



RF Exposure Evaluation Declaration

FCC ID: ZMOMC610LA
Application: Fibocom Wireless Inc.
Application Type: Certification
Product: LTE Module
Model No.: MC610-LA
Brand Name: Fibocom
FCC Classification: PCS Licensed Transmitter (PCB)
Test Procedure(s): KDB 447498 D01v06

Reviewed By:

Jame Yuan

Jame Yuan

Approved By:

Robin Wu

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
2107RSU045-U4	Rev. 01	Initial Report	08-02-2021	Valid

1. GENERAL INFORMATION

1.1. Applicant

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.2. Manufacturer

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen,
China

1.3. Testing Facility

☒	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: R-20025, G-20034, C-20020, T-20020, R-20141, G-20134, C-20103, T-20140	
☐	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
☐	Test Site - MRT Taiwan Laboratory	
	Laboratory Location (Taiwan) No. 38, Fuxing 2 nd 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 Module
Model No.	MC610-LA
Brand Name	Fibocom
Hardware Version	V1.3
Software Version	16000.1000.00.96.12.02
IMEI	860369050012085
Operating Temperature	-30 ~ 75 °C
Operation Voltage	3.4 ~ 4.2V
Bluetooth Specification	V4.2 (Single mode)
Wi-Fi Specification	802.11b (Receive only)
GSM Specification	GSM 850, PCS 1900
LTE Cat1.bis Specification	FDD Band: 2, 4, 5, 7, 66
Antenna Information	Refer to section 1.5

Note:

The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

1.5. Antennas details

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
Wi-Fi 802.11b	2412 ~ 2472	External	1.0
Bluetooth-LE	2402~2480		1.0
GSM 850	824 ~ 849		1.5
PCS 1900	1850 ~ 1910		0.9
LTE Cat1.bis Band 2	1850 ~ 1910		0.9
LTE Cat1.bis Band 4	1710 ~ 1755		1.3
LTE Cat1.bis Band 5	824 ~ 849		1.5
LTE Cat1.bis Band 7	2500 ~ 2570		2.3
LTE Cat1.bis Band 66	1710 ~ 1780		1.4

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	30
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation 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, 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 Module
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Scaled Power (dBm)	Antenna Gain (dBi)	ERP (EIRP) (dBm)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	7.0	1.0	8.00	0.0013	1.0000
GSM 850	824 ~ 849	35.0	1.5	34.35	0.5417	0.5493
GPRS 850	824 ~ 849	35.0	1.5	34.35	0.5417	0.5493
PCS 1900	1850 ~ 1910	32.0	0.9	32.90	0.3879	1.0000
GPRS 1900	1850 ~ 1910	32.0	0.9	32.90	0.3879	1.0000
Cat1.bis Band 2	1850 ~ 1910	25.0	0.9	25.90	0.0774	1.0000
Cat1.bis Band 4	1710 ~ 1755	25.0	1.3	26.30	0.0849	1.0000
Cat1.bis Band 5	824 ~ 849	25.0	1.5	24.35	0.0542	0.5493
Cat1.bis Band 7	2500 ~ 2570	25.0	2.3	27.30	0.1068	1.0000
Cat1.bis Band 66	1710 ~ 1780	25.0	1.4	26.40	0.0868	1.0000

Conclusion:

GSM or LTE and Bluetooth-LE can transmit simultaneously.

The max value is $0.5417/0.5493 + 0.0013/1 = 0.9875 < 1$

Therefore, the Safety Distance is 20 cm.

The End

Appendix A – EUT Photograph

Refer to “2107RSU045-UE” file.