

Report No.: SEWM2305000159RG03

Rev.: 01

Page: 1 of 7

TEST REPORT

Application No.: SEWM2305000159RG
Applicant: Quectel Wireless Solutions Co., Ltd.
Address of Applicant: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer: Quectel Wireless Solutions Co., Ltd.
Address of Manufacturer: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
EUT Description: LTE Cat 1 bis Module
Model No.: EG915Q-NA
Trade Mark: Quectel
FCC ID: XMR2023EG915QNA
Standards: 47 CFR Part 2.1091
 FCC KDB 447498 D01 v06
Date of Receipt: 2023/03/01
Date of Issue: 2023/05/08

| | |
|---------------------|--------------|
| Test Result: | PASS* |
|---------------------|--------------|

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

Authorized Signature:

Panta Sun
Wireless Laboratory Manager



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 中国·苏州·中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南楼 邮编: 215000 t (86-512) 62992980 sgs.china@sgs.com

1 Version

| Revision Record | | | | |
|-----------------|---------|------------|----------|----------|
| Version | Chapter | Date | Modifier | Remark |
| 01 | | 2023/05/08 | | Original |

| | | |
|--------------------|--|-------------------------------------|
| Prepared By | | <hr/> (Nick Hu) / Test Engineer |
| Checked By | | <hr/> (Well Wei) / Reviewer |

Remark:

This test report (Report No.: SEWM2305000159RG03 issue on 2023/05/08) is based on the original test report (Report No.: SEWA2212000096RG03 issue on 2023/03/17).

Review this report and original report, this report just changing the parts according to the declaration letter from client.

Therefore in this report all items do not need to recalculated and all test data in this report are based on the previous report with report number SEWA2212000096RG03 issue on 2023/03/17.



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2 General Information

2.1 Client Information

| | |
|--------------------------|---|
| Applicant: | Quectel Wireless Solutions Co., Ltd. |
| Address of Applicant: | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233 |
| Manufacturer: | Quectel Wireless Solutions Co., Ltd. |
| Address of Manufacturer: | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233 |

2.2 Test Facility

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

• **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327



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2.3 General Description of EUT

| | | | | |
|-------------------|---|---------|--------------|---------|
| EUT Description: | LTE Cat 1 bis Module | | | |
| Model No.: | EG915Q-NA | | | |
| Trade Mark: | Quectel | | | |
| Hardware Version: | R1.0 | | | |
| Software Version: | EG915QNALCR01A05M04 | | | |
| Antenna Type: | External Antenna | | | |
| Antenna Gain: | LTE Band 2: | 1.43dBi | LTE Band 4: | 1.54dBi |
| | LTE Band 5: | 2.21dBi | LTE Band 12: | 2.00dBi |
| | LTE Band 13: | 2.10dBi | LTE Band 66: | 1.68dBi |
| | Note: The antenna gain are derived from the gain information report provided by the manufacturer. | | | |
| Remark: | As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information. | | | |



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3 RF Exposure Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm ²) | Averaging time (minutes) |
|--|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0-30 | 1842/f | 4.89/f | *(900/f ²) | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | / | / | f/300 | 6 |
| 1500-100,000 | / | / | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

F=frequency in MHz
 *=Plane-wave equivalent power density
 RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



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3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

3.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

| Operating Band | Frequency (MHz) | Antenna Gain (dBi) | Max Conducted Average Output Power (dBm) | EIRP(ERP) (dBm) | EIRP(ERP) Limit (dBm) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) | Gain according to EIRP(ERP) (dBi) | Gain according to Pd (dBi) | Max Gain Allowed (dBi) | conclusion |
|----------------|-----------------|--------------------|--|-----------------|-----------------------|--|-----------------------------|-----------------------------------|----------------------------|------------------------|------------|
| LTE Band 2 | 1850.7 | 1.43 | 25.00 | 26.43 | 33.00 | 0.0874 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| LTE Band 4 | 1710.7 | 1.54 | 25.00 | 26.54 | 30.00 | 0.0897 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |
| LTE Band 5 | 824.7 | 2.21 | 25.00 | 25.06 | 38.45 | 0.1046 | 0.5498 | 15.60 | 9.41 | 9.41 | Pass |
| LTE Band 12 | 699.7 | 2.00 | 25.00 | 24.85 | 34.77 | 0.0997 | 0.4665 | 11.92 | 8.70 | 8.70 | Pass |
| LTE Band 13 | 779.5 | 2.10 | 25.00 | 24.95 | 34.77 | 0.1020 | 0.5197 | 11.92 | 9.16 | 9.16 | Pass |
| LTE Band 66 | 1710.7 | 1.68 | 25.00 | 26.68 | 30.00 | 0.0926 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |

---End of Report---



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