

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR231100388201

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# TEST REPORT

Application No.: SZCR2311003882AT

Applicant: Shenzhen Jimi IoT Co., Ltd.

Address of Applicant: 3-4/F, Block A, Building#7, Shenzhen International Innovation Valley, Dashi

1st Road, Nanshan District Shenzhen China

Manufacturer: Shenzhen Jimi IoT Co., Ltd.

Address of Manufacturer: 3-4/F, Block A, Building#7, Shenzhen International Innovation Valley, Dashi

1st Road, Nanshan District Shenzhen China

Factory: Huizhou Newthinking Electronics Co., Ltd.

Address of Factory: The third&sixth floor, 1&2 Factory Buildings, Jimi Industrial Park, No.101

Jinfu Road, Xiaojinkou street, Huicheng District, Huizhou

**Equipment Under Test (EUT):** 

EUT Name: Module
Model No.: XQ200U-LA

FCC ID: 2AMLF-XQ200U-LA

Standard(s): 47 CFR Part 2

47 CFR Part 22 subpart H 47 CFR Part 24 subpart E

**Date of Receipt:** 2023-12-07

**Date of Test:** 2023-12-08-2023-12-11

**Date of Issue:** 2023-12-16

Test Result: Pass\*

Keny Xu EMC Laboratory Manager

检验检测专用章

Leny. Ku

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



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|         | Revision Record                   |            |  |          |  |  |  |  |
|---------|-----------------------------------|------------|--|----------|--|--|--|--|
| Version | Version Chapter Date Modifier Ren |            |  |          |  |  |  |  |
| 01      |                                   | 2023-12-16 |  | Original |  |  |  |  |
|         |                                   |            |  |          |  |  |  |  |
|         |                                   |            |  |          |  |  |  |  |

| Authorized for issue by: |                              |  |
|--------------------------|------------------------------|--|
|                          | Darren Yuan                  |  |
|                          | Darren Yuan/Project Engineer |  |
|                          | Exic Fu                      |  |
|                          | Eric Fu/Reviewer             |  |



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# 2 Test Summary

| Test Item   | FCC<br>Rule No.                 | Requirements   | Verdict |
|---|---------------------------------|--|---------|
| Effective (Isotropic) Radiated<br>Power Output Data | §2.1046,<br>§22.913,<br>§24.232 | ERP≤7W(GSM850)<br>EIRP≤2W(PCS1900)   | PASS    |
| Peak-Average Ratio                                  | §24.232                         | ≤13dB  | PASS    |
| Bandwidth   | §2.1049(h)                      | OBW: No limit EBW: No limit  | PASS    |
| Band Edge Compliance                                | §2.1051,<br>§22.917,<br>§24.238 | ≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block. | PASS    |
| Spurious emissions at antenna terminals             | §2.1051,<br>§22.917,<br>§24.238 | ≤ -13dBm   | PASS    |
| Field strength of spurious radiation                | §2.1051,<br>§22.917,<br>§24.238 | ≤ -13dBm   | PASS    |
| Frequency stability                                 | §2.1055,<br>§22.355,<br>§24.235 | ≤ ±2.5ppm.   | PASS    |



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## **General Information**

### Details of E.U.T.

| Power supply:             | Powered by 4VDC                 |
|---------------------------|---------------------------------|
| Support Network:          | GPRS                            |
| Operation Frequency Band: | GSM850/PCS1900                  |
| Modulation Type:          | GMSK for GPRS                   |
| Antenna Type:             | PIFA Antenna                    |
| Antenna Gain:             | GSM850: 6.0dBi; PCS1900: 3.0dBi |
| Cable Loss                | GSM850: 0.8dB                   |
| (for RF conducted test):  | PCS1900: 1.5dB                  |

Remark: 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.



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### 4.2 Test Frequency

| Test mode: | TV       | RF Channel  |             |             |  |  |
|------------|----------|-------------|-------------|-------------|--|--|
| rest mode. | TX       | Low (L)     | Middle (M)  | High (H)    |  |  |
| CCMOEO     | TV       | Channel 128 | Channel 190 | Channel 251 |  |  |
| GSM850     | TX       | 824.2MHz    | 836.6 MHz   | 848.8 MHz   |  |  |
| Test mode: | TX       | RF Channel  |             |             |  |  |
| rest mode. |          | Low (L)     | Middle (M)  | High (H)    |  |  |
| PCS1900    | 900 TX - | Channel 512 | Channel 661 | Channel 810 |  |  |
| FC31900    |          | 1850.2MHz   | 1880.0 MHz  | 1909.8 MHz  |  |  |

### 4.3 Test Environment

| Environment Parameter | Selected Values During Tests |         |  |  |
|-----------------------|------------------------------|---------|--|--|
| Temperature:          | TL                           | -30°C   |  |  |
|                       | TN                           | +20°C   |  |  |
|                       | TH                           | +50°C   |  |  |
| Voltage:              | VL                           | 3.4 Vdc |  |  |
|                       | VN                           | 4.0 Vdc |  |  |
|                       | VH                           | 4.6 Vdc |  |  |

NOTE: VL= lower extreme test voltage

VN= nominal voltage

VH= upper extreme test voltage TL= lower extreme test temperature

TN= normal temperature

TH= upper extreme test temperature

### 4.4 Description of Support Units

The EUT has been tested independent unit.



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### 4.5 Measurement Uncertainty

| No.      | Item                            | Measurement Uncertainty  |
|----------|---------------------------------|--------------------------|
| 1        | Radio Frequency                 | ± 5.4 x 10 <sup>-8</sup> |
| 2        | Duty cycle                      | ± 0.3%                   |
| 3        | Occupied Bandwidth              | ± 3%                     |
| 4        | RF conducted power              | ± 0.8dB                  |
| 5        | RF power density                | ± 0.4dB                  |
| 6        | Conducted Spurious emissions    | ± 2.7dB                  |
| 7        | Dedicted Courieus emission tost | ± 3.1dB (Below 1GHz)     |
| <b>'</b> | Radiated Spurious emission test | ± 4.4dB (Above 1GHz)     |
| 8        | Temperature test                | ± 1°C                    |
| 9        | Humidity test                   | ± 3%                     |
| 10       | Supply voltages                 | ± 1.5%                   |
| 11       | Time                            | ± 3%                     |



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#### 4.6 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, Nanshan District, Shenzhen, Guangdong, China. 518057.

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

No tests were sub-contracted.

### 4.7 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.

#### 4.8 Deviation from Standards

None

#### 4.9 Abnormalities from Standard Conditions

None



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#### 5 **Equipment List**

| RF conducted test                                 |                                 |                   |               |            |               |
|---|---------------------------------|-------------------|---------------|------------|---------------|
| Test Equipment                                    | Manufacturer                    | Model No.         | Inventory No. | Cal. Date  | Cal. Due date |
| Programmable DC<br>Source                         | Chroma                          | 62024P-80-60      | SEM011-09     | 2023/07/11 | 2024/07/10    |
| Programmable<br>Temperature &<br>Humidity Chamber | Votsch Industrietechnik<br>GmbH | VT 4002           | SEM002-15     | 2023/03/21 | 2024/03/20    |
| Spectrum Analyzer                                 | Rohde & Schwarz                 | FSU43             | SEM004-08     | 2023/07/11 | 2024/07/10    |
| Measurement Software                              | TST                             | TST PASS<br>V2.0  | N/A           | N/A        | N/A           |
| Attenuator  | Huber+Suhner                    | 6620_SMA-<br>50-1 | SEM021-09     | 2023/07/11 | 2024/07/10    |
| Universal Radio<br>Communication Tester           | Rohde & Schwarz                 | CMW 500           | SEM010-03     | 2023/03/28 | 2024/03/27    |
| Power Sensor                                      | KEYSIGHT                        | U2021XA           | SEM009-15     | 2023/03/21 | 2024/03/20    |

| RE in Chamber                    |                                    |                       |               |            |               |
|----------------------------------|------------------------------------|-----------------------|---------------|------------|---------------|
| Test Equipment                   | Manufacturer                       | Model No.             | Inventory No. | Cal. Date  | Cal. Due date |
| Trilog-Broadband<br>Antenna      | Schwarzbeck                        | VULB9168              | SEM003-33     | 2021/9/25  | 2024/9/24     |
| MXE EMI receiver                 | Agilent                            | N9038A                | SEM004-05     | 2023/07/11 | 2024/07/10    |
| Pre-amplifier                    | HP                                 | 8447D                 | SEM005-02     | 2023/07/11 | 2024/07/10    |
| Spectrum Analyzer                | Rohde & Schwarz                    | 101288                | SEM004-08     | 2023/07/11 | 2024/07/10    |
| Low Noise Amplifier              | CLAVIIO                            | BDLNA-0118-<br>352810 | SEM005-05     | 2023/07/11 | 2024/07/10    |
| Substitution Antenna             | Schwarzbeck                        | VULB9168              | SEM003-18     | 2022/08/07 | 2025/08/06    |
| Signal Generator(9kHz-<br>40GHz) | N5173B                             | MY53270267            | Agilent       | 2023/07/11 | 2024/07/10    |
| Pre-amplifier                    | HP                                 | 8447D                 | SEM005-02     | 2023/07/11 | 2024/07/10    |
| Broad-Band Horn<br>Antenna       | Schwarzbeck                        | BBHA 9170             | SEM003-15     | 2021/7/11  | 2024/7/10     |
| Broad-Band Horn<br>Antenna       | Schwarzbeck                        | BBHA 9120D            | SEM003-32     | 2021/9/26  | 2024/9/25     |
| Double-ridged waveguide horn     | ETS-LINDGREN                       | 3117                  | SEM003-34     | 2021/9/25  | 2024/9/24     |
| Spectrum Analyzer                | Rohde & Schwarz                    | 101288                | SEM004-08     | 2023/07/11 | 2024/07/10    |
| Low Noise Amplifier              | CLAVIIO                            | BDLNA-0118-<br>352810 | SEM005-05     | 2023/07/11 | 2024/07/10    |
| Pre-amplifier                    | Compliance Directions Systems Inc. | PAP-2640-50           | SEM005-08     | 2023/07/11 | 2024/07/10    |



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| Pre-amplifier                           | Rohde & Schwarz | CH14-H052 | SEM005-17 | 2023/07/11 | 2024/07/10 |
|---|-----------------|-----------|-----------|------------|------------|
| Substitution Antenna                    | ETS-Lindgren    | 3142C     | SEM003-01 | 2023/06/25 | 2026/06/24 |
| Universal Radio<br>Communication Tester | Rohde & Schwarz | CMW 500   | SEM010-03 | 2023/03/28 | 2024/03/27 |

| General used equipmen           | t   |           |               |            |              |
|---------------------------------|---|-----------|---------------|------------|--------------|
| 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<br>Meteorological<br>Industry Factory | DYM3      | SEM002-01     | 2023-03-23 | 2024-03-22   |



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#### **Radio Spectrum Matter Test Results** 6

### 6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §22.913, §24.232

ANSI C63.26-2015, KDB 971168 D01 v03r01 Test Method:

Limit: ERP≤7W(GSM850)

EIRP ≤ 2W(PCS1900)

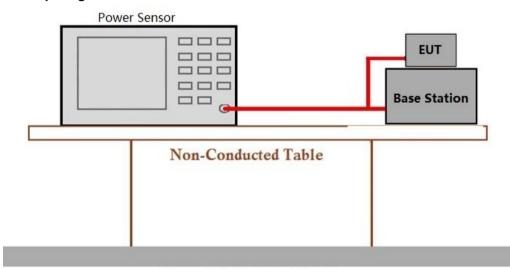
#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

#### 6.1.2 Test Setup Diagram



Ground Reference Plane

#### 6.1.3 Measurement Data

Please refer to Appendix for GSM RF power test data.



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### 6.2 Peak-Average Ratio

Test Requirement: §24.232

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ≤13dB

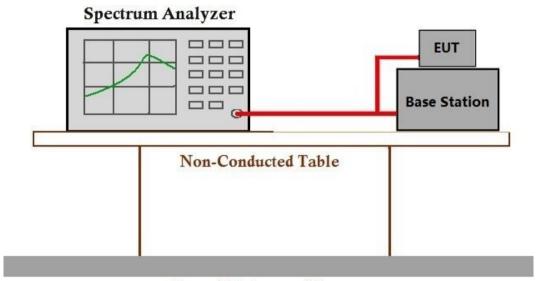
#### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 20.8 °C Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

### 6.2.2 Test Setup Diagram



Ground Reference Plane

#### 6.2.3 Measurement Data

Please refer to Appendix for GSM PAR test data.



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#### 6.3 Bandwidth

Test Requirement: §2.1049(h), §22.917, §24.238

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

**OBW: No limit** Limit: EBW: No limit

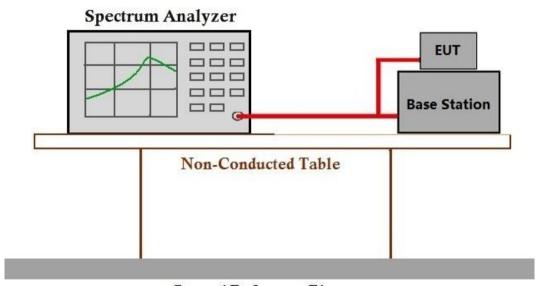
#### 6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20.8 °C Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

#### 6.3.2 Test Setup Diagram



Ground Reference Plane

#### 6.3.3 Measurement Data

Please refer to Appendix for GSM bandwidth test data.



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### 6.4 Band Edge Compliance

Test Requirement: §2.1051, §22.917, §24.238

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit: ≤ -13dBm/1%\*EBW, in 1 MHz bands immediately outside and adjacent to

the frequency block.

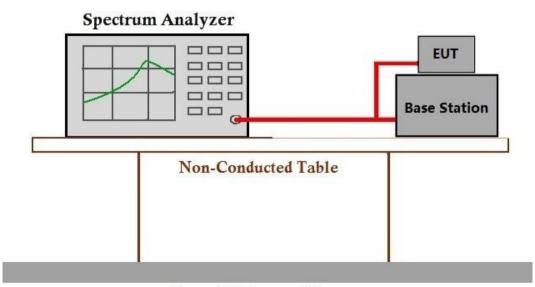
#### 6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 20.8 °C Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

#### 6.4.2 Test Setup Diagram



Ground Reference Plane

#### 6.4.3 Measurement Data

Please refer to Appendix for GSM CSE test data.



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### 6.5 Spurious emissions at antenna terminals

Test Requirement: §2.1051, §22.917, §24.238

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

≤ -13dBm Limit:

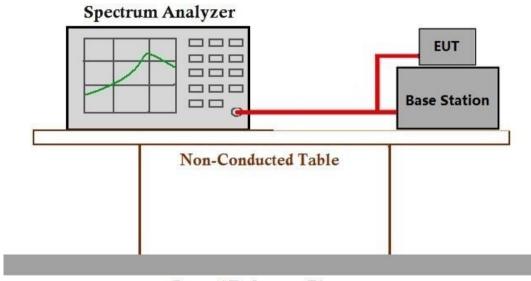
#### 6.5.1 E.U.T. Operation

Operating Environment:

Temperature: Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

#### 6.5.2 Test Setup Diagram



Ground Reference Plane

#### 6.5.3 Measurement Data

Please refer to Appendix for GSM CSE test data.



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### 6.6 Field strength of spurious radiation

Test Requirement: §2.1051, §22.917, §24.238

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

≤ -13dBm Limit:

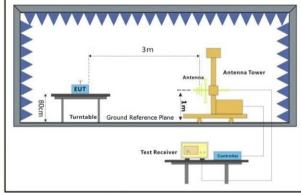
#### 6.6.1 E.U.T. Operation

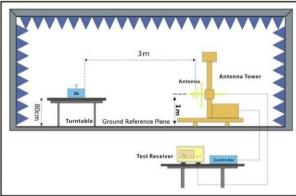
Operating Environment:

Temperature: Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

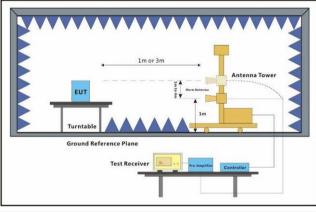
#### 6.6.2 Test Setup Diagram

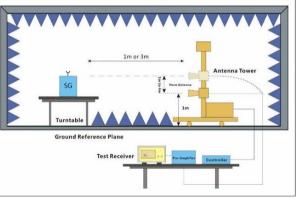




EUT

Substiute Antenna+Signal Generator





**EUT** 

Substitue Antenna+Signal Generator



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#### 6.6.3 Measurement Procedure and Data

#### **Test Procedure:**

- (1)On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3)The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6)The transmitter shall than be rotated through 360 in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7)The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11)The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13)If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14)The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15)The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.



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|                    | GSM850-Low channel |                |                    |                        |                       |                          |                       |        |  |  |
|--------------------|--------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)      | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |
| 1652.8             | -40.78             | -13            | -27.78             | -44.665                | 1.995                 | 5.88                     | Horizontal            | Pass   |  |  |
| 2479.2             | -48.25             | -13            | -35.25             | -48.37                 | 2.35                  | 4.62                     | Horizontal            | Pass   |  |  |
| 3305.6             | -53.04             | -13            | -40.04             | -54.85                 | 2.96                  | 6.92                     | Horizontal            | Pass   |  |  |
| 1652.8             | -47.82             | -13            | -34.82             | -49.555                | 1.995                 | 5.88                     | Vertical              | Pass   |  |  |
| 2479.2             | -50.3              | -13            | -37.3              | -50.42                 | 2.35                  | 4.62                     | Vertical              | Pass   |  |  |
| 3305.6             | -53.27             | -13            | -40.27             | -55.08                 | 2.96                  | 6.92                     | Vertical              | Pass   |  |  |

|                    | GSM850-Middle channel |                |                    |                        |                       |                          |                       |        |  |  |
|--------------------|-----------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)         | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |
| 1672.8             | -39.68                | -13            | -26.68             | -43.565                | 1.995                 | 5.88                     | Horizontal            | Pass   |  |  |
| 2509.2             | -52.35                | -13            | -39.35             | -53.365                | 2.655                 | 5.82                     | Horizontal            | Pass   |  |  |
| 3345.6             | -50.1                 | -13            | -37.1              | -51.91                 | 2.96                  | 6.92                     | Horizontal            | Pass   |  |  |
| 1672.8             | -49.1                 | -13            | -36.1              | -50.835                | 1.995                 | 5.88                     | Vertical              | Pass   |  |  |
| 2509.2             | -51.5                 | -13            | -38.5              | -52.515                | 2.655                 | 5.82                     | Vertical              | Pass   |  |  |
| 3345.6             | -49.3                 | -13            | -36.3              | -51.11                 | 2.96                  | 6.92                     | Vertical              | Pass   |  |  |

|                    | GSM850-High channel |                |                    |                        |                       |                          |                       |        |  |  |
|--------------------|---------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)       | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |
| 1693.2             | -39.36              | -13            | -26.36             | -43.245                | 1.995                 | 5.88                     | Horizontal            | Pass   |  |  |
| 2539.8             | -49.24              | -13            | -36.24             | -50.255                | 2.655                 | 5.82                     | Horizontal            | Pass   |  |  |
| 3386.4             | -50.12              | -13            | -37.12             | -51.93                 | 2.96                  | 6.92                     | Horizontal            | Pass   |  |  |
| 1693.2             | -47.17              | -13            | -34.17             | -48.905                | 1.995                 | 5.88                     | Vertical              | Pass   |  |  |
| 2539.8             | -49.3               | -13            | -36.3              | -50.315                | 2.655                 | 5.82                     | Vertical              | Pass   |  |  |
| 3386.4             | -51.37              | -13            | -38.37             | -53.18                 | 2.96                  | 6.92                     | Vertical              | Pass   |  |  |



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|                    | PCS1900-Low channel |                |                    |                        |                       |                          |                       |        |  |  |
|--------------------|---------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)       | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |
| 3704.8             | -50.63              | -13            | -37.63             | -55.51                 | 3.29                  | 8.17                     | Horizontal            | Pass   |  |  |
| 5557.2             | -47.01              | -13            | -34.01             | -53.22                 | 4.24                  | 10.45                    | Horizontal            | Pass   |  |  |
| 7409.6             | -46.29              | -13            | -33.29             | -53.23                 | 4.19                  | 11.13                    | Horizontal            | Pass   |  |  |
| 3704.8             | -51.09              | -13            | -38.09             | -55.97                 | 3.29                  | 8.17                     | Vertical              | Pass   |  |  |
| 5557.2             | -48.3               | -13            | -35.3              | -54.51                 | 4.24                  | 10.45                    | Vertical              | Pass   |  |  |
| 7409.6             | -45.62              | -13            | -32.62             | -52.56                 | 4.19                  | 11.13                    | Vertical              | Pass   |  |  |

|                    | PCS1900-Middle channel |                |                    |                        |                       |                          |                       |        |  |  |  |
|--------------------|------------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)          | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |  |
| 3760               | -50.35                 | -13            | -37.35             | -55.23                 | 3.29                  | 8.17                     | Horizontal            | Pass   |  |  |  |
| 5640               | -48.94                 | -13            | -35.94             | -55.15                 | 4.24                  | 10.45                    | Horizontal            | Pass   |  |  |  |
| 7520               | -44.84                 | -13            | -31.84             | -52.365                | 4.215                 | 11.74                    | Horizontal            | Pass   |  |  |  |
| 3760               | -50.51                 | -13            | -37.51             | -55.39                 | 3.29                  | 8.17                     | Vertical              | Pass   |  |  |  |
| 5640               | -48.2                  | -13            | -35.2              | -54.41                 | 4.24                  | 10.45                    | Vertical              | Pass   |  |  |  |
| 7520               | -45.61                 | -13            | -32.61             | -53.135                | 4.215                 | 11.74                    | Vertical              | Pass   |  |  |  |

|                    | PCS1900-High channel |                |                    |                        |                       |                          |                       |        |  |  |
|--------------------|----------------------|----------------|--------------------|------------------------|-----------------------|--------------------------|-----------------------|--------|--|--|
| Frequency<br>(MHz) | EIRP<br>(dBm)        | Limit<br>(dBm) | Over Limit<br>(dB) | S.G.<br>Power<br>(dBm) | Cable<br>loss<br>(dB) | Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |  |  |
| 3815.2             | -49.83               | -13            | -36.83             | -54.71                 | 3.29                  | 8.17                     | Horizontal            | Pass   |  |  |
| 5722.8             | -48.79               | -13            | -35.79             | -55                    | 4.24                  | 10.45                    | Horizontal            | Pass   |  |  |
| 7630.4             | -43.58               | -13            | -30.58             | -51.105                | 4.215                 | 11.74                    | Horizontal            | Pass   |  |  |
| 3815.2             | -50.96               | -13            | -37.96             | -55.84                 | 3.29                  | 8.17                     | Vertical              | Pass   |  |  |
| 5722.8             | -48.97               | -13            | -35.97             | -55.18                 | 4.24                  | 10.45                    | Vertical              | Pass   |  |  |
| 7630.4             | -43.73               | -13            | -30.73             | -51.255                | 4.215                 | 11.74                    | Vertical              | Pass   |  |  |



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### 6.7 Frequency stability

Test Requirement: §2.1055, §22.355, §24.235

Test Method: ANSI C63.26-2015, KDB 971168 D01 v03r01

Limit:  $\leq \pm 2.5$ ppm.

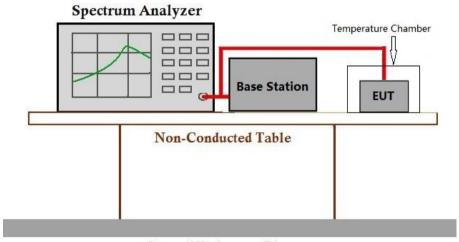
#### 6.7.1 E.U.T. Operation

Operating Environment:

Temperature: 20.8 °C Humidity: 51.1 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: TX mode\_Keep the EUT in transmitting mode

#### 6.7.2 Test Setup Diagram



**Ground Reference Plane** 

#### 6.7.3 Measurement Data

Please refer to Appendix for GSM FE test data.



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#### 7 **Test Setup Photo**

Refer to Appendix - Test Setup Photo for SZCR2311003882AT

#### **EUT Constructional Details (EUT Photos)** 8

Refer to Appendix – External and Internal Photos for SZCR2311003882AT -End of Report -



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