

FCC Test Report

Applicant : TELEPHONE EST (HK) CO., LTD

Address : Room709, 7F, FuLi tianhe commercial building,
: Linhe, East Road and tianhe district,
Guangzhou, China

Product Name : 15W Magnetic Car Wireless Charger

Report Date : Sept. 22, 2023

Shenzhen Anbotek Compliance Laboratory Limited



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FCC ID: 2ACE5-IHCM

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TEST REPORT

Applicant : TELEPHONE EST (HK) CO., LTD
Manufacturer : Telephone Est Electronics Factory (Zhong Shan)
Product Name : 15W Magnetic Car Wireless Charger
Test Model No. : 2IHCM0840
Reference Model No. : 2IHCM0840B0G7, 2IHCM0840W0G7
Trade Mark : N/A
Rating(s) : Input: 5V= 2A, 9V= 2A
Output: 15W Max
Test Standard(s) : 47 CFR Part 15.209

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt:

Sept. 05, 2023

Date of Test:

Sept. 06, 2023 to Sept. 08, 2023

Prepared By:

Stella Zhu

(Stella Zhu)

Approved & Authorized Signer:

Edward Pan

(Edward Pan)

Shenzhen Anbotek Compliance Laboratory Limited

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Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Sept. 22, 2023

Shenzhen Anbotek Compliance Laboratory Limited

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1. General Information

1.1. Client Information

Applicant	:	TELEPHONE EST (HK) CO., LTD
Address	:	Room709, 7F, FuLi tianhe commercial building, Linhe, East Road and tianhe district, Guangzhou, China
Manufacturer	:	Telephone Est Electronics Factory (Zhong Shan)
Address	:	No.2 Heyuan Shengfeng Road,Xiaolan Town, Zhongshan, China
Factory	:	Telephone Est Electronics Factory (Zhong Shan)
Address	:	No.2 Heyuan Shengfeng Road,Xiaolan Town, Zhongshan, China

1.2. Description of Device (EUT)

Product Name	:	15W Magnetic Car Wireless Charger
Test Model No.	:	2IHCM0840
Reference Model No.	:	2IHCM0840B0G7, 2IHCM0840W0G7 (Note: All samples are the same except the model number and color, so we prepare "2IHCM0840" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	AC 120V, 60Hz for Adapter
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A

RF Specification

Operation Frequency	:	110.1-205kHz
Modulation Type	:	FSK
Antenna Type	:	Inductive loop coil Antenna
Antenna Gain(Peak)	:	0 dBi

Remark:

- (1) All of the RF specification are provided by customer.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



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1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
Wireless load	BAECOAR	15W Smart wireless charger fixture wireless charging	/
Xiaomi 67W adapter(CE)	Xiaomi	MDY-13-ES	WA622091100375G

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1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	WTP Mode

1.5. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.4dB
Radiated emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



1.6. Test Summary

Test Items	Test Modes	Status
Antenna requirement	/	P
Conducted Emission at AC power line	Mode1	P
Emissions in frequency bands (below 30MHz)	Mode1	P
Emissions in frequency bands (30MHz - 1GHz)	Mode1	P
Note: P: Pass N: N/A, not applicable		



1.7. Description of Test Facility

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

FCC-Registration No.:184111

Shenzhen Anbotech Compliance Laboratory Limited, 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 No. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotech Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotech Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128

1.8. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotech and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



1.9. Test Equipment List**Conducted Emission at AC power line**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2022-10-23	2023-10-22
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2023-07-05	2024-07-04
3	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2022-10-13	2023-10-12
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Emissions in frequency bands (below 30MHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESPI7	101340	2023-02-22	2024-02-21
2	Pre-amplifier	Emtrace	RP01A	00517	2023-02-22	2024-02-21
3	Loop Antenna (9K-30M)	Schwarzbeck	FMZB1519 B	00053	2022-10-23	2023-10-22
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Emissions in frequency bands (30MHz - 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	Pre-amplifier	SONOMA	310N	186860	2022-10-23	2023-10-22
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/



2. Antenna requirement

Test Requirement:

Refer to 47 CFR Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section.

2.1. Conclusion

The antenna is a Inductive loop coil antenna which permanently attached, and the best case gain of the antenna is 0 dBi . It complies with the standard requirement.



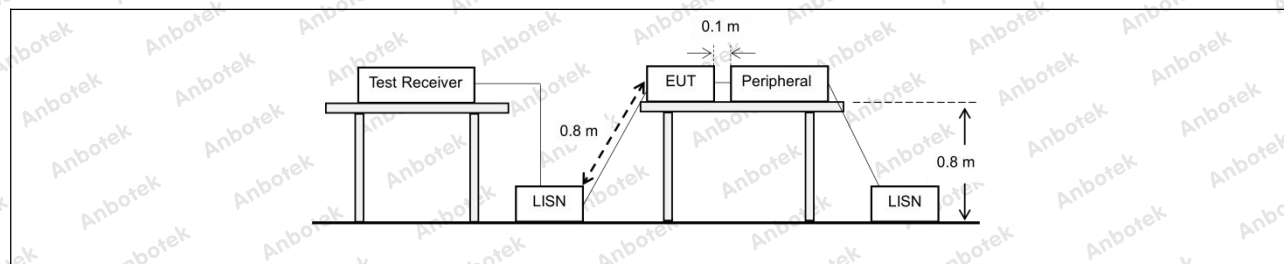
3. Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test 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.		
Test Method:	ANSI C63.10-2020 section 6.2		
Procedure:	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

3.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: WTP Mode

3.2. Test Setup



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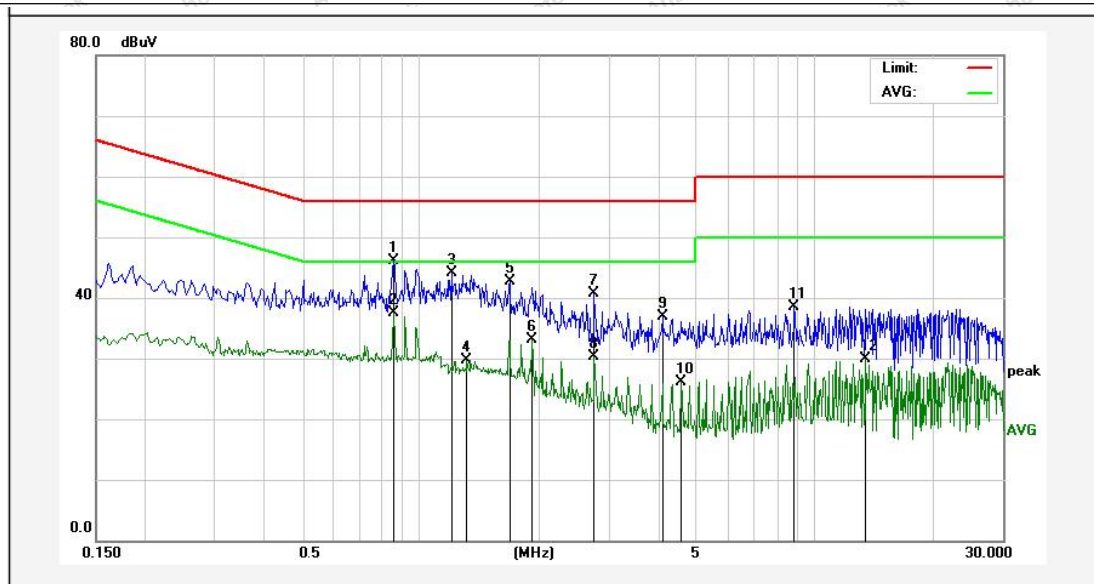
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3.3. Test Data

Temperature:	24.5 °C	Humidity:	63 %	Atmospheric Pressure:	97 kPa
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TM1 / Line: Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.8578	26.31	19.86	46.17	56.00	-9.83	QP	
2	0.8578	17.73	19.86	37.59	46.00	-8.41	AVG	
3	1.1978	24.16	19.85	44.01	56.00	-11.99	QP	
4	1.3099	9.93	19.86	29.79	46.00	-16.21	AVG	
5	1.6818	22.77	19.85	42.62	56.00	-13.38	QP	
6	1.9218	13.18	19.85	33.03	46.00	-12.97	AVG	
7	2.7580	20.85	19.85	40.70	56.00	-15.30	QP	
8	2.7580	10.42	19.85	30.27	46.00	-15.73	AVG	
9	4.0979	16.99	19.85	36.84	56.00	-19.16	QP	
10	4.5739	6.24	19.86	26.10	46.00	-19.90	AVG	
11	8.8338	18.64	19.95	38.59	60.00	-21.41	QP	
12	13.4977	9.82	20.09	29.91	50.00	-20.09	AVG	



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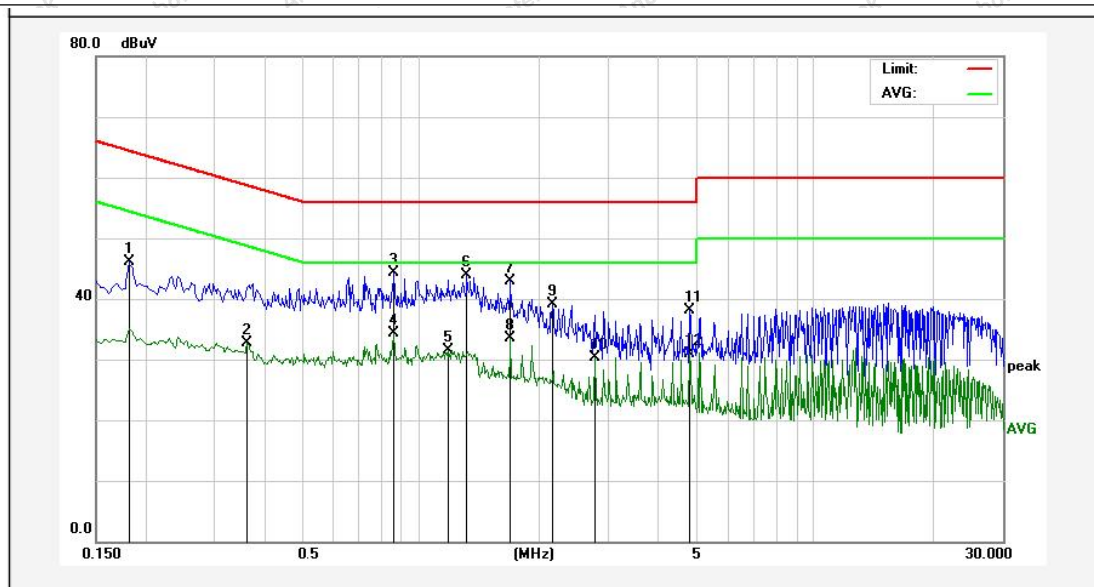
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Temperature: 24.5 °C

Humidity: 63 %

Atmospheric Pressure: 97 kPa

TM1 / Line: Neutral



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1819	26.19	19.82	46.01	64.39	-18.38	QP	
2	0.3618	12.86	19.82	32.68	48.69	-16.01	AVG	
3	0.8578	24.41	19.86	44.27	56.00	-11.73	QP	
4	0.8578	14.46	19.86	34.32	46.00	-11.68	AVG	
5	1.1737	11.72	19.85	31.57	46.00	-14.43	AVG	
6	1.3140	24.05	19.86	43.91	56.00	-12.09	QP	
7	1.6898	23.13	19.85	42.98	56.00	-13.02	QP	
8	1.6898	13.67	19.85	33.52	46.00	-12.48	AVG	
9	2.1659	19.18	19.85	39.03	56.00	-16.97	QP	
10	2.7740	10.49	19.85	30.34	46.00	-15.66	AVG	
11	4.8219	18.17	19.86	38.03	56.00	-17.97	QP	
12	4.8219	10.96	19.86	30.82	46.00	-15.18	AVG	



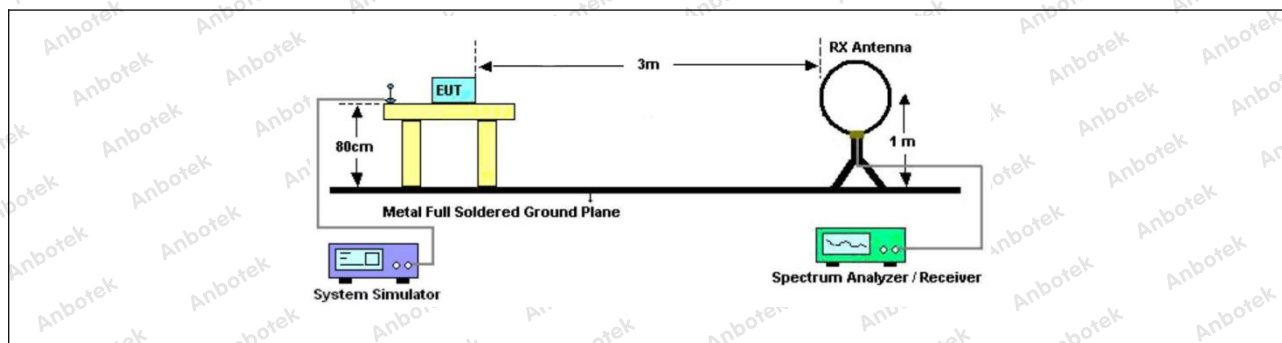
4. Emissions in frequency bands (below 30MHz)

Test Requirement:	47 CFR Part 15.209		
Test 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
	Above 960	500	3
<p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.</p>			
Test Method:	ANSI C63.10-2020 section 6.4		
Procedure:	ANSI C63.10-2020 section 6.4		

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: WTP Mode

4.2. Test Setup



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4.3. Test Data

Temperature:	23 °C	Humidity:	57.6 %	Atmospheric Pressure:	101 kPa
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TM1 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor ()	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	0.0123	7.69	20.12	27.81	125.61	-97.80	QP			
2	0.0199	4.84	20.29	25.13	121.46	-96.33	QP			
3	0.0351	13.08	20.49	33.57	116.56	-82.99	QP			
4	0.0450	16.57	20.46	37.03	114.41	-77.38	QP			
5	0.0772	1.61	20.37	21.98	109.75	-87.77	QP			
6	0.1318	29.13	20.34	49.47	105.14	-55.67	QP			



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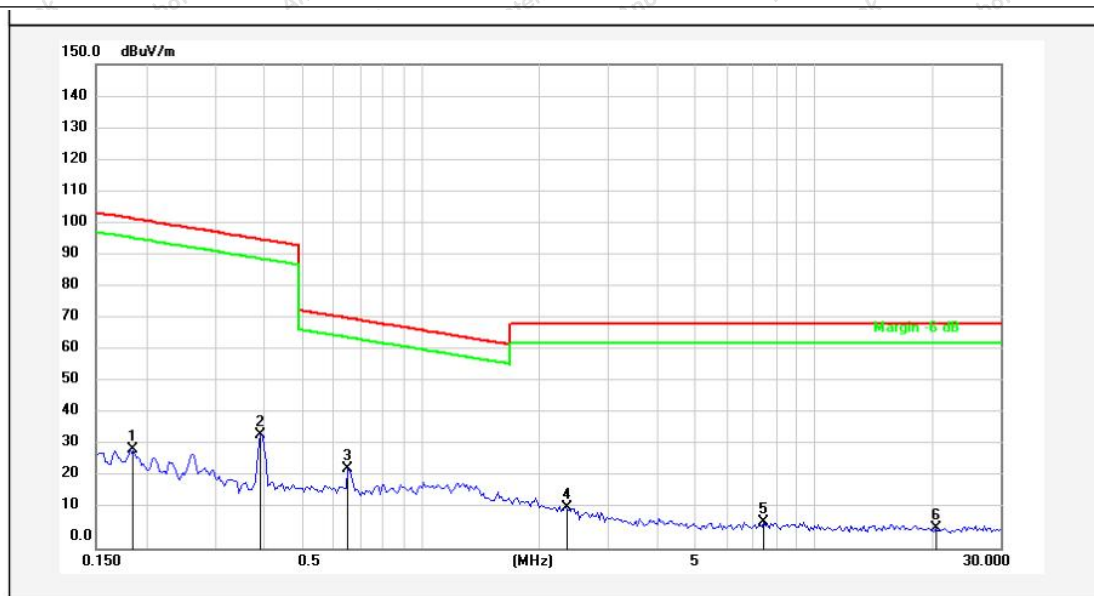
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Temperature: 23 °C

Humidity: 57.6 %

Atmospheric Pressure: 101 kPa

TM1 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor ()	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	0.1835	10.11	20.32	30.43	102.30	-71.87	QP			
2	0.3933	14.96	20.28	35.24	95.70	-60.46	QP			
3	0.6543	4.32	20.26	24.58	71.30	-46.72	QP			
4	2.3336	-7.86	20.29	12.43	69.50	-57.07	QP			
5	7.4860	-12.46	20.48	8.02	69.50	-61.48	QP			
6	20.4854	-14.39	20.60	6.21	69.50	-63.29	QP			



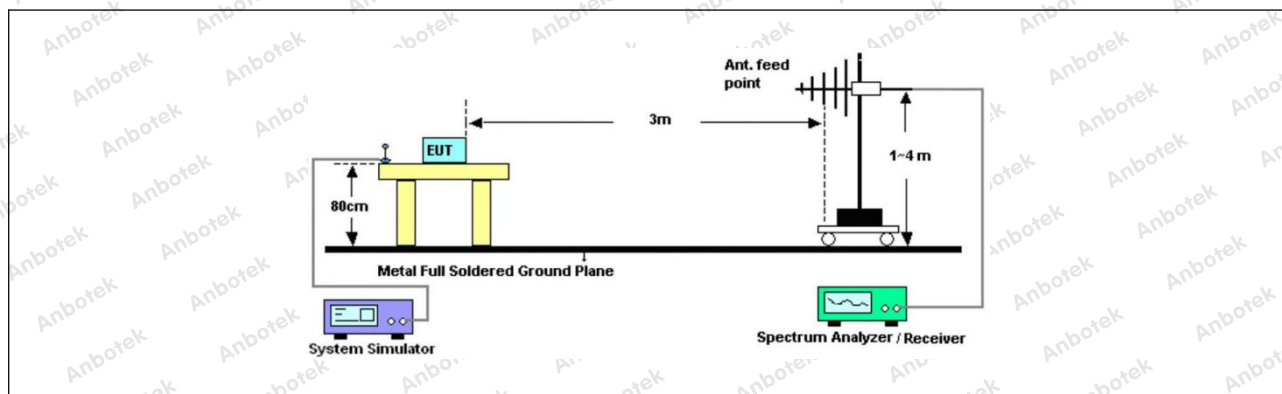
5. Emissions in frequency bands (30MHz - 1GHz)

Test Requirement:	47 CFR Part 15.209		
Test 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
	Above 960	500	3
<p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.</p>			
Test Method:	ANSI C63.10-2020 section 6.5		
Procedure:	ANSI C63.10-2020 section 6.5		

5.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: WTP Mode

5.2. Test Setup



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5.3. Test Data

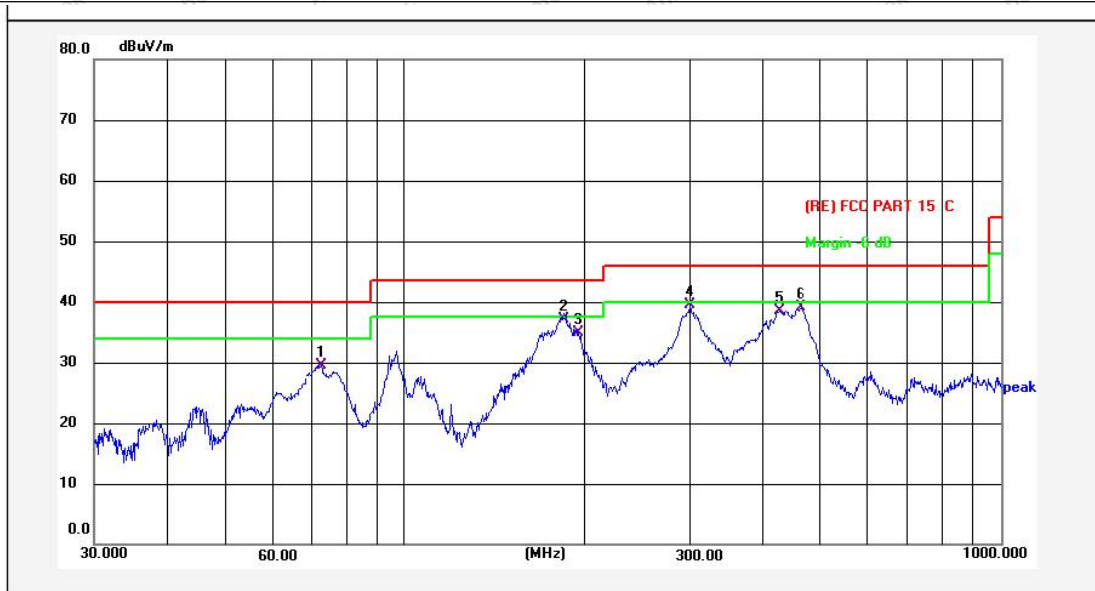
Temperature: 24 °C

Humidity: 48.4 %

Atmospheric Pressure:

101.7 kPa

TM1 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	72.4963	54.77	-25.25	29.52	40.00	-10.48	QP			
2	184.6516	60.31	-23.26	37.05	43.50	-6.45	QP			
3	195.3076	57.17	-22.35	34.82	43.50	-8.68	QP			
4	300.6307	59.54	-20.12	39.42	46.00	-6.58	QP			
5	424.2835	55.44	-16.93	38.51	46.00	-7.49	QP			
6	461.7380	55.21	-16.10	39.11	46.00	-6.89	QP			



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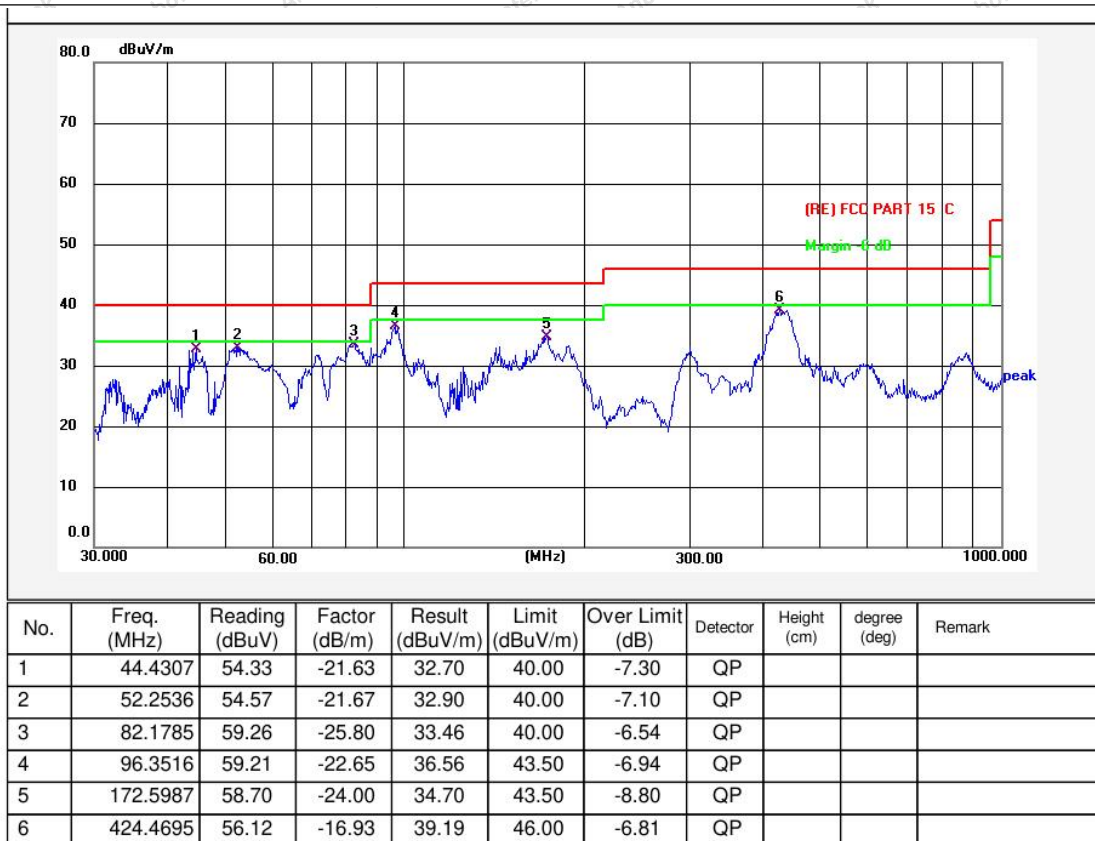
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Temperature: 24 °C

Humidity: 48.4 %

Atmospheric Pressure: 101.7 kPa

TM1 / Polarization: Vertical



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APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

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

