

TEST REPORT

Applicant: Shenzhen Jimi IoT Co., Ltd.
Address: 3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China
Equipment Type: 4G AI Dashcam
Model Name: JC371 (refer to section 2.3)
Brand Name: Jimi IoT
FCC ID: 2AMLF-JC371NA
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Feb. 09, 2025
Test Date: Feb. 09, 2025 - Mar. 27, 2025
Date of Issue: Apr. 10, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xu Rui**Checked by:** Zong Liyao**Approved by:** Tolan Tu
(Testing Director)

Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Apr. 10, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input checked="" type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Shenzhen Jimi IoT Co., Ltd.
Address	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China

2.2 Manufacturer Information

Manufacturer	Shenzhen Jimi IoT Co., Ltd.
Address	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	4G AI Dashcam
Model Name Under Test	JC371
Series Model Name	JC371-NA, JC371S, JC371C, JC371PLUS, JC371PRO, JC371LITE, R47
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the applicant)
Hardware Version	C371_MB_V1.3
Software Version	C371_0_0_STD_JM_JC371_V1.2.8a
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/12/13/14/66/71 WIFI 802.11b, 802.11g, 802.11n(HT20) GPS, BDS, AGPS
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 2/4/5 4G Network LTE FDD Band 2/4/5/12/13/14/66/71	
Frequency Range	WCDMA B2	1850 ~ 1910 MHz
	WCDMA B4	1710 ~ 1755 MHz
	WCDMA B5	824 ~ 849 MHz
	LTE B2	1850 ~ 1910 MHz
	LTE B4	1710 ~ 1755 MHz
	LTE B5	824 ~ 849 MHz
	LTE B12	699 ~ 716 MHz
	LTE B13	777 ~ 787 MHz
	LTE B14	788 ~ 798 MHz
	LTE B66	1710 ~ 1780 MHz
	LTE B71	663 ~ 698 MHz
	2.4G WIFI	2400 ~ 2483.5 MHz
Antenna Type	WWAN	PIFA
	2.4G WIFI	Chip
Exposure Category	General Population/Uncontrolled Exposure	
Product Type	Mobile Device	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

3.2 Limit Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Devices:

CFR Title 47 §2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

FCC KDB 447498 D04 General RF Exposure Guidance v01 Limit

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)].

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

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.

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 (B.2).

$$P_{\text{th}} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

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). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
300		39	65	88	110	129	148	166	184	201	217
450		22	44	67	89	112	135	158	180	203	226
835		9	25	44	66	90	116	145	175	207	240
1900		3	12	26	44	66	92	122	157	195	236
2450		3	10	22	38	59	83	111	143	179	219
3600		2	8	18	32	49	71	96	125	158	195
5800		1	6	14	25	40	58	80	106	136	169

5 ASSESSMENT RESULT

5.1 Output Power

WCDMA			
Mode	Band 2	Band 4	Band 5
Conducted Power (dBm)	23.67	23.78	23.37
Antenna Gain (dBi)	1.23	0.64	2.82
ERP/EIRP (dBm)	24.90	24.42	24.04
Note: This report listed the worst case conducted power value, please refer to BL-SZ2510718-501 report for more details.			

LTE					
Mode	Band 2	Band 4	Band 5	Band 12	Band 13
Conducted Power (dBm)	23.19	23.16	23.49	23.13	23.18
Antenna Gain (dBi)	1.23	0.64	2.82	0.29	2.29
ERP/EIRP (dBm)	24.42	23.80	24.16	21.27	23.32
Note: This report listed the worst case conducted power value, please refer to BL-SZ2510718-501 report for more details.					

LTE			
Mode	Band 14	Band 66	Band 71
Conducted Power (dBm)	23.55	23.34	23.15
Antenna Gain (dBi)	2.14	0.99	-1.58
ERP/EIRP (dBm)	23.54	24.33	19.42
Note: This report listed the worst case conducted power value, please refer to BL-SZ2510718-501 report for more details.			

Mode	2.4G WIFI
Conducted Power (dBm)	22.54
Antenna Gain (dBi)	0.99
EIRP (dBm)	23.53
Note: This report listed the worst case conducted power value, please refer to BL-SZ2510718-601 report for more details.	

5.2 Tune-up power

Mode		Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
WCDMA	Band 2	[22.00, 24.00]	[23.00, 25.00]	[20.85, 22.85]
	Band 4	[22.00, 24.00]	[23.00, 25.00]	[20.85, 22.85]
	Band 5	[22.00, 24.00]	/	[22.85, 24.85]
LTE	Band 2	[22.00, 24.00]	[23.00, 25.00]	[20.85, 22.85]
	Band 4	[22.00, 24.00]	[22.00, 24.00]	[19.85, 21.85]
	Band 5	[22.00, 24.00]	/	[22.85, 24.85]
	Band 12	[22.00, 24.00]	/	[19.85, 21.85]
	Band 13	[22.00, 24.00]	/	[21.85, 23.85]
	Band 14	[22.00, 24.00]	/	[21.85, 23.85]
	Band 66	[22.00, 24.00]	[23.00, 25.00]	[20.85, 22.85]
	Band 71	[22.00, 24.00]	/	[17.85, 19.85]
2.4G WIFI		[21.00, 23.00]	[22.00, 24.00]	[19.85, 21.85]
Note1: ERP= EIRP -2.15dB.				
Note2: According KDB 447498 D04, used the greater of maximum conducted power and ERP to compare with the threshold value Pth.				

5.3 RF Exposure Evaluation Result

Evolution mode	Frequency (GHz)	Distance (mm)	Maximum power (dBm)	Maximum power (mW)	Threshold Power (mW)	P/Plimit	Verdict
WCDMA B2	1.91	200	24.00	251.19	3060.00	0.082	Pass
WCDMA B4	1.755	200	24.00	251.19	3060.00	0.082	Pass
WCDMA B5	0.849	200	24.85	305.49	1731.96	0.176	Pass
LTE B2	1.91	200	24.00	251.19	3060.00	0.082	Pass
LTE B4	1.755	200	24.00	251.19	3060.00	0.082	Pass
LTE B5	0.849	200	24.85	305.49	1731.96	0.176	Pass
LTE B12	0.716	200	24.00	251.19	1460.64	0.172	Pass
LTE B13	0.787	200	24.00	251.19	1605.48	0.156	Pass
LTE B14	0.798	200	24.00	251.19	1627.92	0.154	Pass
LTE B66	1.78	200	24.00	251.19	3060.00	0.082	Pass
LTE B71	0.698	200	24.00	251.19	1423.92	0.176	Pass
2.4G WIFI	2.462	200	23.00	199.53	3060.00	0.065	Pass

5.4 Collocated Power Calculation

Evolution mode	Frequency(MHz)	Power /Limit	Σ (Power / Limit) of WWAN + WIFI	Verdict
WCDMA Band 5	824MHz ~ 849MHz	0.176	0.241	Pass
2.4G WIFI	2400 MHz ~ 2483.5 MHz	0.065		

Note:

1. Σ (Power / Limit): This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for WIFI 2.4GHz+WWAN.
2. Both of the 2.4GHz/WWAN can transmit simultaneously, the formula of calculated the Power is $CP1 / LP1 + CP2 / LP2 + \dots \text{etc.} < 1$
 CP = Calculation power
 LP = Limit of power
3. Both of the 2.4G WIFI and WWAN can't transmit simultaneously at same time.
4. The worst-case situation is 0.241, which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
5. The DUT work frequency range used is 2400 MHz ~ 2483.5 MHz, 824MHz ~ 849MHz the result close to the limit by the above formula, so we select worst case power to calculate the exclusion power threshold.

5.5 Conclusion

This EUT is deemed to comply with the reference level limits, therefore the basic restrictions are compliant with human exposure limits.

Statement

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