

FCC RF Exposure Report

Report No.: SABEDF-WTW-P21100617

FCC ID: QI3BEC-MX200PL9

Test Model: MXConnect® MX-200 PL9

Received Date: Nov. 04, 2021

Test Date: Nov. 05 ~ Nov. 11, 2021

Issued Date: Dec. 22, 2021

Applicant: BILLION ELECTRIC CO., LTD.

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Taiwan (R.O.C.)

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City
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FCC Registration /
Designation Number: 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SABEDF-WTW-P21100617	Original release	Dec. 22, 2021

1 Certificate of Conformity

Product: 4G LTE Industrial Router

Brand: BEC, BILLION

Test Model: MXConnect® MX-200 PL9

Sample Status: Engineering sample

Applicant: BILLION ELECTRIC CO., LTD.

Test Date: Nov. 05 ~ Nov. 11, 2021

Standards: FCC Part 2 (Section 2.1091)

References Test

Guidance: KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen, **Date:** Dec. 22, 2021
Pettie Chen / Senior Specialist

Approved by : Jeremy Lin, **Date:** Dec. 22, 2021
Jeremy Lin / Project Engineer

2 RF Exposure

2.1 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)
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

2.2 MPE Calculation Formula

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

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

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result of Maximum Density Power

Function	Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
LTE Band 8	898.2-899.8	22.57	24.72	20	0.059	0.599

*EIRP= ERP+2.15

*Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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