



FCC Test Report

Application No.: DNT2507110278R7428-13374

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

FCC ID: 2AGNTNEST

Power Supply DC 12V

Trade Mark: AUTEL ROBOTICS

47 CFR FCC Part 2, Subpart J
47 CFR Part 15, Subpart C

Standards: RSS-247 Issue 4: July 24,2025
RSS-Gen Issue 5: April 2018
ANSI C63.10: 2020

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: Peiyi 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.

Dongguan DN Testing Co., Ltd.

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Oct.24, 2025	Valid	Original Report



1 Test Summary

Test Item	Test Requirement	Test Method	Test Result	Result
Antenna Requirement	15.203/247(b)	--	Clause 3.1	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10: 2020	Clause 3.2	/
Duty Cycle	--	--	Clause 3.3	/
DTS (6 dB) Bandwidth	15.247 (a)(2)	ANSI C63.10: 2020	Clause 3.4	/
Conducted Output Power	15.247 (b)(3)	ANSI C63.10: 2020	Clause 3.5	/
Power Spectral Density	15.247 (e)	ANSI C63.10: 2020	Clause 3.6	/
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10: 2020	Clause 3.7	/
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10: 2020	Clause 3.8	/
Radiated Spurious Emissions	15.247(d);15.205/15.209	ANSI C63.10: 2020	Clause 3.9	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d);15.205/15.209	ANSI C63.10: 2020	Clause 3.10	/

Note:

1. "N/A" denotes test is not applicable in this test report.



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2 General Information

2.1 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



2.2 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
Test Model No.:	Nest
Additional Model(s):	/
Power Supply:	DC 12V
Trade Mark:	AUTEL ROBOTICS
Hardware Version:	N/A
Software Version:	N/A
Chip Type:	AP6256
Serial number	PR2412130287R5662
Mode Supported	☒ 802.11b (20 MHz channel bandwidth), ☒ 802.11g (20 MHz channel bandwidth) ☒ 802.11n HT(20 MHz channel bandwidth), ☒ 900M transfer image ☒ 2.4G transfer image
Operation Frequency:	2400 MHz -2483.5MHz; 902-928MHz;
Type of Modulation:	IEEE for 802.11b: DSSS IEEE for 802.11g : OFDM IEEE for 802.11n(HT20) : OFDM 900M/2.4G transfer image: QPSK,16QAM
Sample Type:	☐ Portable Device, ☐ Module, ☒ Mobile Device
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports	☐ Ant 1, ☐ Ant 2, ☐ Ant 3, ☐ Ant 4, ☒ Ant 5
Smart System	☐ SISO (for 802.11b/g/n/ax), ☒ MIMO (for 802.11 b/g/n) ☐ Diversity (for 802.11b/g)
Antenna Gain*:	☒ Provided by applicant
	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; 2.4GWIFI Ant1 : 2.94 dBi
RF Cable*:	☒ Provided by applicant
	0.5dB(0.6~1GHz); 0.8dB(1.4~2GHz); 1.0dB(2.1~2.7GHz); 1.5dB(3~4GHz); 1.8dB(4.4~6GHz);



Remark:

*All models are just color differences, motherboard, PCB circuit board, chip, electronic components, appearance is all the same.

*Since the above data and/or information is provided by the applicant 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.

2.3 Channel List

Operation Frequency of each channel (802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

900M 1.4MHz: 23channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	904	12	916
2	905	.....	.....
.....			
.....	.....	22	925
11	915	23	926

900M 10MHz: 13channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	909	8	916
2	910	.....	.....
.....			
.....	.....	12	920
7	915	13	921

900M 20MHz: 3channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	914	/	/
2	915	/	/
3	916	/	/

**2.4G 1.4MHz: 73channels**

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2403.5	36	2439.5
2	2404.5	.....	.....
.....			
.....	.....	72	2474.5
35	2438.5	73	2475.5

2.4G 10MHz: 65channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2407.5	33	2439.5
2	2408.5	.....	.....
.....			
.....	.....	64	2470.5
32	2438.5	65	2471.5

2.4G 20MHz: 51channels

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412.5	33	2437.5
2	2413.5	.....	.....
.....			
.....	.....	50	2461.5
25	2436.5	51	2462.5

2.4 Test Environment and Mode

Operating Environment:	
Temperature:	20~25.0 °C
Humidity:	45~56 % RH
Atmospheric Pressure:	101.0~101.30 KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.



2.5 Power Setting of Test Software

For 900M transfer image and 2.4G transfer image

Test Mode	Power Level Setting defined by Manufacturer		
Test software	RRTL6.0.0_VCOM		
Frequency (MHz)	904	915	926
QPSK 1.4MHz	Default	Default	Default
16QAM 1.4MHz	Default	Default	Default
Frequency (MHz)	909	915	921
QPSK 10MHz	Default	Default	Default
16QAM 10MHz	Default	Default	Default
Frequency (MHz)	914	915	916
QPSK 20MHz	Default	Default	Default
16QAM 20MHz	Default	Default	Default
Frequency (MHz)	2403.5	2438.5	2475.5
QPSK 1.4MHz	Default	Default	Default
16QAM 1.4MHz	Default	Default	Default
Frequency (MHz)	2407.5	2438.5	2471.5
QPSK 10MHz	Default	Default	Default
16QAM 10MHz	Default	Default	Default
Frequency (MHz)	2412.5	2436.5	2462.5
QPSK 20MHz	Default	Default	Default
16QAM 20MHz	Default	Default	Default

For 2.4G Wifi

Test Mode	Power Level Setting defined by Manufacturer		
Test software	SecureCRT		
Frequency (MHz)	2412	2442	2462
802.11b	Default	Default	Default
802.11g	Default	Default	Default
802.11n20	Default	Default	Default

2.6 Description of Support Units

The EUT has been tested independent unit.



2.7 Test Facility

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

Lab A:

• **FCC, USA**

Designation Number: CN1348

• **A2LA (Certificate No. 7050.01)**

DONGGUAN DN TESTING CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7050.01.

• **Innovation, Science and Economic Development Canada**

DONGGUAN DN TESTING CO., LTD. EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier is CN0149.

IC#: 30755.

2.8 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	DTS Bandwidth	$\pm 0.0196\%$
2	Maximum Conducted Output Power	± 0.686 dB
3	Maximum Power Spectral Density Level	± 0.743 dB
4	Band-edge Compliance	± 1.328 dB
5	Unwanted Emissions In Non-restricted Freq Bands	9KHz-1GHz: ± 0.746 dB 1GHz-26GHz: ± 1.328 dB

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0 dB (150kHz to 30MHz)
2	Radiated Emission	± 4.8 dB (Below 1GHz)
		± 4.8 dB (1GHz to 6GHz)
		± 4.5 dB (6GHz to 18GHz)
		± 5.02 dB (Above 18GHz)



2.9 Equipment List

For Connect EUT Antenna Terminal Test					
Description	Manufacturer	Model	Serial Number	Cal date	Due date
Signal Generator	Keysight	N5181A-6G	MY48180415	2024-10-23	2025-10-22
Signal Generator	Keysight	N5182B	MY57300617	2024-10-23	2025-10-22
Power supply	Keysight	E3640A	ZB2022656	2024-10-23	2025-10-22
Radio Communication Tester	R&S	CMW500	105082	2024-10-23	2025-10-22
Spectrum Analyzer	Aglient	N9010A	MY52220200	2024-10-23	2025-10-22
BT/WIFI Test Software	Tonscend	JS1120 V3.1.83	NA	NA	NA
RF Control Unit	Tonscend	JS0806-2	22F8060581	NA	NA
Power Sensor	Anritsu	ML2495A	2129005	2024-10-23	2025-10-22
Pulse Power Sensor	Anritsu	MA2411B	1911397	2024-10-23	2025-10-22
temperature and humidity box	SCOTEK	SCD-C40-80PRO	6866682020008	2024-10-23	2025-10-22
RF Cable	ETS-LINDGREN	RFC-NMS-100-NMS-350-IN	NA	2024-10-23	2025-10-22

Test Equipment for Conducted Emission					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Receiver	R&S	ESCI3	101152	2024-10-23	2025-10-22
LISN	R&S	ENV216	102874	2024-10-23	2025-10-22
ISN	R&S	ENY81-CA6	1309.8590.03	2024-10-23	2025-10-22
RF Cable	ETS-LINDGREN	Cable-CE TS01	/	2024-10-23	2025-10-22

Test Equipment for Radiated Emission(30MHz-1000MHz)					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Receiver	R&S	ESR7	102497	2024-10-23	2025-10-22
Test Software	ETS-LINDGREN	TiLE-FULL	NA	NA	NA
RF Cable	ETS-LINDGREN	RE Cable-TS01	NA	2024-10-23	2025-10-22
Log periodic antenna	ETS-LINDGREN	VULB 9168	01475	2022-11-28	2025-11-27
Pre-amplifier	Schwarzbeck	BBV9743B	00423	2024-10-23	2025-10-22



Attenuator 1	Shanghai Huaxiang	TS2-6-18-A	22061803	2025-5-6	2026-5-5
Attenuator 2	Shanghai Huaxiang	TS2-6-6-A	230927163	2025-5-6	2026-5-5

Test Equipment for Radiated Emission(Above 1000MHz)					
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Frequency analyser	Keysight	N9010A	MY52221458	2024-10-23	2025-10-22
RF Cable	ETS-LINDGREN	RE Cable-TS02	NA	2024-10-23	2025-10-22
Horn Antenna	ETS-LINDGREN	3117	00252567	2022-11-28	2025-11-27
Double ridged waveguide antenna	ETS-LINDGREN	3116C	00251780	2022-11-28	2025-11-27
Test Software	ETS-LINDGREN	TILE-FULL	NA	NA	NA
Pre-amplifier	ETS-LINDGREN	3117-PA	252567	2024-10-23	2025-10-22
Pre-amplifier	ETS-LINDGREN	3116C-PA	251780	2024-10-23	2025-10-22

2.10 Assistant equipment used for test

Code	Equipment	Manufacturer	Model No.	Equipment No.
1	Adapter	GaoFanDe	GFDQ3-0502000U	NA
2	Computer	acer	N22C8	EMC notebook01



3 Test results and Measurement Data

3.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The antenna is externally connected to the motherboard, The best case gain of the antenna is 5dBi.	



3.2 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2020 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz (DC≥0.98) ≥1/T (DC<0.98)	Average	
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b),Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				



Test Setup:

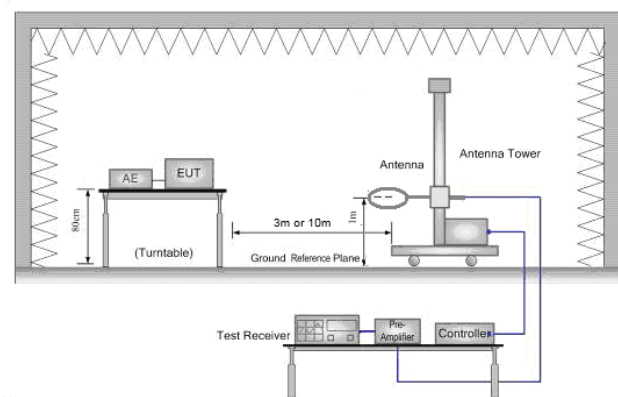


Figure 1. Below 30MHz

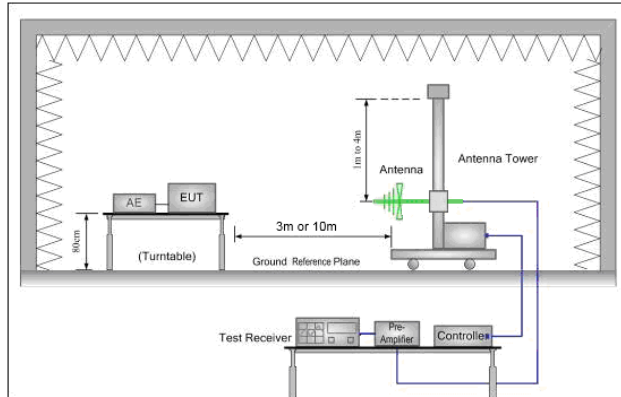


Figure 2. 30MHz to 1GHz

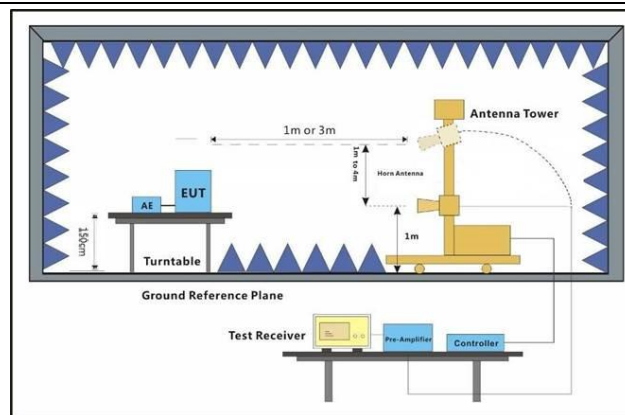


Figure 3. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.
- Repeat above procedures until all frequencies measured was complete.

Test Configuration:

Measurements Below 1000MHz



	• RBW = 120 kHz • VBW = 300 kHz • Detector = Peak • Trace mode = max hold Peak Measurements Above 1000 MHz • RBW = 1 MHz • VBW $\geq$ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold Average Measurements Above 1000MHz • RBW = 1 MHz • VBW = 10 Hz, when duty cycle is no less than 98 percent. • VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Transmitting mode. Through Pre-scan, find the Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g ; 6.5Mbps of rate is the worst case of 802.11n(HT20); 1.4M/10M/20M of rate of 900M transfer image; For below 1GHz, through Pre-scan, Only the worst case is recorded in the report.
Instruments Used:	Refer to section 2.9 for details
Test Results:	Pass