



RF Exposure Evaluation Declaration

FCC ID: XMR202007BG95M6
Application: Quectel Wireless Solutions Company Limited
Product: LTE Cat M1 & Cat NB2 Module
Model No.: BG95-M6
Brand Name: Quectel
FCC Rule Part(s): Part 2.1091
Test Procedure(s): KDB 447498 D01v06
Test Date: November 29, 2021 ~ January 13, 2022

Reviewed By:

Sunny Sun

Approved By:

Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

| Report No. | Version | Description | Issue Date | Note |
|---------------|---------|----------------|------------|-------|
| 2111RSU085-U3 | Rev. 01 | Initial Report | 01-30-2022 | Valid |
| | | | | |

1. GENERAL INFORMATION

1.1. Applicant

Quectel Wireless Solutions Company Limited

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

1.2. Manufacturer

Quectel Wireless Solutions Company Limited

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

1.3. Testing Facility

| | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Test Site - MRT Suzhou Laboratory |
| | Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China |
| | Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China |
| | Laboratory Accreditations |
| | A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 |
| | VCCI: <input type="checkbox"/> R-20025 <input type="checkbox"/> G-20034 <input type="checkbox"/> C-20020 <input type="checkbox"/> T-20020 <input type="checkbox"/> R-20141 <input type="checkbox"/> G-20134 <input type="checkbox"/> C-20103 <input type="checkbox"/> T-20104 |
| <input type="checkbox"/> | Test Site - MRT Shenzhen Laboratory |
| | Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China |
| | Laboratory Accreditations |
| | A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105 |
| <input type="checkbox"/> | Test Site - MRT Taiwan Laboratory |
| | Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) |
| | Laboratory Accreditations |
| | TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261 |

1.4. Product Information

| | |
|---|--|
| Product Name | LTE Cat M1 & Cat NB2 Module |
| Model No. | BG95-M6 |
| Brand Name | Quectel |
| IMEI | Conducted Measurement:866642055374849 Radiated Measurement: 866642055374286 |
| Operating Temp. | -40 ~ 85 °C |
| Supply Voltage | 3.3 ~ 4.3Vdc, typical 3.8Vdc |
| CAT-M Band | Band 2, 4, 5, 8, 12, 13, 25, 26, 66, 85 |
| NB-IoT Band | Band 2, 4, 5, 8, 12, 13, 25, 66, 71, 85 |
| Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer. | |

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Average Time (Minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| (A) Limits for Occupational/ Control Exposures | | | | |
| 300-1500 | -- | -- | f/300 | 6 |
| 1500-100,000 | -- | -- | 5 | 6 |
| (B) Limits for General Population/ Uncontrolled Exposures | | | | |
| 300-1500 | -- | -- | f/1500 | 6 |
| 1500-100,000 | -- | -- | 1 | 30 |

f= Frequency in MHz

Calculation Formula: $Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

Pd is the limit of MPE, 1mW/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.

2.2. Test Result of RF Exposure Evaluation

| | |
|-----------|-----------------------------|
| Product | LTE Cat M1 & Cat NB2 Module |
| Test Item | RF Exposure Evaluation |

| Test Mode | Frequency Band (MHz) | Tune-up Power (dBm) | Antenna Gain (dBi) | EIRP or ERP (dBm) | Power Density at 20cm (mW/cm ²) | Limit (mW/cm ²) |
|-----------|----------------------|---------------------|--------------------|-------------------|---|-----------------------------|
| LTE B8 | 897.5 ~ 900.5 | 22.00 | 2.46 | 22.31 | 0.0339 | 1.0000 |

Appendix A – EUT Photograph

Refer to “2111RSU085-UE” file.

The End