FCC RF Exposure Report

Report No.:	SABEDF-WTW-P21030921
FCC ID:	QI3BEC-7000R28G
Test Model:	RidgeWave® BEC 7000 R28-G
Series Model:	BEC RidgeWave® 7000 R28-G, BEC 7000 R28-G, RidgeWave® BEC 7000 R28, BEC RidgeWave® 7000 R28, BEC 7000 R28
Received Date:	Mar. 25, 2021
Test Date:	Apr. 20 ~ Jun. 01, 2021
Issued Date:	Jun. 15, 2021
Applicant:	BILLION ELECTRIC CO., LTD.
Address:	8F., No. 192, Sec. 2, Zhongxing Rd., Xindian Dist., New Taipei City 231, 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 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
SABEDF-WTW-P21030921	Original release	Jun. 15, 2021

1 Certificate of Conformity

Product:	4G LTE-A Pro Outdoor Router
Brand:	BEC, BILLION
Test Model:	RidgeWave® BEC 7000 R28-G
Series Model:	BEC RidgeWave® 7000 R28-G, BEC 7000 R28-G, RidgeWave® BEC 7000 R28, BEC RidgeWave® 7000 R28, BEC 7000 R28
Sample Status:	Engineering Sample
Applicant:	BILLION ELECTRIC CO., LTD.
Test Date:	Apr. 20 ~ Jun. 01, 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 : _____ , **Date:** Jun. 15, 2021
Polly Chien / Specialist

Approved by : _____ , **Date:** Jun. 15, 2021
Bruce Chen / Senior Project Engineer

2 RF Exposure

3.1 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

3.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

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

3.3 Classification

The antenna of this product, under normal use condition, is at least 30cm 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)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
LTE Band 48 (Full Power)	3552.5-3697.5	36.40	30	0.386	1
LTE Band 48 (Per 10M)	3552.5-3697.5	36.31	30	0.378	1
LTE Band 42C (Full Power)	3560-3590	40.24	30	0.934	1
LTE Band 42C (Per 10M)	3560-3590	40.05	30	0.894	1

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

Therefore the maximum calculations of above situations are less than the “1” limit.

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