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## TEST REPORT

| Application No.:<br>Applicant:<br>Address of Applicant:<br>Manufacturer:<br>Address of Manufacturer: | SZEM1803002350CR(GZEM1803001481IT)<br>Gree Electric Appliances, Inc. of Zhuhai<br>Jinji West Rd, Qianshan, Zhuhai, 519070, Guangdong P.R. China<br>Gree Electric Appliances, Inc. of Zhuhai<br>Jinji West Rd, Qianshan, Zhuhai, 519070, Guangdong P.R. China |
|--|--|
| Factory:   | Gree Electric Appliances, Inc. of Zhuhai   |
| Address of Factory:  | Jinji West Rd, Qianshan, Zhuhai, 519070, Guangdong P.R. China  |
| Equipment Under Test (EUT  | •  |
| EUT Name:  |  |
| Model No.:   |  |
| FCC ID:  | 2ADAP-IE6033CF2  |
|  | 12478A-IE6033CF2   |
| Standard(s) :  | 47 CFR Part 2(2017)<br>47 CFR Part 22 subpart H<br>47 CFR Part 24 subpart E<br>RSS-Gen Issue 4<br>RSS-132 Issue 3<br>RSS-133 Issue 6<br>(only for Effective (Isotropic) Radiated Power Output Data and Field strength<br>of spurious radiation)              |
| Date of Receipt:   | 2018-03-29   |
| Date of Test:  | 2018-04-26   |
| Date of Issue:   | 2018-05-02   |
| Test Result:   | Pass   |

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



EMC Laboratory Manager

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



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|         | Revision Record                      |            |  |          |  |  |  |
|---------|--------------------------------------|------------|--|----------|--|--|--|
| Version | Version Chapter Date Modifier Remark |            |  |          |  |  |  |
| 01      |                                      | 2018-05-02 |  | Original |  |  |  |
|         |                                      |            |  |          |  |  |  |
|         |                                      |            |  |          |  |  |  |

| Authorized for issue by: |                               |  |
|--------------------------|-------------------------------|--|
|                          | Vincent Chen                  |  |
|                          | Vincent Chen/Project Engineer |  |
|                          | Evic Fu                       |  |
|                          | Eric Fu /Reviewer             |  |



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## 2 Test Summary

| Test Item   | FCC<br>Rule No.                 | IC<br>Rule No.                | Requirements  | Verdict |
|---|---------------------------------|-------------------------------|---|---------|
| Effective<br>(Isotropic)<br>Radiated Power<br>Output Data | §2.1046,<br>§22.913,<br>§24.232 | RSS-132 §5.4,<br>RSS-133 §6.4 | FCC:<br>ERP≤7W(WCDMAband V)<br>EIRP ≤ 2 W(WCDMA band II)<br>IC:<br>EIRP≤11.5W(WCDMAband V)<br>EIRP ≤ 2 W(WCDMA band II) | PASS    |
| Field strength of spurious radiation                      | §2.1051,<br>§22.917,<br>§24.238 | RSS-132 §5.5,<br>RSS-133 §6.5 | ≤ -13dBm  | PASS    |

Remark:

Model No.: IE60-33/CF2

This test report (Ref. No.: SZEM180300235001) is only valid with the original test report (Ref. No.: SZEM171201265901).

Compared with the original report, this report just changed the information of the power supply part of the component replacement, the surface screen printing and the line fine tuning, this change does not involve the module's RF circuit, and the RF circuit principle part has not changed. As below show:

1.Components replacement: replace the flake capacitor 0805  $10uF \pm 10\%/16V$  in the schematic diagram by electrolytic capacitor 220uF  $\pm 20\%/6.3V$  (C13 and C59), adjustment purpose: increase the capacitor value of power circuit output side, and to provide sufficient power supply to ensure energy dissipation while the main board is switching frequency range, thus avoiding any risks. It is related to power supply only, RF circuit of module is not involved, the RF circuit principle is unchanged.

2.Components shift: shift the flake electrolytic capacitor 1210  $100 \mu E \pm 20\%/6.3V$  (C39) from the reverse side of PCB board to the front. Adjustment purpose: according to the production craft requirements of the company, this location will interfere the usage of tin carrier, therefore, please shift it to avoid interference. It will not involve the RF circuit of module, and the RF circuit principle is unchanged.

3.Other alterations are minor adjustments about the silk print on the surface and circuit. Adjustment purpose: for the convenience of production and installation debugging. RF circuit of module is not involved, and the RF circuit principle is unchanged.

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest.

Therefore in this report Effective (Isotropic) Radiated Power Output Data and Field strength of spurious radiation were fully retested on model IE60-33/CF2 and shown the data in this report, other tests data please refer to original report SZEM171201265901.



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## 4 General Information

## 4.1 Details of E.U.T.

| DC 12V                                 |
|--|
| Fixed production                       |
| UMTS FDD Band II/V                     |
| QPSK                                   |
| 5 MHz                                  |
| R99                                    |
| Release 10                             |
| Release 6                              |
| Level 3                                |
| UMTS band II: 4M19F9W                  |
| UMTS band V: 4M18F9W                   |
| Detachable Antenna                     |
| 2.5dBi                                 |
| -30 ℃ to +50 ℃                         |
| 10.2VDC to 13.80VDC (nominal: 12.0VDC) |
|  |

### 4.2 Test Frequency

| Test Mode  |              | RF Channel   |              |
|------------|--------------|--------------|--------------|
| Test Mode  | Low (L)      | Middle (M)   | High (H)     |
| WCDMA Band | Channel 4132 | Channel 4182 | Channel 4233 |
| V          | 826.4MHz     | 836.4 MHz    | 846.6 MHz    |
| Test Mode  | RF Channel   |              |              |
| Test Mode  | Low (L)      | Middle (M)   | High (H)     |
| WCDMA Band | Channel 9262 | Channel 9400 | Channel 9538 |
| II         | 1852.4 MHz   | 1880.0 MHz   | 1907.6 MHz   |



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### 4.3 Description of Support Units

| Description | Manufacturer                                | Model No. | Serial No. |
|-------------|---|-----------|------------|
| Adapter     | GREE Electric<br>Appliances, Inc. of Zhuhai | GPE-12125 | /          |

### 4.4 Measurement Uncertainty

| No. | Item                            | Measurement Uncertainty |
|-----|---------------------------------|-------------------------|
| 1   | Radio Frequency                 | 7.25 x 10 <sup>-8</sup> |
| 2   | Duty cycle                      | 0.37%                   |
| 3   | Occupied Bandwidth              | 3%                      |
| 4   | RF conducted power              | 0.75dB                  |
| 5   | RF power density                | 2.84dB                  |
| 6   | Conducted Spurious emissions    | 0.75dB                  |
| 7   | DE Dedicted neuror              | 4.5dB (below 1GHz)      |
| /   | RF Radiated power               | 4.8dB (above 1GHz)      |
| 0   | Dedicted Courieus emission test | 4.5dB (Below 1GHz)      |
| 8   | Radiated Spurious emission test | 4.8dB (Above 1GHz)      |
| 9   | Temperature test                | 1℃                      |
| 10  | Humidity test                   | 3%                      |
| 11  | Supply voltages                 | 1.5%                    |
| 12  | Time                            | 3%                      |



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### 4.5 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.

### 4.6 Test Facility

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

### CNAS (No. CNAS L2929)

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

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

### A2LA (Certificate No. 3816.01)

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

#### VCCI

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

#### FCC – Designation Number: CN1178

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

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

#### Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

### 4.7 Deviation from Standards

None

### 4.8 Abnormalities from Standard Conditions

None



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## 5 Equipment List

| <b>RF Conducted Test</b>                |                      |                         |              |            |              |
|---|----------------------|-------------------------|--------------|------------|--------------|
| Equipment                               | Manufacturer         | Model No                | Inventory No | Cal Date   | Cal Due Date |
| DC Power Supply                         | ZhaoXin              | RXN-305D                | SEM011-02    | 2017-09-27 | 2018-09-26   |
| Spectrum Analyzer                       | Rohde & Schwarz      | FSP                     | SEM004-06    | 2017-09-27 | 2018-09-26   |
| Measurement Software                    | JS Tonscend          | JS1120-2<br>BT/WIFI V2. | N/A          | N/A        | N/A          |
| Coaxial Cable                           | SGS                  | N/A                     | SEM031-02    | 2017-07-13 | 2018-07-12   |
| Attenuator                              | Weinschel Associates | WA41                    | SEM021-09    | N/A        | N/A          |
| Signal Generator                        | KEYSIGHT             | N5173B                  | SEM006-05    | 2017-09-27 | 2018-09-26   |
| Power Meter                             | Rohde & Schwarz      | NRVS                    | SEM014-02    | 2017-09-27 | 2018-09-26   |
| Audio Analyzer                          | Rohde & Schwarz      | UPL                     | SEM0093      | 2017-09-27 | 2018-09-26   |
| Universal Radio<br>Communication Tester | Rohde & Schwarz      | CMU200                  | W005-02      | 2016-03-06 | 2017-03-06   |
| Wireless Communication<br>Tester        | Rohde & Schwarz      | CMW500                  | W005-03      | 2016-03-06 | 2017-03-06   |
| Splitter                                | MACOM                | 2090-6214-00            | SEL0226      | 2016-03-06 | 2017-03-06   |

| RE in Chamber                         |                      |                 |               |                           |                               |  |
|---------------------------------------|----------------------|-----------------|---------------|---------------------------|-------------------------------|--|
| Test Equipment                        | Manufacturer         | Model No.       | Inventory No. | Cal. Date<br>(yyyy-mm-dd) | Cal. Due date<br>(yyyy-mm-dd) |  |
| 3m Semi-Anechoic<br>Chamber           | ETS-LINDGREN         | N/A             | SEM001-01     | 2017-08-05                | 2020-08-04                    |  |
| MXE EMI Receiver<br>(20Hz-8.4GHz)     | Agilent Technologies | N9038A          | SEM004-05     | 2017-09-27                | 2018-09-26                    |  |
| BiConiLog Antenna<br>(26-3000MHz)     | ETS-LINDGREN         | 3142C           | SEM003-01     | 2017-06-27                | 2020-06-26                    |  |
| Trilog-Broadband<br>Antenna(30M-1GHz) | Schwarzbeck          | VULB9168        | SEM003-18     | 2016-06-29                | 2019-06-28                    |  |
| Pre-amplifier<br>(0.1-1300MHz)        | Agilent Technologies | 8447D           | SEM005-01     | 2017-04-14                | 2018-04-13                    |  |
| Measurement<br>Software               | AUDIX                | e3 V8.2014-6-27 | N/A           | N/A                       | N/A                           |  |
| Coaxial Cable                         | SGS                  | N/A             | SEM025-01     | 2017-07-13                | 2018-07-12                    |  |



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| General used equipment             |   |          |              |            |              |  |  |  |
|------------------------------------|---|----------|--------------|------------|--------------|--|--|--|
| Equipment                          | Manufacturer                                    | Model No | Inventory No | Cal Date   | Cal Due Date |  |  |  |
| Humidity/ Temperature<br>Indicator | Shanghai<br>Meteorological<br>Industry Factory  | ZJ1-2B   | SEM002-03    | 2017-09-29 | 2018-09-28   |  |  |  |
| Humidity/ Temperature<br>Indicator | Shanghai<br>Meteorological<br>Industry Factory  | ZJ1-2B   | SEM002-04    | 2017-09-29 | 2018-09-28   |  |  |  |
| Humidity/ Temperature<br>Indicator | Mingle  | N/A      | SEM002-08    | 2017-09-29 | 2018-09-28   |  |  |  |
| Barometer                          | Changchun<br>Meteorological<br>Industry Factory | DYM3     | SEM002-01    | 2017-04-18 | 2018-04-17   |  |  |  |



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## 6 Radio Spectrum Matter Test Results

## 6.1 Effective (Isotropic) Radiated Power Output Data

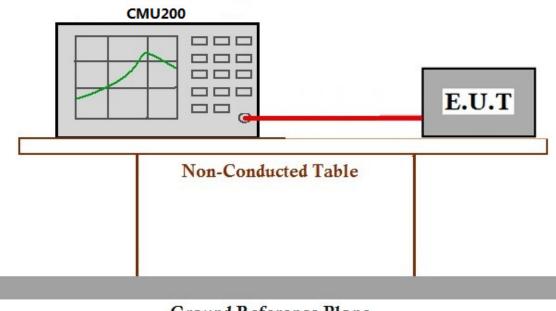
| Test Requirement: | §2.1046, §22.913, §24.232, RSS-132 §5.4, RSS-133 §6.4 |
|-------------------|---|
| Test Method:      | ANSI C63.26, KDB 971168 D01 v03                       |
| Limit:            | FCC:  |
|                   | ERP≤7W(WCDMAband V)                                   |
|                   | EIRP $\leq$ 2 W(WCDMA band II)                        |
|                   | IC:   |
|                   | EIRP≤11.5W(WCDMAband V)                               |
|                   | EIRP $\leq$ 2 W(WCDMA band II)                        |
|                   |   |

### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature:18.6 °CHumidity:29.1 % RHAtmospheric Pressure:1025mbarTest modea: Tx mode, Keep the EUT in transmitting mode.

### 6.1.2 Test Setup Diagram



## **Ground Reference Plane**

6.1.3 Measurement Data



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| Test band: WCDMA Band V |                        |                                       |                          |                          |                   |                   |  |  |
|-------------------------|------------------------|---------------------------------------|--------------------------|--------------------------|-------------------|-------------------|--|--|
| Test mode               | Test Channel           | Conducted<br>output<br>power<br>(dBm) | Antenna<br>gain<br>(dBd) | Antenna<br>gain<br>(dBi) | FCC: ERP<br>(dBm) | IC: EIRP<br>(dBm) |  |  |
|                         | LCH                    | 21.5                                  | 0.35                     | 2.50                     | 21.85             | 24.00             |  |  |
| RMC                     | MCH                    | 21.55                                 | 0.35                     | 2.50                     | 21.90             | 24.05             |  |  |
|                         | HCH                    | 21.53                                 | 0.35                     | 2.50                     | 21.88             | 24.03             |  |  |
|                         | LCH_SubTest-1          | 21.6                                  | 0.35                     | 2.50                     | 21.95             | 24.10             |  |  |
|                         | LCH_SubTest-2          | 21.49                                 | 0.35                     | 2.50                     | 21.84             | 23.99             |  |  |
|                         | LCH_SubTest-3          | 21.47                                 | 0.35                     | 2.50                     | 21.82             | 23.97             |  |  |
|                         | LCH_SubTest-4          | 21.51                                 | 0.35                     | 2.50                     | 21.86             | 24.01             |  |  |
|                         | MCH_SubTest-1          | 21.54                                 | 0.35                     | 2.50                     | 21.89             | 24.04             |  |  |
|                         | MCH_SubTest-2          | 21.6                                  | 0.35                     | 2.50                     | 21.95             | 24.10             |  |  |
| UMTS/TM2 -              | MCH_SubTest-3          | 21.47                                 | 0.35                     | 2.50                     | 21.82             | 23.97             |  |  |
|                         | MCH_SubTest-4          | 21.45                                 | 0.35                     | 2.50                     | 21.80             | 23.95             |  |  |
|                         | HCH_SubTest-1          | 21.65                                 | 0.35                     | 2.50                     | 22.00             | 24.15             |  |  |
|                         | HCH_SubTest-2          | 21.61                                 | 0.35                     | 2.50                     | 21.96             | 24.11             |  |  |
|                         | HCH_SubTest-3          | 21.59                                 | 0.35                     | 2.50                     | 21.94             | 24.09             |  |  |
| -                       | HCH_SubTest-4          | 21.64                                 | 0.35                     | 2.50                     | 21.99             | 24.14             |  |  |
|                         | LCH_SubTest-1          | 21.49                                 | 0.35                     | 2.50                     | 21.84             | 23.99             |  |  |
| -                       | LCH_SubTest-2          | 21.46                                 | 0.35                     | 2.50                     | 21.81             | 23.96             |  |  |
|                         | LCH_SubTest-3          | 21.51                                 | 0.35                     | 2.50                     | 21.86             | 24.01             |  |  |
|                         | LCH_SubTest-4          | 21.47                                 | 0.35                     | 2.50                     | 21.82             | 23.97             |  |  |
| -                       | MCH_SubTest-1          | 21.51                                 | 0.35                     | 2.50                     | 21.86             | 24.01             |  |  |
| UMTS/TM3                | MCH_SubTest-2          | 21.6                                  | 0.35                     | 2.50                     | 21.95             | 24.10             |  |  |
| 010113/11013            | MCH_SubTest-3          | 21.58                                 | 0.35                     | 2.50                     | 21.93             | 24.08             |  |  |
|                         | MCH_SubTest-4          | 21.57                                 | 0.35                     | 2.50                     | 21.92             | 24.07             |  |  |
|                         | HCH_SubTest-1          | 21.46                                 | 0.35                     | 2.50                     | 21.81             | 23.96             |  |  |
|                         | HCH_SubTest-2          | 21.53                                 | 0.35                     | 2.50                     | 21.88             | 24.03             |  |  |
|                         | HCH_SubTest-3          | 21.55                                 | 0.35                     | 2.50                     | 21.90             | 24.05             |  |  |
|                         | HCH_SubTest-4          | 21.56                                 | 0.35                     | 2.50                     | 21.91             | 24.06             |  |  |
| Conclusion: E<br>pass   | ERP limit for FCC is 7 | W(38.45dBm) a                         | nd EIRP limit f          | or IC is 11.5W(          | 40.61dBm), so     | the test is       |  |  |

Note:

1) dBd= dBi-2.15

2) ERP= Conducted output power+Antenna gain (dBd)

3) EIRP= Conducted output power+Antenna gain (dBi)



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| Test band: WCDMA Band II   |               |                                    |                          |                    |                   |  |  |  |
|--|---------------|------------------------------------|--------------------------|--------------------|-------------------|--|--|--|
| Test<br>mode   | Test Channel  | Conducted<br>output power<br>(dBm) | Antenna<br>gain<br>(dBi) | FCC: EIRP<br>(dBm) | IC: EIRP<br>(dBm) |  |  |  |
|  | LCH           | 21.46                              | 2.50                     | 23.96              | 23.96             |  |  |  |
| RMC  | MCH           | 21.47                              | 2.50                     | 23.97              | 23.97             |  |  |  |
|  | HCH           | 21.54                              | 2.50                     | 24.04              | 24.04             |  |  |  |
|  | LCH_SubTest-1 | 21.64                              | 2.50                     | 24.14              | 24.14             |  |  |  |
|  | LCH_SubTest-2 | 21.51                              | 2.50                     | 24.01              | 24.01             |  |  |  |
|  | LCH_SubTest-3 | 21.59                              | 2.50                     | 24.09              | 24.09             |  |  |  |
|  | LCH_SubTest-4 | 21.58                              | 2.50                     | 24.08              | 24.08             |  |  |  |
|  | MCH_SubTest-1 | 21.57                              | 2.50                     | 24.07              | 24.07             |  |  |  |
|  | MCH_SubTest-2 | 21.65                              | 2.50                     | 24.15              | 24.15             |  |  |  |
| HSDPA  | MCH_SubTest-3 | 21.64                              | 2.50                     | 24.14              | 24.14             |  |  |  |
|  | MCH_SubTest-4 | 21.62                              | 2.50                     | 24.12              | 24.12             |  |  |  |
|  | HCH_SubTest-1 | 21.63                              | 2.50                     | 24.13              | 24.13             |  |  |  |
|  | HCH_SubTest-2 | 21.49                              | 2.50                     | 23.99              | 23.99             |  |  |  |
|  | HCH_SubTest-3 | 21.58                              | 2.50                     | 24.08              | 24.08             |  |  |  |
|  | HCH_SubTest-4 | 21.52                              | 2.50                     | 24.02              | 24.02             |  |  |  |
|  | LCH SubTest-1 | 21.63                              | 2.50                     | 24.13              | 24.13             |  |  |  |
|  | LCH_SubTest-2 | 21.6                               | 2.50                     | 24.1               | 24.1              |  |  |  |
|  | LCH_SubTest-3 | 21.61                              | 2.50                     | 24.11              | 24.11             |  |  |  |
|  | LCH_SubTest-4 | 21.52                              | 2.50                     | 24.02              | 24.02             |  |  |  |
|  | MCH_SubTest-1 | 21.52                              | 2.50                     | 24.02              | 24.02             |  |  |  |
| HSUPA  | MCH_SubTest-2 | 21.61                              | 2.50                     | 24.11              | 24.11             |  |  |  |
|  | MCH_SubTest-3 | 21.52                              | 2.50                     | 24.02              | 24.02             |  |  |  |
|  | MCH_SubTest-4 | 21.46                              | 2.50                     | 23.96              | 23.96             |  |  |  |
|  | HCH_SubTest-1 | 21.53                              | 2.50                     | 24.03              | 24.03             |  |  |  |
|  | HCH_SubTest-2 | 21.65                              | 2.50                     | 24.15              | 24.15             |  |  |  |
|  | HCH SubTest-3 | 21.51                              | 2.50                     | 24.01              | 24.01             |  |  |  |
|  | HCH_SubTest-4 | 21.61                              | 2.50                     | 24.11              | 24.11             |  |  |  |
| Conclusion: EIRP limit for FCC and IC is 2W(33.01dBm), so the test is pass |               |                                    |                          |                    |                   |  |  |  |

Note:

1) EIRP= Conducted output power+Antenna gain (dBi)



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### 6.2 Field strength of spurious radiation

 Test Requirement:
 §2.1051, §22.917, §24.238, RSS-132 §5.5, RSS-133 §6.5

 Test Method:
 ANSI C63.26, KDB 971168 D01 v03

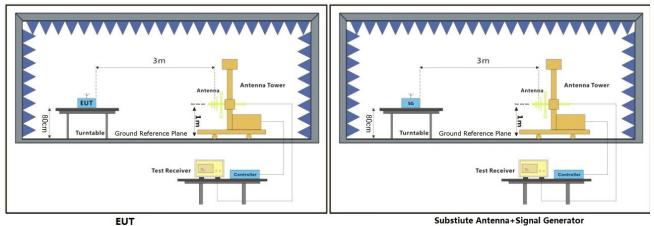
 Limit:
 ≤ -13dBm

### 6.2.1 E.U.T. Operation

**Operating Environment:** 

Temperature:18.6 °CHumidity:29.1 % RHAtmospheric Pressure:1025mbarTest modea: Tx mode, Keep the EUT in transmitting mode.

### 6.2.2 Test Setup Diagram





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#### 6.2.3 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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| WCDMA Band 2- Middle channel |                        |                    |                          |               |                |                |                       |        |
|------------------------------|------------------------|--------------------|--------------------------|---------------|----------------|----------------|-----------------------|--------|
| Frequency<br>(MHz)           | S.G.<br>Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Polarization<br>(H/V) | Result |
| 3815.2                       | -47.2                  | 0.71               | 7.6                      | -40.31        | -13            | -27.31         | Horizontal            | Pass   |
| 5722.8                       | -48.36                 | 0.85               | 10.3                     | -38.91        | -13            | -25.91         | Horizontal            | Pass   |
| 7630.4                       | -52.96                 | 0.99               | 13.2                     | -40.75        | -13            | -27.75         | Horizontal            | Pass   |
| 3815.2                       | -48.36                 | 0.71               | 7.6                      | -41.47        | -13            | -28.47         | Vertical              | Pass   |
| 5722.8                       | -51.18                 | 0.85               | 10.3                     | -41.73        | -13            | -28.73         | Vertical              | Pass   |
| 7630.4                       | -53.89                 | 0.99               | 13.2                     | -41.68        | -13            | -28.68         | Vertical              | Pass   |

| WCDMA Band 5-Middle channel |                        |                    |                          |               |                |                |                       |        |
|-----------------------------|------------------------|--------------------|--------------------------|---------------|----------------|----------------|-----------------------|--------|
| Frequency<br>(MHz)          | S.G.<br>Power<br>(dBm) | Cable loss<br>(dB) | Antenna<br>Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Polarization<br>(H/V) | Result |
| 1672.8                      | -56.6                  | 0.52               | 6                        | -51.12        | -13            | -38.12         | Horizontal            | Pass   |
| 2509.2                      | -58.04                 | 0.59               | 5.3                      | -53.33        | -13            | -40.33         | Horizontal            | Pass   |
| 3345.6                      | -53.95                 | 0.65               | 6.2                      | -48.4         | -13            | -35.4          | Horizontal            | Pass   |
| 1672.8                      | -54.16                 | 0.52               | 6                        | -48.68        | -13            | -35.68         | Vertical              | Pass   |
| 2509.2                      | -54.93                 | 0.59               | 5.3                      | -50.22        | -13            | -37.22         | Vertical              | Pass   |
| 3345.6                      | -54.52                 | 0.65               | 6.2                      | -48.97        | -13            | -35.97         | Vertical              | Pass   |

Note: All modes have been tested and we found RMC test mode has the worst test result. Only record the worst test result.



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## 7 Photographs

## 7.1 Radiated Emissions (Above 1GHz) Test Setup



### **7.2 EUT Constructional Details (EUT Photos)** Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1803002350CR.

- End of the Report -