



RF Exposure Evaluation Report

Application No.: DNT2507110278R7428-14410
Applicant: Autel Robotics Co., Ltd.
Address of Applicant: 601,701,801,901, Block B1, Nanshan iPark, No. 1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong, 518055, China
EUT Description: Nest
Model No.: Nest
Additional Model(s): /
FCC ID: 2AGNTNEST
Power supply Input DC 5V; DC 3.7V from rechargeable lithium-ion battery
Trade Mark: AUTEL ROBOTICS
47 CFR Part 2.1091
Standards: FCC KDB 447498 D01 v06
Date of Receipt: 2025/07/11
Date of Test: 2025/07/12 to 2025/10/20
Date of Issue: 2025/10/24
Test Result: **PASS**

Prepared By: Wayne Lin (Testing Engineer)

Reviewed By: Pengfei Chen (Project Engineer)

Approved By: Heise Chen (Manager)



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Nov.07, 2024	Valid	Original Report



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1 General Information

1.1 Test Location

Company:	Dongguan DN Testing Co., Ltd
Address:	No. 1, West Fourth Street, South Xinfu Road, Wusha Liwu, Chang 'an Town, Dongguan City, Guangdong P.R.China
Test engineer:	Wayne Lin

1.2 General Description of EUT

Manufacturer:	Autel Robotics Co., Ltd.
Address of Manufacturer:	601,701,801,901, Block B1, Nanshan iPark, No. 1001 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong, 518055, China
EUT Description:	Nest
Model No.:	Nest
Additional Model(s):	/
Power Supply:	DC 12V
Trade Mark:	AUTEL ROBOTICS
Hardware Version:	V1.0
Software Version:	V1.0
Chip Type:	AP6256
Serial number	PR2507010412R6904
Sample Type:	☒ Portable Device, ☐ Module, ☐ Mobile Device
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports:	☒ Ant 1, ☐ Ant 2, ☐ Ant 3
Antenna Gain:	☒ Provided by applicant
	2.4GWIFI Ant1 : 2.94 dBi; 5GWIF Ant1:3.37dBi; 900M transfer image: PCB Ant1/2: -0.77dBi External Ant1/2 : 5dBi 2.4G transfer image: PCB Ant1/2 : 2.94dBi; External Ant1/2 : 5dBi; 5G Transfer Image: PCB Ant1/2: 3.37dBi External Ant1/2:5GdBi
Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.	



2 RF Exposure Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Limits

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

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



2.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

2.1.3 EUT RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.0 / 2.0 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

2.4G wifi

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)	
			ANT1	Limit
802.11b	SISO	2412	21.33	<=29.3
		2437	21.71	<=29.3
		2462	21.53	<=29.3
802.11g	SISO	2412	15.40	<=29.3
		2437	15.59	<=29.3
		2462	15.50	<=29.3
802.11n (HT20)	SISO	2412	16.95	<=29.3
		2437	17.16	<=29.3
		2462	16.99	<=29.3

**900M transfer image****For External Antenna**

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	904	22.15	21.08	24.66	<=30
		915	21.92	20.22	24.16	<=30
		926	22.45	19.31	24.17	<=30
16QAM 1.4MHz	MIMO	904	22.13	21.05	24.63	<=30
		915	21.90	20.18	24.13	<=30
		926	22.21	19.15	23.95	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	909	22.45	20.66	24.66	<=30
		915	22.58	20.61	24.72	<=30
		921	22.58	20.21	24.57	<=30
16QAM 10MHz	MIMO	909	22.53	20.78	24.75	<=30
		915	22.53	20.59	24.68	<=30
		921	22.53	20.19	24.53	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	914	22.47	21.16	24.87	<=30
		915	22.25	20.24	24.37	<=30
		916	22.16	20.03	24.23	<=30
16QAM 20MHz	MIMO	914	22.38	21.12	24.81	<=30
		915	22.15	20.13	24.27	<=30
		916	22.11	20.03	24.20	<=30



For PCB Antenna

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	904	22.32	21.25	24.83	<=30
		915	21.64	19.94	23.88	<=30
		926	22.28	19.14	24.00	<=30
16QAM 1.4MHz	MIMO	904	22.14	21.06	24.64	<=30
		915	21.66	19.94	23.89	<=30
		926	22.00	18.94	23.74	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	909	22.41	20.62	24.62	<=30
		915	22.41	20.44	24.55	<=30
		921	22.25	19.88	24.24	<=30
16QAM 10MHz	MIMO	909	22.27	20.52	24.49	<=30
		915	22.22	20.28	24.37	<=30
		921	22.28	19.94	24.28	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	914	22.82	21.01	25.02	<=30
		915	22.06	20.05	24.18	<=30
		916	21.91	19.78	23.98	<=30
16QAM 20MHz	MIMO	914	22.65	20.89	24.87	<=30
		915	22.04	20.02	24.16	<=30
		916	21.93	19.85	24.02	<=30

**2.4G transfer image**

For External Antenna

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	2403.5	22.02	24.44	26.41	<=30
		2439.5	22.68	23.25	25.98	<=30
		2475.5	22.27	24.54	26.56	<=30
16QAM 1.4MHz	MIMO	2403.5	22.03	24.47	26.43	<=30
		2439.5	21.73	24.15	26.12	<=30
		2475.5	22.29	24.48	26.53	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	2407.5	23.88	25.37	27.70	<=30
		2439.5	22.91	24.57	26.83	<=30
		2471.5	23.62	24.77	27.24	<=30
16QAM 10MHz	MIMO	2407.5	23.82	25.36	27.67	<=30
		2439.5	23.34	24.96	27.24	<=30
		2471.5	23.25	24.08	26.70	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	2412.5	23.75	25.29	27.60	<=30
		2439.5	23.15	24.63	26.96	<=30
		2462.5	22.88	24.06	26.52	<=30
16QAM 20MHz	MIMO	2412.5	23.70	25.30	27.58	<=30
		2439.5	23.13	24.60	26.94	<=30
		2462.5	22.92	24.22	26.63	<=30



For PCB Antenna

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	2403.5	21.74	24.16	26.13	<=30
		2439.5	22.53	23.10	25.83	<=30
		2475.5	21.94	24.21	26.23	<=30
16QAM 1.4MHz	MIMO	2403.5	21.82	24.26	26.22	<=30
		2439.5	21.64	24.06	26.03	<=30
		2475.5	22.12	24.31	26.13	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	2407.5	23.73	25.22	27.55	<=30
		2439.5	22.69	24.35	26.61	<=30
		2471.5	23.51	24.66	27.13	<=30
16QAM 10MHz	MIMO	2407.5	23.64	25.18	27.49	<=30
		2439.5	23.02	24.64	26.92	<=30
		2471.5	23.18	24.01	26.63	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	2412.5	23.67	25.21	27.52	<=30
		2439.5	22.91	24.39	26.72	<=30
		2462.5	22.71	23.89	26.35	<=30
16QAM 20MHz	MIMO	2412.5	23.38	24.98	27.26	<=30
		2439.5	22.88	24.35	26.69	<=30
		2462.5	22.80	24.10	26.51	<=30



5G wifi

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)	
			ANT1	Limit
802.11a	SISO	5180	14.73	<=30
		5200	14.73	<=30
		5240	14.26	<=30
		5745	15.14	<=30
		5785	14.94	<=30
		5825	14.79	<=30
802.11n (HT20)	SISO	5180	15.25	<=30
		5200	15.35	<=30
		5240	15.03	<=30
		5745	13.91	<=30
		5785	13.74	<=30
		5825	13.54	<=30
802.11n (HT40)	SISO	5190	14.60	<=30
		5230	14.33	<=30
		5755	14.65	<=30
		5795	14.38	<=30
802.11ac (VHT20)	SISO	5180	14.11	<=30
		5200	14.06	<=30
		5240	13.52	<=30
		5745	14.59	<=30
		5785	14.47	<=30
		5825	14.33	<=30
802.11ac (VHT40)	SISO	5190	13.07	<=30
		5230	12.78	<=30
		5755	13.96	<=30
		5795	13.66	<=30
802.11ac (VHT80)	SISO	5210	13.01	<=30
		5775	13.63	<=30



5G transfer image

For external antenna

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	5154	12.40	13.26	15.86	<=30
		5200	12.49	12.79	15.65	<=30
		5246	12.04	12.75	15.42	<=30
16QAM 1.4MHz	MIMO	5154	11.72	12.54	15.16	<=30
		5200	11.90	12.24	15.08	<=30
		5246	11.34	12.05	14.72	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	5157	12.42	13.32	15.90	<=30
		5200	12.59	12.84	15.73	<=30
		5243	12.37	13.12	15.77	<=30
16QAM 10MHz	MIMO	5157	12.04	12.96	15.53	<=30
		5200	12.44	13.02	15.75	<=30
		5243	12.12	12.96	15.57	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	5167	12.39	13.26	15.86	<=30
		5200	12.32	12.99	15.68	<=30
		5233	11.57	12.29	14.96	<=30
16QAM 20MHz	MIMO	5167	11.97	12.64	15.33	<=30
		5200	11.73	12.31	15.04	<=30
		5233	10.99	11.48	14.25	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	5728	21.78	24.23	26.19	<=30
		5788	21.36	23.79	25.75	<=30
		5847	20.71	22.55	24.74	<=30
16QAM 1.4MHz	MIMO	5728	22.16	24.23	26.33	<=30
		5788	21.29	23.85	25.77	<=30
		5847	20.67	22.54	24.72	<=30



Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	5733	21.94	22.85	25.43	<=30
		5788	20.95	22.31	24.69	<=30
		5842	20.31	21.29	23.84	<=30
16QAM 10MHz	MIMO	5733	21.94	22.91	25.46	<=30
		5788	20.92	22.29	24.67	<=30
		5842	20.32	21.27	23.83	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	5738	22.26	23.22	25.78	<=30
		5789	21.33	22.58	25.01	<=30
		5839	20.61	21.50	24.09	<=30
16QAM 20MHz	MIMO	5738	22.24	23.17	25.74	<=30
		5789	21.34	22.54	24.99	<=30
		5839	20.66	21.57	24.15	<=30

For PCB antenna

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	5154	12.30	13.16	15.76	<=30
		5200	12.25	12.55	15.41	<=30
		5246	11.93	12.64	15.31	<=30
16QAM 1.4MHz	MIMO	5154	11.46	12.28	14.90	<=30
		5200	11.71	12.05	14.89	<=30
		5246	11.09	11.80	14.47	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	5157	12.31	13.21	15.79	<=30
		5200	12.31	12.56	15.45	<=30
		5243	12.14	12.89	15.54	<=30
16QAM 10MHz	MIMO	5157	11.89	12.81	15.38	<=30
		5200	12.17	12.75	15.48	<=30
		5243	12.00	12.84	15.45	<=30



Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	5167	12.26	13.13	15.73	<=30
		5200	12.07	12.74	15.43	<=30
		5233	11.40	12.12	14.79	<=30
16QAM 20MHz	MIMO	5167	11.75	12.42	15.11	<=30
		5200	11.52	12.10	14.83	<=30
		5233	10.85	11.34	14.11	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 1.4MHz	MIMO	5728	20.45	22.90	24.86	<=30
		5788	20.02	22.45	24.41	<=30
		5847	19.42	21.26	23.45	<=30
16QAM 1.4MHz	MIMO	5728	20.83	22.90	25.00	<=30
		5788	19.92	22.48	24.40	<=30
		5847	19.36	21.23	23.41	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 10MHz	MIMO	5733	21.66	22.57	25.15	<=30
		5788	20.62	21.98	24.36	<=30
		5842	20.03	21.01	23.56	<=30
16QAM 10MHz	MIMO	5733	21.67	22.64	25.19	<=30
		5788	20.60	21.97	24.35	<=30
		5842	20.08	21.03	23.59	<=30

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)			
			ANT1	ANT2	MIMO	Limit
QPSK 20MHz	MIMO	5738	21.67	22.63	25.19	<=30
		5789	20.66	21.91	24.34	<=30
		5839	19.93	20.82	23.41	<=30
16QAM 20MHz	MIMO	5738	21.55	22.48	25.05	<=30
		5789	20.68	21.88	24.33	<=30
		5839	20.15	21.02	23.60	<=30



The Worst Mode	Antenna	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm²)	Limited of Power Density (S) (mW /cm²)	Test Result	Distance (cm)
					(dBi)	(Linear)				
2.4G WIFI										
11B (2.4GWIFI)	Ant1	21.71	21±1	22	2.94	1.968	0.0620	1	Complies	20
900 M Transmitter										
QPSK 20MHz	Ant1	22.82	22±1	23	-0.77	0.838	0.0332	0.603	Complies	20
	Ant2	21.01	21±1	22	-0.77	0.838	0.0264	0.603	Complies	20
2.4G Transmitter										
QPSK 10MHz	Ant1	23.88	23±1	24	2.94	1.968	0.0983	1	Complies	20
	Ant2	25.37	25±1	25	2.94	1.968	0.1238	1	Complies	20
5GWIFI										
11n(HT40)	Ant1	15.35	15±1	16	3.37	2.173	0.0172	1	Complies	20
5G Transmitter										
16QAM 1.4MHz	Ant1	22.16	22±1	23	5	3.162	0.1255	1	Complies	20
	Ant2	24.23	24±1	25	5	3.162	0.1989	1	Complies	20

2.4GWIFI+900 M Transmitter+2.4G Transmitter+5GWIFI+5G Transmitter:

Total Radio=0.0620+0.055+0.0438+0.0983+0.1238+0.0172+0.1255+0.1989=0.7245,

The result less than 1, so complies

Note:Limit(900 M Transmitter)=904/1500=0.603, We chose 904 MHz because a lower frequency has a lower limit value.

The End Report