

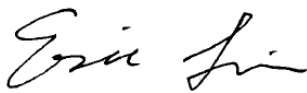
1 Cover Page

RF Exposure Evaluation Report

Application No.: KSCR2203000333AT
 FCC ID: 2AYF8-ZK201FAP
 Applicant: Zhejiang Okai Vehicle Co., Ltd.
 Address of Applicant: No.9, Xinxing Road, Xinbi Street, Jinyun, Lishui, Zhejiang, 321400,China
 Manufacturer: Zhejiang Okai Vehicle Co., Ltd.
 Address of Manufacturer: No.9, Xinxing Road, Xinbi Street, Jinyun, Lishui, Zhejiang, 321400,China
 Factory: Zhejiang Okai Vehicle Co., Ltd.
 Address of Factory: No.9, Xinxing Road, Xinbi Street, Jinyun, Lishui, Zhejiang, 321400,China
 Equipment Under Test (EUT):
 EUT Name: GPS Tracker
 Model No.: ZK201FAP
 Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
 Date of Receipt: 2022-03-11
 Date of Test: 2022-05-17 to 2022-06-04
 Date of Issue: 2022-11-14

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin
Laboratory Manager



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Revision Record			
Version	Description	Date	Remark
00	Original	2022-11-14	/

Authorized for issue by:			
		<i>Tommie Tang</i>	
		<hr/>	
		Tommie_Tang/Project Engineer	
		<i>Eric Lin</i>	
		<hr/>	
		Eric Lin/Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 40~60V
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3.2 Details of E.U.T.

Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 LE
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Data Rate:	1Mbps,2Mbps
Antenna Type:	Shrapnel Antenna
Antenna Gain:	3.12dBi (Provided by the manufacturer)



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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

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3.3 Test Location

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

3.4 Test Facility

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

• **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA)

• **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR220300033301.

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
1M	2402	0.92	1.24
	2440	-1.12	0.77
	2480	-0.84	0.82
2M	2402	0.98	1.25
	2440	-1.09	0.78
	2480	-0.77	0.84

*Remark: The tune-up power is 2dBm (1.58mW)

4G

The power of 4G base on the FCC certificate module of L506,

FCC ID is: 2AK9DL506, the maximum output power refer to test report: I22W00049-MPE-Rev3

The Max Conducted Output Power is 23dBm (199.53mW).



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5.2 MPE Calculation

According to the formula $S=P/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

For BLE:

The max. antenna gain is		3.12	dBi		
Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2	2.051	20	0.00082	1	Pass

For 4G:

The max. antenna gain is		1.58	dBi		
Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
199.53	1.439	20	0.05711	1	Pass

BT and 4G can transmit simultaneously, and $0.00082/1+0.05711/1=0.05793<1$, so the device is to qualify for SAR test exemption.

--End of the Report--



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