

## 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.

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## 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"/>	<b>Test Site - MRT Suzhou Laboratory</b>
	<b>Laboratory Location (Suzhou - Wuzhong)</b>
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	<b>Laboratory Location (Suzhou - SIP)</b>
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	<b>Laboratory Accreditations</b>
	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"/>	<b>Test Site - MRT Shenzhen Laboratory</b>
	<b>Laboratory Location (Shenzhen)</b>
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	<b>Laboratory Accreditations</b>
	A2LA: 3628.02 CNAS: L10551
	FCC: CN1284 ISED: CN0105
<input type="checkbox"/>	<b>Test Site - MRT Taiwan Laboratory</b>
	<b>Laboratory Location (Taiwan)</b>
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	<b>Laboratory Accreditations</b>
	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 <sup>2</sup> )	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/cm<sup>2</sup>

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/cm<sup>2</sup>. 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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.

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The End

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