RF MPE REPORT

Report No.:	20230717G07551X-W4
Product Name:	UAM027
Model No.:	UAM027
FCC ID:	2A68EJX-UAM027
IC:	31130-UAM027
Applicant:	Shenzhen Uascent Technology Co.,Ltd
Address:	7th Floor, Building A2, Chuangzhiyuncheng, Liuxian Avenue, Xili Community, Xili Street, Nanshan District, Shenzhen
Dates of Testing:	07/06/2023 - 07/17/2023
Issued by:	CCIC Southern Testing Co., Ltd.
Lab Location:	Electronic Testing Building, No. 43 Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China. **Tel**：86 755 26627338 **Fax**：86 755 26627238

Test Report

Product .....:	UAM027
Brand Name.....:	Uascent
Trade Name .....:	Uascent
Applicant.....:	Shenzhen Uascent Technology Co.,Ltd
Applicant Address.....:	7th Floor, Building A2, Chuangzhiyuncheng, Liuxian Avenue, Xili Community, Xili Street, Nanshan District, Shenzhen
Manufacturer .....:	shengXianZhiKongCo.,Ltd
Manufacturer Address .....:	Room 804, one of No.9 Yucheng Road, Chang'an Town, Dongguan City, Guangdong Province
Test Standards .....:	47 CFR Part 2.1091 RSS-102 Issue 5: 2015
Test Result.....:	Pass

Tested by .....:	Kim Li	2023.07.21
	Kim Li, Test Engineer	
Reviewed by .....:	Chris You	2023.07.21
	Chris You, Senior Engineer	
Approved by .....:	Yang Fan	2023.07.21
	Yang Fan, Manager	

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Change History		
Issue	Date	Reason for change
1.0	2023.07.21	First edition

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	UAM027	
Model No.	UAM027	
Hardware Version	V1.0	
Software Version	V1.0.6	
EUT supports Radios application	2.4G WIFI/BLE	
Frequency Range(Tx)	2.4G WIFI	2.412GHz ~ 2.462GHz
	BLE	2.402GHz ~ 2.480GHz
Modulation Type	2.4G WIFI	802.11b/g/n-HT20: 20MHz 802.11n-HT40: 40MHz
	BLE	GFSK
Antenna gain	2.4G WIFI	-1.3dBi
	BLE	-1.3dBi
Antenna Type	PCB Antenna	

1.2. EUT Description

EUT has been tested according to the following standards.

Standard	Test Type	Result
FCC Part 2.1091 RSS-102 Issue 5: 2015	Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)	PASS

1.3. Laboratory Facilities

FCC-Registration No.: 406086

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until Sep. 30, 2023.

ISED Registration: 11185A-1

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until Sep. 30, 2023.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

ISED CAB identifier: CN0064

1.4. Laboratory Location

Company Name:	CCIC Southern Testing Co., Ltd.
Address:	Electronic Testing Building, No. 43 Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China

2. RF exposure evaluation

2.1. MPE Limited

FCC Limited:

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

IC Limited:

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
0.003-10[21]	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
*Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

2.2. Predication of MPE limit at a given distance

Refer to formulas on page 19 of OET Bulletin 65, Edition 97-01.

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm^2)

P = power input to the antenna (in appropriate units, e.g., mW)

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna (appropriate units, e.g., cm)

2.3. Evaluation Results

Worst-Case mode Conducted Output Power Results for BLE

Mode	Mode	Frequency (MHz)	Output Power (dBm)	Tune Up tolerance(dBm)	EIRP (dBm)	EIRP Tune Up tolerance(dBm)
BLE	GFSK	2402	6.563	6±1	5.263	5±1
	GFSK	2440	6.202	6±1	4.902	4±1
	GFSK	2480	5.900	5±1	4.600	4±1

Worst-Case mode Conducted Output Power Results for 2.4G WLAN

Band	Mode	Frequency (MHz)	Output Power (dBm)	Tune Up tolerance(dBm)	EIRP (dBm)	Tune Up tolerance(dBm)
2.4G WIFI	802.11b	2412	15.66	15±1	14.36	14±1
	802.11b	2437	15.52	15±1	14.22	14±1
	802.11b	2462	15.89	15±1	14.59	14±1

Calculation results:

FCC Worst-Case mode

Band	Frequency (MHz)	Output Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Result (mW/cm2)	Power Density (mW/cm2)	Ratio
BLE	2402	7.0	-1.3	20	0.001	1.0	Pass
	2440	7.0	-1.3	20	0.001	1.0	Pass
	2480	6.0	-1.3	20	0.001	1.0	Pass
2.4G WIFI	2412	16.0	-1.3	20	0.006	1.0	Pass
	2437	16.0	-1.3	20	0.006	1.0	Pass
	2462	16.0	-1.3	20	0.006	1.0	Pass

IC Worst-Case mode

Band	Mode	Frequency (MHz)	EIRP Maximum tune up power(dBm)	RF distance (m)	Calculation results (W/m^2)	Limit (W/m^2)	Ratio
BLE	GFSK	2402	6.0	0.2	0.01	5.35	Pass
	GFSK	2440	5.0	0.2	0.01	5.41	Pass
	GFSK	2480	5.0	0.2	0.01	5.47	Pass
2.4G WIFI	802.11b	2412	15.0	0.2	0.06	5.37	Pass
	802.11b	2437	15.0	0.2	0.06	5.40	Pass
	802.11b	2462	15.0	0.2	0.06	5.44	Pass

2.4. Conclusion

The device is exclusion from FCC/ISED SAR test.

** END OF REPORT **