

RF Exposure Report

Report No.: SA190605C17

FCC ID: QI3BEC-6900R21

Test Model: RidgeWave 6900

Series Model: BEC 6900 R21

Received Date: Jun. 05, 2019

Test Date: Jun. 21 ~ Sep. 25, 2019

Issued Date: Sep. 25, 2019

Applicant: BILLION ELECTRIC CO., LTD.

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

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

Test Location: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

**FCC Registration/
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SA190605C17	Original release	Sep. 25, 2019

1 Certificate of Conformity

Product: 4G/LTE Outdoor Router

Brand: BEC, BILLION

Test Model: RidgeWave 6900

Series Model: BEC 6900 R21 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: BILLION ELECTRIC CO., LTD.

Test Date: Jun. 21 ~ Sep. 25, 2019

Standards: FCC Part 2 (Section 2.1091)
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 : Celine Chou , **Date:** Sep. 25, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Sep. 25, 2019
Bruce Chen / Senior 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

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

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

2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result of Maximum Conducted Power

Function	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
LTE Band 48	3552.5 ~ 3697.5	24.27	14.50	25	0.959	1
LTE Band 42 (CA)	3560 ~ 3590	19.81	14.50	25	0.343	1

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

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