



## FCC TEST REPORT

|                                 |   |
|---------------------------------|---|
| <b>Application No:</b>          | ZR/2019/C0005   |
| <b>Applicant:</b>               | ThingsMatrix Inc.   |
| <b>Address of Applicant</b>     | 9442 North Capital of Texas Hwy, Plaza One, Suite 500, Austin, TX 78759   |
| <b>Manufacturer:</b>            | ThingsMatrix Inc.   |
| <b>Address of Manufacturer:</b> | 9442 North Capital of Texas Hwy, Plaza One, Suite 500, Austin, TX 78759   |
| <b>EUT Description:</b>         | GPS Tracker   |
| <b>Model No.:</b>               | TMY02   |
| <b>Trade Mark:</b>              | ThingsMatrix  |
| <b>FCC ID:</b>                  | 2ATV9TMY02  |
| <b>Standards:</b>               | 47 CFR Part 2<br>47 CFR Part 22 subpart H<br>47 CFR Part 24 subpart E<br>47 CFR Part 27 subpart C<br>47 CFR Part 90 subpart S |
| <b>Test Method:</b>             | FCC KDB 971168 D01 Power Meas License Digital Systems V03r01<br>C63.26 (2015)   |
| <b>Date of Receipt:</b>         | 2019/12/7   |
| <b>Date of Test:</b>            | 2019/12/7 to 2020/1/6   |
| <b>Date of Issue:</b>           | 2020/1/6  |

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

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Derek Yang

Wireless Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_DocCheck@sgs.com](mailto:CN_DocCheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 1 Version

| Revision Record |         |          |          |          |
|-----------------|---------|----------|----------|----------|
| Version         | Chapter | Date     | Modifier | Remark   |
| 00              |         | 2020/1/6 |          | Original |
|                 |         |          |          |          |
|                 |         |          |          |          |

|                          |  |  |          |
|--------------------------|--|--|----------|
| Authorized for issue by: |  |  |          |
| Tested By                |  | <br>(Mike Hu) /Project Engineer | 2020/1/6 |
| Checked By               |  | <br>(David Chen) /Reviewer    | 2020/1/6 |
|                          |  |  | Date     |
|                          |  |  | Date     |



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## Content

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>VERSION</b>                                      | <b>2</b>  |
| <b>2</b> | <b>TEST SUMMARY</b>                                 | <b>5</b>  |
| 2.1      | GSM 850/ NB1 BAND 5/26/ CATM1 BAND 5/26             | 5         |
| 2.2      | GSM 1900/ NB1 BAND 2 / CATM1 BAND 2                 | 5         |
| 2.3      | CATM1 BAND 4  | 5         |
| 2.4      | NB1 BAND 26(814-824)/ CATM1 BAND 26(814-824)        | 6         |
| 2.5      | NB1 BAND 12/ CATM1 BAND 12                          | 6         |
| 2.6      | NB1 BAND 13/ CATM1 BAND 13                          | 7         |
| <b>3</b> | <b>GENERAL INFORMATION</b>                          | <b>8</b>  |
| 3.1      | CLIENT INFORMATION                                  | 8         |
| 3.2      | TEST LOCATION                                       | 8         |
| 3.3      | TEST FACILITY                                       | 8         |
| 3.4      | GENERAL DESCRIPTION OF EUT                          | 9         |
| 3.5      | TEST MODE   | 9         |
| 3.6      | TECHNICAL SPECIFICATION                             | 10        |
| 3.7      | TEST FREQUENCIES                                    | 11        |
| <b>4</b> | <b>DESCRIPTION OF TESTS</b>                         | <b>15</b> |
| 4.1      | CONDUCTED OUTPUT POWER                              | 15        |
| 4.2      | EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER | 15        |
| 4.2.1    | <i>Test Result</i>                                  | 15        |
| 4.3      | FIELD STRENGTH OF SPURIOUS RADIATION                | 30        |
| 4.4      | TEST SETUPS   | 31        |
| 4.4.1    | <i>Test Setup 1</i>                                 | 31        |
| 4.4.2    | <i>Test Setup 2</i>                                 | 31        |
| 4.4.3    | <i>Test Setup 3</i>                                 | 31        |
| 4.4.4    | <i>Test Setup 4</i>                                 | 32        |
| 4.4.5    | <i>Test Result</i>                                  | 33        |
| 4.5      | TEST CONDITIONS                                     | 47        |
| <b>5</b> | <b>MAIN TEST INSTRUMENTS</b>                        | <b>48</b> |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**

6 MEASUREMENT UNCERTAINTY ..... 49

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 2 Test Summary

### 2.1 GSM 850/ NB1 Band 5/26/ CatM1 Band 5/26

| Test Item  | FCC Rule No.     | Requirements   | Test Result      | Verdict |
|--|------------------|--|------------------|---------|
| Effective (Isotropic) Radiated Power Output Data | §2.1046, §22.913 | FCC: ERP ≤ 7 W   | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                               | ---              | Limit≤13 dB  | See Remark       |         |
| Modulation Characteristics                       | §2.1047          | Digital modulation   | See Remark       |         |
| Bandwidth  | §2.1049          | OBW: No limit. EBW: No limit.  | See Remark       |         |
| Band Edges Compliance                            | §2.1051, §22.917 | ≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.          | See Remark       |         |
| Spurious Emission at Antenna Terminals           | §2.1051, §22.917 | ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. | See Remark       |         |
| Field Strength of Spurious Radiation             | §2.1053, §22.917 | FCC: ≤ -13 dBm/100 kHz.  | Clause 4.3       | Pass    |
| Frequency Stability                              | §2.1055, §22.355 | ≤ ±2.5ppm.   | See Remark       |         |

### 2.2 GSM 1900/ NB1 Band 2 / CatM1 Band 2

| Test Item  | FCC Rule No.     | Requirements   | Test Result      | Verdict |
|--|------------------|--|------------------|---------|
| Effective (Isotropic) Radiated Power Output Data | §2.1046, §24.232 | EIRP ≤ 2 W   | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                               | §2.1046, §24.232 | Limit≤13 dB  | See Remark       |         |
| Modulation Characteristics                       | §2.1047          | Digital modulation   | See Remark       |         |
| Bandwidth  | §2.1049          | OBW: No limit. EBW: No limit.  | See Remark       |         |
| Band Edges Compliance                            | §2.1051, §24.238 | ≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.                    | See Remark       |         |
| Spurious Emission at Antenna Terminals           | §2.1051, §24.238 | ≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges. | See Remark       |         |
| Field Strength of Spurious Radiation             | §2.1053, §24.238 | ≤ -13 dBm/1 MHz.   | Clause 4.3       | Pass    |
| Frequency Stability                              | §2.1055, §24.235 | ≤ ±2.5 ppm.  | See Remark       |         |

### 2.3 CatM1 Band 4

| Test Item  | FCC Rule No.       | Requirements       | Test Result      | Verdict |
|--|--------------------|--------------------|------------------|---------|
| Effective (Isotropic) Radiated Power Output Data | §2.1046, §27.50(d) | EIRP ≤ 1 W         | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                               | §2.1046, §27.50(d) | Limit≤13 dB        | See Remark       |         |
| Modulation Characteristics                       | §2.1047            | Digital modulation | See Remark       |         |
| Bandwidth  | §2.1049            | OBW: No limit.     | See Remark       |         |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)



| Test Item                              | FCC Rule No.       | Requirements   | Test Result | Verdict |
|--|--------------------|--|-------------|---------|
|  |                    | EBW: No limit.   |             |         |
| Band Edges Compliance                  | §2.1051, §27.53(h) | ≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.                    | See Remark  |         |
| Spurious Emission at Antenna Terminals | §2.1051, §27.53(h) | ≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges. | See Remark  |         |
| Field Strength of Spurious Radiation   | §2.1053, §27.53(h) | ≤ -13 dBm/1 MHz.   | Clause 4.3  | Pass    |
| Frequency Stability                    | §2.1055, §27.54    | ≤ ±2.5 ppm.  | See Remark  |         |

## 2.4 NB1 Band 26(814-824)/ CatM1 Band 26(814-824)

| Test Item                              | FCC Rule No.        | Requirements  | Test Result      | Verdict |
|--|---------------------|---|------------------|---------|
| Transmitter Conducted Power Output     | §2.1046, §90.635    | < 100 W.  | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                     | ---                 | FCC: Limit≤13 dB  | See Remark       |         |
| Modulation Characteristics             | §2.1047             | Digital modulation  | See Remark       |         |
| Bandwidth                              | §2.1049             | OBW: No limit.<br>EBW: No limit.  | See Remark       |         |
| Band Edge                              | §2.1051<br>§ 90.691 | For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. | See Remark       |         |
| Spurious Emission at Antenna Terminals | §2.1051, §90.691    | < 43 + 10Log10(P[Watts]) for all out-of-band emissions  | See Remark       |         |
| Field Strength of Spurious Radiation   | §2.1053, §90.691    | < 43 + 10Log10(P[Watts]) for all out-of-band emissions  | Clause 4.3       | Pass    |
| Frequency Stability                    | §2.1055, §90.213    | < ±2.5ppm.  | See Remark       |         |

## 2.5 NB1 Band 12/ CatM1 Band 12

| Test Item  | FCC Rule No        | Requirements       | Test Result      | Verdict |
|--|--------------------|--------------------|------------------|---------|
| Effective (Isotropic) Radiated Power Output Data | §27.50(c)          | ERP ≤ 3 W.         | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                               | §2.1046, §27.50(c) | Limit≤13 dB        | See Remark       |         |
| Modulation                                       | §2.1047            | Digital modulation | See Remark       |         |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)



邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

| Test Item                              | FCC Rule No           | Requirements  | Test Result | Verdict |
|--|-----------------------|---|-------------|---------|
| Characteristics                        |                       |   |             |         |
| Bandwidth                              | §2.1049               | OBW: No limit.<br>EBW: No limit.  | See Remark  |         |
| Band Edges Compliance                  | §2.1051,<br>§27.53(g) | ≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.                           | See Remark  |         |
| Spurious Emission at Antenna Terminals | §2.1051,<br>§27.53(g) | FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges. | See Remark  |         |
| Field Strength of Spurious Radiation   | §2.1053,<br>§27.53(g) | FCC: ≤ -13 dBm/100 kHz.   | Clause 4.3  | Pass    |
| Frequency Stability                    | §2.1055,<br>§27.54    | ≤ ±2.5ppm.  | See Remark  |         |

## 2.6 NB1 Band 13/ CatM1 Band 13

| Test Item  | FCC Rule No.                       | Requirements   | Test Result      | Verdict |
|--|------------------------------------|--|------------------|---------|
| Effective (Isotropic) Radiated Power Output Data | §2.1046,<br>§27.50(b)              | ERP ≤ 3 W.   | Clause 4.1 & 4.2 | Pass    |
| Peak-Average Ratio                               | §27.50                             | Limit≤13 dB  | See Remark       |         |
| Modulation Characteristics                       | §2.1047                            | Digital modulation   | See Remark       |         |
| Bandwidth  | §2.1049,                           | OBW: No limit.<br>EBW: No limit.   | See Remark       |         |
| Band Edges Compliance                            | §2.1051,<br>§27.53(c)              | ≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.  | See Remark       |         |
| Spurious Emission at Antenna Terminals           | §2.1051,<br>§27.53(c)<br>§27.53(f) | ≤ -13 dBm/100 kHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges. On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations. For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. | See Remark       |         |
| Field Strength of Spurious Radiation             | §2.1053,<br>§27.53(c)<br>§27.53(f) | ≤ -13 dBm/100 kHz.<br>For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.   | Clause 4.3       | Pass    |
| Frequency Stability                              | §2.1055,<br>§27.54                 | Within authorized bands of operation/frequency block.  | See Remark       |         |

### Remark:

Only the Effective (Isotropic) Radiated Power and Radiated Spurious Emission were fully tested.

These items please refer to the LTE Module report RXA1706-0199RF01R1~RXA1706-0199RF04R1 and RXA1706-0199RF05~RXA1706-0199RF08, The FCC ID is XMR201707BG96, and LTE Module has been certified by TA Technology(shanghai)Co.,Ltd on 09/12/2017.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

### 3 General Information

#### 3.1 Client Information

|                          |   |
|--------------------------|---|
| Applicant:               | ThingsMatrix Inc.   |
| Address of Applicant:    | 9442 North Capital of Texas Hwy, Plaza One, Suite 500, Austin, TX 78759 |
| Manufacturer:            | ThingsMatrix Inc.   |
| Address of Manufacturer: | 9442 North Capital of Texas Hwy, Plaza One, Suite 500, Austin, TX 78759 |

#### 3.2 Test Location

|            |   |
|------------|---|
| Company:   | SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch                             |
| Address:   | No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China |
| Post code: | 518057  |
| Telephone: | +86 (0) 755 2601 2053   |
| Fax:       | +86 (0) 755 2671 0594   |
| E-mail:    | ee.shenzhen@sgs.com   |

#### 3.3 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.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

### 3.4 General Description of EUT

|                   |   |
|-------------------|---|
| EUT Description:  | GPS Tracker   |
| Model No.:        | TMY02   |
| Trade Mark:       | ThingsMatrix  |
| Hardware Version: | TMY02V01  |
| Software Version: | TMY02V01.191230   |
| Antenna Type:     | <input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated   |
| Antenna Gain:     | GSM 850: -0.16dBi;<br>GSM1900: 0.41dBi;<br>NB1 Band 2: 0.41dBi;<br>NB1 Band 5: -0.16dBi;<br>NB1 Band 12: -0.25dBi;<br>NB1 Band 13: -0.23dBi;<br>NB1 Band 26: -0.22dBi;<br>CatM1 Band 2: 0.41dBi;<br>CatM1 Band 4: 0.45dBi;<br>CatM1 Band 5: -0.16dBi;<br>CatM1 Band 12: -0.25dBi;<br>CatM1 Band 13: -0.23dBi;<br>CatM1 Band 26: -0.22dBi; |

### 3.5 Test Mode

| Test Mode | Test Modes Description                |
|-----------|---------------------------------------|
| GSM/TM1   | GSM system, GSM/GPRS, GMSK modulation |
| GSM/TM2   | GSM system, EGPRS, 8PSK modulation    |
| NB1/TM1   | system, QPSK modulation               |
| NB1/TM2   | system, BPSK modulation               |
| CatM1/TM1 | LTE system, QPSK modulation           |
| CatM1/TM2 | LTE system, 16QAM modulation          |

Remark: The test mode(s) are selected according to relevant radio technology specifications.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

### 3.6 Technical Specification

| Characteristics             | Description  |   |                  |
|-----------------------------|--|---|------------------|
| Radio System Type           | <input checked="" type="checkbox"/> GSM<br><input checked="" type="checkbox"/> NB-IoT<br><input checked="" type="checkbox"/> CatM1   |   |                  |
| Supported Frequency Range   | Band   | TX  | RX               |
|                             | GSM 850  | 824 to 849 MHz  | 869 to 894 MHz   |
|                             | GSM 1900   | 1850 to 1910 MHz  | 1930 to 1990 MHz |
|                             | NB1 Band 2   | 1850 to 1910 MHz  | 1930 to 1990 MHz |
|                             | NB1 Band 5   | 824 to 849 MHz  | 869 to 894 MHz   |
|                             | NB1 Band 12  | 699 to 716 MHz  | 729 to 746 MHz   |
|                             | NB1 Band 13  | 777 to 787 MHz  | 746 to 756 MHz   |
|                             | NB1 Band 26(814-824)   | 814 to 824MHz   | 859 to 869 MHz   |
|                             | NB1 Band 26(824-849)   | 824 to 849 MHz  | 869 to 894 MHz   |
|                             | CatM1 Band 2   | 1850 to 1910 MHz  | 1930 to 1990 MHz |
|                             | CatM1 Band 4   | 1710 to 1755 MHz  | 2110 to 2155 MHz |
|                             | CatM1 Band 5   | 824 to 849 MHz  | 869 to 894 MHz   |
|                             | CatM1 Band 12  | 699 to 716 MHz  | 729 to 746 MHz   |
|                             | CatM1 Band 13  | 777 to 787 MHz  | 746 to 756 MHz   |
|                             | CatM1 Band 26(814-824)   | 814 to 824MHz   | 859 to 869 MHz   |
|                             | CatM1 Band 26(824-849)   | 824 to 849 MHz  | 869 to 894 MHz   |
| Target TX Max Output Power  | GSM 850: 33.0dBm<br>GSM 1900: 30.0dBm<br>NB1 Band 2: 24.0dBm<br>NB1 Band 5: 24.0dBm<br>NB1 Band 12: 24.0dBm<br>NB1 Band 13: 24.0dBm<br>NB1 Band 26 (814-824): 24.0dBm<br>NB1 Band 26 (824-849): 24.0dBm<br>CatM1 Band 2: 24.0dBm<br>CatM1 Band 4: 23.0dBm<br>CatM1 Band 5: 24.0dBm<br>CatM1 Band 12: 24.0dBm<br>CatM1 Band 13: 24.0dBm<br>CatM1 Band 26 (814-824): 24.0dBm<br>CatM1 Band 26 (824-849): 24.0dBm |   |                  |
| Supported Channel Bandwidth | GSM Band   | <input checked="" type="checkbox"/> 200KHz;   |                  |
|                             | NB1 Band 2   | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | NB1 Band 5   | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | NB1 Band 12  | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | NB1 Band 13  | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | NB1 Band 26 (814-824)  | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | NB1 Band 26 (824-849)  | <input checked="" type="checkbox"/> 180KHz;   |                  |
|                             | CatM1 Band 2   | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz; <input checked="" type="checkbox"/> 15 MHz, <input checked="" type="checkbox"/> 20 MHz |                  |
|                             | CatM1 Band 4   | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz; <input checked="" type="checkbox"/> 15 MHz, <input checked="" type="checkbox"/> 20 MHz |                  |
|                             | CatM1 Band 5   | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz   |                  |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|  |                         |   |
|--|-------------------------|---|
|  | CatM1 Band 12           | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz   |
|  | CatM1 Band 13           | <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz   |
|  | CatM1 Band 26 (814-824) | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz   |
|  | CatM1 Band 26 (824-849) | <input checked="" type="checkbox"/> 1.4 MHz; <input checked="" type="checkbox"/> 3 MHz; <input checked="" type="checkbox"/> 5 MHz; <input checked="" type="checkbox"/> 10 MHz<br><input checked="" type="checkbox"/> 15 MHz |

### 3.7 Test Frequencies

| Test Mode | TX / RX | RF Channel  |             |             |
|-----------|---------|-------------|-------------|-------------|
|           |         | Low (L)     | Middle (M)  | High (H)    |
| GSM850    | TX      | Channel 128 | Channel 190 | Channel 251 |
|           |         | 824.2MHz    | 836.6 MHz   | 848.8 MHz   |
|           | RX      | Channel 128 | Channel 190 | Channel 251 |
|           |         | 869.2 MHz   | 881.6 MHz   | 893.8 MHz   |
| GSM1900   | TX      | Channel 512 | Channel 661 | Channel 810 |
|           |         | 1850.2MHz   | 1880.0 MHz  | 1909.8 MHz  |
|           | RX      | Channel 512 | Channel 661 | Channel 810 |
|           |         | 1930.2 MHz  | 1960.0 MHz  | 1989.8 MHz  |

| Test Mode                | Bandwidth | TX / RX | RF Channel    |               |               |
|--------------------------|-----------|---------|---------------|---------------|---------------|
|                          |           |         | Low (L)       | Middle (M)    | High (H)      |
| NB1 Band 2               | 180KHz    | TX      | Channel 18601 | Channel 18900 | Channel 19199 |
|                          |           |         | 1850.1 MHz    | 1880 MHz      | 1909.9 MHz    |
|                          |           | RX      | Channel 601   | Channel 900   | Channel 1199  |
|                          |           |         | 1930.1 MHz    | 1960 MHz      | 1989.9 MHz    |
| NB1 Band 5               | 180KHz    | TX      | Channel 20401 | Channel 20525 | Channel 20649 |
|                          |           |         | 824.1 MHz     | 836.5 MHz     | 848.9 MHz     |
|                          |           | RX      | Channel 2401  | Channel 2525  | Channel 2649  |
|                          |           |         | 869.1 MHz     | 881.5 MHz     | 893.9 MHz     |
| NB1 Band 12              | 180KHz    | TX      | Channel 23011 | Channel 23095 | Channel 23179 |
|                          |           |         | 699.1 MHz     | 707.5 MHz     | 715.9 MHz     |
|                          |           | RX      | Channel 5011  | Channel 5095  | Channel 5179  |
|                          |           |         | 729.1 MHz     | 737.5 MHz     | 745.9 MHz     |
| NB1 Band 13              | 180KHz    | TX      | Channel 23181 | Channel 23230 | Channel 23279 |
|                          |           |         | 777.1 MHz     | 782 MHz       | 786.9 MHz     |
|                          |           | RX      | Channel 5181  | Channel 5230  | Channel 5279  |
|                          |           |         | 746.1 MHz     | 752 MHz       | 755.9 MHz     |
| NB1 Band 26<br>(814-824) | 180KHz    | TX      | Channel 26692 | Channel 26740 | Channel 26788 |
|                          |           |         | 814.2 MHz     | 819 MHz       | 823.8 MHz     |
|                          |           | RX      | Channel 8692  | Channel 8740  | Channel 8788  |
|                          |           |         | 859.2MHz      | 864MHz        | 868.8MHz      |
| NB1 Band 26<br>(824-849) | 180KHz    | TX      | Channel 26791 | Channel 26915 | Channel 27039 |
|                          |           |         | 824.1 MHz     | 836.5 MHz     | 848.9 MHz     |
|                          |           | RX      | Channel 8791  | Channel 8915  | Channel 9039  |
|                          |           |         | 869.1 MHz     | 881.5 MHz     | 893.9 MHz     |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

| Test Mode    | Bandwidth | TX / RX       | RF Channel    |               |               |
|--------------|-----------|---------------|---------------|---------------|---------------|
|              |           |               | Low (L)       | Middle (M)    | High (H)      |
| CatM1 Band 2 | 1.4MHz    | TX            | Channel 18607 | Channel 18900 | Channel 19193 |
|              |           |               | 1850.7 MHz    | 1880 MHz      | 1909.3 MHz    |
|              | 3MHz      | RX            | Channel 607   | Channel 900   | Channel 1193  |
|              |           |               | 1930.7 MHz    | 1960 MHz      | 1989.3 MHz    |
|              | 5MHz      | TX            | Channel 18615 | Channel 18900 | Channel 19185 |
|              |           |               | 1851.5 MHz    | 1880 MHz      | 1908.5 MHz    |
|              | 10MHz     | RX            | Channel 615   | Channel 900   | Channel 1185  |
|              |           |               | 1931.5 MHz    | 1960 MHz      | 1988.5 MHz    |
| CatM1 Band 2 | 15MHz     | TX            | Channel 18625 | Channel 18900 | Channel 19175 |
|              |           |               | 1852.5 MHz    | 1880 MHz      | 1907.5 MHz    |
|              | 20MHz     | RX            | Channel 625   | Channel 900   | Channel 1175  |
|              |           |               | 1932.5 MHz    | 1960 MHz      | 1987.5 MHz    |
|              | TX        | Channel 18650 | Channel 18900 | Channel 19150 |               |
|              |           |               | 1855 MHz      | 1880 MHz      | 1905 MHz      |
|              | RX        | Channel 650   | Channel 900   | Channel 1150  |               |
|              |           |               | 1935 MHz      | 1960 MHz      | 1985 MHz      |
| CatM1 Band 4 | 1.4MHz    | TX            | Channel 18675 | Channel 18900 | Channel 19125 |
|              |           |               | 1857.5 MHz    | 1880 MHz      | 1902.5 MHz    |
|              | 3MHz      | RX            | Channel 675   | Channel 900   | Channel 1125  |
|              |           |               | 1937.5 MHz    | 1960 MHz      | 1982.5 MHz    |
|              | 5MHz      | TX            | Channel 18700 | Channel 18900 | Channel 19100 |
|              |           |               | 1860 MHz      | 1880 MHz      | 1900 MHz      |
|              | 10MHz     | RX            | Channel 700   | Channel 900   | Channel 1100  |
|              |           |               | 1940 MHz      | 1960 MHz      | 1980 MHz      |

| Test Mode    | Bandwidth | TX / RX       | RF Channel    |               |               |
|--------------|-----------|---------------|---------------|---------------|---------------|
|              |           |               | Low (L)       | Middle (M)    | High (H)      |
| CatM1 Band 4 | 1.4MHz    | TX            | Channel 19957 | Channel 20175 | Channel 20393 |
|              |           |               | 1710.7 MHz    | 1732.5 MHz    | 1754.3 MHz    |
|              | 3MHz      | RX            | Channel 1975  | Channel 2175  | Channel 2375  |
|              |           |               | 2112.5 MHz    | 2132.5MHz     | 2152.5 MHz    |
|              | 5MHz      | TX            | Channel 19965 | Channel 20175 | Channel 20385 |
|              |           |               | 1711.5 MHz    | 1732.5 MHz    | 1753.5 MHz    |
|              | 10MHz     | RX            | Channel 2000  | Channel 2175  | Channel 2350  |
|              |           |               | 2115 MHz      | 2132.5MHz     | 2150 MHz      |
| CatM1 Band 4 | 5MHz      | TX            | Channel 19975 | Channel 20175 | Channel 20375 |
|              |           |               | 1712.5 MHz    | 1732.5 MHz    | 1752.5 MHz    |
|              | 15MHz     | RX            | Channel 1975  | Channel 2175  | Channel 2375  |
|              |           |               | 2112.5 MHz    | 2132.5MHz     | 2152.5 MHz    |
|              | TX        | Channel 20000 | Channel 20175 | Channel 20350 |               |
|              |           |               | 1715 MHz      | 1732.5 MHz    | 1750 MHz      |
|              | RX        | Channel 2000  | Channel 2175  | Channel 2350  |               |
|              |           |               | 2115 MHz      | 2132.5MHz     | 2150 MHz      |
| CatM1 Band 4 | 15MHz     | TX            | Channel 20025 | Channel 20175 | Channel 20325 |
|              |           |               | 1717.5 MHz    | 1732.5 MHz    | 1747.5 MHz    |
|              | RX        | Channel 2025  | Channel 2175  | Channel 2325  |               |
|              |           |               | 2117.5 MHz    | 2132.5MHz     | 2147.5 MHz    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|       |    |               |               |               |
|-------|----|---------------|---------------|---------------|
| 20MHz | TX | Channel 20050 | Channel 20175 | Channel 20300 |
|       |    | 1720 MHz      | 1732.5 MHz    | 1745 MHz      |
|       | RX | Channel 2050  | Channel 2175  | Channel 2300  |
|       |    | 2120 MHz      | 2132.5MHz     | 2145 MHz      |

| Test Mode    | Bandwidth | TX / RX | RF Channel    |               |               |
|--------------|-----------|---------|---------------|---------------|---------------|
|              |           |         | Low (L)       | Middle (M)    | High (H)      |
| CatM1 Band 5 | 1.4MHz    | TX      | Channel 20407 | Channel 20525 | Channel 20643 |
|              |           |         | 824.7 MHz     | 836.5 MHz     | 848.3 MHz     |
|              |           | RX      | Channel 2407  | Channel 2525  | Channel 2643  |
|              |           |         | 869.7 MHz     | 881.5 MHz     | 893.3 MHz     |
|              | 3MHz      | TX      | Channel 20415 | Channel 20525 | Channel 20635 |
|              |           |         | 825.5 MHz     | 836.5 MHz     | 847.5 MHz     |
|              |           | RX      | Channel 2415  | Channel 2525  | Channel 2635  |
|              |           |         | 870.5 MHz     | 881.5 MHz     | 892.5 MHz     |
|              | 5MHz      | TX      | Channel 20425 | Channel 20525 | Channel 20625 |
|              |           |         | 826.5 MHz     | 836.5 MHz     | 846.5 MHz     |
|              |           | RX      | Channel 2425  | Channel 2525  | Channel 2625  |
|              |           |         | 871.5 MHz     | 881.5 MHz     | 891.5 MHz     |
|              | 10MHz     | TX      | Channel 20450 | Channel 20525 | Channel 20600 |
|              |           |         | 829 MHz       | 836.5 MHz     | 844 MHz       |
|              |           | RX      | Channel 2450  | Channel 2525  | Channel 2600  |
|              |           |         | 874 MHz       | 881.5 MHz     | 889 MHz       |

| Test Mode     | Bandwidth | TX / RX | RF Channel    |               |               |
|---------------|-----------|---------|---------------|---------------|---------------|
|               |           |         | Low (L)       | Middle (M)    | High (H)      |
| CatM1 Band 12 | 1.4MHz    | TX      | Channel 23017 | Channel 23095 | Channel 23173 |
|               |           |         | 699.7 MHz     | 707.5 MHz     | 715.3 MHz     |
|               |           | RX      | Channel 5017  | Channel 5095  | Channel 5173  |
|               |           |         | 729.7 MHz     | 737.5 MHz     | 745.3 MHz     |
|               | 3MHz      | TX      | Channel 23025 | Channel 23095 | Channel 23165 |
|               |           |         | 700.5 MHz     | 707.5 MHz     | 714.5 MHz     |
|               |           | RX      | Channel 5025  | Channel 5095  | Channel 5165  |
|               |           |         | 730.5 MHz     | 737.5 MHz     | 744.5 MHz     |
|               | 5MHz      | TX      | Channel 23035 | Channel 23095 | Channel 23155 |
|               |           |         | 701.5 MHz     | 707.5 MHz     | 713.5 MHz     |
|               |           | RX      | Channel 5035  | Channel 5095  | Channel 5155  |
|               |           |         | 731.5 MHz     | 737.5 MHz     | 743.5 MHz     |
|               | 10MHz     | TX      | Channel 23060 | Channel 23095 | Channel 23130 |
|               |           |         | 704 MHz       | 707.5 MHz     | 711 MHz       |
|               |           | RX      | Channel 5060  | Channel 5095  | Channel 5130  |
|               |           |         | 734 MHz       | 737.5 MHz     | 741 MHz       |

| Test Mode     | Bandwidth | TX / RX | RF Channel    |               |               |
|---------------|-----------|---------|---------------|---------------|---------------|
|               |           |         | Low (L)       | Middle (M)    | High (H)      |
| CatM1 Band 13 | 5MHz      | TX      | Channel 23025 | Channel 23230 | Channel 23255 |
|               |           |         | 779.5 MHz     | 782 MHz       | 784.5 MHz     |
|               |           | RX      | Channel 5205  | Channel 5230  | Channel 5255  |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|       |    |               | 748.5 MHz     | 751 MHz       | 753.5 MHz |
|-------|----|---------------|---------------|---------------|-----------|
| 10MHz | TX | Channel 23230 | Channel 23230 | Channel 23230 |           |
|       |    | 782 MHz       | 782 MHz       | 782 MHz       |           |
|       | RX | Channel 5230  | Channel 5230  | Channel 5230  |           |
|       |    | 751 MHz       | 751 MHz       | 751 MHz       |           |

| Test Mode                | Bandwidth | TX / RX | RF Channel    |               |               |
|--------------------------|-----------|---------|---------------|---------------|---------------|
|                          |           |         | Low (L)       | Middle (M)    | High (H)      |
| CatM1Band26<br>(814-824) | 1.4MHz    | TX      | Channel 26697 | Channel 26740 | Channel 26783 |
|                          |           |         | 814.7 MHz     | 819 MHz       | 823.3 MHz     |
|                          | 3MHz      | RX      | Channel 8697  | Channel 8740  | Channel 8783  |
|                          |           |         | 859.7 MHz     | 864MHz        | 868.3 MHz     |
|                          | 5MHz      | TX      | Channel 26705 | Channel 26740 | Channel 26775 |
|                          |           |         | 815.5 MHz     | 819 MHz       | 822.5 MHz     |
|                          | 10MHz     | RX      | Channel 8705  | Channel 8740  | Channel 8775  |
|                          |           |         | 860.5 MHz     | 864MHz        | 867.5 MHz     |
|                          | 5MHz      | TX      | Channel 26715 | Channel 26740 | Channel 26765 |
|                          |           |         | 816.5 MHz     | 819 MHz       | 821.5 MHz     |
|                          | 10MHz     | RX      | Channel 8715  | Channel 8740  | Channel 8755  |
|                          |           |         | 861.5 MHz     | 864MHz        | 866.5 MHz     |
|                          | 10MHz     | TX      | Channel 26740 | Channel 26740 | Channel 26740 |
|                          |           |         | 819 MHz       | 819 MHz       | 819 MHz       |
|                          | 10MHz     | RX      | Channel 8740  | Channel 8740  | Channel 8740  |
|                          |           |         | 864MHz        | 864MHz        | 864MHz        |

| Test Mode                 | Bandwidth | TX / RX | RF Channel    |               |               |
|---------------------------|-----------|---------|---------------|---------------|---------------|
|                           |           |         | Low (L)       | Middle (M)    | High (H)      |
| CatM1Band 26<br>(824-849) | 1.4MHz    | TX      | Channel 26797 | Channel 26915 | Channel 27033 |
|                           |           |         | 824.7 MHz     | 836.5 MHz     | 848.3 MHz     |
|                           | 3MHz      | RX      | Channel 8697  | Channel 8915  | Channel 9033  |
|                           |           |         | 859.7 MHz     | 881.5 MHz     | 893.3 MHz     |
|                           | 5MHz      | TX      | Channel 26805 | Channel 26915 | Channel 27025 |
|                           |           |         | 825.5 MHz     | 836.5 MHz     | 847.5 MHz     |
|                           | 10MHz     | RX      | Channel 8805  | Channel 8915  | Channel 9025  |
|                           |           |         | 860.5 MHz     | 881.5 MHz     | 892.5 MHz     |
|                           | 5MHz      | TX      | Channel 26815 | Channel 26915 | Channel 27015 |
|                           |           |         | 826.5 MHz     | 836.5 MHz     | 846.5 MHz     |
|                           | 10MHz     | RX      | Channel 8815  | Channel 8915  | Channel 9015  |
|                           |           |         | 871.5 MHz     | 881.5 MHz     | 891.5 MHz     |
|                           | 10MHz     | TX      | Channel 26840 | Channel 26915 | Channel 26990 |
|                           |           |         | 829 MHz       | 836.5 MHz     | 844 MHz       |
|                           | 10MHz     | RX      | Channel 8840  | Channel 8915  | Channel 8990  |
|                           |           |         | 874 MHz       | 881.5 MHz     | 889 MHz       |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## 4 Description of Tests

### 4.1 Conducted Output Power

Measurement Procedure: FCC KDB 971168 D01 V03r01

The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

**Remark: Reference test setup 1**

### 4.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 ; C63.26 (2015)

Calculate power in dBm by the following formula:

ERP (dBm) = Conducted Power (dBm) + antenna gain (dBd)

EIRP(dBm) = Conducted Power (dBm) + antenna gain (dBi)

EIRP=ERP+2.15dB

#### 4.2.1 Test Result

##### 4.2.1.1 Test Result for GSM 850

| Band     | Channel | Slot | Conducted Power (dBm) | ERP (dBm) | Limit(dBm) | Verdict |
|----------|---------|------|-----------------------|-----------|------------|---------|
| GSM850   | 128     | ---  | 32.34                 | 30.03     | 38.45      | PASS    |
| GSM850   | 190     | ---  | 32.38                 | 30.07     | 38.45      | PASS    |
| GSM850   | 251     | ---  | 32.39                 | 30.08     | 38.45      | PASS    |
| EGPRS850 | 128     | 1    | 26.59                 | 24.28     | 38.45      | PASS    |
| EGPRS850 | 128     | 2    | 26.32                 | 24.01     | 38.45      | PASS    |
| EGPRS850 | 128     | 3    | 25.22                 | 22.91     | 38.45      | PASS    |
| EGPRS850 | 128     | 4    | 23.94                 | 21.63     | 38.45      | PASS    |
| EGPRS850 | 190     | 1    | 26.65                 | 24.34     | 38.45      | PASS    |
| EGPRS850 | 190     | 2    | 26.17                 | 23.86     | 38.45      | PASS    |
| EGPRS850 | 190     | 3    | 25.06                 | 22.75     | 38.45      | PASS    |
| EGPRS850 | 190     | 4    | 24.16                 | 21.85     | 38.45      | PASS    |
| EGPRS850 | 251     | 1    | 26.60                 | 24.29     | 38.45      | PASS    |
| EGPRS850 | 251     | 2    | 26.28                 | 23.97     | 38.45      | PASS    |
| EGPRS850 | 251     | 3    | 25.24                 | 22.93     | 38.45      | PASS    |
| EGPRS850 | 251     | 4    | 24.22                 | 21.91     | 38.45      | PASS    |

##### 4.2.1.2 Test Result for GSM 1900

| Band      | Channel | Slot | Conducted Power (dBm) | EIRP (dBm) | Limit(dBm) | Verdict |
|-----------|---------|------|-----------------------|------------|------------|---------|
| GSM1900   | 512     | ---  | 29.54                 | 29.95      | 33.00      | PASS    |
| GSM1900   | 661     | ---  | 29.67                 | 30.08      | 33.00      | PASS    |
| GSM1900   | 810     | ---  | 29.23                 | 29.64      | 33.00      | PASS    |
| EGPRS1900 | 512     | 1    | 24.88                 | 25.29      | 33.00      | PASS    |
| EGPRS1900 | 512     | 2    | 24.76                 | 25.17      | 33.00      | PASS    |
| EGPRS1900 | 512     | 3    | 23.56                 | 23.97      | 33.00      | PASS    |
| EGPRS1900 | 512     | 4    | 22.63                 | 23.04      | 33.00      | PASS    |
| EGPRS1900 | 661     | 1    | 24.88                 | 25.29      | 33.00      | PASS    |
| EGPRS1900 | 661     | 2    | 24.70                 | 25.11      | 33.00      | PASS    |
| EGPRS1900 | 661     | 3    | 23.52                 | 23.93      | 33.00      | PASS    |
| EGPRS1900 | 661     | 4    | 22.58                 | 22.99      | 33.00      | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|           |     |   |       |       |       |      |
|-----------|-----|---|-------|-------|-------|------|
| EGPRS1900 | 810 | 1 | 24.67 | 25.08 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 24.69 | 25.10 | 33.00 | PASS |
| EGPRS1900 | 810 | 3 | 23.66 | 24.07 | 33.00 | PASS |
| EGPRS1900 | 810 | 4 | 22.65 | 23.06 | 33.00 | PASS |

**4.2.1.3 Test Result for NB1 band 2**

| Test Band  | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | EIRP (dBm) | limit (dBm) | Verdict |
|------------|-----------|---------------------------|--------------|-------------|-----------------------|------------|-------------|---------|
| NB1 Band 2 | BPSK      | 3.75                      | 18601        | 1T0         | 23.00                 | 23.41      | 33.00       | PASS    |
| NB1 Band 2 | BPSK      | 3.75                      | 18900        | 1T0         | 22.84                 | 23.25      | 33.00       | PASS    |
| NB1 Band 2 | BPSK      | 3.75                      | 19199        | 1T0         | 22.82                 | 23.23      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 3.75                      | 18601        | 1T0         | 23.00                 | 23.41      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 3.75                      | 18900        | 1T0         | 22.83                 | 23.24      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 3.75                      | 19199        | 1T0         | 22.78                 | 23.19      | 33.00       | PASS    |
| NB1 Band 2 | BPSK      | 15                        | 18601        | 1T0         | 22.24                 | 22.65      | 33.00       | PASS    |
| NB1 Band 2 | BPSK      | 15                        | 18900        | 1T0         | 22.56                 | 22.97      | 33.00       | PASS    |
| NB1 Band 2 | BPSK      | 15                        | 19199        | 1T0         | 23.00                 | 23.41      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 18601        | 1T0         | 22.23                 | 22.64      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 18601        | 12T0        | 21.43                 | 21.84      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 18900        | 1T0         | 22.66                 | 23.07      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 18900        | 12T0        | 22.82                 | 23.23      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 19199        | 1T0         | 23.07                 | 23.48      | 33.00       | PASS    |
| NB1 Band 2 | QPSK      | 15                        | 19199        | 12T0        | 22.27                 | 22.68      | 33.00       | PASS    |

**4.2.1.4 Test Result for NB1 Band 5**

| Test Band  | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|------------|-----------|---------------------------|--------------|-------------|-----------------------|-----------|-------------|---------|
| NB1 Band 5 | BPSK      | 3.75                      | 20401        | 1T0         | 22.67                 | 20.36     | 38.45       | PASS    |
| NB1 Band 5 | BPSK      | 3.75                      | 20525        | 1T0         | 22.86                 | 20.55     | 38.45       | PASS    |
| NB1 Band 5 | BPSK      | 3.75                      | 20649        | 1T0         | 22.70                 | 20.39     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 3.75                      | 20401        | 1T0         | 22.69                 | 20.38     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 3.75                      | 20525        | 1T0         | 22.82                 | 20.51     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 3.75                      | 20649        | 1T0         | 22.71                 | 20.40     | 38.45       | PASS    |
| NB1 Band 5 | BPSK      | 15                        | 20401        | 1T0         | 22.88                 | 20.57     | 38.45       | PASS    |
| NB1 Band 5 | BPSK      | 15                        | 20525        | 1T0         | 22.91                 | 20.60     | 38.45       | PASS    |
| NB1 Band 5 | BPSK      | 15                        | 20649        | 1T0         | 22.86                 | 20.55     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20401        | 1T0         | 22.93                 | 20.62     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20401        | 12T0        | 22.13                 | 19.82     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20525        | 1T0         | 22.88                 | 20.57     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20525        | 12T0        | 22.08                 | 19.77     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20649        | 1T0         | 22.91                 | 20.60     | 38.45       | PASS    |
| NB1 Band 5 | QPSK      | 15                        | 20649        | 12T0        | 22.11                 | 19.80     | 38.45       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.2.1.5 Test Result for NB1 Band 12**

| Test Band   | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|-------------|-----------|---------------------------|--------------|-------------|-----------------------|-----------|-------------|---------|
| NB1 Band 12 | BPSK      | 3.75                      | 23011        | 1T0         | 22.85                 | 20.45     | 34.77       | PASS    |
| NB1 Band 12 | BPSK      | 3.75                      | 23095        | 1T0         | 22.72                 | 20.32     | 34.77       | PASS    |
| NB1 Band 12 | BPSK      | 3.75                      | 23179        | 1T0         | 22.72                 | 20.32     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 3.75                      | 23011        | 1T0         | 22.84                 | 20.44     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 3.75                      | 23095        | 1T0         | 22.75                 | 20.35     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 3.75                      | 23179        | 1T0         | 22.73                 | 20.33     | 34.77       | PASS    |
| NB1 Band 12 | BPSK      | 15                        | 23011        | 1T0         | 22.64                 | 20.24     | 34.77       | PASS    |
| NB1 Band 12 | BPSK      | 15                        | 23095        | 1T0         | 23.01                 | 20.61     | 34.77       | PASS    |
| NB1 Band 12 | BPSK      | 15                        | 23179        | 1T0         | 22.36                 | 19.96     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23011        | 1T0         | 22.65                 | 20.25     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23011        | 12T0        | 21.85                 | 19.45     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23095        | 1T0         | 22.98                 | 20.58     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23095        | 12T0        | 22.18                 | 19.78     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23179        | 1T0         | 22.35                 | 19.95     | 34.77       | PASS    |
| NB1 Band 12 | QPSK      | 15                        | 23179        | 12T0        | 21.55                 | 19.15     | 34.77       | PASS    |

**4.2.1.6 Test Result for NB1 Band 13**

| Test Band   | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|-------------|-----------|---------------------------|--------------|-------------|-----------------------|-----------|-------------|---------|
| NB1 Band 13 | BPSK      | 3.75                      | 23181        | 1T0         | 22.76                 | 20.38     | 34.77       | PASS    |
| NB1 Band 13 | BPSK      | 3.75                      | 23230        | 1T0         | 22.65                 | 20.27     | 34.77       | PASS    |
| NB1 Band 13 | BPSK      | 3.75                      | 23279        | 1T0         | 22.52                 | 20.14     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 3.75                      | 23181        | 1T0         | 22.75                 | 20.37     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 3.75                      | 23230        | 1T0         | 22.67                 | 20.29     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 3.75                      | 23279        | 1T0         | 22.53                 | 20.15     | 34.77       | PASS    |
| NB1 Band 13 | BPSK      | 15                        | 23181        | 1T0         | 22.97                 | 20.59     | 34.77       | PASS    |
| NB1 Band 13 | BPSK      | 15                        | 23230        | 1T0         | 22.67                 | 20.29     | 34.77       | PASS    |
| NB1 Band 13 | BPSK      | 15                        | 23279        | 1T0         | 22.70                 | 20.32     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23181        | 1T0         | 22.95                 | 20.57     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23181        | 12T0        | 22.15                 | 19.77     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23230        | 1T0         | 22.74                 | 20.36     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23230        | 12T0        | 21.94                 | 19.56     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23279        | 1T0         | 22.72                 | 20.34     | 34.77       | PASS    |
| NB1 Band 13 | QPSK      | 15                        | 23279        | 12T0        | 21.92                 | 19.54     | 34.77       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.2.1.7 Test Result for NB1 Band 26 (814-824)**

| Test Band   | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | Verdict |
|-------------|-----------|---------------------------|--------------|-------------|-----------------------|---------|
| NB1 Band 26 | BPSK      | 3.75                      | 26692        | 1T0         | 22.95                 | PASS    |
| NB1 Band 26 | BPSK      | 3.75                      | 26740        | 1T0         | 23.18                 | PASS    |
| NB1 Band 26 | BPSK      | 3.75                      | 26788        | 1T0         | 23.19                 | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 26692        | 1T0         | 22.93                 | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 26740        | 1T0         | 23.10                 | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 26788        | 1T0         | 23.09                 | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 26692        | 1T0         | 23.25                 | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 26740        | 1T0         | 23.14                 | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 26788        | 1T0         | 23.27                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26692        | 1T0         | 23.43                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26692        | 12T0        | 22.63                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26740        | 1T0         | 23.21                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26740        | 12T0        | 22.41                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26788        | 1T0         | 23.14                 | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26788        | 12T0        | 22.34                 | PASS    |

**4.2.1.8 Test Result for NB1 Band 26 (824-849)**

| Test Band   | Test Mode | Sub-carrier Spacing (kHz) | Test channel | Number of T | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|-------------|-----------|---------------------------|--------------|-------------|-----------------------|-----------|-------------|---------|
| NB1 Band 26 | BPSK      | 3.75                      | 26791        | 1T0         | 22.97                 | 20.60     | 38.45       | PASS    |
| NB1 Band 26 | BPSK      | 3.75                      | 26915        | 1T0         | 23.02                 | 20.65     | 38.45       | PASS    |
| NB1 Band 26 | BPSK      | 3.75                      | 27039        | 1T0         | 22.86                 | 20.49     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 26791        | 1T0         | 22.77                 | 20.40     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 26915        | 1T0         | 23.00                 | 20.63     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 3.75                      | 27039        | 1T0         | 22.99                 | 20.62     | 38.45       | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 26791        | 1T0         | 23.05                 | 20.68     | 38.45       | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 26915        | 1T0         | 23.12                 | 20.75     | 38.45       | PASS    |
| NB1 Band 26 | BPSK      | 15                        | 27039        | 1T0         | 22.86                 | 20.49     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26791        | 1T0         | 23.09                 | 20.72     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26791        | 12T0        | 22.29                 | 19.92     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26915        | 1T0         | 23.10                 | 20.73     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 26915        | 12T0        | 22.30                 | 19.93     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 27039        | 1T0         | 22.97                 | 20.60     | 38.45       | PASS    |
| NB1 Band 26 | QPSK      | 15                        | 27039        | 12T0        | 22.17                 | 19.80     | 38.45       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

#### 4.2.1.9 Test Result for LTE-CatM1 Band 2

| Test Band    | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | EIRP (dBm) | limit (dBm) | Verdict |
|--------------|-----------|----------------|--------------|---------|-----------------------|------------|-------------|---------|
| CatM1 Band 2 | QPSK      | 1.4M           | LCH          | 1RB#0   | 22.85                 | 23.26      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | LCH          | 5RB#0   | 21.78                 | 22.19      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | LCH          | 6RB#0   | 20.76                 | 21.17      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | MCH          | 1RB#0   | 22.76                 | 23.17      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | MCH          | 5RB#0   | 21.71                 | 22.12      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | MCH          | 6RB#0   | 20.72                 | 21.13      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | HCH          | 1RB#0   | 22.85                 | 23.26      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | HCH          | 5RB#0   | 21.66                 | 22.07      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 1.4M           | HCH          | 6RB#0   | 20.75                 | 21.16      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 21.89                 | 22.30      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 20.88                 | 21.29      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 21.57                 | 21.98      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 20.74                 | 21.15      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 21.64                 | 22.05      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 20.74                 | 21.15      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | LCH          | 1RB#0   | 22.88                 | 23.29      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | LCH          | 5RB#0   | 21.69                 | 22.10      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | LCH          | 6RB#0   | 20.78                 | 21.19      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | MCH          | 1RB#0   | 22.84                 | 23.25      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | MCH          | 5RB#0   | 21.66                 | 22.07      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | MCH          | 6RB#0   | 20.66                 | 21.07      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | HCH          | 1RB#0   | 22.82                 | 23.23      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | HCH          | 5RB#0   | 21.69                 | 22.10      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 3M             | HCH          | 6RB#0   | 20.59                 | 21.00      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | LCH          | 1RB#0   | 21.63                 | 22.04      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | LCH          | 5RB#0   | 20.79                 | 21.20      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | MCH          | 1RB#0   | 21.57                 | 21.98      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | MCH          | 5RB#0   | 20.58                 | 20.99      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | HCH          | 1RB#0   | 21.40                 | 21.81      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 3M             | HCH          | 5RB#0   | 20.67                 | 21.08      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | LCH          | 1RB#0   | 22.83                 | 23.24      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | LCH          | 5RB#0   | 21.80                 | 22.21      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | LCH          | 6RB#0   | 21.85                 | 22.26      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | MCH          | 1RB#0   | 22.65                 | 23.06      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | MCH          | 5RB#0   | 21.54                 | 21.95      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | MCH          | 6RB#0   | 21.61                 | 22.02      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | HCH          | 1RB#0   | 22.82                 | 23.23      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | HCH          | 5RB#0   | 21.59                 | 22.00      | 33.00       | PASS    |
| CatM1 Band 2 | QPSK      | 5M             | HCH          | 6RB#0   | 21.64                 | 22.05      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 5M             | LCH          | 1RB#0   | 22.54                 | 22.95      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 5M             | LCH          | 5RB#0   | 21.78                 | 22.19      | 33.00       | PASS    |
| CatM1 Band 2 | 16QAM     | 5M             | MCH          | 1RB#0   | 22.51                 | 22.92      | 33.00       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



|              |       |     |     |       |       |       |       |      |
|--------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 2 | 16QAM | 5M  | MCH | 5RB#0 | 21.53 | 21.94 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 5M  | HCH | 1RB#0 | 22.42 | 22.83 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 5M  | HCH | 5RB#0 | 21.61 | 22.02 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | LCH | 1RB#0 | 22.91 | 23.32 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | LCH | 5RB#0 | 22.90 | 23.31 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | LCH | 6RB#0 | 21.79 | 22.20 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | MCH | 1RB#0 | 22.63 | 23.04 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | MCH | 5RB#0 | 22.59 | 23.00 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | MCH | 6RB#0 | 21.58 | 21.99 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | HCH | 1RB#0 | 22.82 | 23.23 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | HCH | 5RB#0 | 22.74 | 23.15 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 10M | HCH | 6RB#0 | 21.63 | 22.04 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | LCH | 1RB#0 | 22.57 | 22.98 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | LCH | 5RB#0 | 22.49 | 22.90 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | MCH | 1RB#0 | 22.41 | 22.82 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | MCH | 5RB#0 | 22.31 | 22.72 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | HCH | 1RB#0 | 22.48 | 22.89 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 10M | HCH | 5RB#0 | 22.63 | 23.04 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | LCH | 1RB#0 | 22.88 | 23.29 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | LCH | 5RB#0 | 22.90 | 23.31 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | LCH | 6RB#0 | 22.86 | 23.27 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | MCH | 1RB#0 | 22.69 | 23.10 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | MCH | 5RB#0 | 22.71 | 23.12 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | MCH | 6RB#0 | 22.67 | 23.08 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | HCH | 1RB#0 | 22.78 | 23.19 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | HCH | 5RB#0 | 22.75 | 23.16 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 15M | HCH | 6RB#0 | 22.69 | 23.10 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | LCH | 1RB#0 | 22.58 | 22.99 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | LCH | 5RB#0 | 22.90 | 23.31 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | MCH | 1RB#0 | 22.49 | 22.90 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | MCH | 5RB#0 | 22.77 | 23.18 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | HCH | 1RB#0 | 22.36 | 22.77 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 15M | HCH | 5RB#0 | 22.68 | 23.09 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | LCH | 1RB#0 | 22.82 | 23.23 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | LCH | 5RB#0 | 22.77 | 23.18 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | LCH | 6RB#0 | 22.93 | 23.34 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | MCH | 1RB#0 | 22.72 | 23.13 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | MCH | 5RB#0 | 22.68 | 23.09 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | MCH | 6RB#0 | 22.86 | 23.27 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | HCH | 1RB#0 | 22.67 | 23.08 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | HCH | 5RB#0 | 22.81 | 23.22 | 33.00 | PASS |
| CatM1 Band 2 | QPSK  | 20M | HCH | 6RB#0 | 22.76 | 23.17 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 20M | LCH | 1RB#0 | 22.53 | 22.94 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 20M | LCH | 5RB#0 | 22.86 | 23.27 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 20M | MCH | 1RB#0 | 22.41 | 22.82 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 20M | MCH | 5RB#0 | 22.76 | 23.17 | 33.00 | PASS |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|              |       |     |     |       |       |       |       |      |
|--------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 2 | 16QAM | 20M | HCH | 1RB#0 | 22.47 | 22.88 | 33.00 | PASS |
| CatM1 Band 2 | 16QAM | 20M | HCH | 5RB#0 | 22.73 | 23.14 | 33.00 | PASS |

**4.2.1.10 Test Result for LTE-CatM1 Band 4**

| Test Band    | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | EIRP (dBm) | limit (dBm) | Verdict |
|--------------|-----------|----------------|--------------|---------|-----------------------|------------|-------------|---------|
| CatM1 Band 4 | QPSK      | 1.4M           | LCH          | 1RB#0   | 22.35                 | 22.80      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | LCH          | 5RB#0   | 21.27                 | 21.72      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | LCH          | 6RB#0   | 20.24                 | 20.69      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | MCH          | 1RB#0   | 22.45                 | 22.90      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | MCH          | 5RB#0   | 21.36                 | 21.81      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | MCH          | 6RB#0   | 20.34                 | 20.79      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | HCH          | 1RB#0   | 22.41                 | 22.86      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | HCH          | 5RB#0   | 21.29                 | 21.74      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 1.4M           | HCH          | 6RB#0   | 20.26                 | 20.71      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 21.11                 | 21.56      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 20.34                 | 20.79      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 21.58                 | 22.03      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 20.37                 | 20.82      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 21.39                 | 21.84      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 20.42                 | 20.87      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | LCH          | 1RB#0   | 22.42                 | 22.87      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | LCH          | 5RB#0   | 21.25                 | 21.70      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | LCH          | 6RB#0   | 20.40                 | 20.85      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | MCH          | 1RB#0   | 22.45                 | 22.90      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | MCH          | 5RB#0   | 21.33                 | 21.78      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | MCH          | 6RB#0   | 20.42                 | 20.87      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | HCH          | 1RB#0   | 22.43                 | 22.88      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | HCH          | 5RB#0   | 21.27                 | 21.72      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 3M             | HCH          | 6RB#0   | 20.45                 | 20.90      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | LCH          | 1RB#0   | 21.09                 | 21.54      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | LCH          | 5RB#0   | 20.54                 | 20.99      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | MCH          | 1RB#0   | 21.19                 | 21.64      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | MCH          | 5RB#0   | 19.99                 | 20.44      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | HCH          | 1RB#0   | 21.21                 | 21.66      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 3M             | HCH          | 5RB#0   | 20.26                 | 20.71      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | LCH          | 1RB#0   | 22.41                 | 22.86      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | LCH          | 5RB#0   | 21.29                 | 21.74      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | LCH          | 6RB#0   | 21.37                 | 21.82      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | MCH          | 1RB#0   | 22.46                 | 22.91      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | MCH          | 5RB#0   | 21.34                 | 21.79      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | MCH          | 6RB#0   | 21.49                 | 21.94      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | HCH          | 1RB#0   | 22.46                 | 22.91      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | HCH          | 5RB#0   | 21.37                 | 21.82      | 33.00       | PASS    |
| CatM1 Band 4 | QPSK      | 5M             | HCH          | 6RB#0   | 21.56                 | 22.01      | 33.00       | PASS    |
| CatM1 Band 4 | 16QAM     | 5M             | LCH          | 1RB#0   | 22.06                 | 22.51      | 33.00       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



|              |       |     |     |       |       |       |       |      |
|--------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 4 | 16QAM | 5M  | LCH | 5RB#0 | 21.33 | 21.78 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 5M  | MCH | 1RB#0 | 22.17 | 22.62 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 5M  | MCH | 5RB#0 | 21.35 | 21.80 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 5M  | HCH | 1RB#0 | 22.18 | 22.63 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 5M  | HCH | 5RB#0 | 21.48 | 21.93 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | LCH | 1RB#0 | 22.48 | 22.93 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | LCH | 5RB#0 | 22.35 | 22.80 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | LCH | 6RB#0 | 21.41 | 21.86 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | MCH | 1RB#0 | 22.48 | 22.93 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | MCH | 5RB#0 | 22.37 | 22.82 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | MCH | 6RB#0 | 21.35 | 21.80 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | HCH | 1RB#0 | 22.50 | 22.95 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | HCH | 5RB#0 | 22.39 | 22.84 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 10M | HCH | 6RB#0 | 21.43 | 21.88 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | LCH | 1RB#0 | 22.15 | 22.60 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | LCH | 5RB#0 | 22.46 | 22.91 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | MCH | 1RB#0 | 22.17 | 22.62 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | MCH | 5RB#0 | 22.07 | 22.52 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | HCH | 1RB#0 | 22.20 | 22.65 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 10M | HCH | 5RB#0 | 22.23 | 22.68 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | LCH | 1RB#0 | 22.51 | 22.96 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | LCH | 5RB#0 | 22.39 | 22.84 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | LCH | 6RB#0 | 22.29 | 22.74 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | MCH | 1RB#0 | 22.52 | 22.97 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | MCH | 5RB#0 | 22.41 | 22.86 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | MCH | 6RB#0 | 22.38 | 22.83 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | HCH | 1RB#0 | 22.52 | 22.97 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | HCH | 5RB#0 | 22.37 | 22.82 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 15M | HCH | 6RB#0 | 22.36 | 22.81 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | LCH | 1RB#0 | 22.07 | 22.52 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | LCH | 5RB#0 | 22.31 | 22.76 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | MCH | 1RB#0 | 22.13 | 22.58 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | MCH | 5RB#0 | 22.28 | 22.73 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | HCH | 1RB#0 | 22.16 | 22.61 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 15M | HCH | 5RB#0 | 22.37 | 22.82 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | LCH | 1RB#0 | 22.55 | 23.00 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | LCH | 5RB#0 | 22.45 | 22.90 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | LCH | 6RB#0 | 22.37 | 22.82 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | MCH | 1RB#0 | 22.57 | 23.02 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | MCH | 5RB#0 | 22.41 | 22.86 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | MCH | 6RB#0 | 22.39 | 22.84 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | HCH | 1RB#0 | 22.56 | 23.01 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | HCH | 5RB#0 | 22.51 | 22.96 | 33.00 | PASS |
| CatM1 Band 4 | QPSK  | 20M | HCH | 6RB#0 | 22.47 | 22.92 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 20M | LCH | 1RB#0 | 22.16 | 22.61 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 20M | LCH | 5RB#0 | 21.91 | 22.36 | 33.00 | PASS |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|              |       |     |     |       |       |       |       |      |
|--------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 4 | 16QAM | 20M | MCH | 1RB#0 | 22.17 | 22.62 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 20M | MCH | 5RB#0 | 21.80 | 22.25 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 20M | HCH | 1RB#0 | 22.13 | 22.58 | 33.00 | PASS |
| CatM1 Band 4 | 16QAM | 20M | HCH | 5RB#0 | 22.38 | 22.83 | 33.00 | PASS |

**4.2.1.11 Test Result for LTE-CatM1 Band 5**

| Test Band    | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|--------------|-----------|----------------|--------------|---------|-----------------------|-----------|-------------|---------|
| CatM1 Band 5 | QPSK      | 1.4M           | LCH          | 1RB#0   | 22.88                 | 20.57     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | LCH          | 5RB#0   | 22.04                 | 19.73     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | LCH          | 6RB#0   | 20.95                 | 18.64     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | MCH          | 1RB#0   | 23.23                 | 20.92     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | MCH          | 5RB#0   | 22.24                 | 19.93     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | MCH          | 6RB#0   | 21.13                 | 18.82     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | HCH          | 1RB#0   | 23.16                 | 20.85     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | HCH          | 5RB#0   | 22.14                 | 19.83     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 1.4M           | HCH          | 6RB#0   | 21.07                 | 18.76     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 21.93                 | 19.62     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 20.83                 | 18.52     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 22.30                 | 19.99     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 21.28                 | 18.97     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 22.25                 | 19.94     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 21.09                 | 18.78     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | LCH          | 1RB#0   | 23.25                 | 20.94     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | LCH          | 5RB#0   | 22.04                 | 19.73     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | LCH          | 6RB#0   | 21.07                 | 18.76     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | MCH          | 1RB#0   | 23.47                 | 21.16     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | MCH          | 5RB#0   | 22.27                 | 19.96     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | MCH          | 6RB#0   | 21.15                 | 18.84     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | HCH          | 1RB#0   | 23.51                 | 21.20     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | HCH          | 5RB#0   | 22.31                 | 20.00     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 3M             | HCH          | 6RB#0   | 21.11                 | 18.80     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | LCH          | 1RB#0   | 22.04                 | 19.73     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | LCH          | 5RB#0   | 21.07                 | 18.76     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | MCH          | 1RB#0   | 22.20                 | 19.89     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | MCH          | 5RB#0   | 21.23                 | 18.92     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | HCH          | 1RB#0   | 22.24                 | 19.93     | 38.45       | PASS    |
| CatM1 Band 5 | 16QAM     | 3M             | HCH          | 5RB#0   | 21.30                 | 18.99     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | LCH          | 1RB#0   | 23.37                 | 21.06     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | LCH          | 5RB#0   | 22.14                 | 19.83     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | LCH          | 6RB#0   | 22.07                 | 19.76     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | MCH          | 1RB#0   | 23.49                 | 21.18     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | MCH          | 5RB#0   | 22.17                 | 19.86     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | MCH          | 6RB#0   | 22.24                 | 19.93     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | HCH          | 1RB#0   | 23.63                 | 21.32     | 38.45       | PASS    |
| CatM1 Band 5 | QPSK      | 5M             | HCH          | 5RB#0   | 22.05                 | 19.74     | 38.45       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

|              |       |     |     |       |       |       |       |      |
|--------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 5 | QPSK  | 5M  | HCH | 6RB#0 | 22.05 | 19.74 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | LCH | 1RB#0 | 22.81 | 20.50 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | LCH | 5RB#0 | 22.14 | 19.83 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | MCH | 1RB#0 | 22.89 | 20.58 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | MCH | 5RB#0 | 22.19 | 19.88 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | HCH | 1RB#0 | 23.05 | 20.74 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 5M  | HCH | 5RB#0 | 22.05 | 19.74 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | LCH | 1RB#0 | 23.34 | 21.03 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | LCH | 5RB#0 | 23.02 | 20.71 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | LCH | 6RB#0 | 21.94 | 19.63 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | MCH | 1RB#0 | 23.54 | 21.23 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | MCH | 5RB#0 | 23.24 | 20.93 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | MCH | 6RB#0 | 22.17 | 19.86 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | HCH | 1RB#0 | 23.47 | 21.16 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | HCH | 5RB#0 | 23.13 | 20.82 | 38.45 | PASS |
| CatM1 Band 5 | QPSK  | 10M | HCH | 6RB#0 | 22.14 | 19.83 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | LCH | 1RB#0 | 22.75 | 20.44 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | LCH | 5RB#0 | 23.04 | 20.73 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | MCH | 1RB#0 | 22.95 | 20.64 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | MCH | 5RB#0 | 23.17 | 20.86 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | HCH | 1RB#0 | 22.84 | 20.53 | 38.45 | PASS |
| CatM1 Band 5 | 16QAM | 10M | HCH | 5RB#0 | 23.14 | 20.83 | 38.45 | PASS |

#### 4.2.1.12 Test Result for LTE-CatM1 Band 12

| Test Band     | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|---------------|-----------|----------------|--------------|---------|-----------------------|-----------|-------------|---------|
| CatM1 Band 12 | QPSK      | 1.4M           | LCH          | 1RB#0   | 23.02                 | 20.62     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | LCH          | 5RB#0   | 22.22                 | 19.82     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | LCH          | 6RB#0   | 21.14                 | 18.74     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | MCH          | 1RB#0   | 22.83                 | 20.43     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | MCH          | 5RB#0   | 21.88                 | 19.48     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | MCH          | 6RB#0   | 20.77                 | 18.37     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | HCH          | 1RB#0   | 23.01                 | 20.61     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | HCH          | 5RB#0   | 22.12                 | 19.72     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 1.4M           | HCH          | 6RB#0   | 20.89                 | 18.49     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 22.05                 | 19.65     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 21.17                 | 18.77     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 21.83                 | 19.43     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 20.99                 | 18.59     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 21.91                 | 19.51     | 34.77       | PASS    |
| CatM1 Band 12 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 21.11                 | 18.71     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 3M             | LCH          | 1RB#0   | 22.96                 | 20.56     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 3M             | LCH          | 5RB#0   | 21.93                 | 19.53     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 3M             | LCH          | 6RB#0   | 20.81                 | 18.41     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 3M             | MCH          | 1RB#0   | 22.89                 | 20.49     | 34.77       | PASS    |
| CatM1 Band 12 | QPSK      | 3M             | MCH          | 5RB#0   | 21.88                 | 19.48     | 34.77       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)



|               |       |     |     |       |       |       |       |      |
|---------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 12 | QPSK  | 3M  | MCH | 6RB#0 | 20.78 | 18.38 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 3M  | HCH | 1RB#0 | 22.91 | 20.51 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 3M  | HCH | 5RB#0 | 21.87 | 19.47 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 3M  | HCH | 6RB#0 | 20.83 | 18.43 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | LCH | 1RB#0 | 21.78 | 19.38 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | LCH | 5RB#0 | 20.74 | 18.34 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | MCH | 1RB#0 | 21.79 | 19.39 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | MCH | 5RB#0 | 20.78 | 18.38 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | HCH | 1RB#0 | 21.85 | 19.45 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 3M  | HCH | 5RB#0 | 20.82 | 18.42 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | LCH | 1RB#0 | 23.21 | 20.81 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | LCH | 5RB#0 | 22.09 | 19.69 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | LCH | 6RB#0 | 22.03 | 19.63 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | MCH | 1RB#0 | 23.14 | 20.74 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | MCH | 5RB#0 | 22.01 | 19.61 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | MCH | 6RB#0 | 21.99 | 19.59 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | HCH | 1RB#0 | 23.05 | 20.65 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | HCH | 5RB#0 | 21.97 | 19.57 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 5M  | HCH | 6RB#0 | 21.95 | 19.55 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | LCH | 1RB#0 | 22.83 | 20.43 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | LCH | 5RB#0 | 21.97 | 19.57 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | MCH | 1RB#0 | 22.74 | 20.34 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | MCH | 5RB#0 | 21.82 | 19.42 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | HCH | 1RB#0 | 22.71 | 20.31 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 5M  | HCH | 5RB#0 | 21.97 | 19.57 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | LCH | 1RB#0 | 23.09 | 20.69 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | LCH | 5RB#0 | 23.04 | 20.64 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | LCH | 6RB#0 | 21.92 | 19.52 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | MCH | 1RB#0 | 22.96 | 20.56 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | MCH | 5RB#0 | 23.12 | 20.72 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | MCH | 6RB#0 | 22.09 | 19.69 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | HCH | 1RB#0 | 23.12 | 20.72 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | HCH | 5RB#0 | 23.02 | 20.62 | 34.77 | PASS |
| CatM1 Band 12 | QPSK  | 10M | HCH | 6RB#0 | 21.88 | 19.48 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | LCH | 1RB#0 | 22.86 | 20.46 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | LCH | 5RB#0 | 22.83 | 20.43 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | MCH | 1RB#0 | 22.93 | 20.53 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | MCH | 5RB#0 | 22.91 | 20.51 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | HCH | 1RB#0 | 22.71 | 20.31 | 34.77 | PASS |
| CatM1 Band 12 | 16QAM | 10M | HCH | 5RB#0 | 22.79 | 20.39 | 34.77 | PASS |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

**4.2.1.13**
**Test Result for LTE-CatM1 Band 13**

| Test Band     | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|---------------|-----------|----------------|--------------|---------|-----------------------|-----------|-------------|---------|
| CatM1 Band 13 | QPSK      | 5M             | LCH          | 1RB#0   | 22.80                 | 20.42     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | LCH          | 5RB#0   | 21.40                 | 19.02     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | LCH          | 6RB#0   | 21.38                 | 19.00     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | MCH          | 1RB#0   | 22.90                 | 20.52     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | MCH          | 5RB#0   | 21.49                 | 19.11     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | MCH          | 6RB#0   | 21.48                 | 19.10     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | HCH          | 1RB#0   | 22.91                 | 20.53     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | HCH          | 5RB#0   | 21.44                 | 19.06     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 5M             | HCH          | 6RB#0   | 21.42                 | 19.04     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | LCH          | 1RB#0   | 22.68                 | 20.30     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | LCH          | 5RB#0   | 21.46                 | 19.08     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | MCH          | 1RB#0   | 22.47                 | 20.09     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | MCH          | 5RB#0   | 21.51                 | 19.13     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | HCH          | 1RB#0   | 22.51                 | 20.13     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 5M             | HCH          | 5RB#0   | 21.54                 | 19.16     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 10M            | MCH          | 1RB#0   | 23.12                 | 20.74     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 10M            | MCH          | 5RB#0   | 22.82                 | 20.44     | 34.77       | PASS    |
| CatM1 Band 13 | QPSK      | 10M            | MCH          | 6RB#0   | 21.59                 | 19.21     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 10M            | MCH          | 1RB#0   | 22.64                 | 20.26     | 34.77       | PASS    |
| CatM1 Band 13 | 16QAM     | 10M            | MCH          | 5RB#0   | 22.79                 | 20.41     | 34.77       | PASS    |

**4.2.1.14**
**Test Result for LTE-CatM1 Band 26 (814-824)**

| Test Band     | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | Verdict |
|---------------|-----------|----------------|--------------|---------|-----------------------|---------|
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 1RB#0   | 22.92                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 5RB#0   | 22.10                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 6RB#0   | 21.13                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 1RB#0   | 22.89                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 5RB#0   | 22.14                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 6RB#0   | 20.96                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 1RB#0   | 22.96                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 5RB#0   | 22.19                 | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 6RB#0   | 21.17                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 22.25                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 21.16                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 22.13                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 21.43                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 22.23                 | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 21.29                 | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 1RB#0   | 23.15                 | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 5RB#0   | 22.21                 | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 6RB#0   | 21.24                 | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



|               |       |     |     |       |       |      |
|---------------|-------|-----|-----|-------|-------|------|
| CatM1 Band 26 | QPSK  | 3M  | MCH | 1RB#0 | 23.13 | PASS |
| CatM1 Band 26 | QPSK  | 3M  | MCH | 5RB#0 | 22.16 | PASS |
| CatM1 Band 26 | QPSK  | 3M  | MCH | 6RB#0 | 21.26 | PASS |
| CatM1 Band 26 | QPSK  | 3M  | HCH | 1RB#0 | 23.04 | PASS |
| CatM1 Band 26 | QPSK  | 3M  | HCH | 5RB#0 | 22.04 | PASS |
| CatM1 Band 26 | QPSK  | 3M  | HCH | 6RB#0 | 21.19 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | LCH | 1RB#0 | 21.97 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | LCH | 5RB#0 | 20.94 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | MCH | 1RB#0 | 21.84 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | MCH | 5RB#0 | 20.75 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | HCH | 1RB#0 | 21.85 | PASS |
| CatM1 Band 26 | 16QAM | 3M  | HCH | 5RB#0 | 20.87 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | LCH | 1RB#0 | 23.37 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | LCH | 5RB#0 | 22.11 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | LCH | 6RB#0 | 22.09 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | MCH | 1RB#0 | 23.25 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | MCH | 5RB#0 | 22.08 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | MCH | 6RB#0 | 22.07 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | HCH | 1RB#0 | 23.21 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | HCH | 5RB#0 | 22.05 | PASS |
| CatM1 Band 26 | QPSK  | 5M  | HCH | 6RB#0 | 22.11 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | LCH | 1RB#0 | 22.76 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | LCH | 5RB#0 | 22.01 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | MCH | 1RB#0 | 22.83 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | MCH | 5RB#0 | 22.03 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | HCH | 1RB#0 | 22.86 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | HCH | 5RB#0 | 21.96 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 1RB#0 | 23.22 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 5RB#0 | 23.21 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 6RB#0 | 22.19 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 1RB#0 | 23.25 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 5RB#0 | 23.02 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 6RB#0 | 22.16 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 1RB#0 | 23.36 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 5RB#0 | 23.19 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 6RB#0 | 22.22 | PASS |
| CatM1 Band 26 | 16QAM | 10M | LCH | 1RB#0 | 22.81 | PASS |
| CatM1 Band 26 | 16QAM | 10M | LCH | 5RB#0 | 22.99 | PASS |
| CatM1 Band 26 | 16QAM | 10M | MCH | 1RB#0 | 22.79 | PASS |
| CatM1 Band 26 | 16QAM | 10M | MCH | 5RB#0 | 23.08 | PASS |
| CatM1 Band 26 | 16QAM | 10M | HCH | 1RB#0 | 22.91 | PASS |
| CatM1 Band 26 | 16QAM | 10M | HCH | 5RB#0 | 23.16 | PASS |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

**4.2.1.15**

**Test Result for LTE-CatM1 Band 26 (824-849)**

| Test Band     | Test Mode | Test Bandwidth | Test channel | Test RB | Conducted Power (dBm) | ERP (dBm) | limit (dBm) | Verdict |
|---------------|-----------|----------------|--------------|---------|-----------------------|-----------|-------------|---------|
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 1RB#0   | 22.88                 | 20.51     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 5RB#0   | 22.04                 | 19.67     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | LCH          | 6RB#0   | 20.95                 | 18.58     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 1RB#0   | 23.23                 | 20.86     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 5RB#0   | 22.24                 | 19.87     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | MCH          | 6RB#0   | 21.13                 | 18.76     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 1RB#0   | 23.16                 | 20.79     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 5RB#0   | 22.14                 | 19.77     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 1.4M           | HCH          | 6RB#0   | 21.07                 | 18.70     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | LCH          | 1RB#0   | 21.93                 | 19.56     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | LCH          | 5RB#0   | 20.83                 | 18.46     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | MCH          | 1RB#0   | 22.30                 | 19.93     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | MCH          | 5RB#0   | 21.28                 | 18.91     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | HCH          | 1RB#0   | 22.25                 | 19.88     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 1.4M           | HCH          | 5RB#0   | 21.09                 | 18.72     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 1RB#0   | 23.25                 | 20.88     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 5RB#0   | 22.04                 | 19.67     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | LCH          | 6RB#0   | 21.07                 | 18.70     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | MCH          | 1RB#0   | 23.47                 | 21.10     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | MCH          | 5RB#0   | 22.27                 | 19.90     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | MCH          | 6RB#0   | 21.15                 | 18.78     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | HCH          | 1RB#0   | 23.51                 | 21.14     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | HCH          | 5RB#0   | 22.31                 | 19.94     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 3M             | HCH          | 6RB#0   | 21.11                 | 18.74     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | LCH          | 1RB#0   | 22.04                 | 19.67     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | LCH          | 5RB#0   | 21.07                 | 18.70     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | MCH          | 1RB#0   | 22.20                 | 19.83     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | MCH          | 5RB#0   | 21.23                 | 18.86     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | HCH          | 1RB#0   | 22.24                 | 19.87     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 3M             | HCH          | 5RB#0   | 21.30                 | 18.93     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | LCH          | 1RB#0   | 23.37                 | 21.00     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | LCH          | 5RB#0   | 22.14                 | 19.77     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | LCH          | 6RB#0   | 22.07                 | 19.70     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | MCH          | 1RB#0   | 23.49                 | 21.12     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | MCH          | 5RB#0   | 22.17                 | 19.80     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | MCH          | 6RB#0   | 22.24                 | 19.87     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | HCH          | 1RB#0   | 23.63                 | 21.26     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | HCH          | 5RB#0   | 22.05                 | 19.68     | 38.45       | PASS    |
| CatM1 Band 26 | QPSK      | 5M             | HCH          | 6RB#0   | 22.05                 | 19.68     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 5M             | LCH          | 1RB#0   | 22.81                 | 20.44     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 5M             | LCH          | 5RB#0   | 22.14                 | 19.77     | 38.45       | PASS    |
| CatM1 Band 26 | 16QAM     | 5M             | MCH          | 1RB#0   | 22.89                 | 20.52     | 38.45       | PASS    |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



|               |       |     |     |       |       |       |       |      |
|---------------|-------|-----|-----|-------|-------|-------|-------|------|
| CatM1 Band 26 | 16QAM | 5M  | MCH | 5RB#0 | 22.19 | 19.82 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | HCH | 1RB#0 | 23.05 | 20.68 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 5M  | HCH | 5RB#0 | 22.05 | 19.68 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 1RB#0 | 23.34 | 20.97 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 5RB#0 | 23.02 | 20.65 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | LCH | 6RB#0 | 21.94 | 19.57 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 1RB#0 | 23.54 | 21.17 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 5RB#0 | 23.24 | 20.87 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | MCH | 6RB#0 | 22.17 | 19.80 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 1RB#0 | 23.47 | 21.10 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 5RB#0 | 23.13 | 20.76 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 10M | HCH | 6RB#0 | 22.14 | 19.77 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | LCH | 1RB#0 | 22.75 | 20.38 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | LCH | 5RB#0 | 23.04 | 20.67 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | MCH | 1RB#0 | 22.95 | 20.58 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | MCH | 5RB#0 | 23.17 | 20.80 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | HCH | 1RB#0 | 22.84 | 20.47 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 10M | HCH | 5RB#0 | 23.14 | 20.77 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | LCH | 1RB#0 | 23.36 | 20.99 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | LCH | 5RB#0 | 23.02 | 20.65 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | LCH | 6RB#0 | 21.95 | 19.58 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | MCH | 1RB#0 | 23.56 | 21.19 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | MCH | 5RB#0 | 23.30 | 20.93 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | MCH | 6RB#0 | 22.28 | 19.91 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | HCH | 1RB#0 | 23.59 | 21.22 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | HCH | 5RB#0 | 23.20 | 20.83 | 38.45 | PASS |
| CatM1 Band 26 | QPSK  | 15M | HCH | 6RB#0 | 22.17 | 19.80 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | LCH | 1RB#0 | 22.78 | 20.41 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | LCH | 5RB#0 | 23.06 | 20.69 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | MCH | 1RB#0 | 23.00 | 20.63 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | MCH | 5RB#0 | 23.20 | 20.83 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | HCH | 1RB#0 | 22.86 | 20.49 | 38.45 | PASS |
| CatM1 Band 26 | 16QAM | 15M | HCH | 5RB#0 | 23.24 | 20.87 | 38.45 | PASS |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 4.3 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01

### Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
- 5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.
- 6). The output power into the substitution antenna was then measured.
- 7). Steps 5) and 6) were repeated with both antennas polarized.
- 8) Calculate power in dBm by the following formula:

$$\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$

Where:

Pd is the dipole equivalent power, Pg is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to Pg [dBm] – cable loss [dB]. The calculated Pd levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of  $43 + 10\log_{10}(\text{Power [Watts]})$ .

### Above 1GHz test procedure as below:

- 1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber
- 2) Calculate power in dBm by the following formula:

$$\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$$

$$\text{EIRP} = \text{ERP} + 2.15\text{dB}$$

Where:

Pg is the generator output power into the substitution antenna.

3. Test the EUT in the lowest channel, the middle channel the Highest channel
4. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
5. Repeat above procedures until all frequencies measured was complete

**Remark: Reference test setup 3**



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

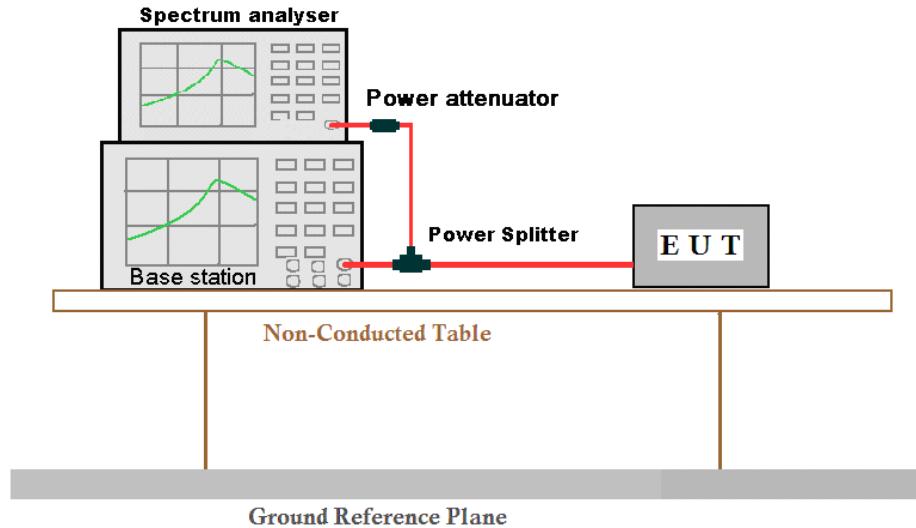
**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**

SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## 4.4 Test Setups

### 4.4.1 Test Setup 1



### 4.4.2 Test Setup 2

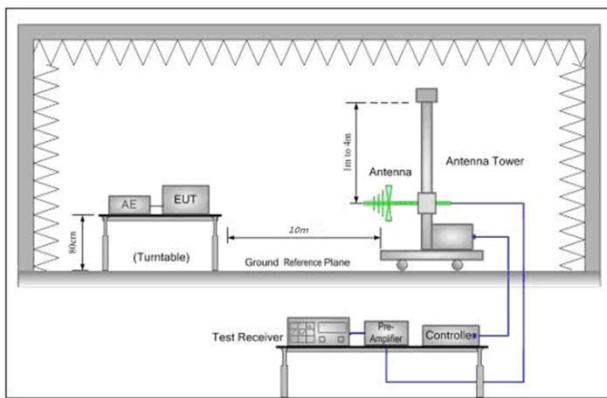


Figure 1. 30MHz to 1GHz

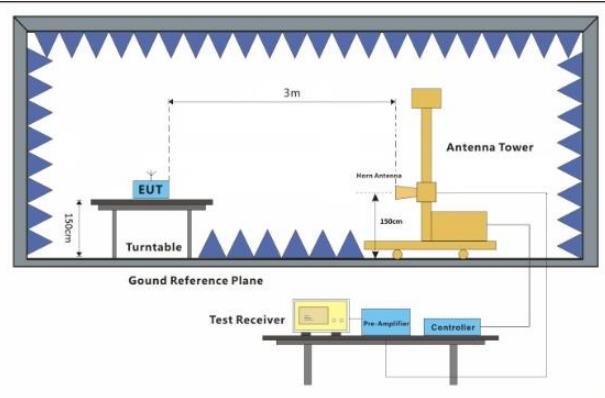
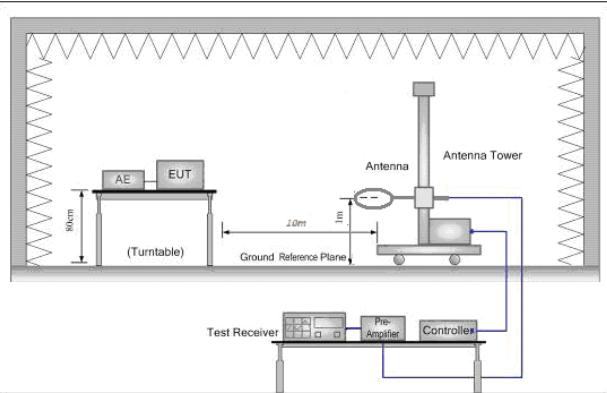


Figure 2. above 1GHz

### 4.4.3 Test Setup 3



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)

Figure 1. Below 30MHz

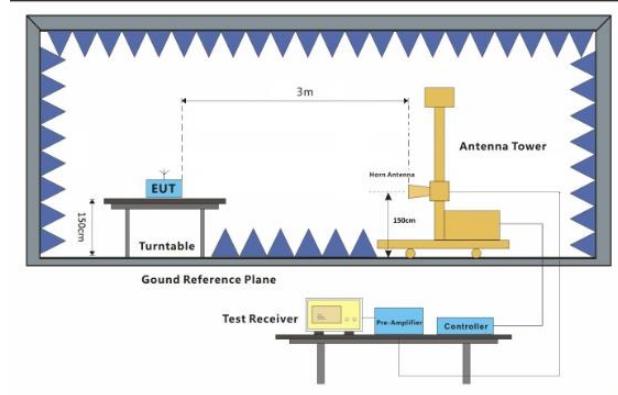
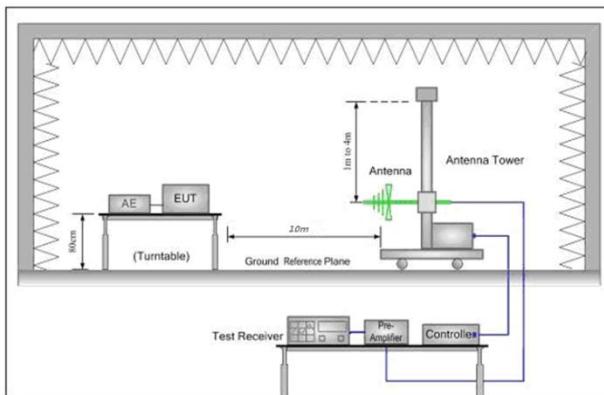
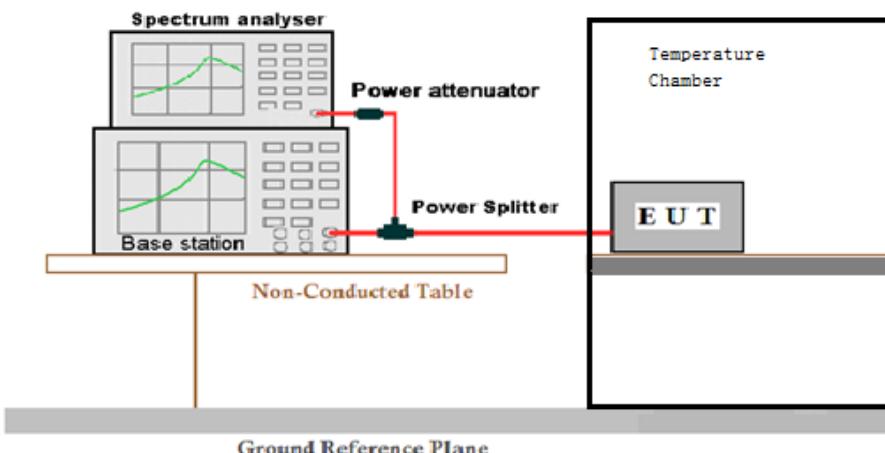


Figure 2. 30MHz to 1GHz

#### 4.4.4 Test Setup 4



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention:** To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)

#### 4.4.5 Test Result

##### 4.4.5.1 Test Band = GSM 850

###### 4.4.5.1.1 Test Channel = LCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 62.155500       | -72.55      | -13.00           | 59.55       | Vertical     |
| 381.528000      | -61.54      | -13.00           | 48.54       | Vertical     |
| 600.020500      | -65.27      | -13.00           | 52.27       | Vertical     |
| 1648.200000     | -43.74      | -13.00           | 30.74       | Vertical     |
| 2480.175000     | -46.96      | -13.00           | 33.96       | Vertical     |
| 4262.100000     | -55.13      | -13.00           | 42.13       | Vertical     |
| 62.155500       | -67.41      | -13.00           | 54.41       | Horizontal   |
| 382.498000      | -63.70      | -13.00           | 50.70       | Horizontal   |
| 600.020500      | -65.48      | -13.00           | 52.48       | Horizontal   |
| 1648.275000     | -39.13      | -13.00           | 26.13       | Horizontal   |
| 2474.025000     | -47.71      | -13.00           | 34.71       | Horizontal   |
| 3519.050000     | -56.61      | -13.00           | 43.61       | Horizontal   |

###### 4.4.5.1.2 Test Channel = MCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.416500       | -73.10      | -13.00           | 60.10       | Vertical     |
| 385.408000      | -61.85      | -13.00           | 48.85       | Vertical     |
| 587.507500      | -64.56      | -13.00           | 51.56       | Vertical     |
| 1673.175000     | -44.14      | -13.00           | 31.14       | Vertical     |
| 2509.500000     | -47.42      | -13.00           | 34.42       | Vertical     |
| 3345.800000     | -56.48      | -13.00           | 43.48       | Vertical     |
| 61.185500       | -67.46      | -13.00           | 54.46       | Horizontal   |
| 383.613500      | -64.70      | -13.00           | 51.70       | Horizontal   |
| 599.972000      | -64.02      | -13.00           | 51.02       | Horizontal   |
| 1672.875000     | -38.67      | -13.00           | 25.67       | Horizontal   |
| 2529.825000     | -47.28      | -13.00           | 34.28       | Horizontal   |
| 3719.600000     | -55.99      | -13.00           | 42.99       | Horizontal   |

###### 4.4.5.1.3 Test Channel = HCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 62.204000       | -71.91      | -13.00           | 58.91       | Vertical     |
| 382.692000      | -62.35      | -13.00           | 49.35       | Vertical     |
| 600.020500      | -64.70      | -13.00           | 51.70       | Vertical     |
| 1697.700000     | -46.98      | -13.00           | 33.98       | Vertical     |
| 3395.150000     | -53.49      | -13.00           | 40.49       | Vertical     |
| 6472.350000     | -53.84      | -13.00           | 40.84       | Vertical     |
| 62.155500       | -66.56      | -13.00           | 53.56       | Horizontal   |
| 382.401000      | -59.79      | -13.00           | 46.79       | Horizontal   |
| 587.507500      | -66.30      | -13.00           | 53.30       | Horizontal   |
| 1697.700000     | -38.55      | -13.00           | 25.55       | Horizontal   |
| 2529.525000     | -48.08      | -13.00           | 35.08       | Horizontal   |
| 3507.150000     | -57.14      | -13.00           | 44.14       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch, Inspection & Testing Services Co., Ltd. Laboratory, China • 深圳 • 科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



**4.4.5.2 Test Band = GSM 1900**
**4.4.5.2.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 61.913000       | -71.12      | -13.00           | 58.12       | Vertical     |
| 381.091500      | -59.12      | -13.00           | 46.12       | Vertical     |
| 587.507500      | -65.14      | -13.00           | 52.14       | Vertical     |
| 3700.350000     | -38.58      | -13.00           | 25.58       | Vertical     |
| 5550.450000     | -51.43      | -13.00           | 38.43       | Vertical     |
| 7400.900000     | -51.75      | -13.00           | 38.75       | Vertical     |
| 62.107000       | -66.80      | -13.00           | 53.80       | Horizontal   |
| 379.297000      | -63.80      | -13.00           | 50.80       | Horizontal   |
| 599.972000      | -64.44      | -13.00           | 51.44       | Horizontal   |
| 3700.000000     | -40.79      | -13.00           | 27.79       | Horizontal   |
| 5550.450000     | -49.51      | -13.00           | 36.51       | Horizontal   |
| 7400.900000     | -50.68      | -13.00           | 37.68       | Horizontal   |

**4.4.5.2.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 62.398000       | -71.64      | -13.00           | 58.64       | Vertical     |
| 382.013000      | -58.88      | -13.00           | 45.88       | Vertical     |
| 600.020500      | -63.29      | -13.00           | 50.29       | Vertical     |
| 3759.850000     | -40.32      | -13.00           | 27.32       | Vertical     |
| 5639.700000     | -50.13      | -13.00           | 37.13       | Vertical     |
| 10632.000000    | -49.84      | -13.00           | 36.84       | Vertical     |
| 61.961500       | -66.66      | -13.00           | 53.66       | Horizontal   |
| 381.673500      | -63.22      | -13.00           | 50.22       | Horizontal   |
| 600.020500      | -64.20      | -13.00           | 51.20       | Horizontal   |
| 3760.200000     | -40.41      | -13.00           | 27.41       | Horizontal   |
| 5640.050000     | -46.14      | -13.00           | 33.14       | Horizontal   |
| 7519.550000     | -52.54      | -13.00           | 39.54       | Horizontal   |

**4.4.5.2.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.610500       | -71.52      | -13.00           | 58.52       | Vertical     |
| 380.752000      | -59.90      | -13.00           | 46.90       | Vertical     |
| 587.507500      | -65.78      | -13.00           | 52.78       | Vertical     |
| 3819.350000     | -36.64      | -13.00           | 23.64       | Vertical     |
| 5729.300000     | -44.06      | -13.00           | 31.06       | Vertical     |
| 7966.500000     | -51.36      | -13.00           | 38.36       | Vertical     |
| 61.864500       | -66.32      | -13.00           | 53.32       | Horizontal   |
| 382.498000      | -62.89      | -13.00           | 49.89       | Horizontal   |
| 587.507500      | -64.38      | -13.00           | 51.38       | Horizontal   |
| 3819.350000     | -40.71      | -13.00           | 27.71       | Horizontal   |
| 5729.300000     | -48.54      | -13.00           | 35.54       | Horizontal   |
| 7235.000000     | -52.42      | -13.00           | 39.42       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.3 Test Band = LTE-NB1 Band 2**
**4.4.5.3.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.3.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.150000       | -79.39      | -13.00           | 66.39       | Vertical     |
| 376.250000      | -62.00      | -13.00           | 49.00       | Vertical     |
| 3704.925000     | -47.56      | -13.00           | 34.56       | Vertical     |
| 5557.425000     | -48.93      | -13.00           | 35.93       | Vertical     |
| 7409.600000     | -57.30      | -13.00           | 44.30       | Vertical     |
| 9850.350000     | -61.95      | -13.00           | 48.95       | Vertical     |
| 63.100000       | -75.54      | -13.00           | 62.54       | Horizontal   |
| 377.600000      | -68.81      | -13.00           | 55.81       | Horizontal   |
| 3704.600000     | -45.83      | -13.00           | 32.83       | Horizontal   |
| 5557.100000     | -51.84      | -13.00           | 38.84       | Horizontal   |
| 7410.250000     | -59.66      | -13.00           | 46.66       | Horizontal   |
| 9273.475000     | -61.58      | -13.00           | 48.58       | Horizontal   |

**4.4.5.3.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.950000       | -79.67      | -13.00           | 66.67       | Vertical     |
| 376.100000      | -62.81      | -13.00           | 49.81       | Vertical     |
| 3759.525000     | -46.40      | -13.00           | 33.40       | Vertical     |
| 5639.975000     | -55.98      | -13.00           | 42.98       | Vertical     |
| 7519.450000     | -59.29      | -13.00           | 46.29       | Vertical     |
| 10002.125000    | -62.00      | -13.00           | 49.00       | Vertical     |
| 56.100000       | -75.62      | -13.00           | 62.62       | Horizontal   |
| 376.550000      | -68.98      | -13.00           | 55.98       | Horizontal   |
| 3759.525000     | -43.41      | -13.00           | 30.41       | Horizontal   |
| 5639.650000     | -45.80      | -13.00           | 32.80       | Horizontal   |
| 7519.775000     | -59.00      | -13.00           | 46.00       | Horizontal   |
| 10667.725000    | -60.82      | -13.00           | 47.82       | Horizontal   |

**4.4.5.3.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.000000       | -79.69      | -13.00           | 66.69       | Vertical     |
| 374.600000      | -63.07      | -13.00           | 50.07       | Vertical     |
| 3814.775000     | -43.86      | -13.00           | 30.86       | Vertical     |
| 5722.200000     | -47.76      | -13.00           | 34.76       | Vertical     |
| 7629.625000     | -55.12      | -13.00           | 42.12       | Vertical     |
| 10621.575000    | -61.21      | -13.00           | 48.21       | Vertical     |
| 62.650000       | -75.43      | -13.00           | 62.43       | Horizontal   |
| 375.900000      | -67.82      | -13.00           | 54.82       | Horizontal   |
| 3815.100000     | -41.46      | -13.00           | 28.46       | Horizontal   |
| 5722.200000     | -57.69      | -13.00           | 44.69       | Horizontal   |
| 7630.275000     | -55.90      | -13.00           | 42.90       | Horizontal   |
| 10636.200000    | -61.22      | -13.00           | 48.22       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_DocCheck@sgs.com](mailto:CN_DocCheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.4 Test Band = LTE-NB1 Band 5**
**4.4.5.4.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.4.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.373333       | -80.04      | -13.00           | 67.04       | Vertical     |
| 376.406667      | -64.71      | -13.00           | 51.71       | Vertical     |
| 661.200000      | -74.65      | -13.00           | 61.65       | Vertical     |
| 1653.000000     | -62.39      | -13.00           | 49.39       | Vertical     |
| 2479.500000     | -53.76      | -13.00           | 40.76       | Vertical     |
| 4221.675000     | -66.24      | -13.00           | 53.24       | Vertical     |
| 62.200000       | -75.50      | -13.00           | 62.50       | Horizontal   |
| 376.873333      | -71.29      | -13.00           | 58.29       | Horizontal   |
| 680.450000      | -71.09      | -13.00           | 58.09       | Horizontal   |
| 1653.000000     | -59.72      | -13.00           | 46.72       | Horizontal   |
| 2479.500000     | -54.93      | -13.00           | 41.93       | Horizontal   |
| 4426.912500     | -65.82      | -13.00           | 52.82       | Horizontal   |

**4.4.5.4.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.206667       | -79.85      | -13.00           | 66.85       | Vertical     |
| 374.680000      | -65.12      | -13.00           | 52.12       | Vertical     |
| 1673.000000     | -61.17      | -13.00           | 48.17       | Vertical     |
| 2509.000000     | -50.41      | -13.00           | 37.41       | Vertical     |
| 3221.325000     | -67.48      | -13.00           | 54.48       | Vertical     |
| 6058.575000     | -64.19      | -13.00           | 51.19       | Vertical     |
| 62.386667       | -75.78      | -13.00           | 62.78       | Horizontal   |
| 378.740000      | -70.38      | -13.00           | 57.38       | Horizontal   |
| 669.220833      | -59.20      | -13.00           | 46.20       | Horizontal   |
| 1673.000000     | -58.61      | -13.00           | 45.61       | Horizontal   |
| 2509.000000     | -52.11      | -13.00           | 39.11       | Horizontal   |
| 4345.012500     | -65.43      | -13.00           | 52.43       | Horizontal   |

**4.4.5.4.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.580000       | -79.24      | -13.00           | 66.24       | Vertical     |
| 376.920000      | -64.50      | -13.00           | 51.50       | Vertical     |
| 1693.000000     | -57.69      | -13.00           | 44.69       | Vertical     |
| 2539.500000     | -47.85      | -13.00           | 34.85       | Vertical     |
| 3844.350000     | -67.09      | -13.00           | 54.09       | Vertical     |
| 7243.200000     | -63.11      | -13.00           | 50.11       | Vertical     |
| 62.993333       | -75.62      | -13.00           | 62.62       | Horizontal   |
| 376.593333      | -71.17      | -13.00           | 58.17       | Horizontal   |
| 696.400000      | -66.96      | -13.00           | 53.96       | Horizontal   |
| 1693.000000     | -57.28      | -13.00           | 44.28       | Horizontal   |
| 2539.000000     | -52.59      | -13.00           | 39.59       | Horizontal   |
| 6031.762500     | -64.24      | -13.00           | 51.24       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_DocCheck@sgs.com](mailto:CN_DocCheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.5 Test Band = LTE-NB1 Band 12**
**4.4.5.5.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.5.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.206667       | -79.74      | -13.00           | 66.74       | Vertical     |
| 375.146667      | -64.65      | -13.00           | 51.65       | Vertical     |
| 1403.000000     | -56.88      | -13.00           | 43.88       | Vertical     |
| 2105.000000     | -52.28      | -13.00           | 39.28       | Vertical     |
| 3573.300000     | -67.92      | -13.00           | 54.92       | Vertical     |
| 6019.087500     | -64.38      | -13.00           | 51.38       | Vertical     |
| 62.480000       | -75.63      | -13.00           | 62.63       | Horizontal   |
| 373.746667      | -72.17      | -13.00           | 59.17       | Horizontal   |
| 1403.500000     | -57.18      | -13.00           | 44.18       | Horizontal   |
| 2105.000000     | -52.80      | -13.00           | 39.80       | Horizontal   |
| 3480.675000     | -67.46      | -13.00           | 54.46       | Horizontal   |
| 6053.700000     | -64.26      | -13.00           | 51.26       | Horizontal   |

**4.4.5.5.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.000000       | -79.99      | -13.00           | 66.99       | Vertical     |
| 375.753333      | -63.39      | -13.00           | 50.39       | Vertical     |
| 1415.000000     | -57.00      | -13.00           | 44.00       | Vertical     |
| 2122.500000     | -55.03      | -13.00           | 42.03       | Vertical     |
| 4310.400000     | -65.87      | -13.00           | 52.87       | Vertical     |
| 7866.225000     | -62.84      | -13.00           | 49.84       | Vertical     |
| 62.620000       | -76.33      | -13.00           | 63.33       | Horizontal   |
| 375.940000      | -70.93      | -13.00           | 57.93       | Horizontal   |
| 1415.000000     | -55.56      | -13.00           | 42.56       | Horizontal   |
| 2123.000000     | -50.87      | -13.00           | 37.87       | Horizontal   |
| 3563.062500     | -67.46      | -13.00           | 54.46       | Horizontal   |
| 7240.762500     | -63.19      | -13.00           | 50.19       | Horizontal   |

**4.4.5.5.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.766667       | -79.71      | -13.00           | 66.71       | Vertical     |
| 378.880000      | -64.97      | -13.00           | 51.97       | Vertical     |
| 1426.500000     | -59.58      | -13.00           | 46.58       | Vertical     |
| 2141.000000     | -55.73      | -13.00           | 42.73       | Vertical     |
| 4014.975000     | -67.03      | -13.00           | 54.03       | Vertical     |
| 6038.100000     | -64.23      | -13.00           | 51.23       | Vertical     |
| 63.600000       | -75.51      | -13.00           | 62.51       | Horizontal   |
| 377.293333      | -71.16      | -13.00           | 58.16       | Horizontal   |
| 1427.000000     | -55.54      | -13.00           | 42.54       | Horizontal   |
| 2141.000000     | -58.19      | -13.00           | 45.19       | Horizontal   |
| 3592.312500     | -66.89      | -13.00           | 53.89       | Horizontal   |
| 6175.087500     | -64.62      | -13.00           | 51.62       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.6 Test Band = LTE-NB1 Band 13**
**4.4.5.6.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.6.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.720000       | -79.87      | -13.00           | 66.87       | Vertical     |
| 374.400000      | -65.82      | -13.00           | 52.82       | Vertical     |
| 1584.000000     | -65.50      | -40.00           | 25.50       | Vertical     |
| 2338.500000     | -53.88      | -13.00           | 40.88       | Vertical     |
| 3117.975000     | -63.85      | -13.00           | 50.85       | Vertical     |
| 4420.087500     | -65.87      | -13.00           | 52.87       | Vertical     |
| 63.413333       | -76.45      | -13.00           | 63.45       | Horizontal   |
| 376.313333      | -72.34      | -13.00           | 59.34       | Horizontal   |
| 1559.000000     | -64.68      | -40.00           | 24.68       | Horizontal   |
| 2338.000000     | -54.57      | -13.00           | 41.57       | Horizontal   |
| 3117.487500     | -63.51      | -13.00           | 50.51       | Horizontal   |
| 4647.262500     | -66.00      | -13.00           | 53.00       | Horizontal   |

**4.4.5.6.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.626667       | -80.07      | -13.00           | 67.07       | Vertical     |
| 373.653333      | -64.74      | -13.00           | 51.74       | Vertical     |
| 1580.500000     | -65.81      | -40.00           | 25.81       | Vertical     |
| 2346.000000     | -53.93      | -13.00           | 40.93       | Vertical     |
| 3127.237500     | -64.98      | -13.00           | 51.98       | Vertical     |
| 5863.087500     | -65.44      | -13.00           | 52.44       | Vertical     |
| 62.806667       | -74.84      | -13.00           | 61.84       | Horizontal   |
| 373.886667      | -72.00      | -13.00           | 59.00       | Horizontal   |
| 1564.000000     | -62.51      | -40.00           | 22.51       | Horizontal   |
| 2346.000000     | -52.34      | -13.00           | 39.34       | Horizontal   |
| 3127.237500     | -64.97      | -13.00           | 51.97       | Horizontal   |
| 6256.987500     | -64.52      | -13.00           | 51.52       | Horizontal   |

**4.4.5.6.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.280000       | -80.13      | -13.00           | 67.13       | Vertical     |
| 375.053333      | -66.50      | -13.00           | 53.50       | Vertical     |
| 1601.500000     | -65.43      | -40.00           | 25.43       | Vertical     |
| 2353.000000     | -55.25      | -13.00           | 42.25       | Vertical     |
| 3137.962500     | -65.45      | -13.00           | 52.45       | Vertical     |
| 4824.225000     | -65.66      | -13.00           | 52.66       | Vertical     |
| 62.666667       | -75.68      | -13.00           | 62.68       | Horizontal   |
| 374.493333      | -72.46      | -13.00           | 59.46       | Horizontal   |
| 1569.000000     | -65.02      | -40.00           | 25.02       | Horizontal   |
| 2353.000000     | -54.94      | -13.00           | 41.94       | Horizontal   |
| 3137.962500     | -63.78      | -13.00           | 50.78       | Horizontal   |
| 4291.387500     | -65.74      | -13.00           | 52.74       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.7 Test Band = LTE-NB1 Band 26 (814-824)**
**4.4.5.7.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.7.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.320000       | -79.97      | -13.00           | 66.97       | Vertical     |
| 374.353333      | -65.84      | -13.00           | 52.84       | Vertical     |
| 1633.000000     | -61.94      | -13.00           | 48.94       | Vertical     |
| 2449.000000     | -56.32      | -13.00           | 43.32       | Vertical     |
| 3826.312500     | -66.98      | -13.00           | 53.98       | Vertical     |
| 7089.637500     | -63.44      | -13.00           | 50.44       | Vertical     |
| 56.926667       | -75.68      | -13.00           | 62.68       | Horizontal   |
| 374.913333      | -71.91      | -13.00           | 58.91       | Horizontal   |
| 1633.000000     | -60.01      | -13.00           | 47.01       | Horizontal   |
| 2449.500000     | -57.99      | -13.00           | 44.99       | Horizontal   |
| 4197.787500     | -66.18      | -13.00           | 53.18       | Horizontal   |
| 7099.387500     | -63.41      | -13.00           | 50.41       | Horizontal   |

**4.4.5.7.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.906667       | -79.21      | -13.00           | 66.21       | Vertical     |
| 375.706667      | -64.84      | -13.00           | 51.84       | Vertical     |
| 1638.000000     | -61.91      | -13.00           | 48.91       | Vertical     |
| 2456.500000     | -55.44      | -13.00           | 42.44       | Vertical     |
| 3813.150000     | -67.43      | -13.00           | 54.43       | Vertical     |
| 6753.262500     | -64.24      | -13.00           | 51.24       | Vertical     |
| 62.340000       | -75.19      | -13.00           | 62.19       | Horizontal   |
| 375.566667      | -71.53      | -13.00           | 58.53       | Horizontal   |
| 655.195833      | -66.75      | -13.00           | 53.75       | Horizontal   |
| 1638.000000     | -59.23      | -13.00           | 46.23       | Horizontal   |
| 2457.000000     | -56.04      | -13.00           | 43.04       | Horizontal   |
| 5055.300000     | -65.05      | -13.00           | 52.05       | Horizontal   |

**4.4.5.7.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.140000       | -80.57      | -13.00           | 67.57       | Vertical     |
| 376.733333      | -64.69      | -13.00           | 51.69       | Vertical     |
| 1642.500000     | -62.89      | -13.00           | 49.89       | Vertical     |
| 2464.500000     | -54.05      | -13.00           | 41.05       | Vertical     |
| 3508.950000     | -68.16      | -13.00           | 55.16       | Vertical     |
| 8006.625000     | -62.61      | -13.00           | 49.61       | Vertical     |
| 62.013333       | -75.91      | -13.00           | 62.91       | Horizontal   |
| 373.886667      | -72.14      | -13.00           | 59.14       | Horizontal   |
| 1643.000000     | -59.87      | -13.00           | 46.87       | Horizontal   |
| 2464.000000     | -56.49      | -13.00           | 43.49       | Horizontal   |
| 3797.062500     | -67.11      | -13.00           | 54.11       | Horizontal   |
| 6158.025000     | -64.20      | -13.00           | 51.20       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.8 Test Band = LTE-NB1 Band 26 (824-849)**
**4.4.5.8.1 Test Mode = LTE-NB1/BPSK. Sub-carrier spacing=3.75kHz**
**4.4.5.8.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.973333       | -79.36      | -13.00           | 66.36       | Vertical     |
| 377.013333      | -64.84      | -13.00           | 51.84       | Vertical     |
| 1653.000000     | -62.00      | -13.00           | 49.00       | Vertical     |
| 2479.000000     | -54.24      | -13.00           | 41.24       | Vertical     |
| 3476.287500     | -68.30      | -13.00           | 55.30       | Vertical     |
| 7247.100000     | -63.35      | -13.00           | 50.35       | Vertical     |
| 55.200000       | -74.92      | -13.00           | 61.92       | Horizontal   |
| 373.653333      | -72.23      | -13.00           | 59.23       | Horizontal   |
| 661.200000      | -64.38      | -13.00           | 51.38       | Horizontal   |
| 1653.000000     | -57.84      | -13.00           | 44.84       | Horizontal   |
| 2479.000000     | -56.19      | -13.00           | 43.19       | Horizontal   |
| 3306.150000     | -66.59      | -13.00           | 53.59       | Horizontal   |

**4.4.5.8.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.926667       | -79.66      | -13.00           | 66.66       | Vertical     |
| 375.613333      | -65.43      | -13.00           | 52.43       | Vertical     |
| 1672.500000     | -61.75      | -13.00           | 48.75       | Vertical     |
| 2509.000000     | -54.96      | -13.00           | 41.96       | Vertical     |
| 3451.912500     | -68.24      | -13.00           | 55.24       | Vertical     |
| 6052.237500     | -64.11      | -13.00           | 51.11       | Vertical     |
| 63.553333       | -76.10      | -13.00           | 63.10       | Horizontal   |
| 377.386667      | -71.97      | -13.00           | 58.97       | Horizontal   |
| 669.220833      | -61.04      | -13.00           | 48.04       | Horizontal   |
| 1673.000000     | -55.85      | -13.00           | 42.85       | Horizontal   |
| 2509.500000     | -54.88      | -13.00           | 41.88       | Horizontal   |
| 4313.812500     | -65.05      | -13.00           | 52.05       | Horizontal   |

**4.4.5.8.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.720000       | -80.18      | -13.00           | 67.18       | Vertical     |
| 377.060000      | -65.02      | -13.00           | 52.02       | Vertical     |
| 1693.000000     | -60.82      | -13.00           | 47.82       | Vertical     |
| 2539.000000     | -54.04      | -13.00           | 41.04       | Vertical     |
| 3356.850000     | -68.25      | -13.00           | 55.25       | Vertical     |
| 6078.562500     | -64.25      | -13.00           | 51.25       | Vertical     |
| 55.760000       | -76.01      | -13.00           | 63.01       | Horizontal   |
| 375.846667      | -71.13      | -13.00           | 58.13       | Horizontal   |
| 1693.000000     | -54.77      | -13.00           | 41.77       | Horizontal   |
| 2539.000000     | -56.24      | -13.00           | 43.24       | Horizontal   |
| 3269.587500     | -67.86      | -13.00           | 54.86       | Horizontal   |
| 6049.312500     | -64.13      | -13.00           | 51.13       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_DocCheck@sgs.com](mailto:CN_DocCheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.9 Test Band = LTE-CatM1 Band 2**
**4.4.5.9.1 Test Mode =LTE-CatM1/QPSK**
**4.4.5.9.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.650000       | -79.59      | -13.00           | 66.59       | Vertical     |
| 382.850000      | -64.98      | -13.00           | 51.98       | Vertical     |
| 939.133333      | -75.23      | -13.00           | 62.23       | Vertical     |
| 3736.125000     | -46.78      | -13.00           | 33.78       | Vertical     |
| 5554.500000     | -56.45      | -13.00           | 43.45       | Vertical     |
| 7472.975000     | -62.55      | -13.00           | 49.55       | Vertical     |
| 62.150000       | -75.52      | -13.00           | 62.52       | Horizontal   |
| 385.500000      | -66.99      | -13.00           | 53.99       | Horizontal   |
| 936.291667      | -75.26      | -13.00           | 62.26       | Horizontal   |
| 3703.625000     | -47.28      | -13.00           | 34.28       | Horizontal   |
| 5554.500000     | -53.26      | -13.00           | 40.26       | Horizontal   |
| 7405.700000     | -60.94      | -13.00           | 47.94       | Horizontal   |

**4.4.5.9.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.650000       | -79.28      | -13.00           | 66.28       | Vertical     |
| 382.700000      | -65.02      | -13.00           | 52.02       | Vertical     |
| 926.345833      | -75.27      | -13.00           | 62.27       | Vertical     |
| 3742.950000     | -45.32      | -13.00           | 32.32       | Vertical     |
| 5615.275000     | -51.51      | -13.00           | 38.51       | Vertical     |
| 7485.975000     | -61.13      | -13.00           | 48.13       | Vertical     |
| 62.500000       | -75.47      | -13.00           | 62.47       | Horizontal   |
| 384.250000      | -67.32      | -13.00           | 54.32       | Horizontal   |
| 956.045833      | -74.60      | -13.00           | 61.60       | Horizontal   |
| 3776.100000     | -44.67      | -13.00           | 31.67       | Horizontal   |
| 5664.675000     | -55.07      | -13.00           | 42.07       | Horizontal   |
| 10648.225000    | -60.97      | -13.00           | 47.97       | Horizontal   |

**4.4.5.9.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.100000       | -79.47      | -13.00           | 66.47       | Vertical     |
| 381.150000      | -64.65      | -13.00           | 51.65       | Vertical     |
| 948.345833      | -75.21      | -13.00           | 62.21       | Vertical     |
| 3736.125000     | -46.01      | -13.00           | 33.01       | Vertical     |
| 5554.175000     | -49.98      | -13.00           | 36.98       | Vertical     |
| 7406.025000     | -57.28      | -13.00           | 44.28       | Vertical     |
| 62.400000       | -75.83      | -13.00           | 62.83       | Horizontal   |
| 384.100000      | -66.30      | -13.00           | 53.30       | Horizontal   |
| 944.816667      | -75.30      | -13.00           | 62.30       | Horizontal   |
| 3702.975000     | -45.63      | -13.00           | 32.63       | Horizontal   |
| 5554.500000     | -53.20      | -13.00           | 40.20       | Horizontal   |
| 7406.025000     | -62.37      | -13.00           | 49.37       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.10 Test Band = LTE-CatM1 Band 4**
**4.4.5.10.1 Test Mode =LTE-CatM1/QPSK**
**4.4.5.10.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.650000       | -78.75      | -13.00           | 65.75       | Vertical     |
| 380.500000      | -65.15      | -13.00           | 52.15       | Vertical     |
| 944.679167      | -75.26      | -13.00           | 62.26       | Vertical     |
| 3422.825000     | -46.29      | -13.00           | 33.29       | Vertical     |
| 5135.575000     | -63.19      | -13.00           | 50.19       | Vertical     |
| 6846.050000     | -62.62      | -13.00           | 49.62       | Vertical     |
| 62.800000       | -75.81      | -13.00           | 62.81       | Horizontal   |
| 381.900000      | -69.22      | -13.00           | 56.22       | Horizontal   |
| 938.720833      | -74.99      | -13.00           | 61.99       | Horizontal   |
| 3456.300000     | -48.59      | -13.00           | 35.59       | Horizontal   |
| 5134.275000     | -60.44      | -13.00           | 47.44       | Horizontal   |
| 7139.200000     | -62.05      | -13.00           | 49.05       | Horizontal   |

**4.4.5.10.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.550000       | -79.93      | -13.00           | 66.93       | Vertical     |
| 380.900000      | -63.90      | -13.00           | 50.90       | Vertical     |
| 932.808333      | -74.90      | -13.00           | 61.90       | Vertical     |
| 3447.850000     | -48.31      | -13.00           | 35.31       | Vertical     |
| 5171.325000     | -63.82      | -13.00           | 50.82       | Vertical     |
| 6897.400000     | -62.12      | -13.00           | 49.12       | Vertical     |
| 63.450000       | -75.03      | -13.00           | 62.03       | Horizontal   |
| 380.500000      | -69.24      | -13.00           | 56.24       | Horizontal   |
| 960.079167      | -74.67      | -13.00           | 61.67       | Horizontal   |
| 3448.500000     | -47.40      | -13.00           | 34.40       | Horizontal   |
| 5171.975000     | -61.77      | -13.00           | 48.77       | Horizontal   |
| 6895.450000     | -62.31      | -13.00           | 49.31       | Horizontal   |

**4.4.5.10.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.850000       | -79.30      | -13.00           | 66.30       | Vertical     |
| 379.150000      | -64.32      | -13.00           | 51.32       | Vertical     |
| 948.208333      | -74.93      | -13.00           | 61.93       | Vertical     |
| 3473.525000     | -46.91      | -13.00           | 33.91       | Vertical     |
| 5052.050000     | -64.55      | -13.00           | 51.55       | Vertical     |
| 6945.500000     | -60.82      | -13.00           | 47.82       | Vertical     |
| 62.850000       | -75.51      | -13.00           | 62.51       | Horizontal   |
| 383.650000      | -69.81      | -13.00           | 56.81       | Horizontal   |
| 947.383333      | -74.85      | -13.00           | 61.85       | Horizontal   |
| 3472.550000     | -46.44      | -13.00           | 33.44       | Horizontal   |
| 5251.925000     | -64.86      | -13.00           | 51.86       | Horizontal   |
| 6945.825000     | -60.35      | -13.00           | 47.35       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.11 Test Band = LTE-CatM1 Band 5**
**4.4.5.11.1 Test Mode =LTE-CatM1/QPSK**
**4.4.5.11.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.673333       | -79.72      | -13.00           | 66.72       | Vertical     |
| 124.966667      | -82.91      | -13.00           | 69.91       | Vertical     |
| 380.326667      | -66.38      | -13.00           | 53.38       | Vertical     |
| 1649.500000     | -63.50      | -13.00           | 50.50       | Vertical     |
| 2474.000000     | -54.92      | -13.00           | 41.92       | Vertical     |
| 4136.850000     | -65.90      | -13.00           | 52.90       | Vertical     |
| 62.666667       | -75.55      | -13.00           | 62.55       | Horizontal   |
| 382.800000      | -70.17      | -13.00           | 57.17       | Horizontal   |
| 660.145833      | -62.36      | -13.00           | 49.36       | Horizontal   |
| 1666.000000     | -60.07      | -13.00           | 47.07       | Horizontal   |
| 2499.000000     | -56.73      | -13.00           | 43.73       | Horizontal   |
| 4088.100000     | -65.90      | -13.00           | 52.90       | Horizontal   |

**4.4.5.11.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.300000       | -79.32      | -13.00           | 66.32       | Vertical     |
| 124.966667      | -83.48      | -13.00           | 70.48       | Vertical     |
| 382.800000      | -65.25      | -13.00           | 52.25       | Vertical     |
| 1664.500000     | -61.90      | -13.00           | 48.90       | Vertical     |
| 2496.500000     | -54.03      | -13.00           | 41.03       | Vertical     |
| 4294.312500     | -65.31      | -13.00           | 52.31       | Vertical     |
| 63.273333       | -75.58      | -13.00           | 62.58       | Horizontal   |
| 385.600000      | -70.81      | -13.00           | 57.81       | Horizontal   |
| 666.150000      | -61.75      | -13.00           | 48.75       | Horizontal   |
| 1664.500000     | -57.31      | -13.00           | 44.31       | Horizontal   |
| 2496.500000     | -56.87      | -13.00           | 43.87       | Horizontal   |
| 4302.600000     | -64.73      | -13.00           | 51.73       | Horizontal   |

**4.4.5.11.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.880000       | -79.16      | -13.00           | 66.16       | Vertical     |
| 384.060000      | -65.77      | -13.00           | 52.77       | Vertical     |
| 672.154167      | -71.78      | -13.00           | 58.78       | Vertical     |
| 1679.500000     | -61.62      | -13.00           | 48.62       | Vertical     |
| 2544.000000     | -54.49      | -13.00           | 41.49       | Vertical     |
| 4303.087500     | -65.51      | -13.00           | 52.51       | Vertical     |
| 62.106667       | -75.14      | -13.00           | 62.14       | Horizontal   |
| 381.773333      | -70.53      | -13.00           | 57.53       | Horizontal   |
| 672.154167      | -63.06      | -13.00           | 50.06       | Horizontal   |
| 1696.000000     | -55.24      | -13.00           | 42.24       | Horizontal   |
| 2410.500000     | -54.61      | -13.00           | 41.61       | Horizontal   |
| 3358.800000     | -65.11      | -13.00           | 52.11       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.12 Test Band = LTE-CatM1 Band 12**
**4.4.5.12.1 Test Mode =LTE-CatM1/QPSK**
**4.4.5.12.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.206667       | -79.94      | -13.00           | 66.94       | Vertical     |
| 124.966667      | -82.24      | -13.00           | 69.24       | Vertical     |
| 384.853333      | -66.53      | -13.00           | 53.53       | Vertical     |
| 1399.500000     | -57.98      | -13.00           | 44.98       | Vertical     |
| 2099.500000     | -57.30      | -13.00           | 44.30       | Vertical     |
| 4027.162500     | -66.30      | -13.00           | 53.30       | Vertical     |
| 62.386667       | -75.29      | -13.00           | 62.29       | Horizontal   |
| 383.220000      | -71.59      | -13.00           | 58.59       | Horizontal   |
| 933.633333      | -66.48      | -13.00           | 53.48       | Horizontal   |
| 1399.500000     | -54.72      | -13.00           | 41.72       | Horizontal   |
| 2100.000000     | -54.63      | -13.00           | 41.63       | Horizontal   |
| 5418.975000     | -64.66      | -13.00           | 51.66       | Horizontal   |

**4.4.5.12.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.833333       | -79.57      | -13.00           | 66.57       | Vertical     |
| 124.966667      | -84.33      | -13.00           | 71.33       | Vertical     |
| 381.773333      | -65.70      | -13.00           | 52.70       | Vertical     |
| 1406.500000     | -57.24      | -13.00           | 44.24       | Vertical     |
| 2110.000000     | -56.48      | -13.00           | 43.48       | Vertical     |
| 4033.500000     | -66.28      | -13.00           | 53.28       | Vertical     |
| 56.180000       | -74.28      | -13.00           | 61.28       | Horizontal   |
| 382.473333      | -70.64      | -13.00           | 57.64       | Horizontal   |
| 938.308333      | -66.37      | -13.00           | 53.37       | Horizontal   |
| 1406.500000     | -55.64      | -13.00           | 42.64       | Horizontal   |
| 2135.000000     | -54.09      | -13.00           | 41.09       | Horizontal   |
| 3508.462500     | -67.12      | -13.00           | 54.12       | Horizontal   |

**4.4.5.12.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.020000       | -79.55      | -13.00           | 66.55       | Vertical     |
| 124.966667      | -83.17      | -13.00           | 70.17       | Vertical     |
| 382.800000      | -65.66      | -13.00           | 52.66       | Vertical     |
| 1413.000000     | -58.38      | -13.00           | 45.38       | Vertical     |
| 2120.500000     | -55.84      | -13.00           | 42.84       | Vertical     |
| 4112.475000     | -65.91      | -13.00           | 52.91       | Vertical     |
| 62.200000       | -75.66      | -13.00           | 62.66       | Horizontal   |
| 384.106667      | -72.28      | -13.00           | 59.28       | Horizontal   |
| 594.512500      | -76.91      | -13.00           | 63.91       | Horizontal   |
| 1413.500000     | -56.34      | -13.00           | 43.34       | Horizontal   |
| 2120.500000     | -52.19      | -13.00           | 39.19       | Horizontal   |
| 4385.475000     | -65.29      | -13.00           | 52.29       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.13 Test Band = LTE-CatM1 Band 13**

**4.4.5.13.1 Test Mode =LTE-CatM1/QPSK**

**4.4.5.13.1.1 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 63.506667       | -79.96      | -13.00           | 66.96       | Vertical     |
| 380.280000      | -66.79      | -13.00           | 53.79       | Vertical     |
| 1555.500000     | -64.13      | -13.00           | 51.13       | Vertical     |
| 1577.500000     | -65.57      | -40.00           | 25.57       | Vertical     |
| 2333.000000     | -50.15      | -13.00           | 37.15       | Vertical     |
| 3110.662500     | -57.16      | -13.00           | 44.16       | Vertical     |
| 62.526667       | -75.94      | -13.00           | 62.94       | Horizontal   |
| 380.653333      | -72.11      | -13.00           | 59.11       | Horizontal   |
| 1556.000000     | -60.17      | -13.00           | 47.17       | Horizontal   |
| 1572.000000     | -62.61      | -40.00           | 22.61       | Horizontal   |
| 2333.000000     | -49.63      | -13.00           | 36.63       | Horizontal   |
| 3144.300000     | -56.82      | -13.00           | 43.82       | Horizontal   |

**4.4.5.14 Test Band = LTE-CatM1 Band 26 (814-824)**

**4.4.5.14.1 Test Mode =LTE-CatM1/QPSK**

**4.4.5.14.1.1 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.140000       | -80.05      | -13.00           | 67.05       | Vertical     |
| 125.013333      | -82.94      | -13.00           | 69.94       | Vertical     |
| 382.893333      | -66.16      | -13.00           | 53.16       | Vertical     |
| 1629.500000     | -64.31      | -13.00           | 51.31       | Vertical     |
| 2444.000000     | -52.91      | -13.00           | 39.91       | Vertical     |
| 4345.500000     | -65.08      | -13.00           | 52.08       | Vertical     |
| 56.646667       | -74.97      | -13.00           | 61.97       | Horizontal   |
| 380.746667      | -71.88      | -13.00           | 58.88       | Horizontal   |
| 652.125000      | -68.81      | -13.00           | 55.81       | Horizontal   |
| 1646.500000     | -61.96      | -13.00           | 48.96       | Horizontal   |
| 2445.000000     | -56.90      | -13.00           | 43.90       | Horizontal   |
| 4302.600000     | -64.96      | -13.00           | 51.96       | Horizontal   |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

**4.4.5.15 Test Band = LTE-CatM1 Band 26 (824-849)**
**4.4.5.15.1 Test Mode =LTE-CatM1/QPSK**
**4.4.5.15.1.1 Test Channel = LCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.000000       | -79.99      | -13.00           | 66.99       | Vertical     |
| 380.186667      | -67.40      | -13.00           | 54.40       | Vertical     |
| 660.375000      | -71.86      | -13.00           | 58.86       | Vertical     |
| 1650.000000     | -63.36      | -13.00           | 50.36       | Vertical     |
| 2474.500000     | -57.21      | -13.00           | 44.21       | Vertical     |
| 4360.612500     | -65.30      | -13.00           | 52.30       | Vertical     |
| 62.526667       | -75.95      | -13.00           | 62.95       | Horizontal   |
| 381.960000      | -74.36      | -13.00           | 61.36       | Horizontal   |
| 679.579167      | -67.57      | -13.00           | 54.57       | Horizontal   |
| 1675.500000     | -57.53      | -13.00           | 44.53       | Horizontal   |
| 2513.000000     | -55.38      | -13.00           | 42.38       | Horizontal   |
| 4193.887500     | -65.63      | -13.00           | 52.63       | Horizontal   |

**4.4.5.15.1.2 Test Channel = MCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 65.046667       | -78.48      | -13.00           | 65.48       | Vertical     |
| 380.700000      | -68.62      | -13.00           | 55.62       | Vertical     |
| 664.362500      | -72.96      | -13.00           | 59.96       | Vertical     |
| 1685.000000     | -63.06      | -13.00           | 50.06       | Vertical     |
| 2527.500000     | -55.16      | -13.00           | 42.16       | Vertical     |
| 4237.275000     | -65.64      | -13.00           | 52.64       | Vertical     |
| 62.433333       | -75.96      | -13.00           | 62.96       | Horizontal   |
| 380.793333      | -72.93      | -13.00           | 59.93       | Horizontal   |
| 664.362500      | -58.35      | -13.00           | 45.35       | Horizontal   |
| 1685.000000     | -56.55      | -13.00           | 43.55       | Horizontal   |
| 2490.000000     | -56.79      | -13.00           | 43.79       | Horizontal   |
| 3320.287500     | -66.44      | -13.00           | 53.44       | Horizontal   |

**4.4.5.15.1.3 Test Channel = HCH**

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Margin (dB) | Polarization |
|-----------------|-------------|------------------|-------------|--------------|
| 64.066667       | -79.16      | -13.00           | 66.16       | Vertical     |
| 376.546667      | -64.33      | -13.00           | 51.33       | Vertical     |
| 664.362500      | -69.79      | -13.00           | 56.79       | Vertical     |
| 1660.000000     | -63.57      | -13.00           | 50.57       | Vertical     |
| 2490.000000     | -54.00      | -13.00           | 41.00       | Vertical     |
| 4244.100000     | -65.43      | -13.00           | 52.43       | Vertical     |
| 61.873333       | -75.70      | -13.00           | 62.70       | Horizontal   |
| 377.153333      | -68.64      | -13.00           | 55.64       | Horizontal   |
| 664.362500      | -58.78      | -13.00           | 45.78       | Horizontal   |
| 1660.000000     | -57.81      | -13.00           | 44.81       | Horizontal   |
| 2491.000000     | -56.69      | -13.00           | 43.69       | Horizontal   |
| 3319.800000     | -67.03      | -13.00           | 54.03       | Horizontal   |

**NOTE:**

- 1) The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) only the worst case data presented in this report.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN\_Doccheck@sgs.com**



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

## 4.5 Test Conditions

| <b>Test Case</b>                        |                            | <b>Test Conditions</b> |  |  |
|---|----------------------------|------------------------|--|--|
| Transmit<br>Output<br>Power<br>Data     | Average<br>Power,<br>Total | Test Environment       | Ambient Climate & Rated Voltage  |  |
|   |                            | Test Setup             | Test Setup 1   |  |
|   |                            | RF Channels (TX)       | L, M, H (L= low channel, M= middle channel, H= high channel )  |  |
|   |                            | Test Mode              | GSM/TM1; GSM/TM2; NB1/TM1; NB1/TM2; CatM1/TM1; CatM1/TM2   |  |
| Field Strength of<br>Spurious Radiation |                            | Test Environment       | Ambient Climate & Rated Voltage  |  |
|   |                            | Test Setup             | Test Setup 2   |  |
|   |                            | Test Mode              | GSM/TM1; GSM/TM2; NB1/TM1; NB1/TM2; CatM1/TM1; CatM1/TM2<br>Remark: If applicable, the EUT conf. that has maximum power density (based on the equivalent power level) is selected. |  |
|   |                            | RF Channels (TX)       | L, M, H (L= low channel, M= middle channel, H= high channel )  |  |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch Inspection & Testing Services Laboratory

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

## 5 Main Test Instruments

| 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 Chamber           | AUDIX                              | N/A               | SEM001-02     | 2018/3/13                 | 2021/3/12                    |  |
| Spectrum Analyzer (20Hz-43GHz)     | Rohde & Schwarz                    | FSU43             | SEM004-08     | 2019/3/2                  | 2020/3/1                     |  |
| BiConiLog Antenna (26-3000MHz)     | ETS-Lindgren                       | 3142C             | SEM003-01     | 2017/6/27                 | 2020/6/26                    |  |
| Horn Antenna (800MHz-18GHz)        | Rohde & Schwarz                    | HF907             | SEM003-07     | 2018/4/13                 | 2021/4/12                    |  |
| Horn Antenna (15-40GHz)            | Schwarzbeck                        | BBHA 9170         | SEM003-15     | 2017/10/17                | 2020/10/16                   |  |
| Amplifier (0.1-1300MHz)            | HP                                 | 8447D             | SEM005-02     | 2019/7/14                 | 2020/7/14                    |  |
| Low Noise Amplifier (100MHz-18GHz) | Black Diamond Series               | BDLNA-0118-352810 | SEM005-05     | 2019/7/14                 | 2020/7/14                    |  |
| Pre-Amplifier (0.1-26.5GHz)        | Compliance Directions Systems Inc. | PAP-0126          | EMC2063       | 2019/9/20                 | 2020/9/19                    |  |
| Pre-amplifier (26-40GHz)           | Compliance Directions Systems Inc. | PAP-2640-50       | SEM005-08     | 2019/3/2                  | 2020/3/1                     |  |
| Band filter                        | N/A                                | N/A               | N/A           | N/A                       | N/A                          |  |
| Measurement Software               | AUDIX                              | e3 V8.2014-6-27   | N/A           | N/A                       | N/A                          |  |
| Coaxial Cable                      | SGS                                | N/A               | SEM026-01     | 2019/6/12                 | 2020/6/11                    |  |
| Wideband Radio CommunicationTeste  | Anristu                            | MT8821C           | 6201462742    | 2019/4/3                  | 2020/4/3                     |  |
| Wideband Radio CommunicationTester | Rohde & Schwarz                    | CMW500            | W005-02       | 2020/1/13                 | 2021/1/2                     |  |

| RF conducted test                          |  |                  |               |                           |                              |  |
|--|--|------------------|---------------|---------------------------|------------------------------|--|
| Test Equipment                             | Manufacturer                             | Model No.        | Inventory No. | Cal. date<br>(yyyy-mm-dd) | Cal.Due date<br>(yyyy-mm-dd) |  |
| Dual Output Mobile Communication DC Source | Agilent Technologies Inc                 | 66311B           | W009-09       | 2019/10/22                | 2020/10/21                   |  |
| Signal Analyzer                            | Rohde & Schwarz                          | FSV              | W005-02       | 2019/3/2                  | 2020/3/1                     |  |
| Coaxial Cable                              | SGS                                      | N/A              | SEM031-01     | 2019/6/12                 | 2020/6/11                    |  |
| Attenuator                                 | Weinschel Associates                     | WA41             | SEM021-09     | N/A                       | N/A                          |  |
| Signal Generator                           | KEYSIGHT                                 | N5173B           | SEM006-05     | 2019/10/22                | 2020/10/21                   |  |
| Humidity/ Temperature Indicator            | Shanghai Meteorological Industry Factory | HTC-1            | W006-17       | 2019/10/22                | 2020/10/21                   |  |
| Temperature Chamber                        | GIANT FORCE                              | ICT-150-40-CP-AR | W027-03       | 2019/10/22                | 2020/10/21                   |  |
| Wideband Radio CommunicationTeste          | Anristu                                  | MT8821C          | 6201462742    | 2019/3/2                  | 2020/3/1                     |  |
| Wideband Radio CommunicationTester         | Rohde & Schwarz                          | CMW500           | W005-02       | 2019/10/22                | 2020/10/21                   |  |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)**



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn  
 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

| Test Equipment  | Manufacturer                       | Model No.       | Inventory No. | Cal. Date (yyyy-mm-dd) | Cal. Due date (yyyy-mm-dd) |
|---|------------------------------------|-----------------|---------------|------------------------|----------------------------|
| 3m Semi-Anechoic Chamber                              | AUDIX                              | N/A             | SEM001-02     | 2018/3/13              | 2021/3/12                  |
| Wideband Radio Communication Teste                    | Anristu                            | MT8821C         | 6201462742    | 2019/4/3               | 2020/4/3                   |
| Wideband Radio Communication Tester                   | Rohde & Schwarz                    | CMW500          | W005-02       | 2020/1/3               | 2021/1/2                   |
| EXA Signal Analyzer (10Hz-26.5GHz)                    | Agilent Technologies Inc           | N9010A          | SEM004-09     | 2019/3/13              | 2020/3/12                  |
| Spectrum Analyzer (20Hz-43GHz)                        | Rohde & Schwarz                    | FSU43           | SEM004-08     | 2019/3/2               | 2020/3/1                   |
| BiConiLog Antenna (26-3000MHz)                        | ETS-Lindgren                       | 3142C           | SEM003-01     | 2017/6/27              | 2020/6/26                  |
| Horn Antenna (800MHz-18GHz)                           | Rohde & Schwarz                    | HF907           | SEM003-07     | 2018/4/13              | 2021/4/12                  |
| Horn Antenna (15-40GHz)                               | Schwarzbeck                        | BBHA 9170       | SEM003-15     | 2017/10/17             | 2020/10/16                 |
| Amplifier (0.1-1300MHz)                               | HP                                 | 8447D           | SEM005-02     | 2019/7/25              | 2020/7/24                  |
| Pre-Amplifier (0.1-26.5GHz)                           | Compliance Directions Systems Inc. | PAP-0126        | SEM004-11     | 2019/7/25              | 2020/7/24                  |
| Pre-amplifier (26-40GHz)                              | Compliance Directions Systems Inc. | PAP-2640-50     | SEM005-08     | 2019/3/2               | 2020/3/1                   |
| Band filter   | N/A                                | N/A             | N/A           | N/A                    | N/A                        |
| Coaxial Cable   | SGS                                | N/A             | SEM026-01     | 2019/6/12              | 2020/6/11                  |
| Tunable Notch Filter<br>WRCD1700/2000-0.2/40-10EEK    | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| Tunable Notch Filter<br>WRCD800/960-0.2/40-10EEK      | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| HighPass Filter<br>WHK1.2/15G-10SS                    | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| HighPass Filter<br>WHKX10-2700-3000-18000-40SS        | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| HighPass Filter<br>WHKX7.0/26.5G-6SS                  | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| Band Reject Filter<br>WRCG 824/849-814/859-40/8SS     | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| Band Reject Filter<br>WRCG 1850/1910-1835/1925-40/8SS | WAINRIGHT Instruments GMBH         | N/A             | N/A           | N/A                    | N/A                        |
| Measurement Software                                  | AUDIX                              | e3 V8.2014-6-27 | N/A           | N/A                    | N/A                        |

## 6 Measurement Uncertainty

For a 95% confidence level ( $k = 2$ ), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

| Test Item                            | Extended Uncertainty | Data  |
|--------------------------------------|----------------------|---|
| Transmit Output Power Data           | Power [dBm]          | $U = \pm 0.37 \text{ dB}$   |
| Field Strength of Spurious Radiation | ERP[dBm]/EIRP [dBm]  | For 3 m Chamber:<br>$U = \pm 4.5 \text{ dB}$ (30 MHz to 1GHz)<br>$U = \pm 3.3 \text{ dB}$ (above 1 GHz)<br>For 10 m Chamber:<br>$U = \pm 4.5 \text{ dB}$ (30 MHz to 1GHz)<br>$U = \pm 3.2 \text{ dB}$ (above 1 GHz) |

The End

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN\\_Doccheck@sgs.com](mailto:CN_Doccheck@sgs.com)



No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 [www.sgsgroup.com.cn](http://www.sgsgroup.com.cn)  
 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 [sgs.china@sgs.com](mailto:sgs.china@sgs.com)