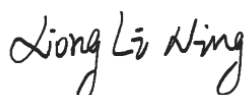


TEST REPORT

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 Dashboard Camera
Model Name: JC451 (refer to section 2.3)
Brand Name: Jimi IoT
FCC ID: 2AMLF-JC451
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Mar. 17, 2025
Test Date: Mar. 17, 2025 - Jun. 06, 2025
Date of Issue: Jun. 24, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Lining**Checked by:** Xu Rui**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jun. 24, 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	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☒ 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 Dashboard Camera
Model Name Under Test	JC451
Series Model Name	JC451-LA, JC451 Plus, JC451 Pro, JC451 Lite
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	AT701_PCB_V1.3
Software Version	C450Pro_0_1_STD_JC451_V2.0.13_250410.1400
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	2G Network GPRS/EDGE 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/66 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) BDS, GPS
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	WWAN, WIFI, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz

	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	Bluetooth	2402 ~ 2480 MHz	
	2.4G WIFI	2412 ~ 2462 MHz	
Antenna Type	WWAN: PIFA Antenna BT: PIFA Antenna WIFI: PIFA Antenna		
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

Mode	Bluetooth (BR+EDR)	Bluetooth (BLE)	2.4G WIFI
Conducted Power (dBm)	7.63	5.60	17.33
Antenna Gain (dBi)	1.31	1.31	1.31
EIRP (dBm)	8.94	6.91	18.64

Note: This report listed the worst case conducted power value, please refer to BL-SZ2530661-601, BL-SZ2530661-602, BL-SZ2530661-603 report for more details.

GSM							
GSM850 Band	Burst Average Power(dBm)			Division Factors	Frame-Averaged power (dBm)		
Channel	Low Channel	Middle Channel	High Channel		Low Channel	Middle Channel	High Channel
GPRS (GMSK, 1-Slot)	31.93	32.09	32.18	9.19	22.74	22.90	22.99
GPRS (GMSK, 2-Slots)	31.92	32.08	32.16	6.13	25.79	25.95	26.03
GPRS (GMSK, 3-Slots)	30.67	30.77	31.35	4.42	26.25	26.35	26.93
GPRS (GMSK, 4-Slots)	28.56	28.68	29.32	3.18	25.38	25.50	26.14
EGPRS (8PSK, 1-Slot)	27.53	27.63	27.75	9.19	18.34	18.44	18.56
EGPRS (8PSK, 2-Slots)	27.51	27.60	27.70	6.13	21.38	21.47	21.57
EGPRS (8PSK, 3-Slots)	25.04	25.17	25.34	4.42	20.62	20.75	20.92
EGPRS (8PSK, 4-Slots)	23.90	23.03	23.20	23.26	0.64	-0.23	-0.06
GSM1900 Band	Burst Average Power(dBm)			Division Factors	Frame-Averaged power(dBm)		
Channel	Low Channel	Middle Channel	High Channel		Low Channel	Middle Channel	High Channel
GPRS (GMSK, 1-Slot)	28.53	28.63	28.75	9.19	19.34	19.44	19.56
GPRS (GMSK, 2-Slots)	28.51	28.60	28.70	6.13	22.38	22.47	22.57
GPRS (GMSK, 3-Slots)	27.04	27.17	27.34	4.42	22.62	22.75	22.92
GPRS (GMSK, 4-Slots)	24.90	25.03	25.20	3.18	21.72	21.85	22.02
EGPRS (8PSK, 1-Slot)	26.15	26.43	26.59	9.19	16.96	17.24	17.40
EGPRS (8PSK, 2-Slots)	26.17	26.24	26.42	6.13	20.04	20.11	20.29
EGPRS (8PSK, 3-Slots)	24.36	24.23	24.11	4.42	19.94	19.81	19.69
EGPRS (8PSK, 4-Slots)	22.59	22.34	22.59	3.18	19.41	19.16	19.41

Note: This table listed the worst case power value, please refer to BL-SZ2530661-501 report for more details.

Mode	GSM	
	GSM850	GSM1900
Conducted Power (dBm)	26.93	22.92
Antenna Gain (dBm)	-0.08	-1.01
ERP/EIRP (dBm)	24.70	21.91
Note: This table listed the worst case power value, please refer to BL-SZ2530661-501 report for more details.		

Mode	WCDMA		
	Band2	Band4	Band5
Conducted Power (dBm)	22.42	22.17	22.59
Antenna Gain (dBm)	-1.01	-0.62	-0.08
ERP/EIRP (dBm)	21.41	21.55	20.36
Note: This table listed the worst case power value, please refer to BL-SZ2530661-501 report for more details.			

Mode	LTE				
	Band2	Band4	Band5	Band7	Band66
Conducted Power (dBm)	22.03	23.48	22.59	22.45	23.25
Antenna Gain (dBm)	-1.01	-0.62	-0.08	1.16	-0.62
ERP/EIRP (dBm)	21.02	22.86	20.36	23.61	22.63
Note: This table listed the worst case power value, please refer to BL-SZ2530661-501 report for more details.					

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
GSM850	[26.00,28.00]	/	[23.85, 25.85]
GSM1900	[22.00,24.00,	[21.00,23.00]	[18.85,20.85]
WCDMA Band2	[21.00,23.00]	[20.00,22.00]	[17.85,19.85]
WCDMA Band4	[21.00,23.00]	[20.00,22.00]	[17.85,19.85]
WCDMA Band5	[21.00,23.00]	/	[18.85,20.85]
LTE Band2	[21.00,23.00]	[20.00,22.00]	[17.85,19.85]
LTE Band4	[22.00,24.00]	[22.00,24.00]	[19.85,21.85]
LTE Band5	[22.00,24.00]	/	[19.85,21.85]
LTE Band7	[21.00,23.00]	[23.00,25.00]	[20.85,22.85]
LTE Band66	[22.00,24.00]	[23.00,25.00]	[20.85,22.85]
Bluetooth (BR+EDR)	[7.00,9.00]	[8.00,10.00]	[5.85, 7.85]
Bluetooth (BLE)	[5.00,7.00]	[6.00,8.00]	[3.85, 5.85]
2.4G WIFI	[16.00,18.00]	[18.00,20.00]	[15.85,17.85]

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)	Maximum Power (dBm)	Maximum Power (mw)	Distance (mm)	Threshold Power (mW)	Power / Limit	Verdict
GSM850	0.849	28.00	630.96	200	1731.96	0.364	Pass
GSM1900	1.910	24.00	251.19	200	3060.00	0.082	Pass
WCDMA Band2	1.910	23.00	199.53	200	3060.00	0.065	Pass
WCDMA Band4	1.755	23.00	199.53	200	3060.00	0.065	Pass
WCDMA Band5	0.849	23.00	199.53	200	1731.96	0.115	Pass
LTE Band2	1.910	23.00	199.53	200	3060.00	0.065	Pass
LTE Band4	1.755	24.00	251.19	200	3060.00	0.082	Pass
LTE Band5	0.849	24.00	251.19	200	1731.96	0.145	Pass
LTE Band7	2.570	23.00	199.53	200	3060.00	0.065	Pass
LTE Band66	1.780	24.00	251.19	200	3060.00	0.082	Pass
Bluetooth (BR+EDR)	2.480	9.00	7.94	200	3060.00	0.003	Pass
Bluetooth (BLE)	2.480	7.00	5.01	200	3060.00	0.002	Pass
2.4G WIFI	2.462	18.00	63.10	200	3060.00	0.021	Pass

5.4 Collocated Power Calculation

Evolution Mode	Frequency (GHz)	Power / Limit	$\Sigma(\text{Power} / \text{Limit})$ of Bluetooth +WWAN	Verdict
GSM850	0.849	0.364	0.367	Pass
Bluetooth (BR+EDR)	2.480	0.003		

Evolution Mode	Frequency (GHz)	Power / Limit	$\Sigma(\text{Power} / \text{Limit})$ of WWAN + 2.4G WIFI	Verdict
GSM850	0.849	0.364	0.385	Pass
2.4G WIFI	2.462	0.021		

Note:

1. $\Sigma(\text{Power} / \text{Limit})$: This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for WLAN 2.4GHz+WWAN/ Bluetooth +WWAN.
2. Both of the 2.4GHz/WWAN/BT 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. The worst-case situation is 0.385 which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
4. The DUT work frequency range used is 2400 ~ 2483.5 MHz, 2412 ~ 2462 MHz and 824 ~ 849 MHz 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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--END OF REPORT--