RF Exposure Evaluation Report

Applicant:	PORTMAN ELECTRONICS (DONGGUAN) CO., LTD.
Address of Applicant:	NO#10 , Luyi 2 Road, Keyuancheng, Tangxia Town

Equipment Under Test (EUT)

Product Name:	CAR ALARM
Model No.:	183BPTI, 183BPRTI
FCC ID:	TBQT5-AM1WTI
Applicable standards:	FCC CFR Title 47 Part 2 Subpart J Section 2.1093
Date of sample receipt:	21 Mar., 2022
Date of Test:	22 Mar., to 12 May., 2022
Date of report issue:	13 May., 2022
Test Result:	PASS*

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*13 May., 2022*	*Original*

Tested by: Janet Wei ***Date:*** *13 May., 2022*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *13 May., 2022*

Project Engineer

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4 General Information

4.1 Client Information

Applicant:	PORTMAN ELECTRONICS (DONGGUAN) CO., LTD.
Address:	NO#10 , Luyi 2 Road, Keyuancheng, Tangxia Town
Manufacturer/Factory:	DONGGUAN PORTMAN ELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD.
Address:	NO.10, LUYI 2 ROAD,TANGXIA TOWN, DONGGUAN CITY GUANGDONG PROVINCE

4.2 General Description of E.U.T.

Product Name:	CAR ALARM
Model No.:	183BPTI, 183BPRTI
Operation Frequency:	433.92MHz
Modulation technology:	ASK
Antenna Type:	PCB Antenna
Antenna gain:	-6 dBi
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remark:	Model No.:183BPTI, 183BPRTI The internal circuit design, layout, components used and internal wiring are all the same, the only difference is the model, appearance and material.

4.3 Operating Modes

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

4.4 Additions to, deviations, 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 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://www.ccis-cb.com

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1093

5.1 Limits

According to 447498 D01 General RF Exposure Guidance v06 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] · [$\sqrt{f(GHz)}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

5.2 Result

According to the calculation formula of power :
EIRP = P*G = $(E*d)^2/30$
Where:
P = transmitter output power in watts,
G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator (unitless),
E = electric field strength in V/m, --- 10((dBuV/m)/20)/106,
d = measurement distance in meters (m)---3m,

So,
P = $(E*d)^2/30$ *G

Frequency (MHz)	Maximum field strength@3m (dBuV/m)	Maximum field strength@3m (V/m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (m)	Output power (mW)
433.92	86.94	0.022	-6	0.25	3	0.037

Thus, Worse case as below:

Frequency (MHz)	Max Output power (mW)	Min test distance (mm)	Result	Limit of 10-g SAR test exclusion thresholds
433.92	0.037	5	0.005	7.5

5.3 Conclusion

Cuz 0.005 < 7.5 for 10-g SAR, the device is exempt from the SAR test and satisfies RF exposure evaluation.

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