

TEST REPORT

Application No.: SZCR2601000045AT

Applicant: Shenzhen Mammotion Innovation Co., Limited

Address of Applicant: 9th Floor, Building A3, Nanshan Zhiyuan, No. 1001 Xueyuan Avenue, Changyuan Community, Taoyuan Street, Nan shan District, Shenzhen

Manufacturer: Shenzhen Mammotion Innovation Co., Limited

Address of Manufacturer: 9th Floor, Building A3, Nanshan Zhiyuan, No. 1001 Xueyuan Avenue, Changyuan Community, Taoyuan Street, Nan shan District, Shenzhen

Factory: NK (Dongguan) Co., Ltd

Address of Factory: Room 101, Building 6, No. 770, Xie Cao Road, Xiegang Town, Dongguan City, Guangdong, P.R.China

Equipment Under Test (EUT):

EUT Name: Robotic Lawn Mower

Model No.: LUB3S1, LUB3S2, LUB3S3, LUB3S4, LUB3H1, LUB3H2, LUB3H3, LUB3H4 ♣

♣ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Trade Mark: MAMMOTION

FCC ID: 2BFWS-LUBA3SH

Standard(s) : 47 CFR Part 15, Subpart E 15.407

Date of Receipt: 2026-01-04

Date of Test: 2026-01-14 to 2026-01-15

Date of Issue: 2026-01-28

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu

Keny Xu
EMC Laboratory Manager



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Shenzhen Branch EMC Laboratory

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2026-01-28		Original

Authorized for issue by:				
		Tree Zhan		
		Tree Zhan/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		



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2 Test Summary

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2020) Section 6.2	47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)	Pass
Radiated Emissions (Below 1GHz)		ANSI C63.10 (2020) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)	Pass

Remark:

Model No.: LUB3S1, LUB3S2, LUB3S3, LUB3S4, LUB3H1, LUB3H2, LUB3H3, LUB3H4

Only the model LUB3S4 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on

Model	LUB3S1	LUB3H1	LUB3S2	LUB3H2	LUB3S3	LUB3H3	LUB3S4	LUB3H4
LiDAR	MID-360S		Rex 96					
Battery	MWBT06S04P-02 (21.6V 9.4Ah 203Wh)		MWBT06S04P-01 (21.6V 12.0Ah 259.2Wh)		MWBT06S05P-01 (21.6V 15.0Ah 324Wh)		MWBT06S05P-01 (21.6V 15.0Ah 324Wh)	
GNSS	TD1050 and Antenna		UM960E and Antenna					
Mowing Size	1500		3000		5000		10000	
Cutting Height	25-70 mm	55-100 mm	25-70 mm	55-100 mm	25-70 mm	55-100 mm	25-70 mm	55-100 mm
Motor for blade	SL5870B024 (24V 88W)		SL5870B021.6-001 (24V 165W)					

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This test report (Ref. No.: SZCR260100004504) is only valid with the original test report (Ref. No.: SZCR250900422804).

Review this report and original report, this report just added the model No..

According to the declaration from the applicant, the models in this report and models in original report were identical, the difference on

Differences		
Description	Before	After
Model Name	LUB3S1, LUB3S2, LUB3S3, LUB3H1, LUB3H2, LUB3H3	LUB3S1, LUB3S2, LUB3S3, LUB3S4, LUB3H1, LUB3H2, LUB3H3, LUB3H4
GNSS Module	UM960 (for LUB3S2, LUB3S3, LUB3H2, LUB3H3)	UM960E(for LUB3S2, LUB3S3, LUB3S4, LUB3H2, LUB3H3, LUB3H4)
LiDAR	Model: AK1 for LUB3S1 and LUB3H1 Model: MID-360S for LUB3S2, LUB3S3,LUB3H2, LUB3H3	Model: MID-360S for LUB3S1 and LUB3H1 Model: Rex 96 for LUB3S2, LUB3S3, LUB3S4, LUB3H2, LUB3H3, LUB3H4

Considering to the difference, pre-scan were performed on the sample in this report to find the items which can be influential to the result in the original test report for fully retest.

Therefore in this report Conducted Emissions at AC Power Line (150kHz-30MHz) and Radiated Emissions (Below 1GHz) were fully retested on model and shown the data in this report, other tests please refer to original report SZCR250900422804.



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4 General Information

4.1 Details of E.U.T.

Power supply:	Powered by Rechargeable Li-ion Battery. Battery 1 information: Model: MWBT06S04P-01 Nominal Voltage: 21.6Vdc Rated Capacity: 12.0Ah/259.2Wh Battery 2 information: Model: MWBT06S05P-01 Nominal Voltage: 21.6Vdc Rated Capacity: 15.0Ah/324Wh Battery 3 information: Model: MWBT06S04P-02 Nominal Voltage: 21.6Vdc Rated Capacity: 9.4Ah/203Wh Charging station information Model 1: CHG4402 Model 2: CHG4403 Input: 28VDC, 210W Output: 28VDC, 7.5A Charging station information Adapter1 Model: TS-A210-2807501 Input: 100-240VAC, 50/60Hz 3.0A Max Output: 28.0VDC, 7.5A, 210.0W Adapter2 Model: E210-1C280750M6 Input: 100-240VAC, 50/60Hz 3.0A Max Output: 28.0VDC, 7.5A
Cable(s):	AC cable of adapter: 85cm unshielded DC cable of adapter to charge station: 1040cm unshielded DC cable of station to RTK: 213cm unshielded
Cable Loss (for RF conducted test):	1.5dB
Operation Frequency/Number of channels (20MHz):	U-NII-1: 5180-5240MHz (4 Channels); U-NII-2A: 5260-5320MHz (4 Channels); U-NII-2C: 5500-5700MHz (11 Channels); U-NII-3: 5745-5825MHz (5 Channels)
Operation Frequency/Number of channels/(40MHz):	U-NII-1: 5190-5230MHz (2 Channels); U-NII-2A: 5270-5310MHz (2 Channels); U-NII-2C: 5510-5670MHz (5 Channels); U-NII-3: 5755-5795MHz (2 Channels)
Modulation Type:	802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)



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Channel Spacing:	802.11a/n 20: 20MHz; 802.11n 40: 40MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.8dBi

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.2\text{dB}$
Radiated Emissions (Below 1GHz)	$\pm 6.0\text{dB}$ for 3m; $\pm 5.0\text{dB}$ for 10m

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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4.4 Test Location

All tests were performed at:

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Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

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

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2025-05-07	2028-05-06
EMI Test Receiver	Rohde&Schwarz	ESR	SZ-WRG-M-047	2025-12-15	2026-12-14
Matching Pad	N/A	N/A	SEM021-23	2025-03-19	2026-03-18
Matching Pad	N/A	N/A	SEM021-24	2025-03-19	2026-03-18
Measurement Software	AUDIX	e3 V8.2014-6-27a	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2025-07-05	2026-07-04
LISN	Rohde&Schwarz	ENV216	SEM007-01	2025-07-25	2026-07-24
LISN	ETS-LINDGREN	3816/2	SEM007-02	2025-03-03	2026-03-02

Radiated Emissions (Below 1GHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Loop Antenna	ETS-Lindgren	6502	SEM003-08	2025-11-17	2027-11-16
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2023-06-19	2026-06-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2025-07-25	2026-07-24
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-01	2025-08-29	2027-08-28
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2025-03-04	2026-03-03
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2025-07-05	2026-07-04

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	deli	8838	SEM002-32	2025-07-23	2026-07-22
Humidity/ Temperature Indicator	deli	8838	SEM002-33	2025-07-23	2026-07-22
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2025-03-03	2026-03-02



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6 Radio Spectrum Matter Test Results

6.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207 & Subpart E 15.407 b(9)
 Test Method: ANSI C63.10 (2020) Section 6.2
 Test Engineer: Mason Wu

Limit:

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	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.

6.1.1 E.U.T. Operation

Operating Environment:

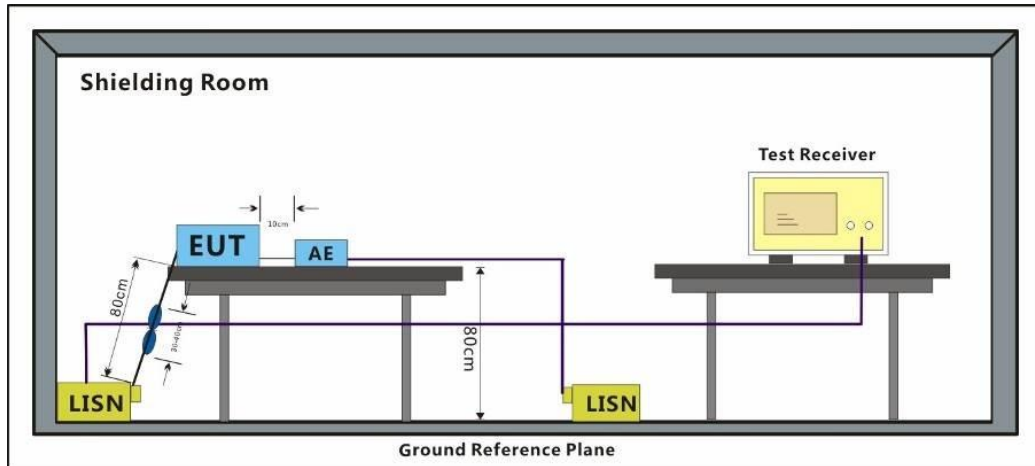
Temperature: 25.3 °C Humidity: 40.5 % RH Atmospheric Pressure: 1020 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	01	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	02	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	03	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.



6.1.3 Test Setup Diagram



6.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark 1: Level=Read Level+ Cable Loss+ LISN Factor

Remark 2: Pre-test AC 120V/50-60Hz&AC 240V/50-60Hz then choose the AC 120/60Hz as worst case.



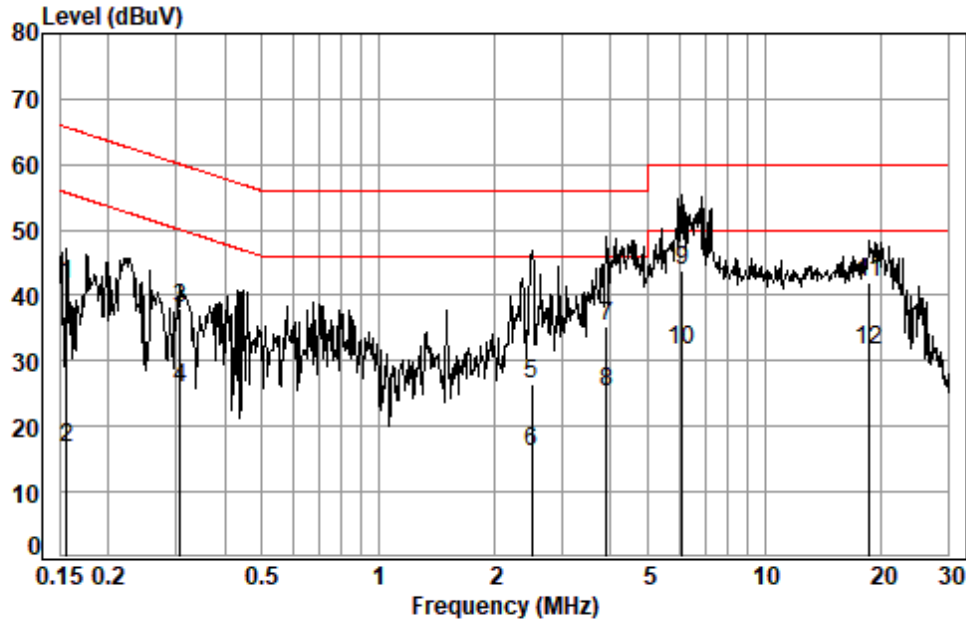
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Test Mode: 00; Line: Live line



Site : Shielding Room
Condition: Line
Job No. : 00045AT/00046AT
Test mode: 00

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1557	0.06	9.63	32.05	41.74	65.69	-23.95	QP
2	0.1557	0.06	9.63	7.05	16.74	55.69	-38.95	Average
3	0.3067	0.08	9.63	28.42	38.13	60.06	-21.93	QP
4	0.3067	0.08	9.63	16.16	25.87	50.06	-24.19	Average
5	2.5000	0.13	9.77	16.62	26.52	56.00	-29.48	QP
6	2.5000	0.13	9.77	6.07	15.97	46.00	-30.03	Average
7	3.9014	0.14	9.86	25.37	35.37	56.00	-20.63	QP
8	3.9014	0.14	9.86	15.21	25.21	46.00	-20.79	Average
9 *	6.1209	0.14	10.12	33.57	43.83	60.00	-16.17	QP
10 *	6.1209	0.14	10.12	21.46	31.72	50.00	-18.28	Average
11	18.7210	0.18	12.03	29.64	41.85	60.00	-18.15	QP
12	18.7210	0.18	12.03	19.37	31.58	50.00	-18.42	Average



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Shenzhen Branch Testing Laboratory

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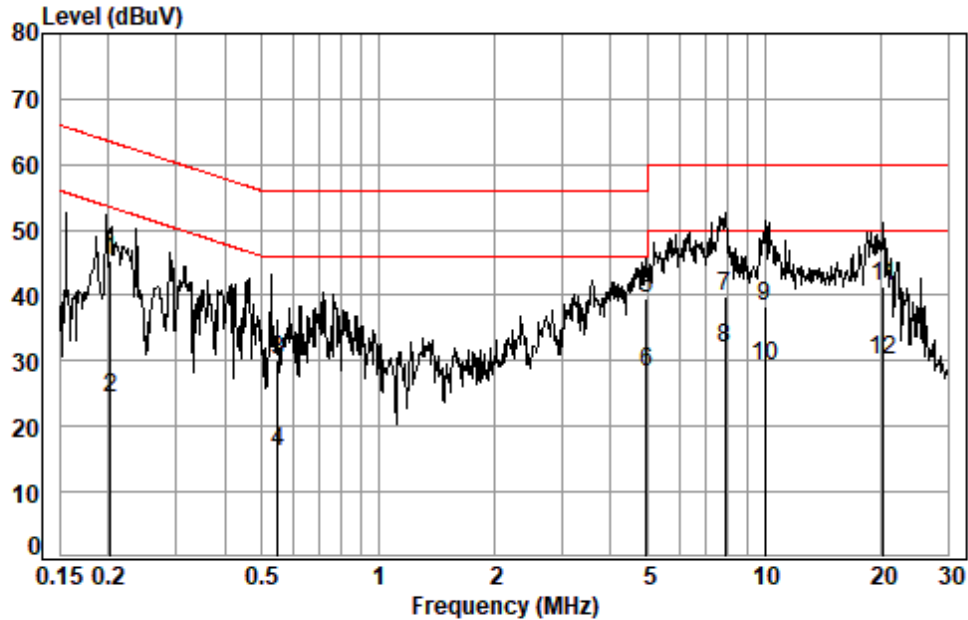
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SZEMC-TRF-01 Rev. A/2

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Test Mode: 00; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 00045AT/00046AT
Test mode: 00

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.2029	0.07	9.66	35.58	45.31	63.49	-18.18	QP
2	0.2029	0.07	9.66	14.55	24.28	53.49	-29.21	Average
3	0.5493	0.09	9.63	20.47	30.19	56.00	-25.81	QP
4	0.5493	0.09	9.63	6.26	15.98	46.00	-30.02	Average
5 *	4.9519	0.14	10.01	29.37	39.52	56.00	-16.48	QP
6 *	4.9519	0.14	10.01	18.04	28.19	46.00	-17.81	Average
7	7.8934	0.15	10.41	29.29	39.85	60.00	-20.15	QP
8	7.8934	0.15	10.41	21.53	32.09	50.00	-17.91	Average
9	10.0186	0.15	10.73	27.37	38.25	60.00	-21.75	QP
10	10.0186	0.15	10.73	18.27	29.15	50.00	-20.85	Average
11	20.2696	0.18	12.21	28.91	41.30	60.00	-18.70	QP
12	20.2696	0.18	12.21	17.68	30.07	50.00	-19.93	Average



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6.2 Radiated Emissions (Below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & Subpart E 15.407(b)
 Test Method: ANSI C63.10 (2020) Section 6.4,6.5
 Measurement Distance: 3m
 Test Engineer: Kaito Zeng

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

6.2.1 E.U.T. Operation

Operating Environment:

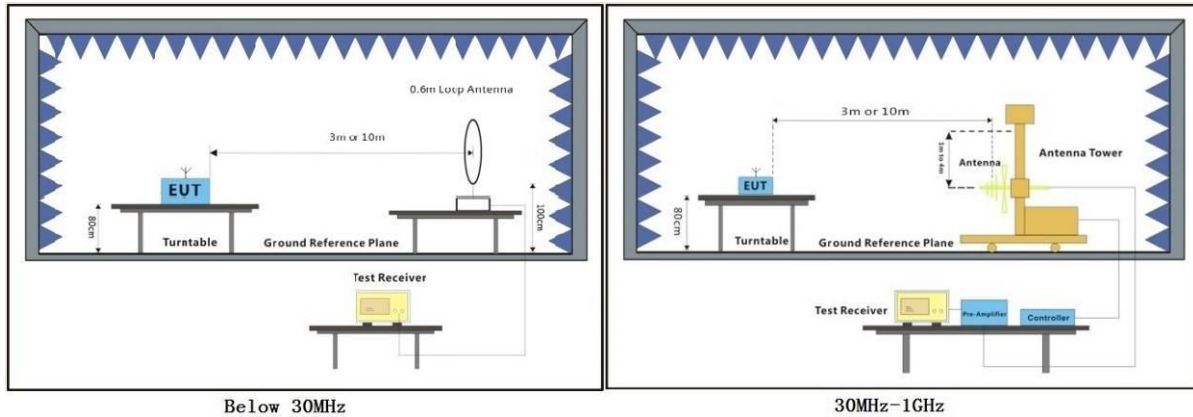
Temperature: 23.5 °C Humidity: 46.8 % RH Atmospheric Pressure: 1020 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	01	TX mode (U-NII-2A) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	02	TX mode (U-NII-2C) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.
Pre-scan	03	TX mode (U-NII-3) _Keep the EUT in continuously transmitting mode with all modulation types. Only the data of worst case is recorded in the report.



6.2.3 Test Setup Diagram



6.2.4 Measurement Procedure and Data

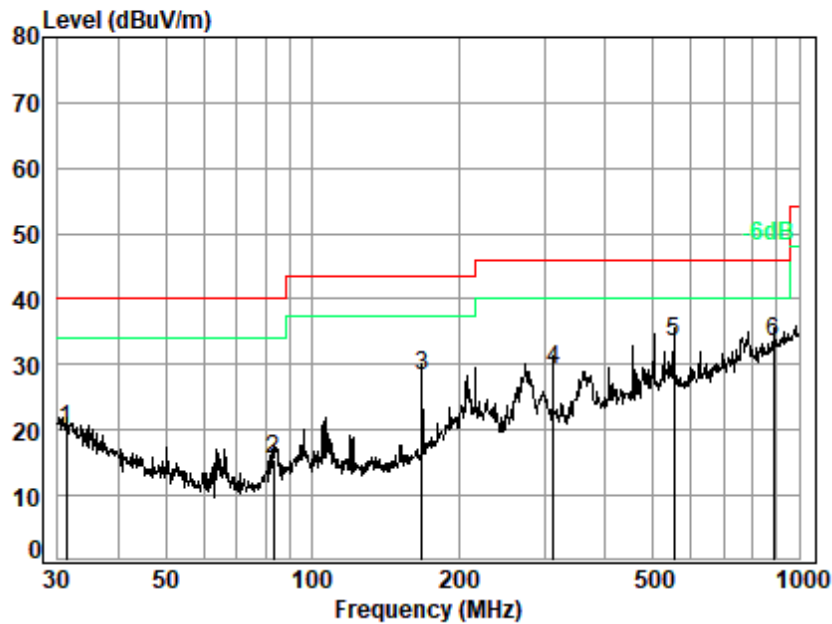
- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.
3. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
4. The disturbance below 1GHz was very low and the below harmonics were the highest point could be found when testing, so only the below harmonics had been displayed.



Test Mode: 00; Polarity: Horizontal



Site : chamber

Condition: 3m HORIZONTAL

Job No. : 00045AT/00046AT

Test Mode: 00

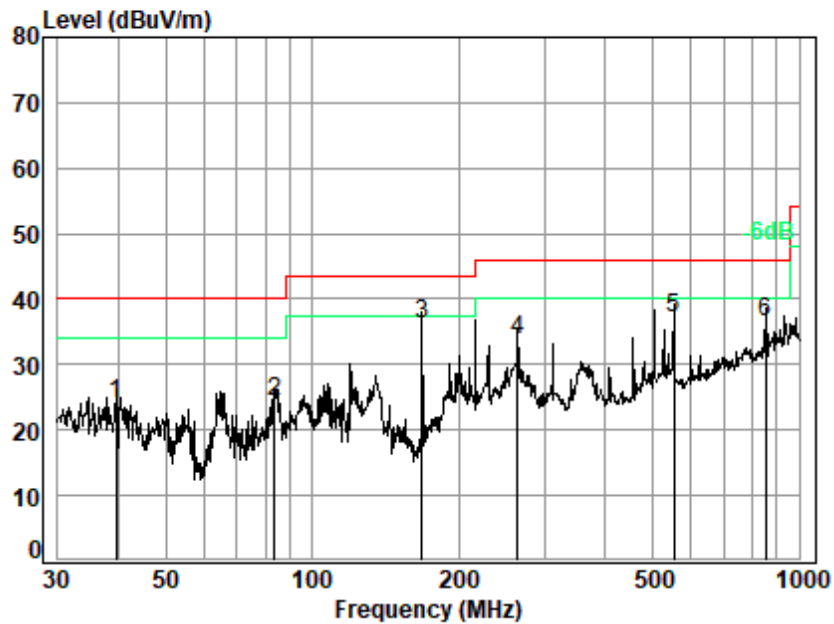
	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	31.180	20.85	0.75	27.65	26.08	20.03	40.00	-19.97 QP
2	83.230	10.97	1.13	27.61	31.02	15.51	40.00	-24.49 QP
3	167.824	13.89	1.58	27.75	40.42	28.14	43.50	-15.36 QP
4	312.179	18.39	2.16	27.53	36.25	29.27	46.00	-16.73 QP
5	552.883	23.32	2.97	28.03	35.27	33.53	46.00	-12.47 QP
6 q	887.610	28.80	3.95	27.04	27.84	33.55	46.00	-12.45 QP



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Test Mode: 00; Polarity: Vertical



Site : chamber

Condition: 3m VERTICAL

Job No. : 00045AT/00046AT

Test Mode: 00

	Ant	Cable	Preamp	Read		Limit	Over	
Freq	Factor	Loss	Factor	Level	Level	Line	Limit	Remark
MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	39.576	16.39	0.82	27.64	34.55	24.12	40.00	-15.88 QP
2	83.816	11.06	1.13	27.61	39.62	24.20	40.00	-15.80 QP
3 q	167.824	13.89	1.58	27.75	48.36	36.08	43.50	-7.42 QP
4	263.819	17.07	1.98	27.60	42.25	33.70	46.00	-12.30 QP
5	552.883	23.32	2.97	28.03	38.96	37.22	46.00	-8.78 QP
6	854.025	27.81	3.85	27.25	32.10	36.51	46.00	-9.49 QP



7 Test Setup Photo

Refer to Appendix - Test Setup Photo for SZCR2601000045AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for SZCR2601000045AT

- End of the Report -

