

RF Exposure Evaluation Report

Applicant: Dynamox SA

Address of Applicant: Rodovia Jose Carlos Daux, n 600, KM 01, Modulo 05 Parque Tec. Alfa

Equipment Under Test (EUT)

Product Name: DynaGateway

Model No.: DynaGateway EWI

FCC ID: 2AT3M010232

Applicable standards: FCC CFR Title 47 Part 2 Subpart J Section 2.1091

Date of sample receipt: 31 Dec., 2021

Date of Test: 04 Jan., to 20 May, 2022

Date of report issue: 10 Jun., 2022

Test Result: PASS*

Authorized Signature:



Bruce Zhang

Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	23 May, 2022	Original
01	10 Jun., 2022	Update Page 7

Tested by: Mike.ou
Test Engineer

Date: 10 Jun., 2022

Reviewed by: Winner Zhang
Project Engineer

Date: 10 Jun., 2022

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4 General Information

4.1 Client Information

Applicant:	Dynamox SA
Address:	Rodovia Jose Carlos Daux, n 600, KM 01, Modulo 05 Parque Tec. Alfa
Manufacturer/ Factory:	Dynamox SA
Address:	Rodovia José Carlos Daux, nº 600, Km 01 - Módulo 05, Parque Técnológico Alfa - CEP 88030-909, Florianópolis, SC Brazil

4.2 General Description of E.U.T.

Product Name:	DynaGateway
Model No.:	DynaGateway EWI
Operation Frequency:	2.4G Wi-Fi: 2412MHz~2462MHz Bluetooth/ BLE: 2402MHz~2480MHz
Modulation technology:	802.11b: DSSS, 802.11g/n: OFDM Bluetooth BDR /BLE: GFSK, Bluetooth EDR: $\pi/4$ -DQPSK, 8DPSK
Antenna Type:	Internal Antenna
Antenna gain:	BT/ BLE: 3.0 dBi; Wi-Fi: 3.0 dBi
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Operating Modes

Operating mode	Detail description
BLE mode	Keep the EUT in continuously transmitting in BLE mode
BT mode	Keep the EUT in continuously transmitting in BT mode
2.4G WIFI mode	Keep the EUT in continuously transmitting in 2.4G WIFI mode

4.4 Additions to, deviations from, or exclusions from the method

No

4.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

4.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1091

5.1 Limits

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)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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) 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

5.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna

5.3 Result(Worst case)

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm ²)	Limits for General Population/ Uncontrolled Exposure (mW/cm ²)
Bluetooth mode							
2480.00	2.79	1.90	3.0	2.0	20.00	0.0008	1.0
BLE mode							
2480.00	1.08	1.28	3.0	2.0	20.00	0.0005	1.0
2.4G Wi-Fi							
2412.00	15.90	38.90	3.0	2.0	20.00	0.0155	1.0

Note: 1. Just the worst case mode was shown in report.

2. Bluetooth, BLE, WiFi cannot transmit at the same time.

5.4 Conclusion

The device is exempt from the SAR test and satisfies RF exposure evaluation.

-----End of report-----