TEST REPORT
47 CFR Part 15, Subpart C 15.247

Report Reference No. ....: **CTL2405077031-WF02**

|	
Compiled by: (position+printed name+signature)	Happy Guo (File administrators)
Tested by: (position+printed name+signature)	Yapeng Jin (Test Engineer)
Approved by: (position+printed name+signature)	Ivan Xie (Manager)

Product Name ....: Robotic Pool Cleaner

Model/Type reference ....: Aiper Scuba S1 Pro

List Model(s).............................: Aiper Scuba N1 Pro, Aiper Scuba N1 Ultra

Trade Mark...................................: Aiper

FCC ID..: **2BD5N-S1N1PRO**

Applicant's name ....: **Shenzhen Aiper Intelligent Co.,Ltd.**

Address of applicant ....: 32nd floor, Block C, Phase 2 Galaxy World, Minle community, Minzhi street, Longhua district, Shenzhen, China

Test Firm......................................: **Shenzhen CTL Testing Technology Co., Ltd.**

Address of Test Firm ....: Zone A, 1st Floor, Warehouse 2, Baisha Logistics Company, No. 3011 Shahe West Road, Nanshan District, Shenzhen

Test specification........................:
Standard ....: **47 CFR Part 15, Subpart C 15.247:** Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.

TRF Originator ....: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF ....: Dated 2011-01

Date of receipt of test item.........: May 07, 2024

Date of Test Date.........................: May 08, 2024- June 04, 2024

Date of Issue ....: June 05, 2024

Result...: **Pass**

TEST REPORT

Test Report No. :	**CTL2405077031-WF02**	June 05, 2024
		Date of issue

Equipment under Test	:	Robotic Pool Cleaner
Sample No	:	CTL2405077031
Model /Type	:	Aiper Scuba S1 Pro
Listed Models	:	Aiper Scuba N1 Pro, Aiper Scuba N1 Ultra
Applicant	:	**Shenzhen Aiper Intelligent Co.,Ltd.**
Address	:	32nd floor, Block C, Phase 2 Galaxy World, Minle community, Minzhi street, Longhua district, Shenzhen, China
Manufacturer	:	**Shenzhen Aiper Intelligent Co.,Ltd.**
Address	:	32nd floor, Block C, Phase 2 Galaxy World, Minle community, Minzhi street, Longhua district, Shenzhen, China

Test result	**Pass ***

∗ In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

Revisions	Description	Issued Data	Report No.	Remark
Version 1.0	Initial Test Report Release	2024-06-05	CTL2405077031-WF02	Tracy Qi

Table of Contents   **Page**

1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.247:   Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

ANSI C63.10: 2013: American National Standard for Testing Unlicensed Wireless Devices

KDB558074 D01 15.247 Meas Guidance v05r02: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

1.2. Test Description

FCC PART 15.247		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.205/ 15.209	Radiated Emissions	PASS

Note: This report was updated based on the original report No. CTL2402267012-WF02(FCC ID: 2BD5N-S1N1PRO), for adding an accessory charging dock, only difference test items AC Power Conducted Emission and Radiated Emissions_below 1GHz was tested and recorded in this report.

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co.,Ltd.
Zone A, 1st Floor, Warehouse 2, Baisha Logistics Company, No. 3011 Shahe West Road, Nanshan District, Shenzhen

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.10 and CISPR 22/EN 55022 requirements.

1.3.2 Laboratory accreditation

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

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9618B

CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9618B on Jan. 22, 2019.

FCC-Registration No.: 399832

Designation No.: CN1216

Shenzhen CTL Testing Technology 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. Registration 399832, December 08, 2017.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Transmitter power Radiated	±2.20 dB	(1)
Radiated Emission9KHz~30MHz	±3.66dB	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)

DTS Bandwidth	±1.9%	(1)
Maximum Conducted Output Power	±1.18 dB	(1)
Maximum Power Spectral Density Level	±0.98 dB	(1)
Band-edge	±1.21dB	(1)
Unwanted Emissions In Non-restricted Freq Bands	9kHz-7GHz:±1.09dB 7GHz-26.5GHz: ±3.27dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Robotic Pool Cleaner
Model/Type reference:	Aiper Scuba S1 Pro
List Model(s):	Aiper Scuba N1 Pro, Aiper Scuba N1 Ultra
Model difference:	All models are design based the same main hardware. Aiper Scuba S1 Pro and Aiper Scuba N1 Pro is all the same only the difference of shell colour. Aiper Scuba S1 Pro/Aiper Scuba N1 Pro compare to Aiper Scuba N1 Ultra is difference of appearance, battery capacity and LED strip.
Adapter information:	Model:GM94-294300-1FGN Input: 100-240V~ 50/60Hz 2.5A Output:29.4V==3.0A; 88.2W
Charging dock:	Model: Aiper Charging Dock Input: 29.4V===3.0A Output:29.4V===3.0A
Hardware version:	V1.4
Software version:	V1.0
2.4G WIFI	
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)
Modulation:	802.11b: DSSS 802.11g/802.11n(H20)/802.11n(H40): OFDM
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz
Channel number:	802.11b/802.11g/802.11n(H20): 11 802.11n(H40): 7
Channel separation:	5MHz
Antenna type:	PCB Antenna
Antenna gain:	3.37dBi

Note1: For more details, please refer to the user's manual of the EUT.
Note2: Antenna gain provided by the applicant.
Note3: According the model differences declared by the applicant, all the differences for each model do not affect the RF performance of the products, and they are electrically equivalent. We test Conducted Emissions and Radiated Emission below 1GHz for Aiper Scuba N1 Pro and Aiper Scuba N1 Ultra.

2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software (EspRFTestTool_v3.6) to control the EUT for staying in continuous transmitting and receiving mode for testing.

There are 11 channels provided to the EUT and Channel 01/06/11 were selected for 802.11b/802.11g/802.11n(H2T0)/test. Channel 03/06/09 were selected for 802.11n(HT40) test.

Operation Frequency WIFI :

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	**2412**	8	2447
2	2417	**9**	**2452**
3	**2422**	10	2457
4	2427	**11**	**2462**
5	2432		
6	**2437**		
7	2442		

Note: The line display in grey were the channel selected for testing

Data Rate Used during the test:

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
Maximum Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission Radiated Emission 9kHz~1GHz& Radiated Emission 1GHz~10th Harmonic	11b/DSSS	1 Mbps	1/6/11
	11g/OFDM	6 Mbps	1/6/11
	11n(20MHz)/OFDM	6.5Mbps	1/6/11
	11n(40MHz)/OFDM	13.5Mbps	3/6/9
Band Edge	11b/DSSS	1 Mbps	1/11
	11g/OFDM	6 Mbps	1/11
	11n(20MHz)/OFDM	6.5Mbps	1/11
	11n(40MHz)/OFDM	13.5Mbps	3/9

Power setting during the test:

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters:

Test Software Version	EspRFTestTool_v3.6		
Frequency	2412/2422MHz	2437MHz	2452/2462MHz
802.11b	Default	Default	Default
802.11g	Default	Default	Default
802.11n(HT20)	Default	Default	Default
802.11n(HT40)	Default	Default	Default

2.4. Equipments Used during the Test

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2024/04/30	2025/04/29
LISN	ROHDE & SCHWARZ	ESH2-Z5	860014/010	2024/04/30	2025/04/29
Limitator	ROHDE & SCHWARZ	ESH3-Z2	100408	2024/04/30	2025/04/29
Software:					
Name of Software:			Version:		
ES-K1			V1.71		

Radiated Emissions					
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
Active Loop Antenna	Da Ze	ZN30900A	/	2024/04/30	2025/04/29
Double cone logarithmic antenna	Schwarzbeck	VULB 9168	824	2023/02/13	2026/02/12
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2021/12/23	2024/12/22
Horn Antenna	Ocean Microwave	OBH100400	26999002	2021/12/22	2024/12/21
Amplifier	MRT-AP01M06	MRT	S-001	2024/04/30	2025/04/29
Amplifier	Agilent	8449B	3008A02306	2024/04/30	2025/04/29
Amplifier	Brief&Smart	LNA-4018	2104197	2024/05/03	2025/05/02
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2024/04/30	2025/04/29
Spectrum Analyzer	RS	FSP	1164.4391.38	2024/05/03	2025/05/02
Test software					
Name of Software		Version			
EZ_EMC(Below 1GHz)		V1.1.4.2			
EZ_EMC(Above 1GHz)		V1.1.4.2			

RF Conducted					
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
Spectrum Analyzer	Keysight	N9020A	MY53420874	2024/05/01	2025/04/30
Temperature/Humidity Meter	Ji Yu	MC501	/	2024/05/04	2025/05/03
Test Software					
Name of Software		Version			
TST-PASS		V2.0			

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

3. TEST CONDITIONS AND RESULTS

3.1. Conducted Emissions Test

LIMIT

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207, AC Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus as below:

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION
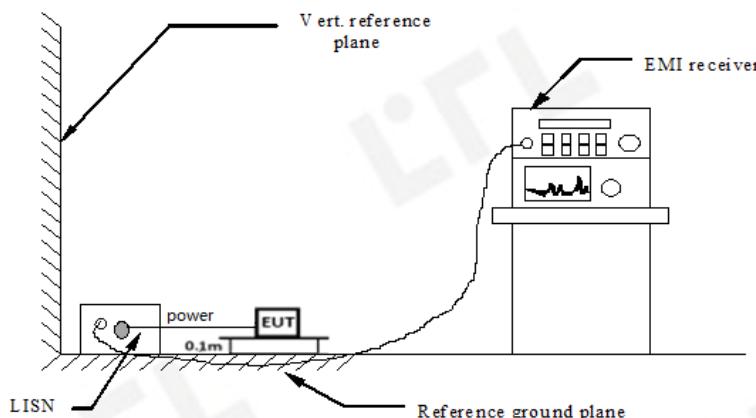
TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.1 meters is used and is placed on the ground plane as per ANSI C63.10:2013.
2. Support equipment, if needed, was placed as per ANSI C63.10:2013.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side).   Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST RESULTS

Note :

1. Pre-scan all modes of IEE 802.11b/g/n(HT20)/n(HT40) at Low, Middle, and High channel; only the worst result of was reported as below:

2. Both 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz power supply have been tested, only the worst result of 120 VAC, 60 Hz was reported as below:

Model: Aiper Scuba N1 Pro

Test Mode	WIFI	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"
   Short Description: 150K-30M Voltage

x x x MES CTL240515075_fin
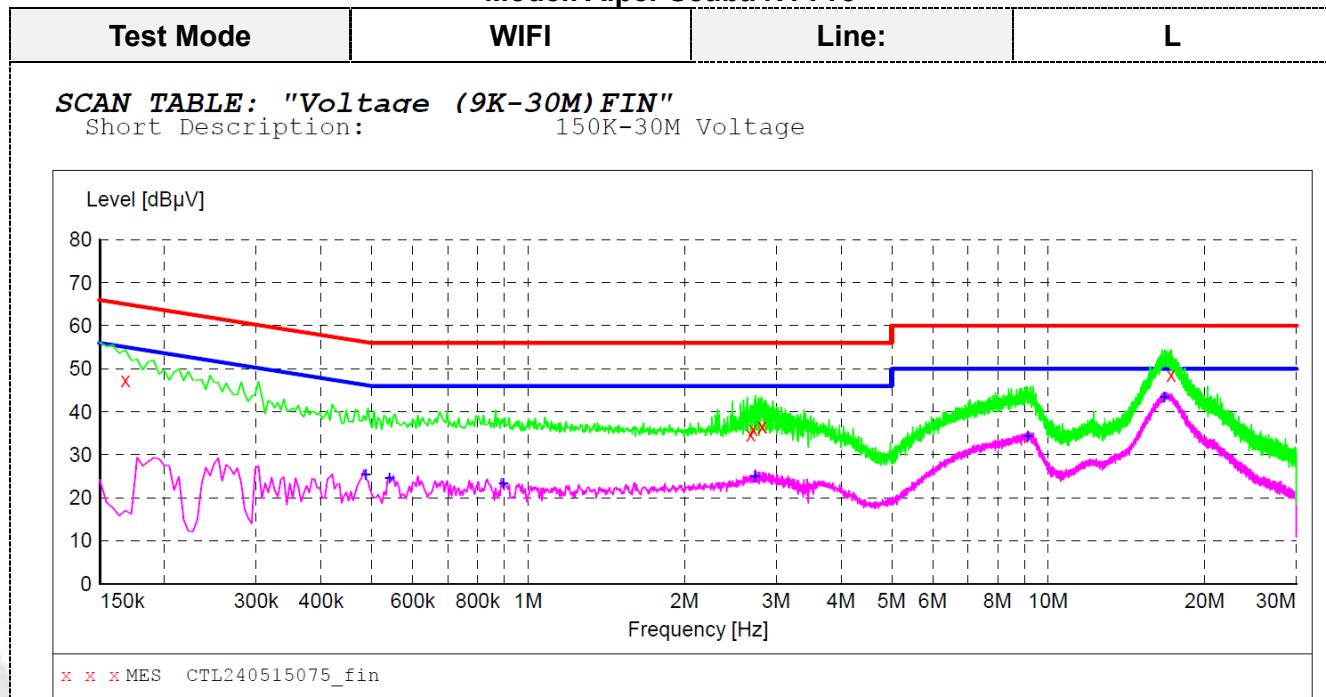
MEASUREMENT RESULT: "CTL240515075_fin"

5/15/2024 7:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	47.30	10.0	65	17.8	QP	L1	GND
2.679000	34.80	10.1	56	21.2	QP	L1	GND
2.706000	35.90	10.1	56	20.1	QP	L1	GND
2.814000	36.50	10.1	56	19.5	QP	L1	GND
2.818500	36.60	10.1	56	19.4	QP	L1	GND
17.232000	48.50	11.2	60	11.5	QP	L1	GND

MEASUREMENT RESULT: "CTL240515075_fin2"

5/15/2024 7:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.487500	25.40	10.0	46	20.8	AV	L1	GND
0.541500	24.50	10.0	46	21.5	AV	L1	GND
0.897000	23.40	10.1	46	22.6	AV	L1	GND
2.733000	25.00	10.1	46	21.0	AV	L1	GND
9.150000	34.30	10.6	50	15.7	AV	L1	GND
16.723500	43.40	11.2	50	6.6	AV	L1	GND

Remark: Level(dBuV)=Reading(dBuV) + Transd.(dB)
       Margin=Limit(dBuV)- Level(dBuV)

Test Mode	WIFI	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage

x x x MES   CTL240515076_fin
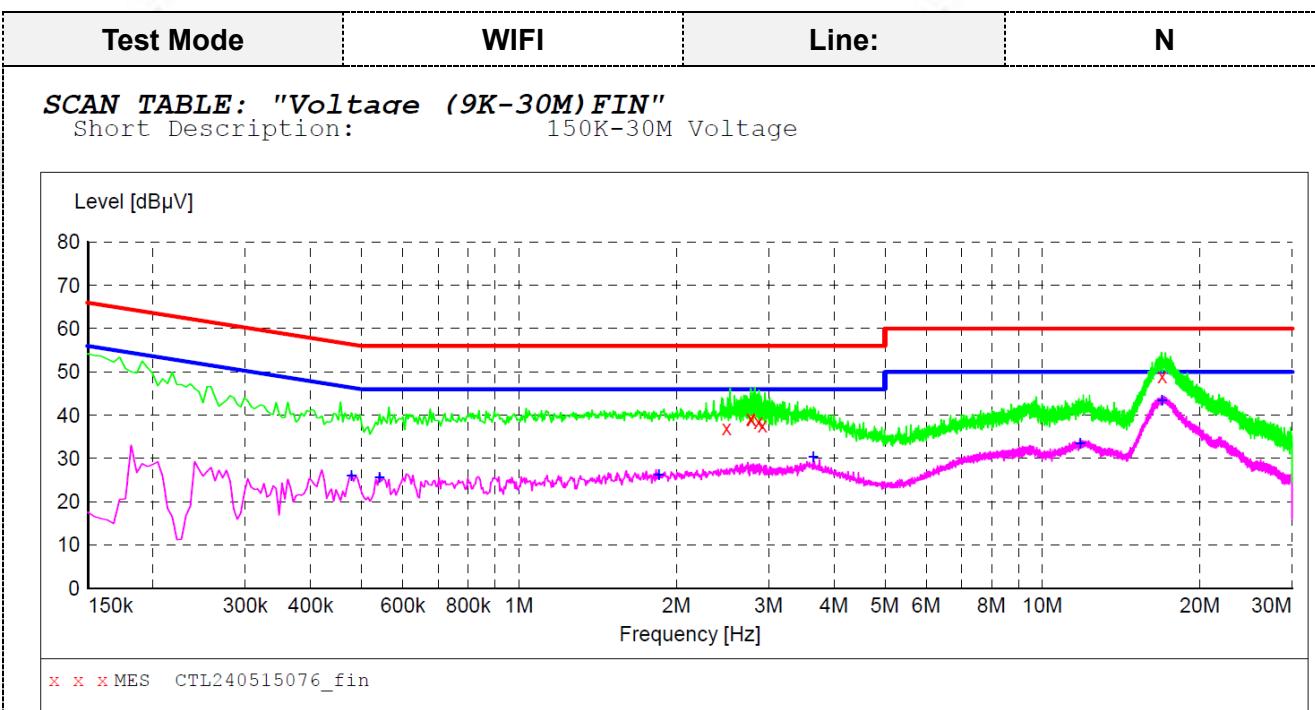
MEASUREMENT RESULT: "CTL240515076_fin"

5/15/2024 7:37PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
2.494500	37.00	10.1	56	19.0	QP	N	GND
2.773500	39.20	10.1	56	16.8	QP	N	GND
2.778000	39.00	10.1	56	17.0	QP	N	GND
2.868000	38.40	10.1	56	17.6	QP	N	GND
2.917500	37.70	10.1	56	18.3	QP	N	GND
16.944000	48.90	11.2	60	11.1	QP	N	GND

MEASUREMENT RESULT: "CTL240515076_fin2"

5/15/2024 7:37PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.478500	26.10	10.0	46	20.3	AV	N	GND
0.541500	25.60	10.0	46	20.4	AV	N	GND
1.851000	26.20	10.1	46	19.8	AV	N	GND
3.651000	30.40	10.1	46	15.6	AV	N	GND
11.818500	33.40	10.9	50	16.6	AV	N	GND
16.930500	43.50	11.2	50	6.5	AV	N	GND

Remark: Level(dBuV)=Reading(dBuV) + Transd.(dB)

Margin=Limit(dBuV)- Level(dBuV)

Model: Aiper Scuba N1 Ultra

Test Mode	WIFI	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"
   Short Description: 150K-30M Voltage

x x x MES   CTL240604036_fin
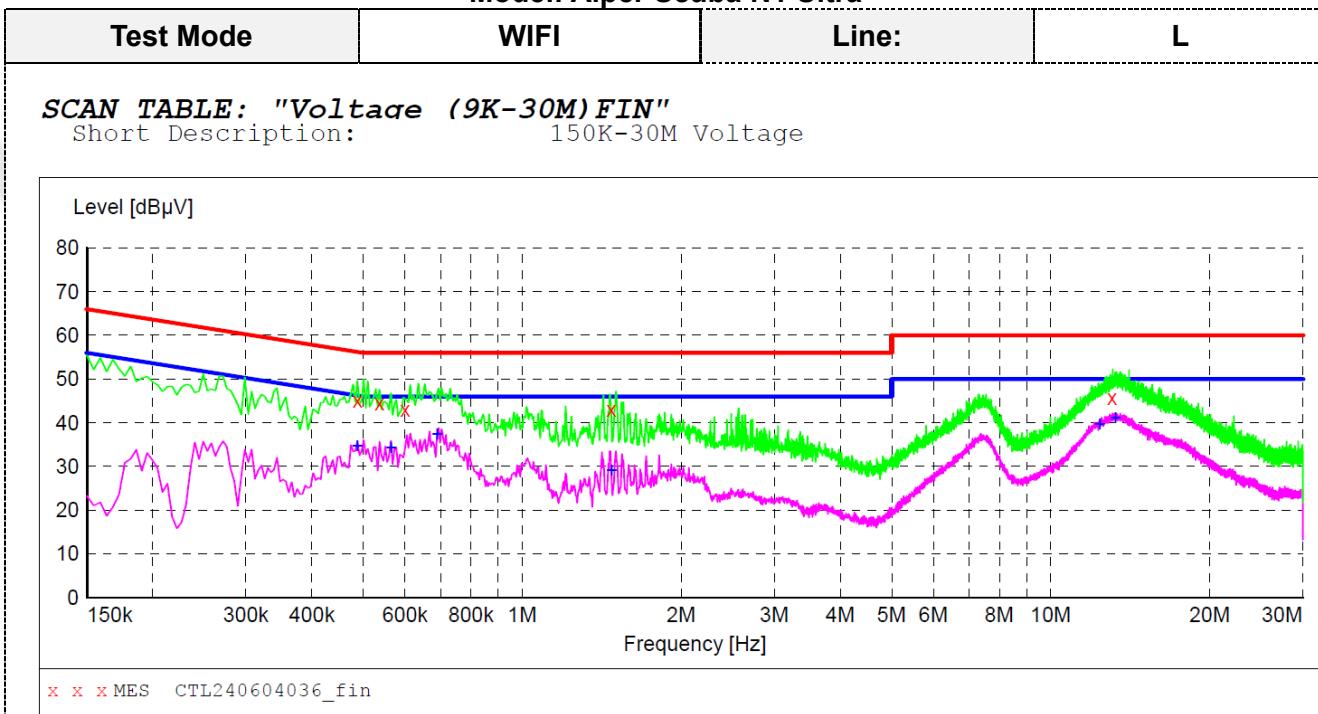
MEASUREMENT RESULT: "CTL240604036_fin"

6/4/2024 11:47PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.487500	45.00	10.0	56	11.2	QP	L1	GND
0.537000	44.50	10.0	56	11.5	QP	L1	GND
0.600000	43.10	10.0	56	12.9	QP	L1	GND
1.473000	43.10	10.1	56	12.9	QP	L1	GND
13.065000	45.80	11.0	60	14.2	QP	L1	GND

MEASUREMENT RESULT: "CTL240604036_fin2"

6/4/2024 11:47PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.487500	34.80	10.0	46	11.4	AV	L1	GND
0.564000	34.40	10.0	46	11.6	AV	L1	GND
0.690000	37.40	10.0	46	8.6	AV	L1	GND
1.477500	29.20	10.1	46	16.8	AV	L1	GND
12.376500	39.80	10.9	50	10.2	AV	L1	GND
13.263000	41.10	11.0	50	8.9	AV	L1	GND

Remark: Level(dBuV)=Reading(dBuV) + Transd.(dB)
        Margin=Limit(dBuV)- Level(dBuV)

Test Mode	WIFI	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage

x x x MES   CTL240604037_fin
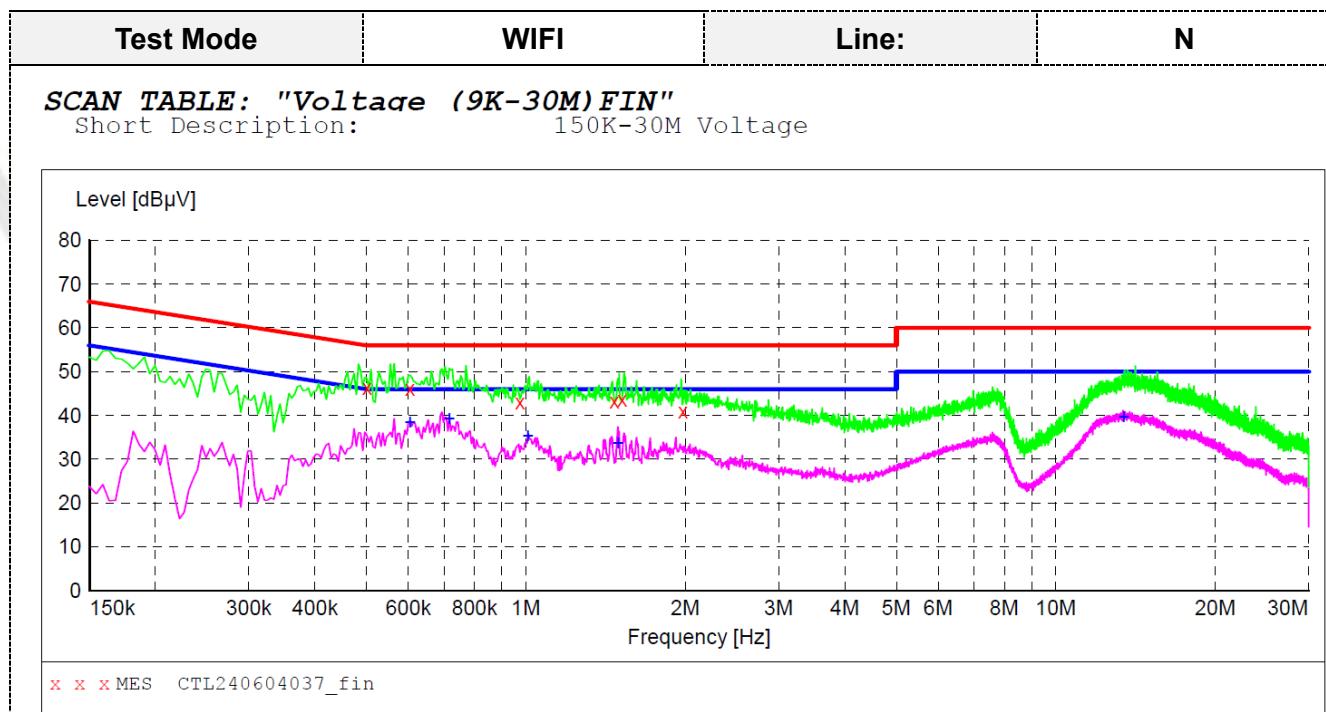
MEASUREMENT RESULT: "CTL240604037_fin"

6/4/2024 11:51PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.501000	46.40	10.0	56	9.6	QP	N	GND
0.604500	46.20	10.0	56	9.8	QP	N	GND
0.973500	42.90	10.1	56	13.1	QP	N	GND
1.468500	43.30	10.1	56	12.7	QP	N	GND
1.518000	43.60	10.1	56	12.4	QP	N	GND
1.977000	40.90	10.1	56	15.1	QP	N	GND

MEASUREMENT RESULT: "CTL240604037_fin2"

6/4/2024 11:51PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.604500	38.50	10.0	46	7.5	AV	N	GND
0.717000	39.20	10.0	46	6.8	AV	N	GND
1.009500	35.30	10.1	46	10.7	AV	N	GND
1.491000	33.60	10.1	46	12.4	AV	N	GND
13.438500	39.70	11.0	50	10.3	AV	N	GND

Remark: Level(dBuV)=Reading(dBuV) + Transd.(dB)

Margin=Limit(dBuV)- Level(dBuV)

3.2. Radiated Emissions and Band Edge

Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Except when the requirements applicable to a given device state otherwise, emissions from licence‑exempt transmitters shall comply with the field strength limits shown in table below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission

Unwanted emissions that fall into restricted bands shall comply with the limits specified in RSS-Gen; and Unwanted emissions that do not fall within the restricted frequency bands shall comply either with the limits specified in the applicable RSS or with those specified in this RSS-Gen.

Radiated emission limits

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
0.009-0.49	3	$20\log(2400/F(KHz))+40\log(300/3)$	$2400/F(KHz)$
0.49-1.705	3	$20\log(24000/F(KHz))+ 40\log(30/3)$	$24000/F(KHz)$
1.705-30	3	$20\log(30)+ 40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz

Below 30MHz
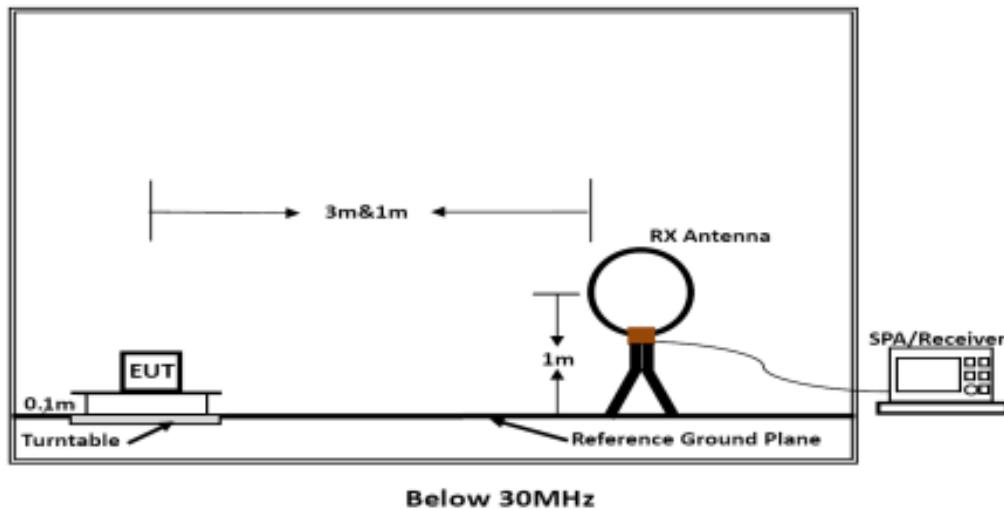
(B) Radiated Emission Test Set-Up, Frequency below 1000MHz

Below 1GHz
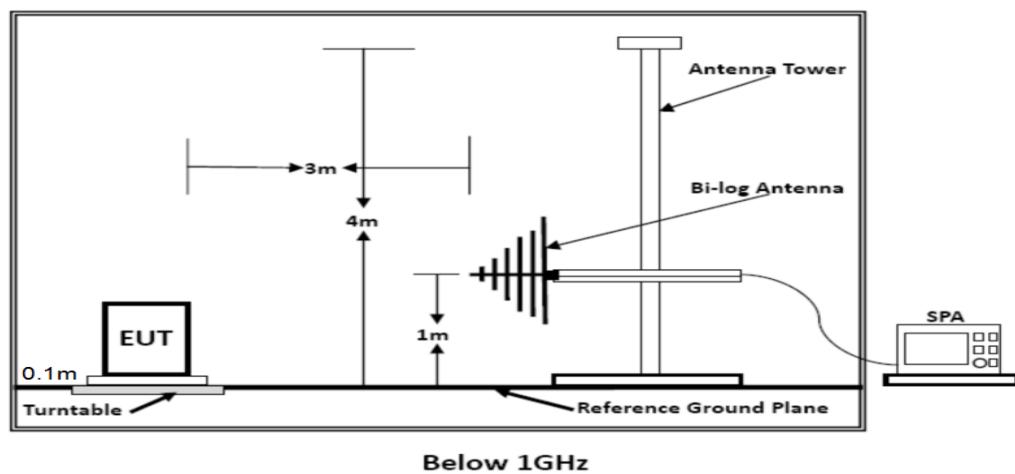
(C) Radiated Emission Test Set-Up, Frequency above 1000MHz

Above 1GHz
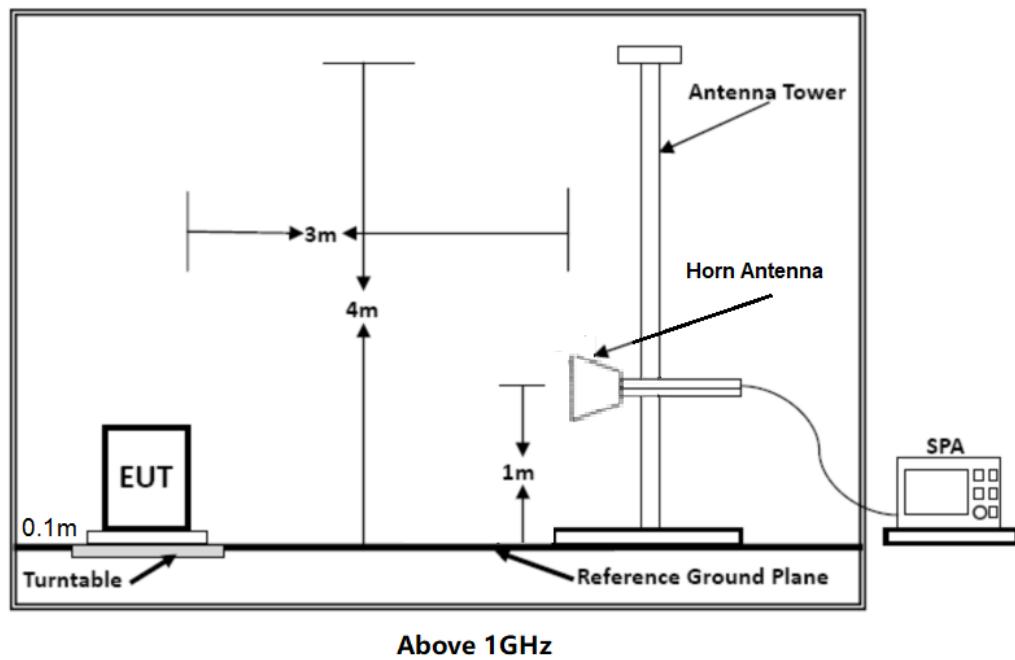
Test Procedure

1. The EUT is placed on a low permittivity and low loss tangent wooden table which is 0.1m above ground plane.

2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT.

3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

4. Repeat above procedures until all frequency measurements have been completed.

5. Radiated emission test frequency band from 9KHz to 40GHz.

6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7.　Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

TEST RESULTS

Remark:
1. Radiated emission test from 9 KHz to 1GHz, Found the emission level are attenuated 20dB below the limits from 9 kHz to 30MHz, so it does not record in report.
2. All three channels (lowest/middle/highest) of each mode were measured below 1GHz and recorded worst case at 802.11b low channel.

For 30MHz-1GHz

Model: Aiper Scuba N1 Pro

Test mode:	WIFI	Polarization:	Horizontal

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement

File :RF   Data :#8858   Date: 2024/05/14   Time: 23:44:54

Site LAB Chamber 2

Limit: FCC Part15 RE-Class C_30-1000MHz

EUT: /

M/N: Aiper Scuba N1 Pro

Mode: WIFI2.4G 2412MHz

Note: Shenzhen Aiper Intelligent Co.,Ltd.

Polarization: *Horizontal*

Power:

Distance: 3m

Temperature: 25(C)

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	641.4539	7.37	22.76	30.13	46.00	15.87	peak	100	50	P	
2	699.3045	7.36	22.76	30.12	46.00	15.88	peak	100	132	P	
3	743.8872	7.37	24.12	31.49	46.00	14.51	peak	100	15	P	
4	845.0877	7.63	26.22	33.85	46.00	12.15	peak	100	101	P	
5	914.8648	8.25	26.75	35.00	46.00	11.00	peak	100	143	P	
6	951.2594	6.61	27.11	33.72	46.00	12.28	peak	100	270	P	

Remark: Level(dBuV/m)=Reading(dBuV)+Factor(dB/m)

Margin= Limit(dBuV/m)- Level(dBuV/m)

Test mode:	WIFI	Polarization:	Vertical

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement

File :RF   Data :#8859   Date: 2024/05/14   Time: 23:46:06

Site LAB Chamber 2

Limit: FCC Part15 RE-Class C_30-1000MHz

EUT: /

M/N: Aiper Scuba N1 Pro

Mode: WIFI2.4G 2412MHz

Note: Shenzhen Aiper Intelligent Co.,Ltd.

Polarization: *Vertical*   Temperature: 25(C)

Power: Humidity: 50 %

Distance: 3m

| No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	42.3951	12.91	14.30	27.21	40.00	12.79	peak	100	115	P	
2	100.8455	24.45	11.22	35.67	43.50	7.83	peak	100	321	P	
3	818.1166	7.37	25.97	33.34	46.00	12.66	peak	100	162	P	
4	851.4084	7.32	26.26	33.58	46.00	12.42	peak	100	284	P	
5	889.9473	8.19	26.30	34.49	46.00	11.51	peak	100	2	P	
6	948.7610	7.64	27.11	34.75	46.00	11.25	peak	100	321	P	

Remark: Level(dBuV/m)=Reading(dBuV)+Factor(dB/m)
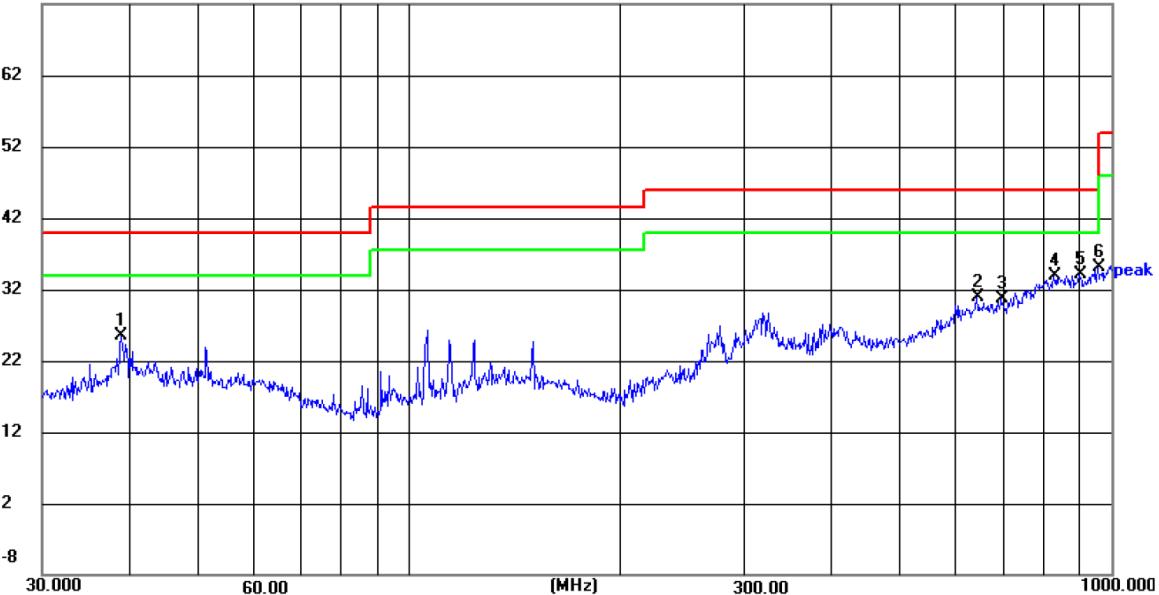
Margin= Limit(dBuV/m)- Level(dBuV/m)

Model: Aiper Scuba N1 Ultra

Test mode:	WIFI	Polarization:	Horizontal

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement

File :RF   Data :#9179   Date: 2024/06/04   Time: 21:53:41

Site LAB Chamber 2

Limit: FCC Part15 RE-Class C_30-1000MHz

EUT: /

M/N: Aiper Scuba N1 Ultra

Mode: WIFI2.4G 2412MHz

Note: Shenzhen Aiper Intelligent Co.,Ltd.

Polarization: *Horizontal*

Power:

Distance: 3m

Temperature: 25(C)

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	717.9396	7.94	23.21	31.15	46.00	14.85	peak	100	207	P	
2	811.3315	7.43	25.89	33.32	46.00	12.68	peak	100	106	P	
3	845.0877	7.88	26.22	34.10	46.00	11.90	peak	100	257	P	
4	879.8627	7.76	25.97	33.73	46.00	12.27	peak	100	6	P	
5	920.0927	7.03	26.76	33.79	46.00	12.21	peak	100	89	P	
6	956.2760	7.01	27.15	34.16	46.00	11.84	peak	100	347	P	

Remark: Level(dBuV/m)=Reading(dBuV)+Factor(dB/m)

Margin= Limit(dBuV/m)- Level(dBuV/m)

Test mode:	WIFI	Polarization:	Vertical

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement

File :RF   Data :#9180   Date: 2024/06/04   Time: 21:54:57

Site LAB Chamber 2	Polarization: *Vertical*	Temperature: 25(C)	
Limit: FCC Part15 RE-Class C_30-1000MHz	Power:	Humidity: 50 %	
EUT: /	Distance: 3m		
M/N: Aiper Scuba N1 Ultra			
Mode: WIFI2.4G 2412MHz			
Note: Shenzhen Aiper Intelligent Co.,Ltd.			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	38.9560	11.39	14.11	25.50	40.00	14.50	peak	100	198	P	
2	643.4251	8.27	22.65	30.92	46.00	15.08	peak	100	269	P	
3	698.0796	8.00	22.76	30.76	46.00	15.24	peak	100	187	P	
4	830.0363	7.92	25.89	33.81	46.00	12.19	peak	100	137	P	
5	900.9369	7.46	26.62	34.08	46.00	11.92	peak	100	130	P	
6	958.3742	7.90	27.19	35.09	46.00	10.91	peak	100	319	P	

Remark: Level(dBuV/m)=Reading(dBuV)+Factor(dB/m)
Margin= Limit(dBuV/m)- Level(dBuV/m)

4. Test Setup Photos of the EUT
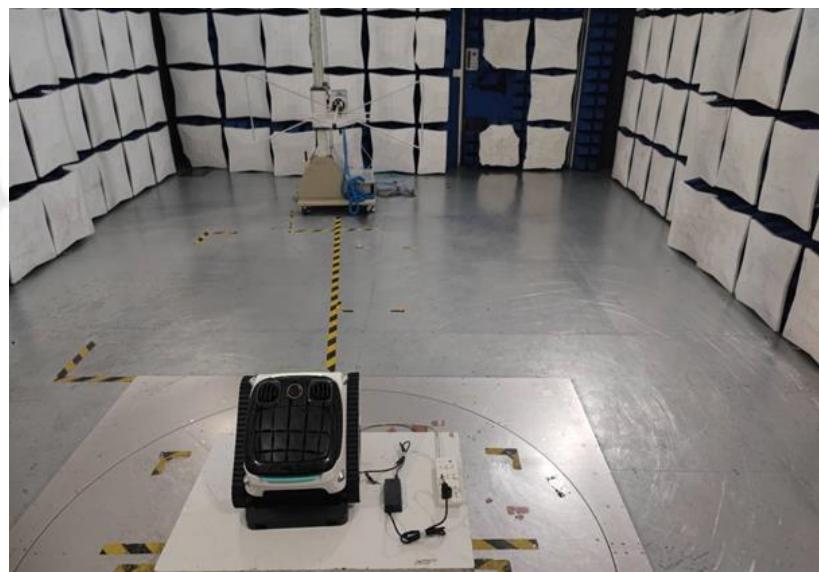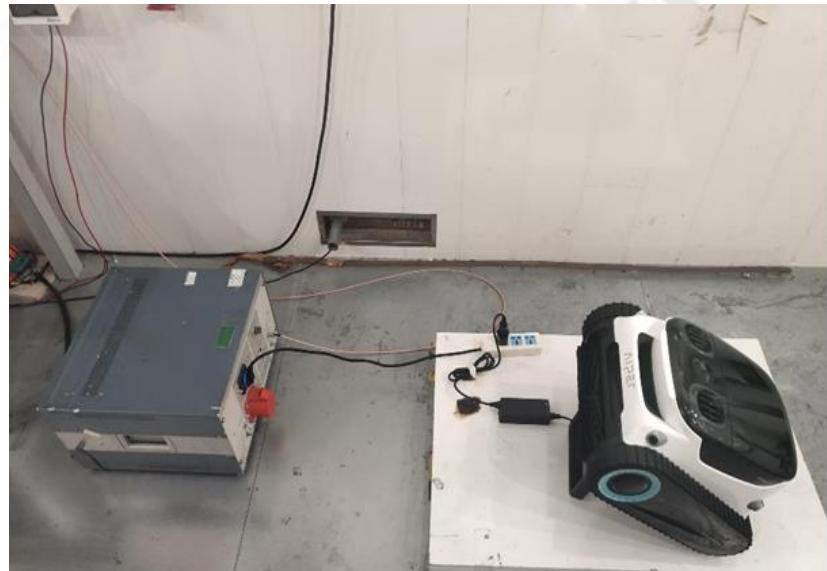
5. Photos of the EUT

Reference to the test report No. CTL2405077031-WF01

********************* End of Report *********************