



Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640

Fax: +86-755-26648637

Website: www.cqa-cert.com

Report Template Version: V05

Report Template Revision Date: 2021-11-03

RF Exposure Evaluation Report

Report No.: CQASZ20240801855E-03
Applicant: Icarsoft Technology Inc.
Address of Applicant: 1629 K St. Suite 300 N.W.Washington D.C., 20006 United States.
Equipment Under Test (EUT):
EUT Name: Programmable tire pressure sensor
Model No.: TPMS S6000
Test Model No.: TPMS S6000
Brand Name: **iCarsoft**
FCC ID: 2AWD8S6000
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
447498 D04 Interim General RF Exposure Guidance v01
Date of Receipt: 2024-08-28
Date of Test: 2024-08-28 to 2024-10-16
Date of Issue: 2024-10-16
Test Result: **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Alex
(Alex Wang)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20240801855E-03	Rev.01	Initial report	2024-10-16

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
.....	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION	4
3.2 GENERAL DESCRIPTION OF EUT	4
3.3 GENERAL DESCRIPTION OF 433.92MHZ	4
3.4 GENERAL DESCRIPTION OF 314.9MHZ	4
4 MPE EVALUATION	5
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
4.1.1 Limits	5
4.1.2 Test Procedure	5
4.1.3 EUT RF Exposure	6

3 General Information

3.1 Client Information

Applicant:	Icarsoft Technology Inc.
Address of Applicant:	1629 K St. Suite 300 N.W.Washington D.C., 20006 United States.
Manufacturer:	Icarsoft Technology Inc.
Address of Manufacturer:	1629 K St. Suite 300 N.W.Washington D.C., 20006 United States.
Factory:	Dongguan Yongdong Electronic Technology Co., Ltd
Address of Factory:	No. 10,4th Street, Zhangyang Fuzhu Industrial Zone,Zhangmutou town,Dongguan City

3.2 General Description of EUT

Product Name:	Programmable tire pressure sensor
Model No.:	TPMS S6000
Test Model No.:	TPMS S6000
Trade Mark:	iCarsoft
Software Version:	03
Hardware Version:	v01
EUT Power Supply:	Button battery: DC 3V

3.3 General Description of 433.92MHz

Operation Frequency:	433.92MHz
Modulation Type:	FSK
Number of Channel:	1
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	Internal antenna
Antenna Gain:	0dBi
Cable loss:	1.0 dB

3.4 General Description of 314.9MHz

Operation Frequency:	314.9MHz
Modulation Type:	FSK
Number of Channel:	1
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	Internal antenna
Antenna Gain:	0dBi
Cable loss:	1.0 dB

Note:

The above parameters will directly affect the test results. The information is provided by the applicant.

4 MPE Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator. For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

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

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave Dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

4.1.2 Test Procedure

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

4.1.3 EUT RF Exposure

1) For 433.92MHz

$$EIRP = E_{Meas} + 20\log(d_{Meas}) - 104.7$$

where

$EIRP$ is the equivalent isotropically radiated power, in dBm
 E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m
 d_{Meas} is the measurement distance, in m

Channel	EIRP (dBm)	ERP (dBm)	Maximum tune-up Power (mW)	Exclusion threshold (mW)
433.92MHz	-16.57	-18.72	0.01	1

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20240801855E-01.

2) For 314.9MHz

$$EIRP = E_{Meas} + 20\log(d_{Meas}) - 104.7$$

where

$EIRP$ is the equivalent isotropically radiated power, in dBm
 E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m
 d_{Meas} is the measurement distance, in m

Channel	EIRP (dBm)	ERP (dBm)	Maximum tune-up Power (mW)	Exclusion threshold (mW)
314.9MHz	-18.66	-20.81	0.01	1

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20240801855E-02.

*** END OF REPORT ***