

RF Exposure Evaluation Report

Applicant: Automotive Data Solutions Inc.
Address of Applicant: 8400 Bougainville Montreal Quebec Canada H4P 2G1
Equipment Under Test (EUT)
Product Name: BLE MODULE
Model No.: ADS-BLENRF1
FCC ID: 2AEPJ-BLENRF1
Applicable standards: FCC CFR Title 47 Part 2 (§2.1091)
Date of sample receipt: 08 Oct., 2022
Date of Test: 09 Oct., to 25 Oct., 2022
Date of report issue: 11 Nov., 2022
Test Result: PASS

Tested by:

Test Engineer**Date:**11 Nov., 2022
_____**Reviewed by:**

Project Engineer**Date:**11 Nov., 2022
_____**Approved by:**

Manager**Date:**11 Nov., 2022

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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1 Version

Version No.	Date	Description
00	26 Oct., 2022	Original
01	11 Nov., 2022	Update Product Name.

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3 General Information

3.1 Client Information

Applicant:	Automotive Data Solutions Inc.
Address:	8400 Bougainville Montreal Quebec Canada H4P 2G1
Manufacturer/Factory:	DONGGUAN PORTMAN ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD.
Address:	NO.10,LUYI 2 ROAD,TANGXIA TOWN, DONGGUAN CITY GUANGDONG PROVINCE

3.2 General Description of E.U.T.

Product Name:	BLE MODULE
Model No.:	ADS-BLENRF1
Operation Frequency:	BLE: 2402MHz~2480MHz
Modulation technology:	BLE: GFSK
Antenna Type:	PCB Antenna
Antenna gain:	BLE: -0.5 dBi
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Operating Modes

Operating mode	Detail description
BLE mode	Keep the EUT in continuously transmitting in BLE mode

3.4 Additions to, deviations, or exclusions from the method

No

3.5 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>

3.6 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>

4 Technical Requirements Specification

4.1 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

4.2 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

4.3 Result

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)
BLE							
2480	3.995	2.509	-0.5	0.89	20.00	0.0004	1.0

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

4.4 Conclusion

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

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