



FCC TEST REPORT

FCC ID: 2AOV6-GRFWC1009

On Behalf of

Shenzhen Minsuo Industrial Co., Ltd

4 in 1 Foldable Wireless Charger

Model No.: GRFWC1009, MP-306

Prepared for : Shenzhen Minsuo Industrial Co., Ltd
Address : 12th floor, Block B, Tengyao Building, No.268 Gushu 2nd road, Xixiang
Town, Baoan District, Shenzhen, Guangdong, China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.
Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District,
518103, Shenzhen, Guangdong, China

Report Number : A2412256-C01-R02
Date of Receipt : December 24, 2024
Date of Test : December 24, 2024 – January 3, 2025
Date of Report : January 3, 2025
Version Number : V0
Test Result : Pass

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TEST REPORT DECLARATION

Applicant : Shenzhen Minsuo Industrial Co., Ltd
Address : 12th floor, Block B, Tengyao Building, No.268 Gushu 2nd road, Xixiang Town,
Baoan District, Shenzhen, Guangdong, China
Manufacturer : Shenzhen Minsuo Industrial Co., Ltd
Address : 12th floor, Block B, Tengyao Building, No.268 Gushu 2nd road, Xixiang Town,
Baoan District, Shenzhen, Guangdong, China
EUT Description : 4 in 1 Foldable Wireless Charger
(A) Model No. : GRFWC1009, MP-306
(B) Trademark : N/A

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C

FCC KDB 680106 D01 Wireless Transfer v04

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness test. Also, this report shows that the EUT is technically compliant with the KDB 680106 D01 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....: Yannis Wen
Project Engineer

Yannis Wen

Approved by (name + signature).....: Jack Xu
Project Manager

Jack Xu

Date of issue..... : January 3, 2025

Revision History

Revision	Issue Date	Revisions	Revised By
V0	January 3, 2025	Initial released Issue	Yannis Wen

1 Test Result Summary

Requirement	CFR 47 Section	Result
RF EXPOSURE	§1.1307(b)(1) & KDB680106	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

2 EUT Description

2.1 Description of Device (EUT)

EUT Name	:	4 in 1 Foldable Wireless Charger
Model No.	:	GRFWC1009, MP-306
DIFF.	:	N/A
Power supply	:	Input: 9V DC, 3A MAX Output: 15W/10W/7.5W/5W Watch: 2W Earbuds: 3W
Radio Technology	:	Wireless power transmission systems
Operation frequency	:	115~205KHz, 325KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna, Maximum Gain is 0dBi (This value is supplied by applicant).
Software version	:	V1.0
Hardware version	:	V1.0
Intend use environment	:	Residential, commercial and light industrial environment

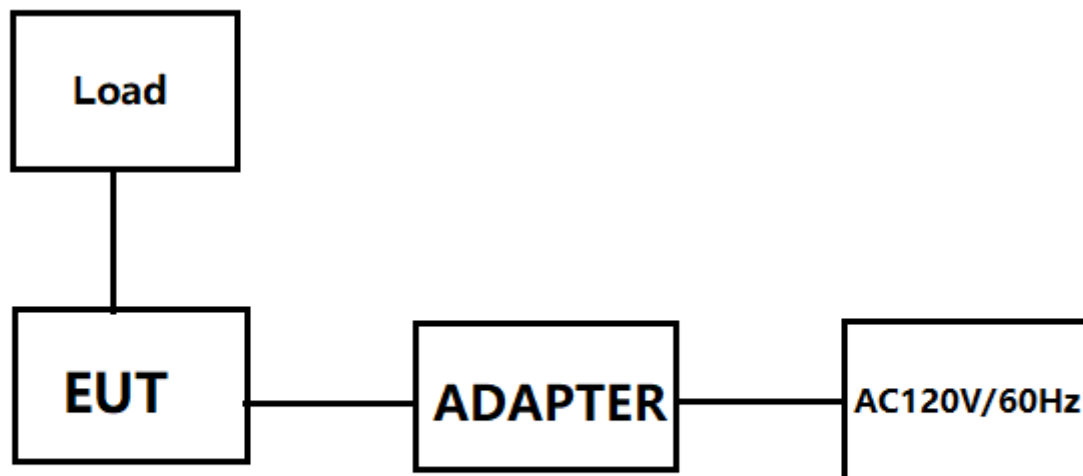
2.2 Accessories of Device (EUT)

Accessories1 : /
 Manufacturer : /
 Model : /
 Ratings : /

2.3 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	Load	YBZ	--	--	--
2	AC ADAPTER	Shenzhen HUONIU Technology Co., Ltd.	HNFCQC3024UU	--	--
3	earphone	--	--	--	--

2.4 Block Diagram of Connection between EUT and Simulators



2.5 Description of Test Modes

Channel	Frequency (KHz)
1	129
2	138
3	325

2.6 Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7 Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission

Registration Number: 293961

July 15, 2019 Certificated by IC

Registration Number: 12135A

2.8 Measurement Uncertainty

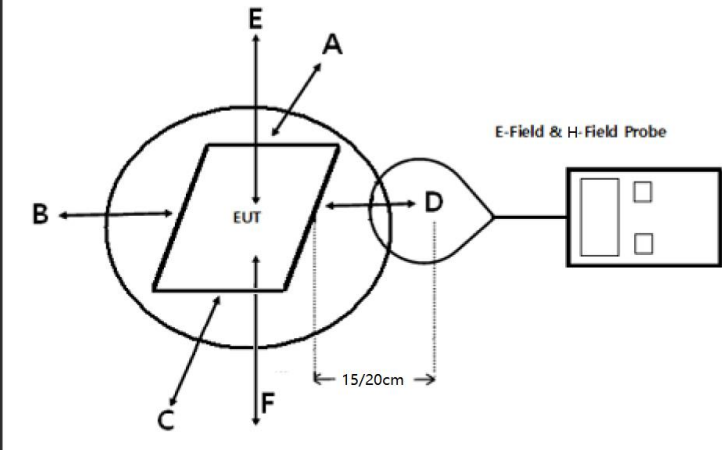
(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for H-Field	2.39dB
Uncertainty for E-Field	2.45dB
Uncertainty for conducted RF Power	0.65dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3 Test Results and Measurement Data

3.1 RF Exposure Test

3.1.1 Test Specification

Test Requirement:	FCC Rules and Regulations KDB680106
Test Method:	§1.1307(b)(1) & KDB680106
Limits:	According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB680106 D01 Wireless Transfer v04.
Test Setup:	
Test Mode:	Wireless charging load has been charge at no load, middle load and full load. All test modes were pre-tested, but we only recorded the worse case in this report.
Test Procedure:	1. The RF exposure test was performed in shielded chamber 2. The measurement probe was placed at test distance(0~20cm) , step by 2cm, which is between the edge of the charger and the geometric centre of probe. 3. The measurement probe used to search of highest strength. 4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A,B,C,D,E,F) were completed. 5. The EUT were measured according to the dictates of KDB 680106 DR03-44118.
Test Result:	PASS

3.1.2 Test Instruments

Item	Equipment	Manufacturer	Model No.	Firmware version	Serial No.	Last Cal.	Cal Interval
1	Exposure Level Tester	narda	ELT-400	/	N-0231	2024.08.14	1Year
2	Magnetic field probe 100cm2	narda	ELT probe 100cm2	/	M0675	2024.08.14	1Year
3	Isotropic Electric Field Probe	narda	EP-601	/	511WX60706	2024.08.20	1Year

3.1.3 Test data

For 129kHz mode: Earbuds: 3W

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.129	1.009	0.998	1.007	0.997	0.993	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.129	0.508	0.492	0.506	0.493	0.490	0.815	1.63

For 138kHz mode: Output: 15W

E-Field Strength at 15 cm for position A,B,C,F 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position F	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.138	0.991	1.001	1.008	1.012	0.987	307	614

H-Filed Strength at 15 cm for position A,B,C,F 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position F	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.138	0.498	0.497	0.511	0.512	0.487	0.815	1.63

For 325kHz mode: Watch: 2W

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.325	1.003	0.986	1.001	0.984	0.997	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.325	0.497	0.488	0.506	0.490	0.492	0.815	1.63

Maximum Simultaneous transmission EMF Ratios for:

	Max EMF ratio 129kHz/Limit	Max EMF ratio 138kHz/Limit	Max EMF ratio 325kHz/Limit	ΣEMF ratios	Limit	Result
E-Field	0.001643	0.001648	0.001634	0.004925	1	PASS
H-Filed	0.311656	0.314110	0.310429	0.936196	1	PASS

For 129kHz mode: Earbuds: 3W

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.129	1.002	0.996	1.001	0.992	0.990	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.129	0.458	0.455	0.456	0.443	0.441	0.815	1.63

For 138kHz mode: Output: 15W

E-Field Strength at 15 cm for position A,B,C,F 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position F	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.138	0.977	0.975	0.978	0.979	0.972	307	614

H-Filed Strength at 15 cm for position A,B,C,F 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position F	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.138	0.445	0.448	0.448	0.466	0.436	0.815	1.63

For 325kHz mode: Watch: 2W

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.325	0.896	0.891	0.885	0.885	0.893	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

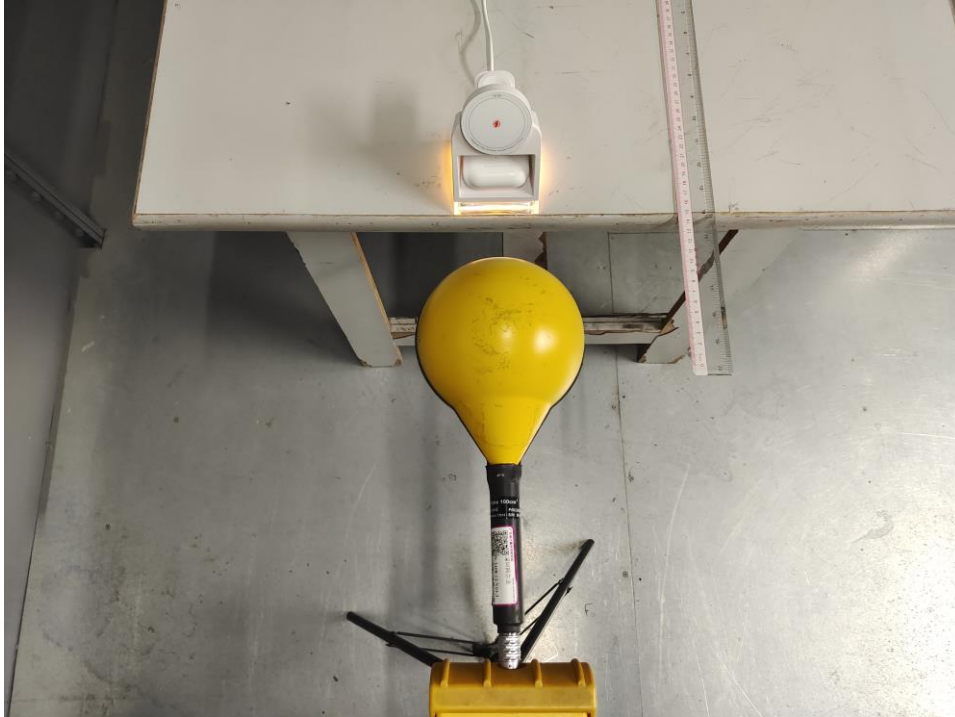
Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.325	0.459	0.450	0.458	0.442	0.454	0.815	1.63

Maximum Simultaneous transmission EMF Ratios:

	Max EMF ratio 129kHz/Limit	Max EMF ratio 138kHz/Limit	Max EMF ratio 325kHz/Limit	ΣEMF ratios	Limit	Result
E-Field	0.001632	0.001594	0.001459	0.004686	1	PASS
H-Filed	0.280982	0.285890	0.281595	0.848466	1	PASS

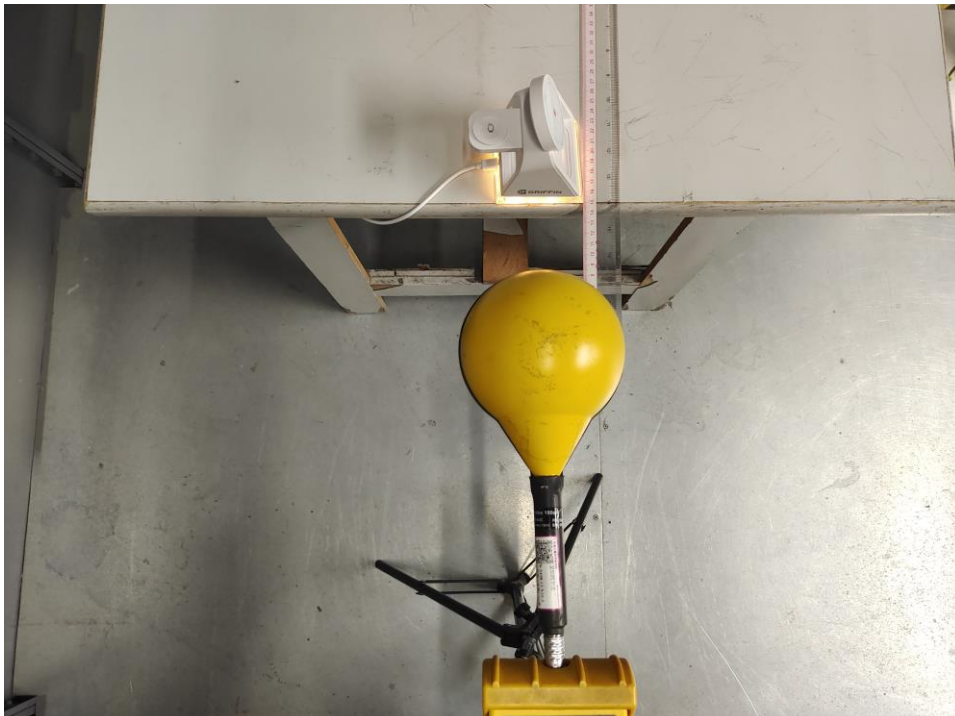
4 Photos of test setup

For Full load mode(129kHz)



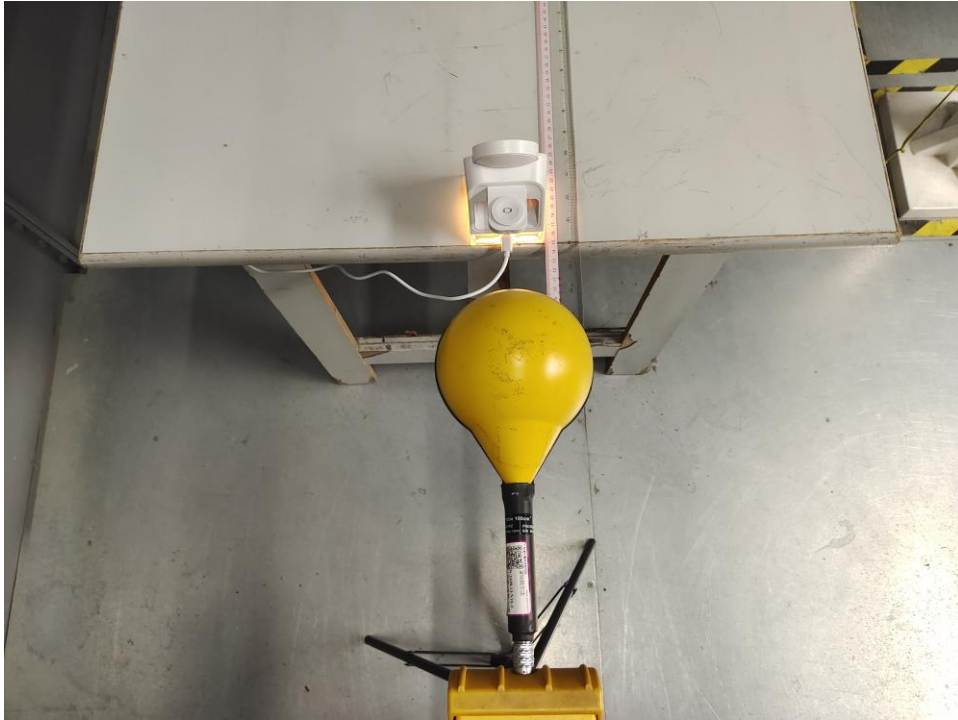
15cm A Position

For Full load mode(129kHz)



15cm B Position

For Full load mode(129kHz)



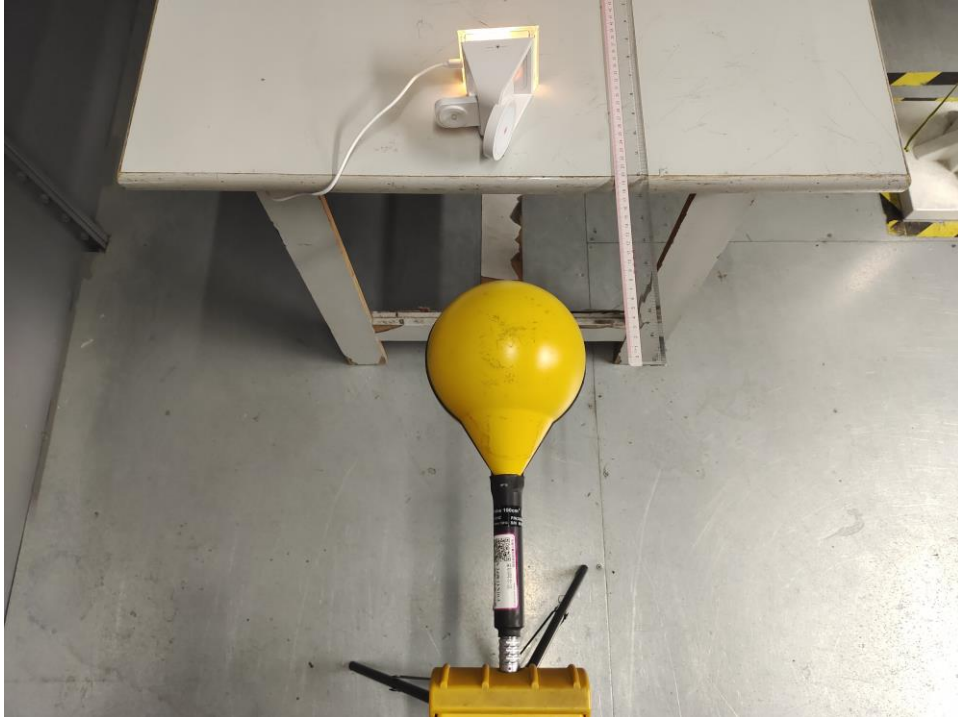
15cm C Position

For Full load mode(129kHz)



15cm D Position

For Full load mode(129kHz)



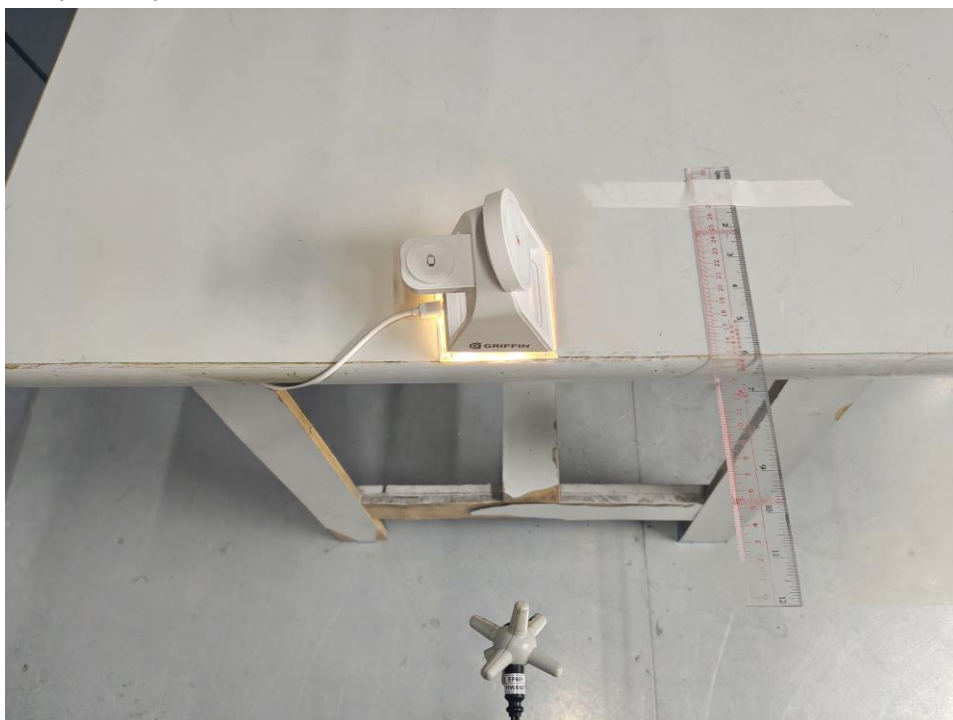
20cm E Position

For Full load mode(129kHz)



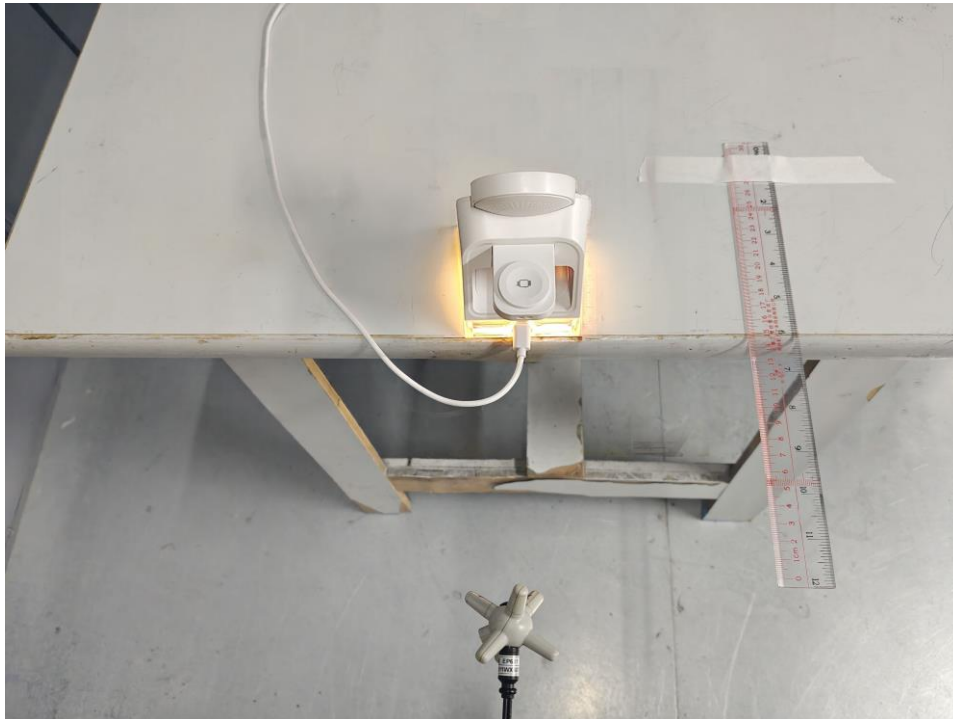
15cm A Position

For Full load mode(129kHz)



15cm B Position

For Full load mode(129kHz)



15cm C Position

For Full load mode(129kHz)



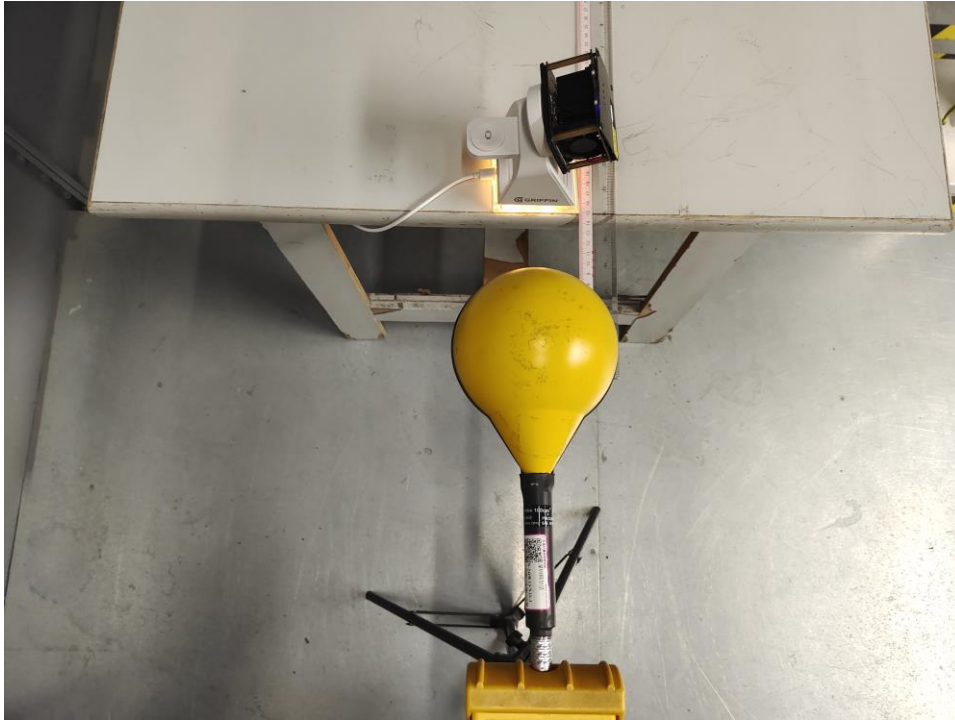
15cm D Position

For Full load mode(129kHz)



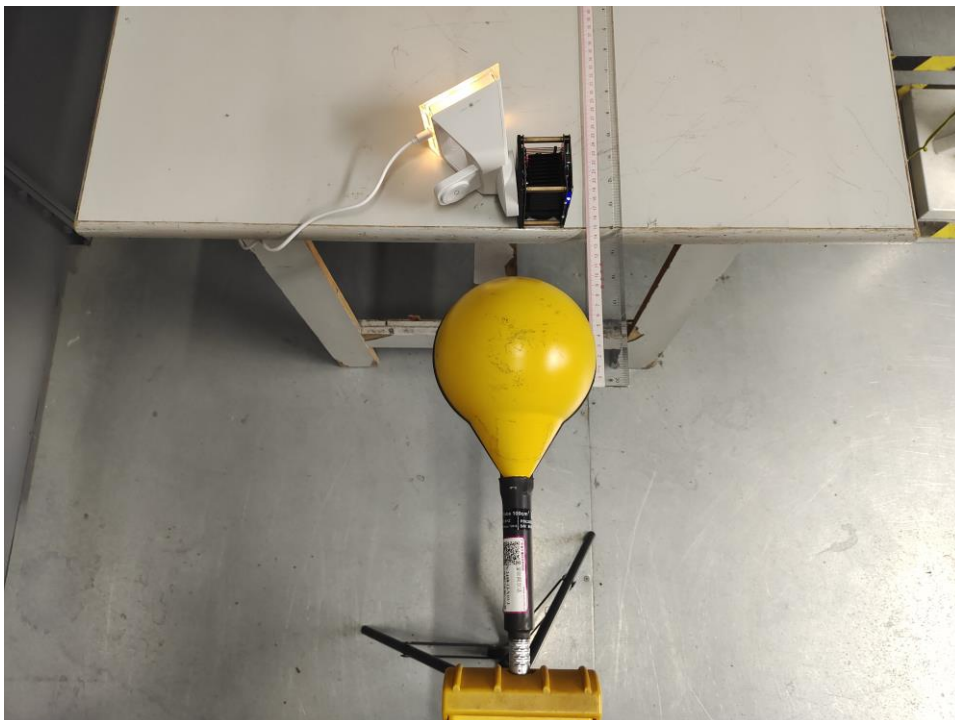
20cm E Position

For Full load mode(138kHz)



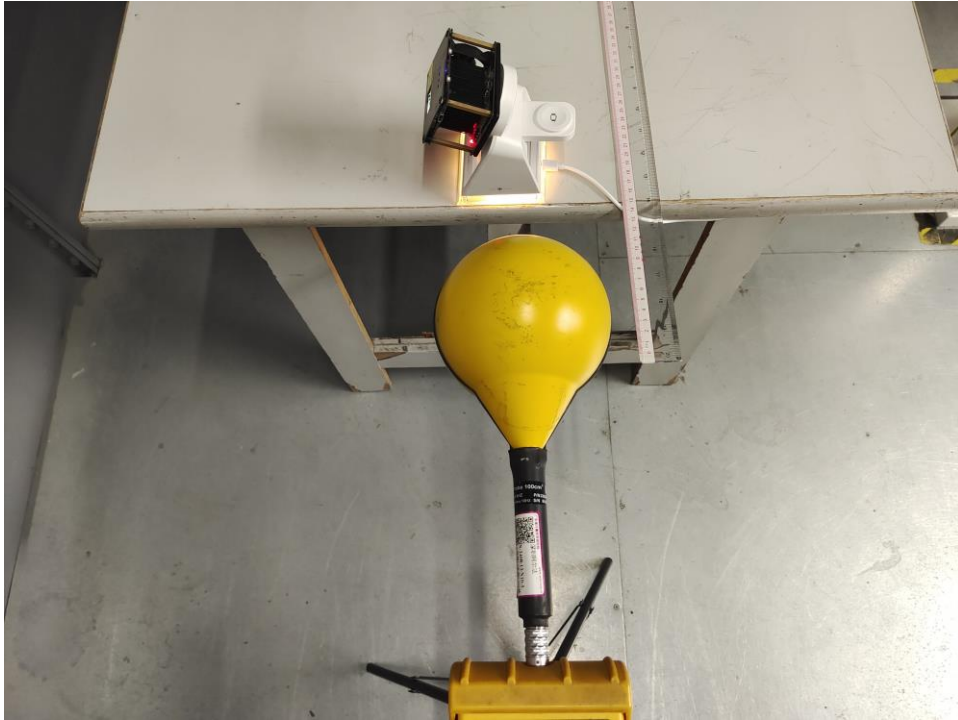
15cm A Position

For Full load mode(138kHz)



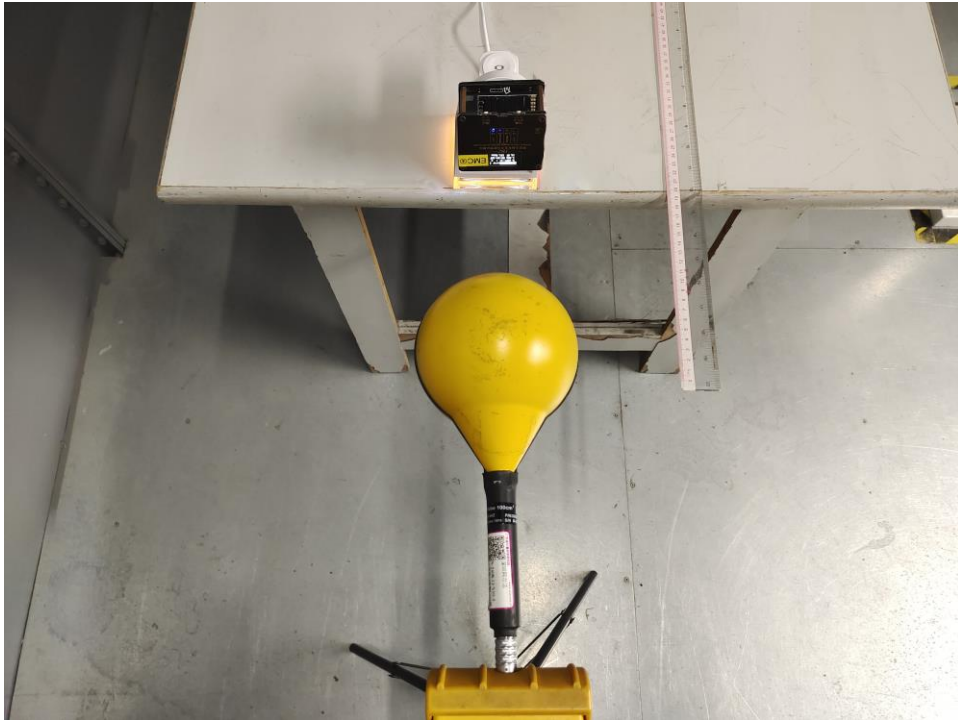
15cm B Position

For Full load mode(138kHz)



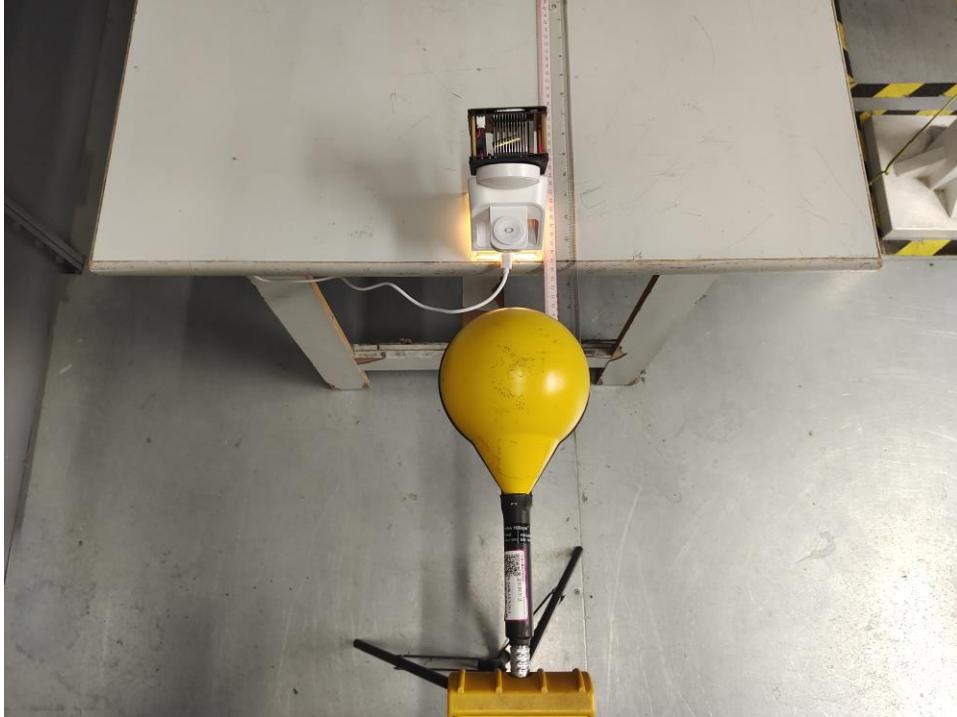
15cm C Position

For Full load mode(138kHz)



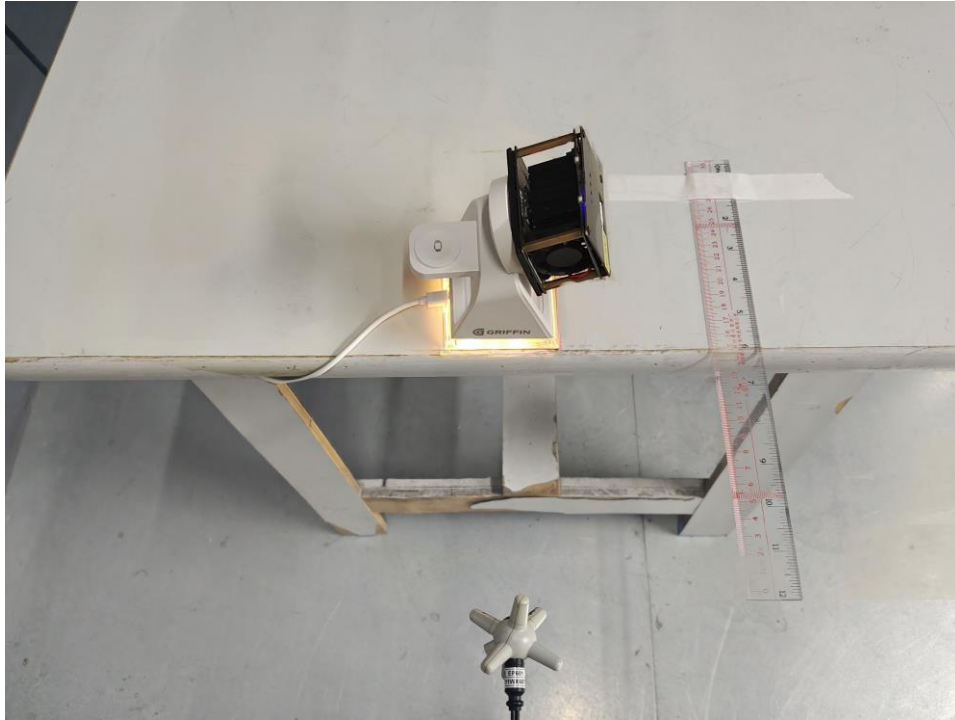
20cm E Position

For Full load mode(138kHz)



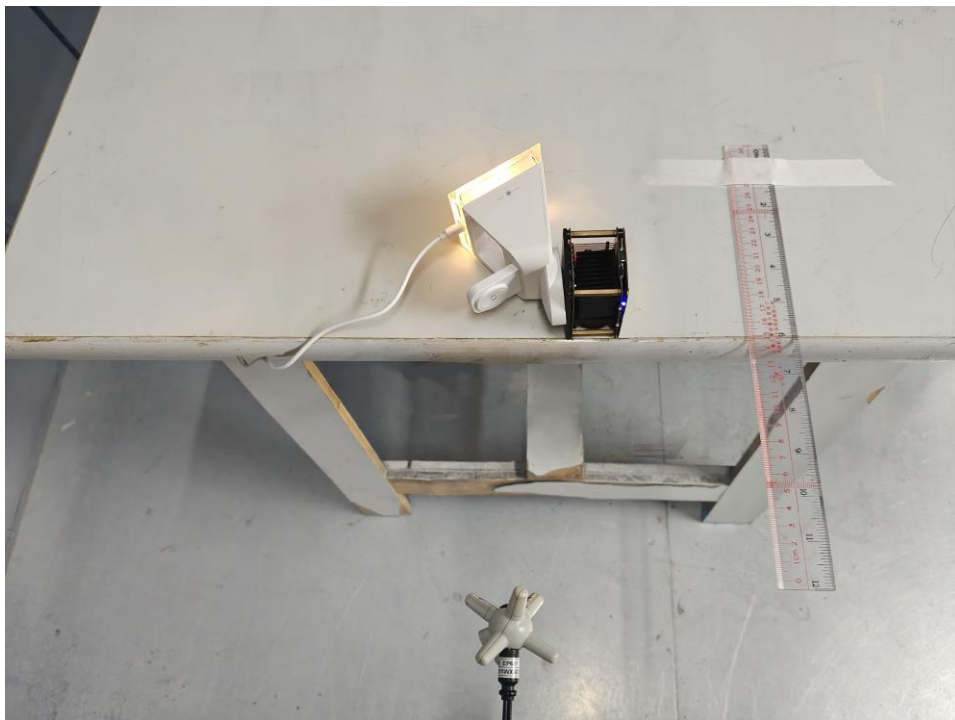
15cm F Position

For Full load mode(138kHz)



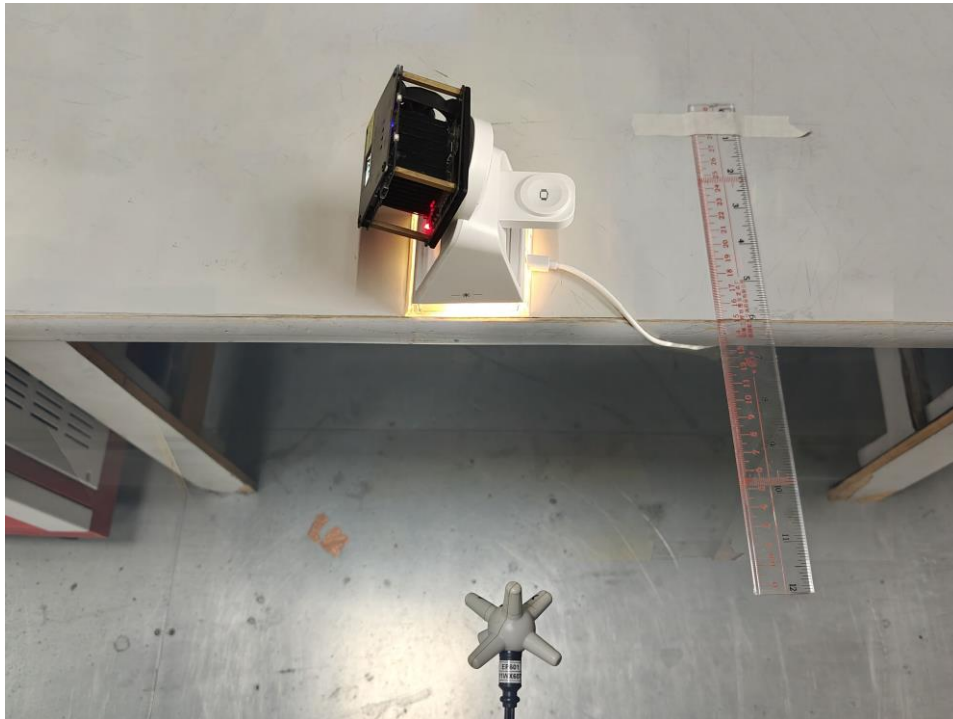
15cm A Position

For Full load mode(138kHz)



15cm B Position

For Full load mode(138kHz)



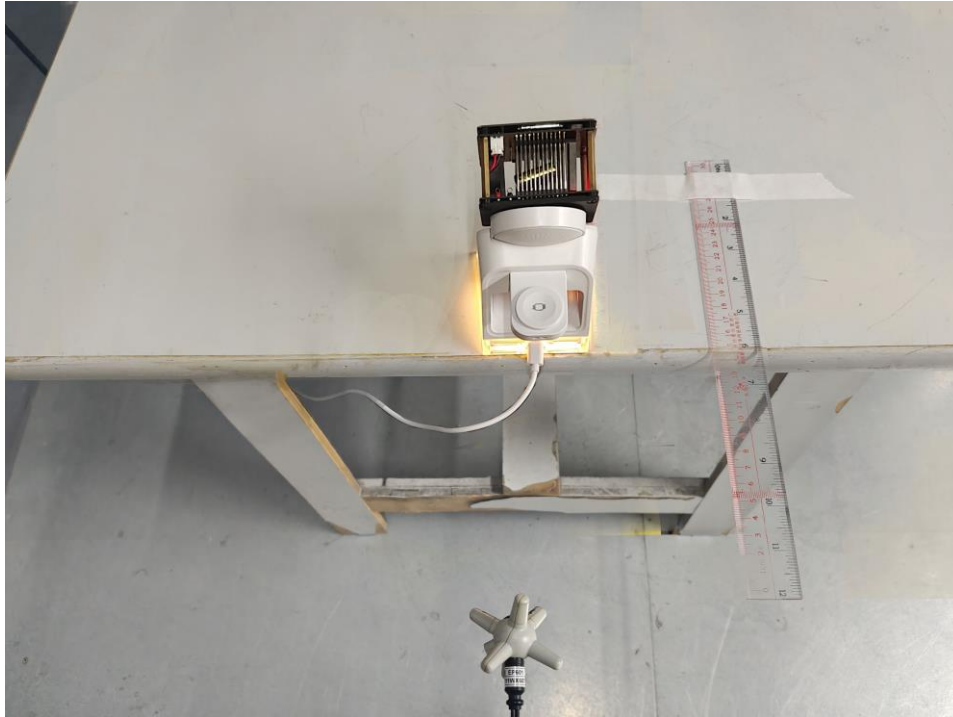
15cm C Position

For Full load mode(138kHz)



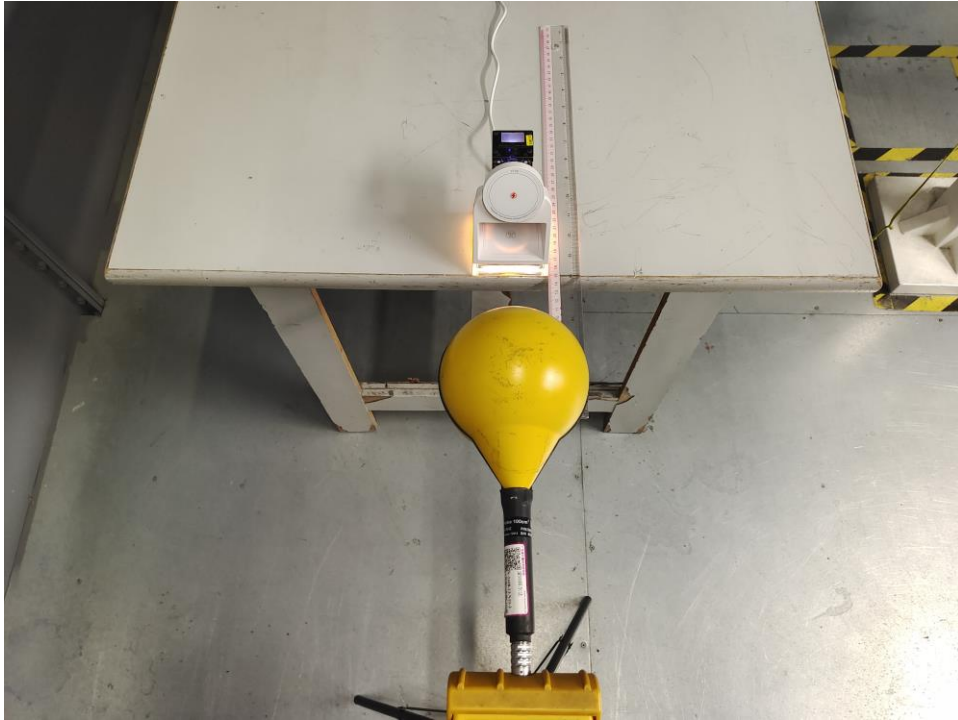
20cm E Position

For Full load mode(138kHz)



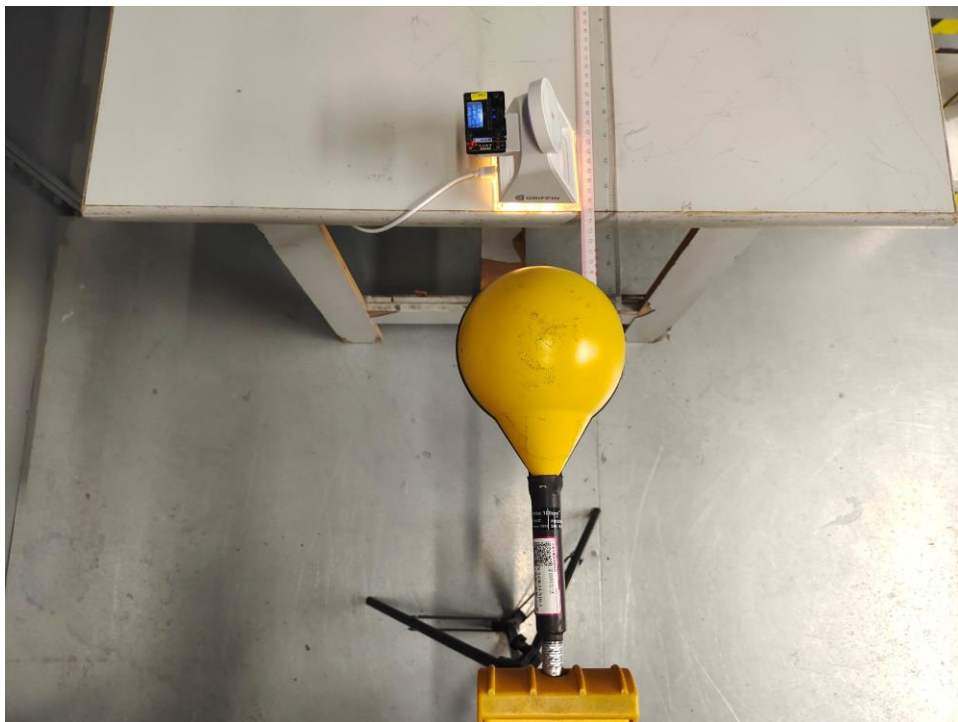
15cm F Position

For Full load mode(325kHz)



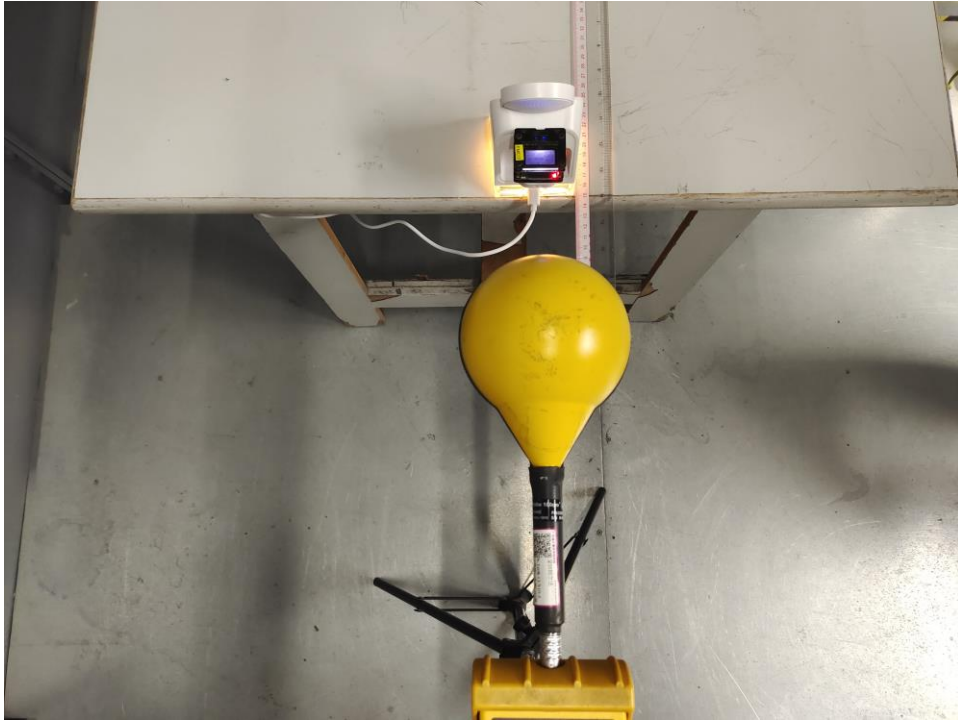
15cm A Position

For Full load mode(325kHz)



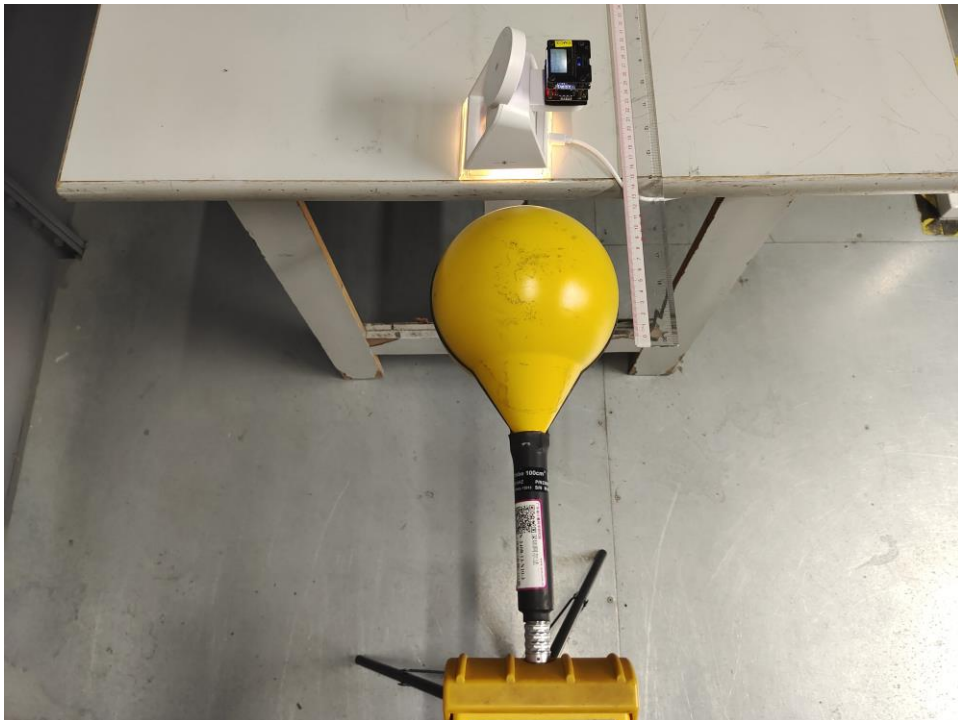
15cm B Position

For Full load mode(325kHz)



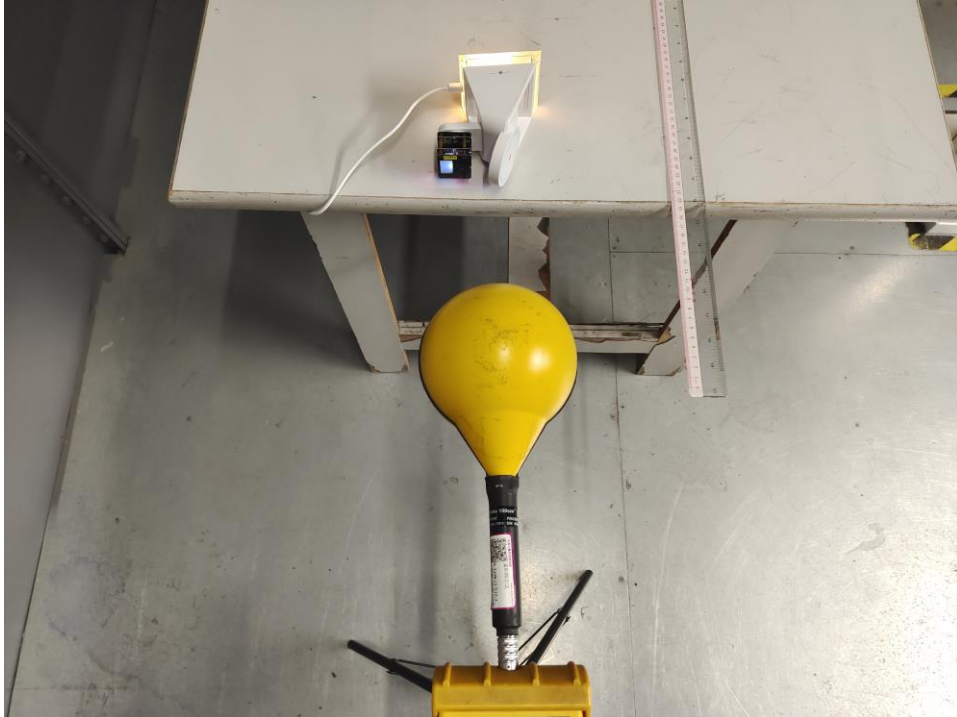
15cm C Position

For Full load mode(325kHz)



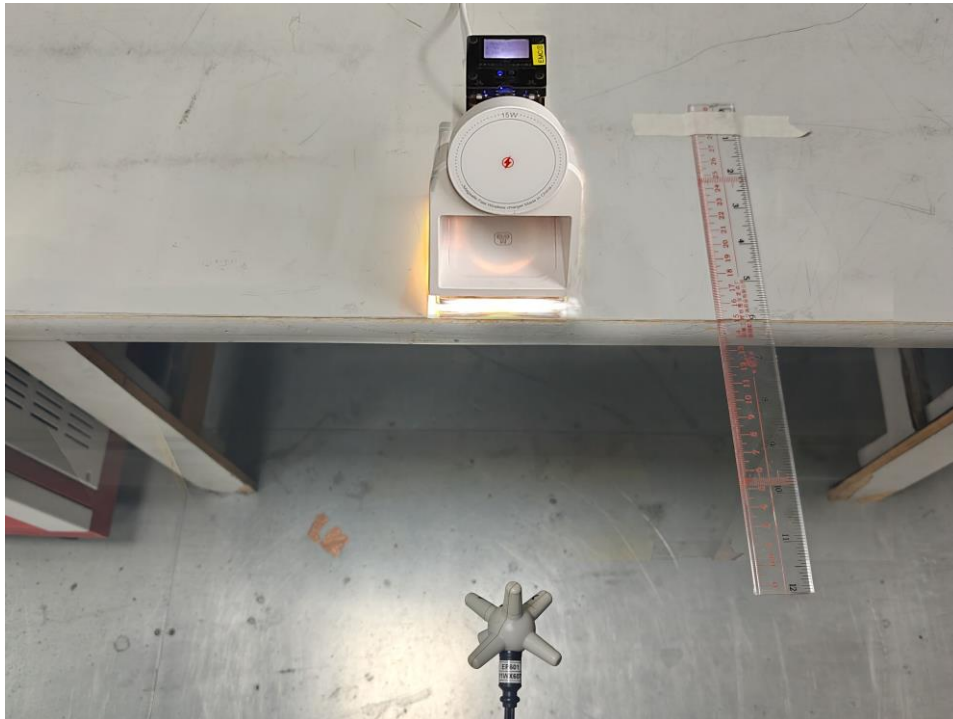
15cm D Position

For Full load mode(325kHz)



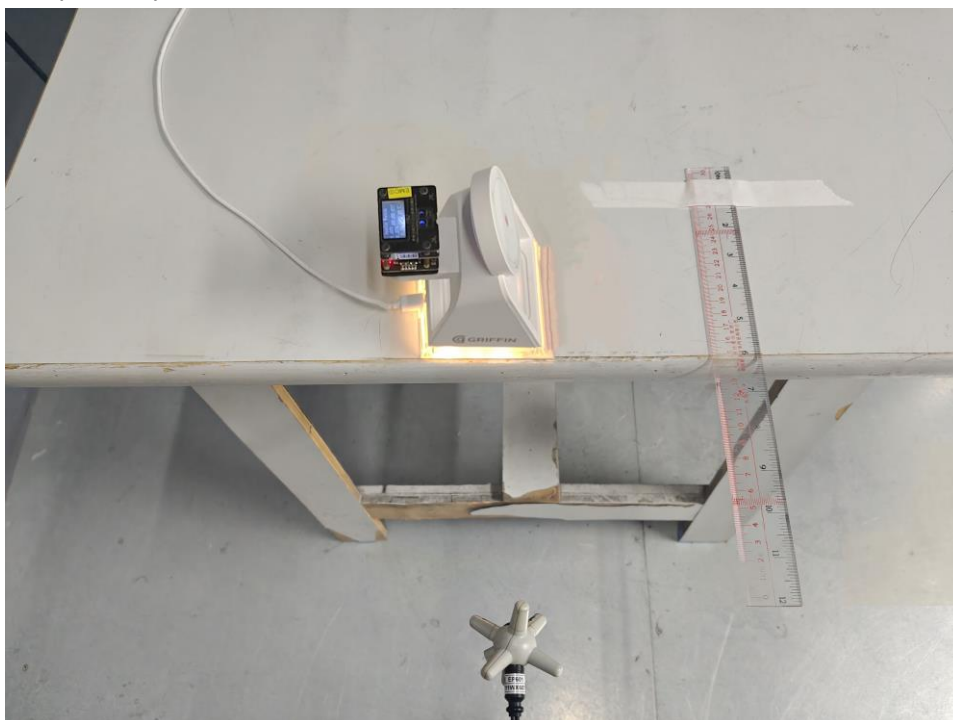
20cm E Position

For Full load mode(325kHz)



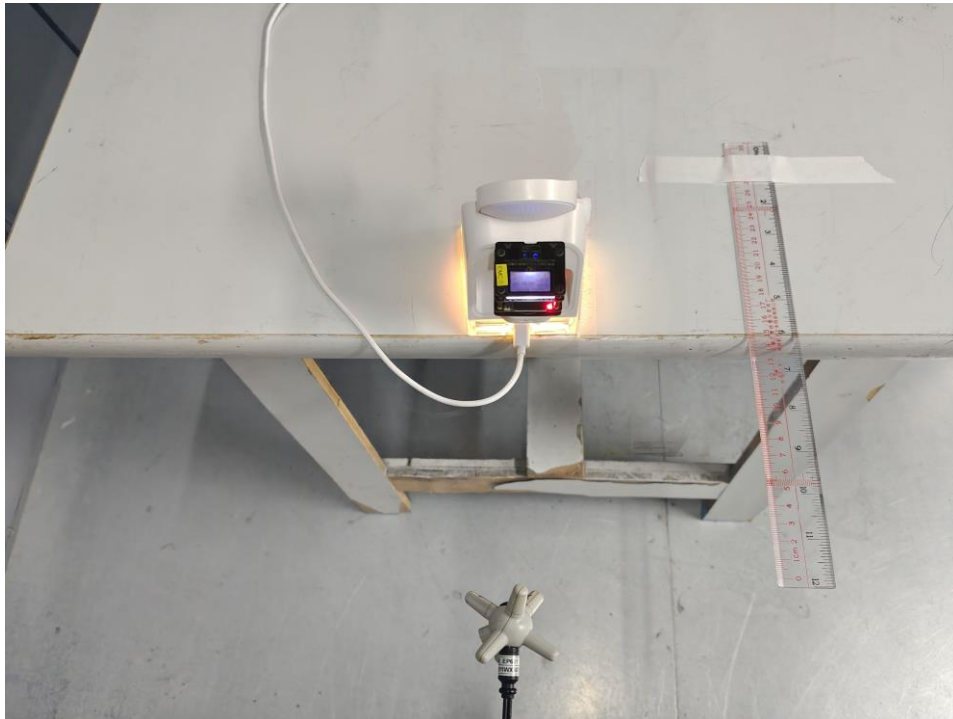
15cm A Position

For Full load mode(325kHz)



15cm B Position

For Full load mode(325kHz)



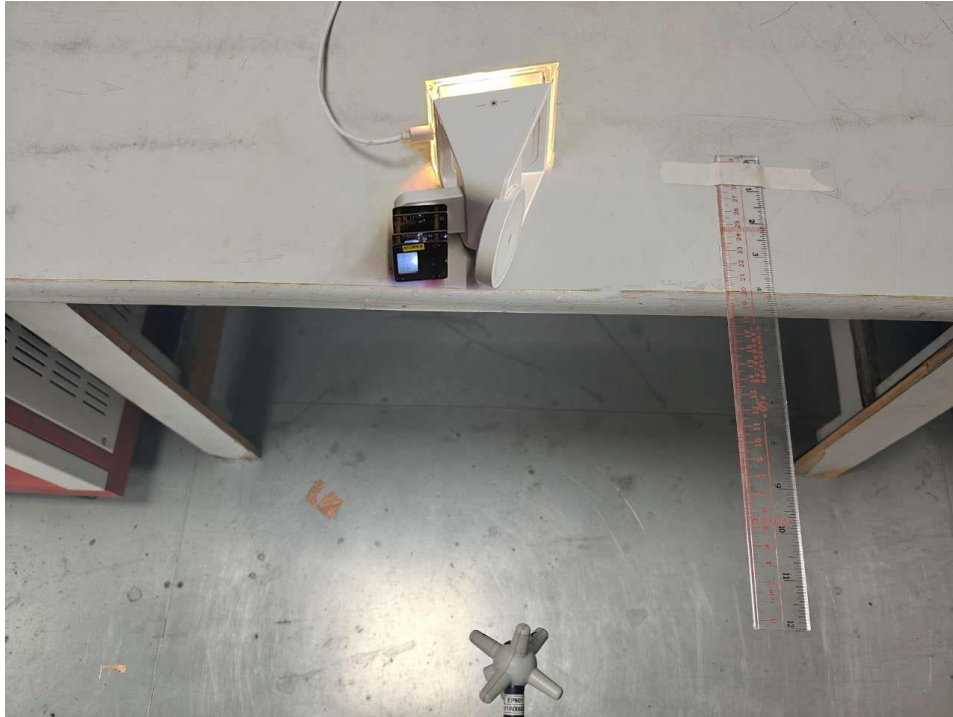
15cm C Position

For Full load mode(325kHz)



15cm D Position

For Full load mode(325kHz)



20cm E Position

5 Photographs of EUT

Please refer to the report A2412256-C01-R01.

-----End of Report-----