

RF Exposure Evaluation Report

Product : Automobile diagnostic apparatus
Trade mark : ZDOBD
Model/Type reference : EPS ChunLei pro, EPS series
Serial Number : N/A
Report Number : EED32Q80856102
FCC ID : 2BEVH-Z919
Date of Issue : Jul. 11, 2024
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

Shenzhen Zhengde Youbang Technology Co., Ltd
Room 301-310,108-109, Building F, Baoan New Generation Information
Technology Industrial Park, Chuangye Second Road, Baoan District,
Shenzhen, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385



Compiled by:

Zhenxia Wen

Approved by:

Aaron Ma

Aaron Ma

Reviewed by:

Frazer Li

Frazer Li

Date:

Jul. 11, 2024

Check No.: 3440200624

2 Version

Version No.	Date	Description
00	Jul. 11, 2024	Original

3 Contents

	Page
.....	1
2 VERSION	2
3 CONTENTS	3
4 GENERAL INFORMATION	4
4.1 CLIENT INFORMATION	4
4.2 GENERAL DESCRIPTION OF EUT	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	4
4.4 TEST LOCATION	5
4.5 DEVIATION FROM STANDARDS	5
4.6 ABNORMALITIES FROM STANDARD CONDITIONS	5
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER	5
5 SAR EVALUATION	6
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	6
5.1.1 <i>Limits</i>	6
5.1.2 <i>Test Procedure</i>	6
5.1.3 <i>EUT RF Exposure Evaluation</i>	7

4 General Information

4.1 Client Information

Applicant:	Shenzhen Zhengde Youbang Technology Co., Ltd
Address of Applicant:	Room 301-310,108-109, Building F, Baoan New Generation Information Technology Industrial Park, Chuangye Second Road, Baoan District, Shenzhen, China
Manufacturer:	Shenzhen Zhengde Youbang Technology Co., Ltd
Address of Manufacturer:	Room 301-310,108-109, Building F, Baoan New Generation Information Technology Industrial Park, Chuangye Second Road, Baoan District, Shenzhen, China
Factory:	Shenzhen Zhengde Youbang Technology Co., Ltd
Address of Factory:	Room 301-310,108-109, Building F, Baoan New Generation Information Technology Industrial Park, Chuangye Second Road, Baoan District, Shenzhen, China

4.2 General Description of EUT

Product Name:	Automobile diagnostic apparatus
Model No.(EUT):	EPS ChunLei pro, EPS series
Test Model No.:	EPS ChunLei pro
Trade Mark:	ZDOBD

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK
Test Power Grade:	Default
Test Software of EUT:	FCC_assist_1.0.2.2
Antenna Type:	PCB Antenna
Antenna Gain:	-0.58dBi
Power Supply:	DC 12V~24V
Sample Received Date:	Jun. 24, 2024
Sample tested Date:	Jun. 24, 2024 to Jul. 02, 2024
Remark:	<p>Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.</p> <p>Model No.: EPS ChunLei pro, EPS series</p> <p>Only the model EPS ChunLei pro was tested. They have same electrical, PCB and layout. Only the model name, covering color and label sticker are different for marketing requirements.</p>

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation**For Stand alone:****For BLE:**

Frequency (MHz)	Available maximum time- averaged power (dBm)	Antenna gain (dBi)	ERP (dBm)	Available maximum time- averaged power (mW)	Limit (mW)	Result
2480	-1.21	-0.58	-3.94	0.757	≤3060	PASS

Note:

① EIRP=Available maximum time-averaged power+Antenna gain;

② ERP=EIRP-2.15;

③ According to § 1.1307(b)(3)(i)(B), RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).

④ The test data refer to the report of No.EED32Q80856101 and only the worst case data was recorded in the report.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

***** End of Report *****