RF Exposure Evaluation Report

Applicant:	Autel Robotics Co., Ltd.
Address of Applicant:	9th Floor, Bldg. B1,Zhiyuan,1001 Xueyuan Rd., Xili, Nanshan, Shenzhen 518055, China

Equipment Under Test (EUT)

Product Name:	Image transmission Module
Model No.:	M240958L
Trade mark:	AUTEL ROBOTICS
FCC ID:	2AGNTMTBL
Applicable standards:	FCC CFR Title 47 Part 2 Subpart J Section 2.1091
Date of sample receipt:	13 Oct., 2021
Date of Test:	13 Oct., to 01 Nov., 2021
Date of report issue:	02 Nov., 2021
Test Result:	PASS*

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*02 Nov., 2021*	*Original*

Tested by: Mike.ou ***Date:*** *02 Nov., 2021*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *02 Nov., 2021*

Project Engineer

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4 General Information

4.1 Client Information

Applicant:	Autel Robotics Co., Ltd.
Address:	9th Floor, Bldg. B1, Zhiyuan,1001 Xueyuan Rd., Xili, Nanshan, Shenzhen 518055, China
Manufacturer/Factory:	Autel Robotics Co., Ltd.
Address:	9th Floor, Bldg. B1, Zhiyuan,1001 Xueyuan Rd., Xili, Nanshan, Shenzhen 518055, China

4.2 General Description of E.U.T.

Product Name:	Image transmission Module
Model No.:	M240958L
Operation Frequency:	5154MHz-5246MHz: 93 for 1.4MHz Bandwidth 87 for 10 MHz Bandwidth 67 for 20 MHz Bandwidth 5728.0MHz~5847.0MHz 120 for 1.4MHz Bandwidth 110 for 10 MHz Bandwidth 102 for 20 MHz Bandwidth 904.0MHz~926.0MHz: 23 for 1.4MHz Bandwidth 13 for 10 MHz Bandwidth 3 for 20 MHz Bandwidth 2403.5MHz~2475.5MHz: 71 for 1.4MHz Bandwidth 65 for 10 MHz Bandwidth 51 for 20 MHz Bandwidth
Modulation technology:	QPSK and 16QAM
Antenna Type:	External Antenna
Antenna gain:	ANT 1: 900MHz : 1.4dBi(declare by Applicant) 2.4GHz: 0.5dBi(declare by Applicant) 5.2GHz:-4.3dBi(declare by Applicant) 5.8GHz:-1.8dBi(declare by Applicant) ANT 2: 900MHz : 1.0dBi(declare by Applicant) 2.4GHz: 1.3dBi(declare by Applicant) 5.2GHz:-2.1dBi(declare by Applicant) 5.8GHz: 0dBi(declare by Applicant)
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

4.3 Operating Modes

Operating mode	Detail description
900MHz mode	Keep the EUT in continuously transmitting in 900MHz mode
2.4GHz mode	Keep the EUT in continuously transmitting in 2.4GHz mode
5.2GHz mode	Keep the EUT in continuously transmitting in 5.2GHz mode
5.8GHz mode	Keep the EUT in continuously transmitting in 5.8GHz mode

4.4 Additions to, deviations, or exclusions from the method

No

4.5 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

4.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

5 Technical Requirements Specification in FCC CFR Title 47 Part 2.1091

5.1 Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

5.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

5.3 Result

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm^2)	Limits for General Population/ Uncontrolled Exposure (mW/cm^2)
900MHz							
915	29.952	989.008	1.4	1.38	20	0.27	0.61
2.4GHz							
2412.5	29.842	964.273	1.3	1.35	20	0.26	1.0
5.2GHz							
5243	22.583	181.259	-2.1	0.62	20	0.02	1.0
5.8GHz							
5738	24.967	313.83	0	1.00	20	0.06	1.0

Note: Just the worst case mode was shown in report.

5.4 Conclusion

The device is exempt from the test and satisfies RF exposure evaluation.

------End of report------