Test Report No:
2440153R-RFUSV17S-A

RF EXPOSURE EVALUATION DECLARATION

Product Name	5G NR Wi-Fi 6 AX1800 CPE, 5G NR CPE
Brand Name	BEC by BILLION
Model No.	AirConnect® BEC 8355P, AirConnect® 8355P, BEC 8355P, AirConnect® BEC 8355PU, AirConnect® 8355PU, BEC 8355PU, AirConnect® BEC 8355, AirConnect® 8355, BEC 8355
FCC ID	QI3BEC-8355P
Applicant´s Name / Address	Billion Electric Co., Ltd. 8F., No. 192, Sec. 2, Zhongxing Rd., Xindian Dist.,New Taipei City 231 Taiwan
Manufacturer's Name	Billion Electric Co., Ltd.
Test Method Requested, Standard	FCC CFR Title 47 Part 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.
Verdict Summary	IN COMPLIANCE
Documented by Genie Chang	Genie Chang
Tested by Alan Chen	Alan Chen
Approved by Tim Sung	Tim Sung
Date of Receipt	2024/04/08
Date of Issue	2024/05/21
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2024/05/21

1. General Information

1.1. EUT Description

Product Name	5G NR Wi-Fi 6 AX1800 CPE, 5G NR CPE
Brand Name	BEC by BILLION
Model No.	AirConnect® BEC 8355P, AirConnect® 8355P, BEC 8355P, AirConnect® BEC 8355PU, AirConnect® 8355PU, BEC 8355PU, AirConnect® BEC 8355, AirConnect® 8355, BEC 8355

Note: For more detailed information please refer to report No.: 2440153R-RFUSV01S-A, 2440153R-RFUSV03S-A and 2440153R-RFUSV23S-A.

The difference for each model is shown as below:

	Product Name	Brand (Trade) Name	2.5GbE LAN	SIM Slot (2FF)	Reset Button	Wi-Fi 6
AirConnect® BEC 8355P	5G NR Wi-Fi 6 AX1800 CPE	BEC by BILLION	2.5 Gigabit LAN Interface with IEEE 802.3at complaint PoE P.D x 1	1	1	Wi-Fi 2.4GHz/5GHz
AirConnect® 8355P						
BEC 8355P						
AirConnect® BEC 8355PU						
AirConnect® 8355PU						
BEC 8355PU						
AirConnect® BEC 8355	5G NR CPE					N/A
AirConnect® 8355						
BEC 8355						

From the above models, model: AirConnect® BEC 8355P was selected as representative model for the test and its data was recorded in this report.

1.2. Testing Location Information

USA	FCC Designation Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No. 5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist.,Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

2. RF Exposure Evaluation

2.1. Test Limit

(A) Test Limit for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f^2)	<6
30-300	61.4	0.163	1.0	<6
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Test Limit for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
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

Note: f = frequency in MHz; *Plane-wave equivalent power density

Power Density (S) is calculated by the following formula:

$$S=(P*G)/4\pi R^2$$

where:

S = power density (in appropriate units, e.g. mW/ cm^2)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

π = 3.1416

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

2.2. Test Result of RF Exposure Evaluation

WLAN

Band	Maximum Conducted Output Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Test Result (PASS/FAIL)
Wi-Fi 2.4 GHz	23.66	5.70	29.360	862.979	0.172	1.000	PASS
Wi-Fi 5GHz U-NII 1	21.76	4.90	26.660	463.447	0.092	1.000	PASS
Wi-Fi 5GHz U-NII 3	22.30	6.00	28.300	676.083	0.135	1.000	PASS

Note: The conducted output power is refer to report No.: 2440153R-RFUSV01S-A and 2440153R-RFUSV03S-A from the DEKRA.

WWAN

Band	Maximum Conducted Output Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Test Result (PASS/FAIL)
5GNR n2	22.76	2.60	25.360	343.558	0.068	1.000	PASS

Note: The conducted output power is refer to report No.: 2440153R-RFUSV23S-A from the DEKRA.

Co-location
Conclusion: The formula of calculated the MPE is: CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1 CPD = Calculation power density LPD = Limit of power density **Wi-Fi 2.4 GHz + Wi-Fi 5 GHz + WWAN = 0.172 + 0.135 + 0.068 = 0.375** Therefore the maximum calculations of above situations are less than the “1” limit.

Result	PASS