

### 1 Cover Page

# RF Exposure Report

**Application No.:** SZCR2304000965AT  
**Applicant:** Shenzhen Jimi IoT Co., Ltd.  
**Address of Applicant:** 3-4/F,Block A, Building#7,Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District ShenZhen China  
**Manufacturer:** Shenzhen Jimi IoT Co., Ltd.  
**Address of Manufacturer:** 3-4/F,Block A, Building#7,Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District ShenZhen China  
**Equipment Under Test (EUT):**  
**EUT Name:** 4G Dashcam  
**Model No.:** JC261, JC261P ♣  
♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.  
**Trade Mark:** Jimi IoT  
**FCC ID:** 2AMLF-JC261  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
KDB 447498 D04 interim General RF Exposure Guidance v01  
**Date of Receipt:** 2023-04-06  
**Date of Test:** 2023-04-10 to 2023-06-19  
**Date of Issue:** 2023-07-03

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.



Keny Xu  
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023-07-03		Original

Authorized for issue by:			
		Darren Yuan	
		_____	
		Darren Yuan/Project Engineer	
		Eric Fu	
		_____	
		Eric Fu/Reviewer	



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### 3 General Information

#### 3.1 General Description of E.U.T.

Product Type:	<input type="checkbox"/> Portable device
	<input checked="" type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

#### 3.2 Details of E.U.T.

Power supply:	Input: DC9-30V
Cable(s):	DC Cable: 300cm unshielded
<b>For BT:</b>	
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Bluetooth Version:	V5.1 Dual
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	Chip Antenna
Antenna Gain:	1.5dBi
<b>For BLE:</b>	
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Bluetooth Version:	V5.1 Dual
Data Rate:	1Mbps
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	Chip Antenna
Antenna Gain:	1.5dBi



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<b>For 2.4G Wi-Fi:</b>	
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	Chip Antenna
Antenna Gain:	1.5dBi

<b>For GSM:</b>	
Support Network:	GPRS, EGPRS
Operation Frequency Band:	GSM850/PCS1900
Modulation Type:	GMSK for GPRS/EGPRS 8PSK for EGPRS
GPRS Class:	12
EGPRS Class:	12
Antenna Type:	PIFA antenna
Antenna Gain:	GSM850: 1.85dBi; PCS1900: 2.3dBi
SIM Card:	This device has one SIM Card sockets



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<b>For WCDMA:</b>	
Support Network:	RMC, HSDPA, HSUPA
Operation Frequency Band:	UMTS FDD Band II/IV/V
Modulation Type:	QPSK for WCDMA
Supported Channel Bandwidth:	5MHz for WCDMA
UMTS Power Class:	Level 3
Antenna Type:	PIFA Antenna
Antenna Gain:	WCDMA B2: 2.31dBi; B4: 2.8dBi; B5: 2.02dBi
SIM Card:	This device has one SIM Card sockets

<b>For LTE:</b>	
LTE Operation Frequency Band:	LTE FDD Band 2, 4, 5, 7, 12, 17 LTE TDD Band 38, 41
Modulation Type:	QPSK, 16QAM
LTE Power Class:	Level 3
Antenna Type:	PIFA Antenna
Antenna Gain:	B2: 2.33dBi; B4: 2.8dBi; B5: 1.85dBi; B7: 2.48dBi; B12: 0.21dBi; B17: 0.11dBi; B38: 2.75dBi; B41: 2.5dBi
SIM Card:	This device has one SIM Card sockets



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### Declaration of EUT Family Grouping:

Model No.: JC261, JC261P

JC261P was final tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on the camera, more details refer to following:

JC261P/JC261	Remark
	<p>JC261P has integrated the camera on the front side of the EUT, but JC261 hasn't integrated the camera on the front side of the EUT, the front side camera extended by external connection; other electrical circuit design, PCB layout, components used and internal wiring and functions were identical.</p>

Remark: Both JC261 and JC261P were pre-tested, JC261P was the worst-case, so in this report only recorded the worst-case test data.





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SZEMC-TRF-01 Rev. A/0 Aug01,2022

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## Separation Distance

Minimum test separation distance:	20cm
Remark: This minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.	



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### 3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 3.4 Test Facility

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

#### • A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### • VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### • FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



## 4 FCC Radiofrequency radiation exposure limits

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

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30



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## 5 Measurement and Calculation

### 5.1 Maximum transmit power

#### 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 centimeter)
- 3) MPE limit = 1mW/cm<sup>2</sup>

#### For BT:

Test Mode	Frequency (MHz)	Max Conducted power(dBm)	Operation Distance R(cm)	Antenna Gain(dBi)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )	Ratio	Verdict
BT	2402	10.64	20	1.5	0.0033	1.0	0.0033	Pass

The Power Data is based on the RF Test report SZCR230400096502.

#### For BLE:

Test Mode	Frequency (MHz)	Max Conducted power(dBm)	Operation Distance R(cm)	Antenna Gain(dBi)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )	Ratio	Verdict
BLE	2402	1.00	20	1.5	0.0004	1.0	0.0004	Pass

The Power Data is based on the RF Test report SZCR230400096503.

#### For 2.4G Wi-Fi:

Test Mode	Frequency (MHz)	Max Conducted power(dBm)	Operation Distance R(cm)	Antenna Gain(dBi)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )	Ratio	Verdict
2.4G Wi-Fi	2412	16.35	20	1.5	0.0121	1.0	0.0121	Pass

The Power Data is based on the RF Test report SZCR230500137604.



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**For GSM+WCDMA+LTE:**

Test Mode	Frequency (MHz)	Max Conducted power(dBm)	Operation Distance R(cm)	Antenna Gain(dBi)	Power Density (mW/cm <sup>2</sup> )	Limit of Power Density (mW/cm <sup>2</sup> )	Ratio	Verdict
GSM850	824.2	32	20	1.85	0.4824	0.5495	0.8780	Pass
PCS1900	1850-1910	29	20	2.30	0.2686	1.0	0.2686	Pass
WCDMA Band2	1850-1910	23	20	2.31	0.0675	1.0	0.0675	Pass
WCDMA Band4	1710-1755	23	20	2.80	0.0758	1.0	0.0758	Pass
WCDMA Band5	826.4	23	20	2.02	0.0631	0.5509	0.1146	Pass
LTE Band2	1850-1910	24	20	2.33	0.0855	1.0	0.0855	Pass
LTE Band4	1710-1755	24	20	2.75	0.0939	1.0	0.0939	Pass
LTE Band5	824.7	24	20	2.80	0.0954	0.5498	0.1736	Pass
LTE Band7	2500-2570	24	20	1.85	0.0765	1.0	0.0765	Pass
LTE Band12	699.7	24	20	2.48	0.0885	0.4665	0.1896	Pass
LTE Band17	706.5	24	20	0.21	0.0525	0.4710	0.1114	Pass
LTE Band38	2570-2620	24	20	0.11	0.0515	1.0	0.0515	Pass
LTE Band41	2496-2690	24	20	2.75	0.0939	1.0	0.0939	Pass

Note1: The Power Data is based on the tune up procedure

Note2: For the operation frequency below 1500MHz, use the Low channel frequency to calculate the power density limit due to it is tighter



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**Simultaneous transmission**

Test Mode	BT	BLE	2.4G Wi-Fi	GSM	WCDMA	LTE	Total Ratio	Limit	Verdict
Maximum Ratio	0.0033	0.0004	0.0121	0.8780	0.1146	0.1896	N/A	N/A	N/A
Scenario 1	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			0.8813	1.0	Pass
Scenario 2	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		0.1179	1.0	Pass
Scenario 3	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	0.1929	1.0	Pass
Scenario 4		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			0.8784	1.0	Pass
Scenario 5		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		0.1150	1.0	Pass
Scenario 6		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	0.1900	1.0	Pass
Scenario 7			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			0.8901	1.0	Pass
Scenario 8			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		0.1267	1.0	Pass
Scenario 9			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	0.2017	1.0	Pass

So, the device is to qualify for SAR test exemption, the exemption report is in lieu of the SAR report.

**--End of the Report--**



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