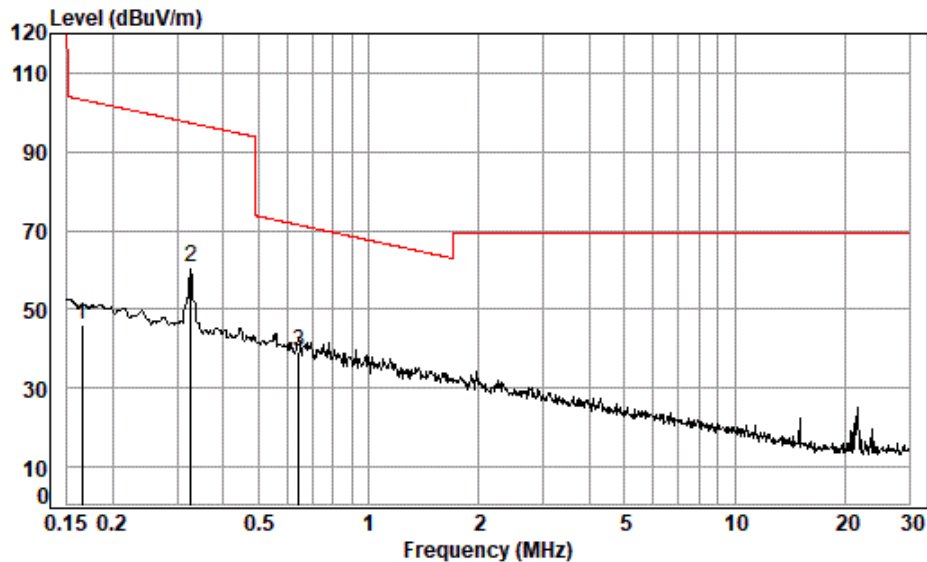
Condition: 3m

Job No. : 02839AT

Test Mode: 04

|      | 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    | 0.009 | 71.47      | 18.94      | 0.31       | 31.31         | 59.41  | 128.43 | -69.02     | Average |
| 2 pp | 0.015 | 74.05      | 15.96      | 0.31       | 31.85         | 58.47  | 124.05 | -65.58     | Average |
| 3    | 0.025 | 68.10      | 12.85      | 0.31       | 32.40         | 48.86  | 119.61 | -70.75     | Average |





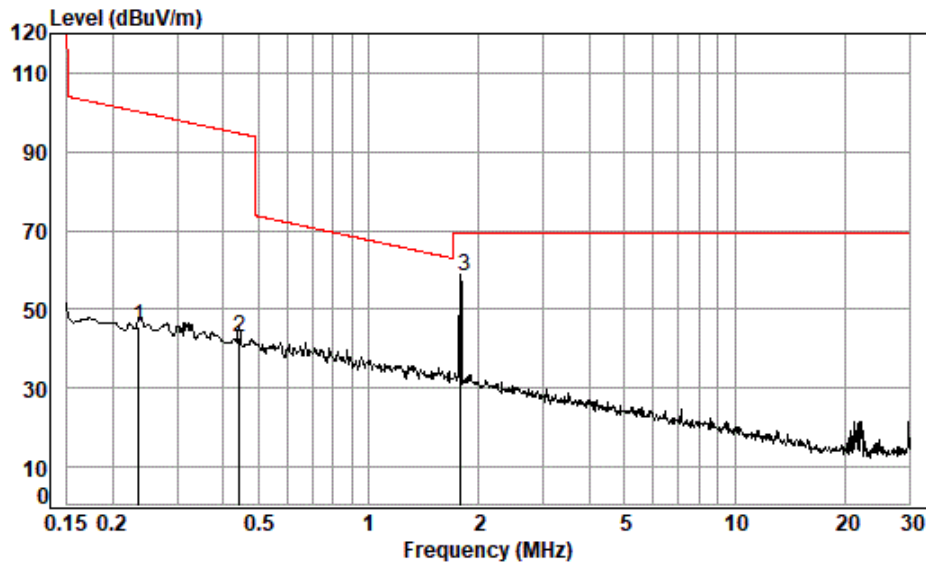
Condition: 3m

Job No. : 02839AT

Test Mode: 03

|      | 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    | 0.165 | 68.02      | 10.41      | 0.30       | 32.50         | 46.23  | 103.25     | -57.02     | Average |
| 2 av | 0.321 | 82.53      | 10.33      | 0.32       | 32.50         | 60.68  | 97.33      | -36.65     | Average |
| 3 pp | 0.644 | 61.01      | 10.30      | 0.37       | 32.50         | 39.18  | 71.41      | -32.23     | QP      |





Condition: 3m

Job No. : 02839AT

Test Mode: 04

|      |       | 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    | 0.235 | 67.50 | 10.37  | 0.31  | 32.50  | 45.68  | 100.17 | -54.49 | Average |
| 2 av | 0.444 | 64.62 | 10.32  | 0.34  | 32.50  | 42.78  | 94.65  | -51.87 | Average |
| 3 pp | 1.680 | 82.55 | 10.30  | 0.49  | 32.50  | 60.84  | 69.50  | -8.66  | QP      |



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

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## 7.5 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: 3m

Limit:

| Frequency(MHz)  | Field strength(microvolts/meter) | Measurement distance(meters) |
|---|----------------------------------|------------------------------|
| 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. |                                  |                              |

### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

Humidity: 45.2 % RH

Atmospheric Pressure: 1020 mbar

### 7.5.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description   |
|-----------------------|-----------|---|
| Pre-scan              | 00        | Charging mode_Keep the EUT charging for iWatch(2.5W)(Series 5)  |
| Pre-scan              | 01        | Charging mode_Keep the EUT charging for iWatch(2.5W)(A2474)   |
| Final test            | 03        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(Series 5) |
| Final test            | 04        | Battery Charging + Wireless Charging mode_Keep the battery of the EUT in charging mode and keep the EUT charging for iWatch(2.5W)(A2474)    |



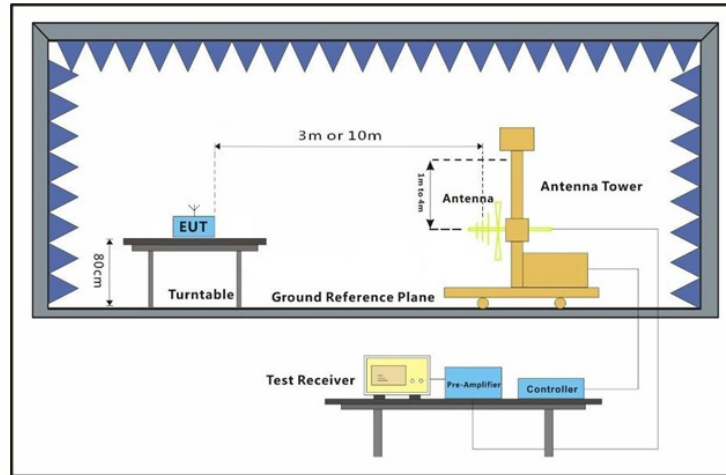
SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Testing Center EMC Laboratory

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### 7.5.3 Test Setup Diagram



### 7.5.4 Measurement Procedure and Data

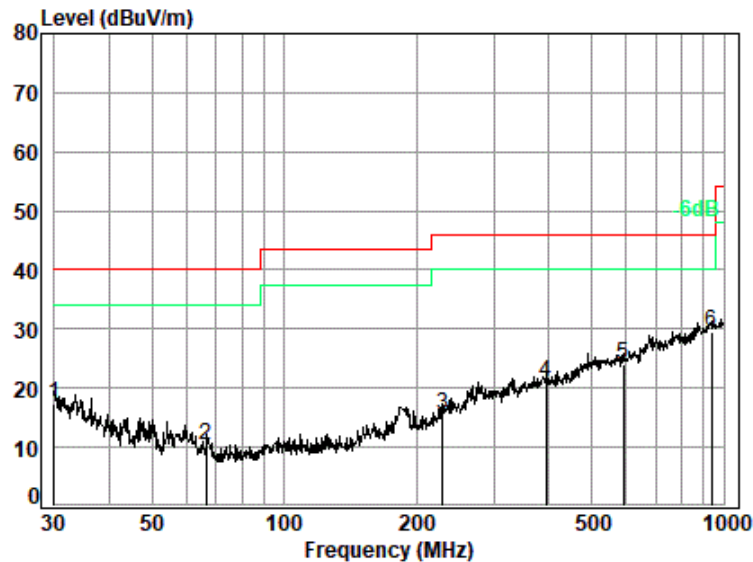
- The EUT was placed on the top of a rotating table 0.8 meters above the ground for below 1GHz at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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: 03; Polarity: Horizontal

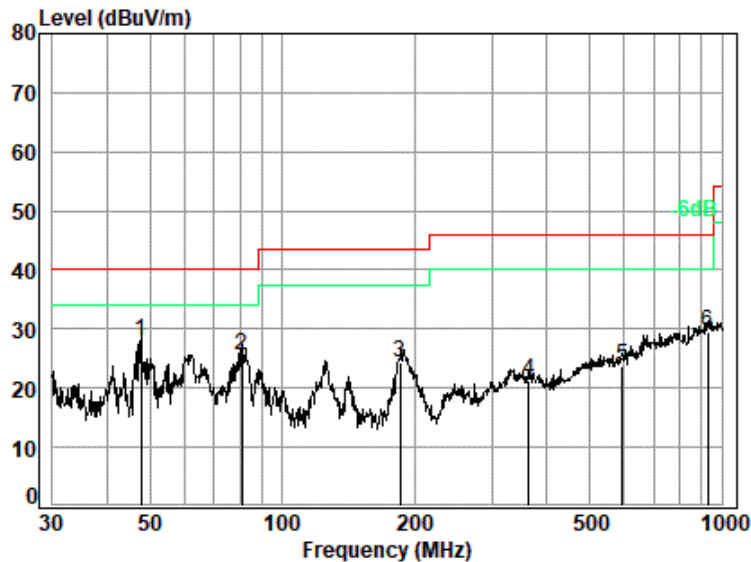


Site : chamber  
Condition: 3m HORIZONTAL  
Job No. : 02839AT  
Test Mode: 03

|     | Ant    | Cable  | Preamp | Read   |       | Limit  | Over   |              |
|-----|--------|--------|--------|--------|-------|--------|--------|--------------|
|     | Freq   | Factor | Loss   | Factor | Level | Level  | Line   | Limit Remark |
|     | MHz    | dB/m   | dB     | dB     | dBuV  | dBuV/m | dBuV/m | dB           |
| 1   | 30.00  | 21.20  | 0.64   | 27.79  | 23.43 | 17.48  | 40.00  | -22.52 QP    |
| 2   | 66.50  | 10.87  | 0.97   | 27.69  | 26.12 | 10.27  | 40.00  | -29.73 QP    |
| 3   | 229.29 | 16.35  | 1.86   | 27.05  | 24.25 | 15.41  | 46.00  | -30.59 QP    |
| 4   | 394.85 | 20.70  | 2.53   | 27.14  | 24.83 | 20.92  | 46.00  | -25.08 QP    |
| 5   | 590.97 | 24.44  | 3.18   | 27.93  | 24.27 | 23.96  | 46.00  | -22.04 QP    |
| 6 q | 938.83 | 28.15  | 4.19   | 26.49  | 23.61 | 29.46  | 46.00  | -16.54 QP    |



Test Mode: 03; Polarity: Vertical



Site : chamber

Condition: 3m VERTICAL

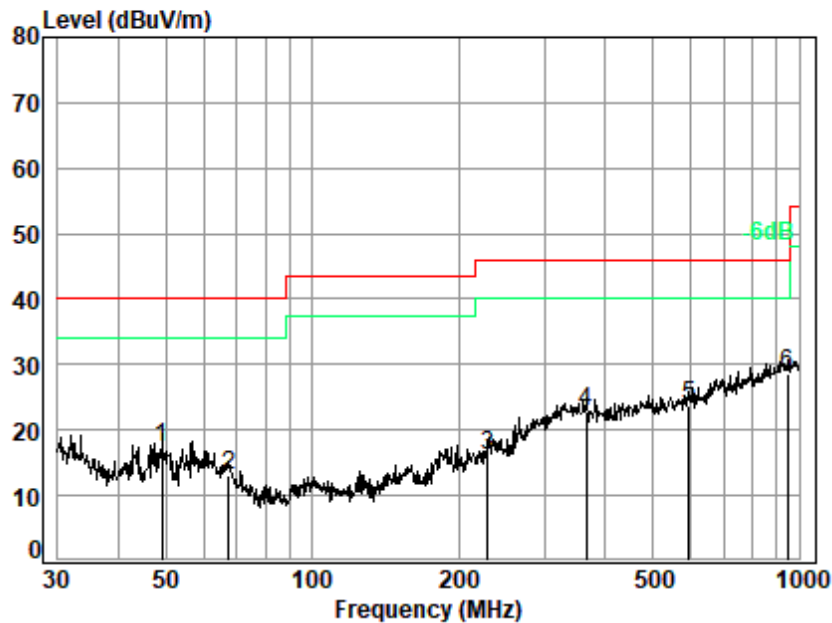
Job No. : 02839AT

Test Mode: 03

|     |        | Ant    | Cable | Preamp | Read  | Limit  | Over   |              |
|-----|--------|--------|-------|--------|-------|--------|--------|--------------|
|     | Freq   | Factor | Loss  | Factor | Level | Level  | Line   | Limit Remark |
|     | MHz    | dB/m   | dB    | dB     | dBuV  | dBuV/m | dBuV/m | dB           |
| 1 q | 47.66  | 13.42  | 0.81  | 27.74  | 41.36 | 27.85  | 40.00  | -12.15 QP    |
| 2   | 80.93  | 10.52  | 1.07  | 27.65  | 41.46 | 25.40  | 40.00  | -14.60 QP    |
| 3   | 185.79 | 14.29  | 1.65  | 27.23  | 35.66 | 24.37  | 43.50  | -19.13 QP    |
| 4   | 364.26 | 20.29  | 2.41  | 27.01  | 25.57 | 21.26  | 46.00  | -24.74 QP    |
| 5   | 593.05 | 24.45  | 3.19  | 27.94  | 24.13 | 23.83  | 46.00  | -22.17 QP    |
| 6   | 929.01 | 28.16  | 4.17  | 26.56  | 23.62 | 29.39  | 46.00  | -16.61 QP    |



Test Mode: 04; Polarity: Horizontal

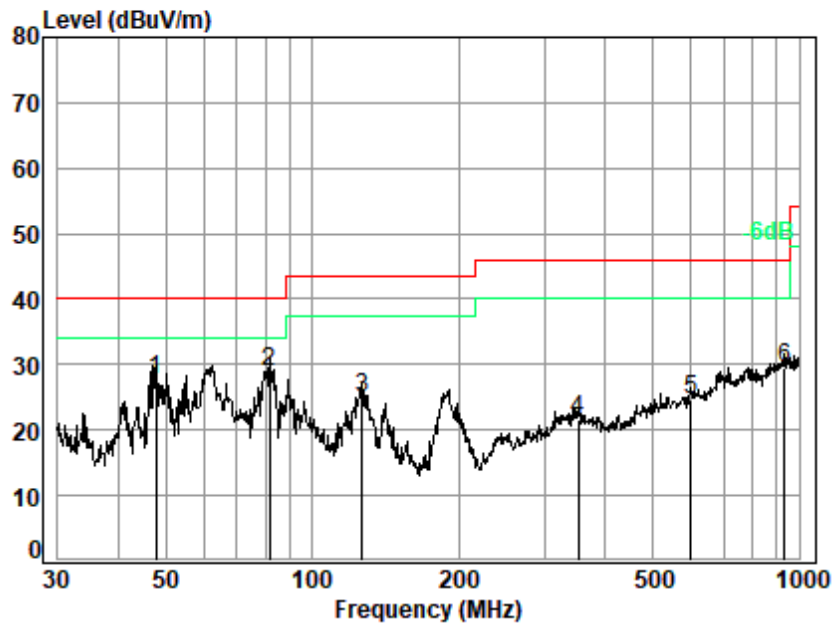


Site : chamber  
Condition: 3m HORIZONTAL  
Job No. : 02839AT  
Test Mode: 04

|     | Ant<br>Freq | Cable<br>Factor | Preamp<br>Loss | Read<br>Factor | Level<br>dBuV | Limit<br>dBuV/m | Over<br>Line | Remark    |
|-----|-------------|-----------------|----------------|----------------|---------------|-----------------|--------------|-----------|
|     | MHz         | dB/m            | dB             | dB             | dBuV          | dBuV/m          | dB           |           |
| 1   | 49.19       | 12.95           | 0.82           | 27.74          | 31.30         | 17.33           | 40.00        | -22.67 QP |
| 2   | 67.20       | 10.79           | 0.97           | 27.68          | 29.07         | 13.15           | 40.00        | -26.85 QP |
| 3   | 229.29      | 16.35           | 1.86           | 27.05          | 25.04         | 16.20           | 46.00        | -29.80 QP |
| 4   | 365.54      | 20.31           | 2.42           | 27.02          | 27.14         | 22.85           | 46.00        | -23.15 QP |
| 5   | 593.05      | 24.45           | 3.19           | 27.94          | 24.15         | 23.85           | 46.00        | -22.15 QP |
| 6 q | 945.44      | 28.26           | 4.21           | 26.44          | 22.65         | 28.68           | 46.00        | -17.32 QP |



Test Mode: 04; Polarity: Vertical



Site : chamber  
Condition: 3m VERTICAL  
Job No. : 02839AT  
Test Mode: 04

|   |        | Ant    | Cable | Preamp | Read  |        | Limit  | Over   |        |
|---|--------|--------|-------|--------|-------|--------|--------|--------|--------|
|   | Freq   | Factor | Loss  | Factor | Level | Level  | Line   | Limit  | Remark |
|   | MHz    | dB/m   | dB    | dB     | dBuV  | dBuV/m | dBuV/m | dB     |        |
| 1 | 47.83  | 13.36  | 0.81  | 27.74  | 41.34 | 27.77  | 40.00  | -12.23 | QP     |
| 2 | 81.78  | 10.60  | 1.07  | 27.64  | 44.94 | 28.97  | 40.00  | -11.03 | QP     |
| 3 | 126.77 | 10.97  | 1.33  | 27.48  | 40.14 | 24.96  | 43.50  | -18.54 | QP     |
| 4 | 351.71 | 19.97  | 2.37  | 26.96  | 26.19 | 21.57  | 46.00  | -24.43 | QP     |
| 5 | 599.32 | 24.42  | 3.21  | 27.97  | 24.91 | 24.57  | 46.00  | -21.43 | QP     |
| 6 | 935.55 | 28.18  | 4.18  | 26.51  | 23.69 | 29.54  | 46.00  | -16.46 | QP     |





## 8 Test Setup Photo

Refer to Setup Photo for SZCR2407002839AT

## 9 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for SZCR2407002839AT

- End of the Report -

