TEST REPORT

Applicant:	Autel Robotics Co., Ltd.
Address of Applicant:	18th Floor, Block C1, Nanshan iPark, No. 1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong, 51805, China
Manufacturer:	Autel Robotics Co., Ltd.
Address of Manufacturer:	18th Floor, Block C1, Nanshan iPark, No. 1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong, 51805, China
Factory:	Autel Robotics Co., Ltd.Guangming Branch
Address of Factory:	No.701, Jixie Factory, Building 4,Yanxiang Technology Industrial Park, Gaoxin Road, Dongzhou Community, Guangming street,Guangming district, Shenzhen, Guangdong, China

Equipment Under Test (EUT)

Product Name:	EVO II V3
Model No.:	MDCV3
Trade Mark:	AUTEL ROBOTICS

Applicable standards:	Article 2, Paragraph 1, Item72
Date of sample receipt:	2022-07-07
Date of Test:	2022-08-02 to 2022-08-06
Date of report issued:	2022-08-06
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Terry Tao

Laboratory Manager

2 Version

Version No.	Date	Description
00	*Aug. 06, 2022*	*Original*

Prepared By: Andy Xiao ***Date:*** *Aug. 06, 2022*

Project Engineer

Check By: Terry Tang ***Date:*** *Aug. 06, 2022*

Reviewer

3 Contents

4 Test Summary

Test Item	Result
RF shielding method	Pass
Frequency Error	Pass
Antenna Power and EIRP	Pass
Occupied bandwidth	Pass
Adjacent Channel Leakage Power	Pass
Unwanted Emissions Strength	Pass
Secondary radiated emissions	Pass
Interference suppression	Pass

Note:

1. *"Pass": The EUT complies with the carrier sense capability and radio interference prevention capability.*
2. *"*" : This product is a slave device, and it's conform to bellow requirement.*
   a) It can choose the frequency which transmits automatically by the control from a master station.
   b) Transmission and a stop of radio wave are performed by the control from a master station.

5 General Information

5.1 General Description of EUT

Product Name:	EVO II V3
Model No.:	MDCV3
Product Mix. Description:	Refer to table 1 and table 2.
Hardware Version:	MODEL C_CORE-ADV_V2
Software Version:	Modem_V2.3.8_SP8_1_20220414_128M
Operation Frequency:	1.4MHz:5652.5MHz ~ 5752.5MHz; 10MHz:5655MHz ~ 5750MHz; 20MHz:5660MHz ~ 5745MHz
Channel Bandwidth:	1.4MHz, 10MHz, 20MHz
Channel numbers:	1.4MHz:21channels; 10MHz: 10channels; 20MHz: 5channels.
Channel Separation:	1.4MHz:5M; 10MHz: 10M; 20MHz: 20M.
Modulation Type:	QPSK, 16QAM
Rated power:	900mW
Antenna Specification:	Integral antennas
Antenna Gain:	ANT1 :5.2dBi; ANT2 :3.9dBi;
Power supply:	Battery: DC11.5V, 7100mAh Li-ion battery
Adapter:	Model No.:XA3_1320 Input: AC100-240V, 50/60Hz, 1.5A; Output: DC13.2V, 5.0A(Main) DC5.0V, 3.0A; 9V,2A; 12V,1.5A

Tabel1：

Product Name	Product Mix. Description	Model	Description
EVO II V3	EVO II Pro V3	MDCV3	Quadcopter equipped with an 1-inch CMOS sensor which can shoot up to 6K video.
	EVO II Pro RTK V3	MDCV3	Quadcopter equipped with a 6K camera and a RTK module which has centimeter-level positioning accuracy.
	EVO II Pro Enterprise V3	MDCV3	Quadcopter equipped with a 6K camera and compatible with four kinds of enterprise accessories (Spotlight, Loudspeaker, Strobe, RTK Module).
	EVO II DUAL 640T V3	MDCV3	Quadcopter equipped with a 4K camera and a thermal camera.
	EVO II DUAL 640T RTK V3	MDCV3	Quadcopter equipped with a 4K camera, a thermal camera and a RTK module which has centimeter-level positioning accuracy.
	EVO II DUAL 640T Enterprise V3	MDCV3	Quadcopter equipped with a 4K camera, a thermal camera and compatible with four kinds of enterprise accessories (Spotlight, Loudspeaker, Strobe, RTK Module).

Tabel2：

Accessories		
Product Name	Model	Description
Spotlight	SL1	Lights up the way in night operations or low-light conditions.
Loudspeaker	LP1	Stores multiple voice recordings and plays clips on loop, and allows the command center to speak to ground teams during emergency situations for efficient operations.
Strobe	ST1	Indicates the location of the aircraft at night to comply with night-ops regulations.
RTK Module	RTK1	Supports NTRIP and is capable of centimeter-level positioning accuracy.

1.4MHz：21channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	5652.5	10	5697.5
2	5657.5	……	……
……	……	……	……
……	……	20	5747.5
9	5692.5	21	5752.5

10MHz: 10channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	5655	6	5705
2	5665	……	……
……	……	……	……
……	……	9	5740
5	5695	10	5750

20MHz: 5channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	5660	……	……
2	5680	……	……
3	5700	……	……
4	5720	……	……
5	5745	……	……

Test Frequency

Bandwidth	Frequency(MHz)		
	Lowest channel	Middle channel	Highest channel
1.4MHz	5652.5	5697.5	5752.5
10MHz	5655	5705	5750
20MHz	5660	5700	5745

5.2 Test mode

Software is used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

5.3 Test condition

Note: The EUT has its own voltage regulator principle from ETA8113S2G, the output voltage of the chip is 3.3V and the fluctuation of power supply to the RF circuit of EUT is equal to or less than +/- 1%. So exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulations.

Normal power supply	RF IC power supply	Deviation from normal	Deviation
DC 11.55V	3.3V	-	-
Temperature:	25 ˚C		
Humidity:	52 %		
Atmospheric Pressure	1010mbar		

5.4 Test Facility

The testing quality ability of our laboratory meet with “Quality Law of People’s Republic of China” Clause 19.
The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAL-LAB Code: L2292
The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189
The 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. Registration No.: 744189.

Industry Canada (IC) —Registration No.:5205A
The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)
The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

5.5 Test Location

All tests were performed at:

SHENZHEN TIMEWAY TESTING LABORATORIES
Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China
Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

5.6 Other Information Requested by the Customer

None.

5.7 Test Instruments list

Radio conducted test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Radio Test Software	TST	V2	CST210	Oct. 15, 2021	Oct. 14, 2022
2	TST PASS RF control box V2	TST	V2	CST210	Oct. 15, 2021	Oct. 14, 2022
3	Power measuring unit	TST	V2	CST210	Oct. 15, 2021	Oct. 14, 2022
4	Automatic path switching module	TST	V2	CST210	Oct. 15, 2021	Oct. 14, 2022
5	Spectrum Analyzer	Agilent	N9020A	CST001	Oct. 15, 2021	Oct. 14, 2022
6	Signal Generator	Agilent	N5182A	CST211	Oct. 15, 2021	Oct. 14, 2022
7	Signal Generator	Agilent	N5181A	CST212	Oct. 15, 2021	Oct. 14, 2022
8	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW200	CST002	Oct. 15, 2021	Oct. 14, 2022
9	Splitter	Agilent	11636B	CST213	Oct. 15, 2021	Oct. 14, 2022
10	Power Attenuator	BTI	30dB/250W	CST216	Oct. 15, 2021	Oct. 14, 2022
11	Power Attenuator	BTI	20dB	CST217	Oct. 15, 2021	Oct. 14, 2022
12	D.C. Power Supply	Gwinstek	GPC-3060D	CST018	Oct. 15, 2021	Oct. 14, 2022
13	Coaxial Cable	CST	N/A	CST219	Oct. 15, 2021	Oct. 14, 2022
14	Coaxial Cable	CST	N/A	CST220	Oct. 15, 2021	Oct. 14, 2022
15	Coaxial cable	CST	N/A	CST222	Oct. 15, 2021	Oct. 14, 2022
16	Coaxial Cable	CST	N/A	CST223	Oct. 15, 2021	Oct. 14, 2022
17	Temperature and humidity box	ATOINSTRUMENT	ATH-2254-CP	CST026	Oct. 15, 2021	Oct. 14, 2022
18	Temperature and humidity meter	GEMLEAD	STH130	CST042	Oct. 15, 2021	Oct. 14, 2022
19	Digital oscilloscope	Tektronix	TDS3032B	CST045	Oct. 15, 2021	Oct. 14, 2022

Remark: all above equipments were calibrated by CEPREI calibration and testing center.

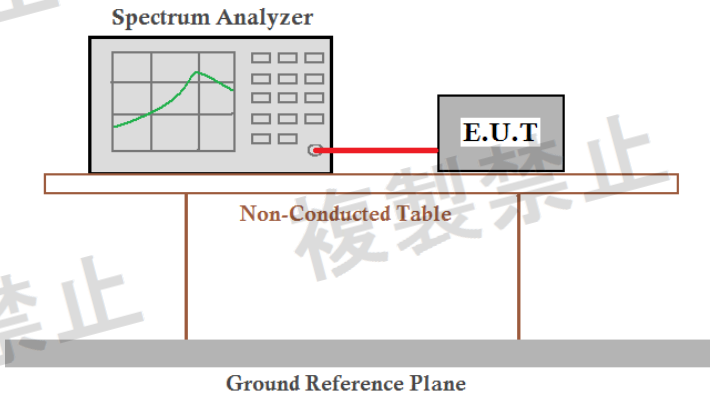
5.8 Measurement uncertainty

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR100028-1 [2] and shall correspond to an expansion factor (coverage factor) K=1.96 or K=2 (which provide confidence levels of respectively 95% and 95.5% in the case where the distributions characterizing the actual measurement uncertainties are normal.

Parameter	Uncertainty
RF frequency	+/-6*10^{-7}
Total RF power, conducted	+/-0.8dB
Spurious emissions, conducted	+/-0.8dB
DC and low frequency voltages	+/-3%
Humidity	+/-5%
Temperature	+/-1˚C

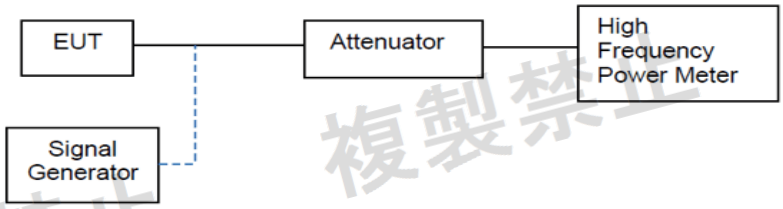
6 Test results and Measurement Data

6.1 Frequency Error

Test condition:	Without modulation, continuously transmitting
Spectrum set:	Test Frequency: test channel, RBW=VBW=10KHz, Span=1MHz, Sweep time=Auto, Detector mode=Positive peak
Limit:	±20ppm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

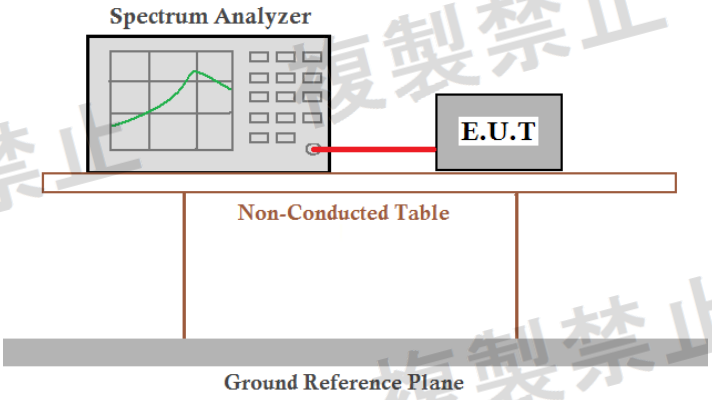
Measurement Data: Please refer to Appendix A.

6.2 Antenna Power and EIRP

Test condition:	Test diffusion code and modulate with standard coding test signal
Spectrum set:	a) The EUT is connected to the input port of the high frequency power meter through the attenuator and the transmit frequency is set. b) Remove the EUT and put the replacing signal generator (SG). Set the signal generator (SG) at same frequency and transmit on, the set SG output power at Pt to give the equivalent output level of “E”. c) Calculate antenna power density by the formula below PD=Pt+10*log(1/x). x: The duty cycle of the EUT in continuously transmitting mode Pt: Output power of the SG d) Antenna Power Error is definition that actual measure antenna power tolerance between+20% to -80% power range that base on manufacturer declare the conducted power density.
Limit:	Antenna power 1W or less -50% to +50% Tolerance EIRP: 36dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

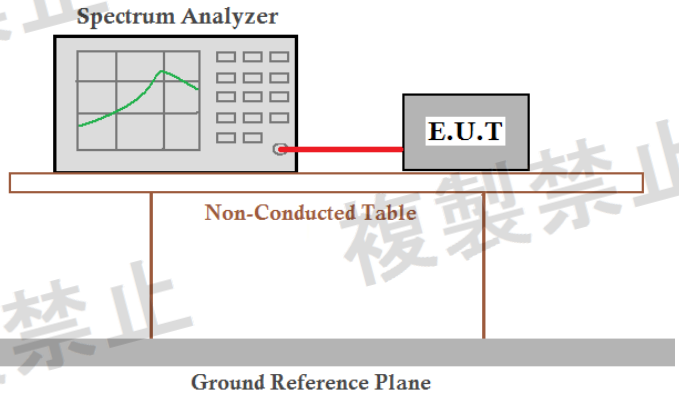
Measurement Data: Please refer to Appendix A.

6.3 Occupy Bandwidth (99%)

Test condition:	Test diffusion code and modulate with standard coding test signal
Spectrum set:	Test Frequency: test channel, Span=2~3.5OBW RBW= 1%OBW VBW≥RBW Sweep time=Auto, Detector mode=Positive peak
Limit:	For 1.4MHz ≤1.2MHz; For 5MHz: ≤4.5MHz; For 10MHz: ≤9MHz; For 20MHz: ≤19.7MHz;
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Transmitting mode
Test results:	Pass

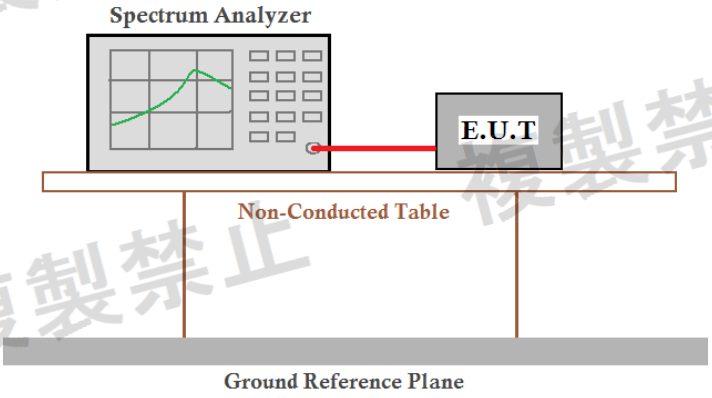
Measurement Data: Please refer to Appendix A.

6.4 Adjacent Channel Power Tolerance

Test condition:	Test diffusion code and modulate with standard coding test signal
Spectrum set:	Test Frequency: test channel, RBW=VBW=100KHz for 5MHz and 10MHz bandwidth RBW=VBW=300KHz for 20MHz bandwidth Detector mode=Peak or Sample, Sweep time=auto
Limit:	**For 4.5MHz or less bandwidth** ≥-25dBc, fc ±(2.75-7.25)MHz ≥-40dBc, fc ±(7.75-12.25)MHz **For 4.5MHz<BW≤9MHz bandwidth** ≥-25dBc, fc ±(5.5-14.5)MHz ≥-40dBc, fc ±(15.5-24.5)MHz **For 9MHz<BW≤19.7MHz bandwidth** ≥-25dBc, fc ±(10.5-29.5)MHz ≥-40dBc, fc ±(30.5-49.5)MHz
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

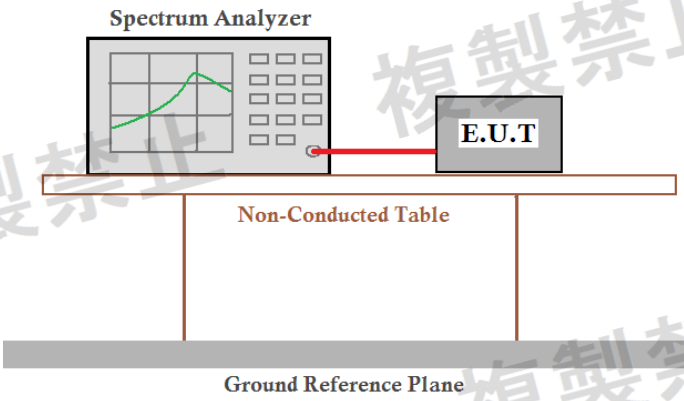
Measurement Data: Please refer to Appendix A.

6.5 Unwanted Emission Strength

Test condition:	Test diffusion code and modulate with standard coding test signal
Measurement procedure:	**Step 1** All spurious are measured from 30MHz to 26GHz by peak mode. **Step 2** If the value measured by Step1 is 3dB or less to the limit, measure in average mode.
Spectrum set:	**Step 1:** Test Frequency: test channel, RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Positive peak **Step 2:** Test Frequency: spurious frequency RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Sample, Span=0Hz
Limit:	**Bandwidth: 4.5MHz or less** ≤0.63uW/MHz (less than 5590MHz) ≤3uW/MHz (5590MHz~5630MHz) ≤6.3uW/MHz (5630MHz~5640MHz) ≤6.3uW/MHz (5765MHz~5775MHz) ≤3uW/MHz (5775MHz~5815MHz) ≤0.63uW/MHz (Over 5815MHz) **Bandwidth: 4.5(<) ~(≤)19.7MHz** ≤0.63uW/MHz (less than 5590MHz) ≤3uW/MHz (5590MHz~5630MHz) ≤3uW/MHz (5775MHz~5815MHz) ≤0.63uW/MHz (Over 5815MHz)
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

Measurement Data: Please refer to Appendix A.

6.6 Secondary radiated emissions

Test condition:	Receiving mode
Measurement procedure:	**Step 1** All spurious are measured from 30MHz to 26GHz by peak mode. **Step 2** If the value measured by Step1 is 3dB or less to the limit, measure in average mode.
Spectrum set:	**Step 1:** Test Frequency: test channel, Below 1GHz, RBW=VBW=100KHz; Above 1GHz, RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Positive peak **Step 2:** Test Frequency: spurious frequency Test Frequency: test channel, Below 1GHz, RBW=VBW=100KHz; Above 1GHz, RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Sample, Span=0Hz
Limit:	Below 1GHz: 4.0nW or less Above 1GHz: 20nW or less
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

Measurement Data: Please refer to Appendix A.

6.7 Interference suppression

Measurement procedure:	(1) The radio equipment with automatic transmitting function of identification code a) Transmit the assigned identification code from the radio equipment. b) Confirm the identification code received by the demodulator. (2) The radio equipment with automatic receiving function of identification code a) Transmit the assigned identification code from the opposite equipment. b) Confirm that the usual communication is available. c) Transmit the identification code distinct from the assigned one from the opposite equipment. d) Confirm that the radio equipment is stopped or an indication is displayed as the identification code is different.
Test setup:	Radio equipment — Dummy load Attenuator) — Demodulator
Test Instruments:	Refer to section 5.7 for details
Test results:	Pass

Measurement data:

Identification function:	Good MAC Address is 1A-6E-CF-6A-58-3B.

7 Test Setup Photo

Reference to the **appendix I** for details

8 EUT Constructional Details

Reference to the **appendix II** for details

------End------