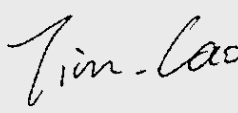
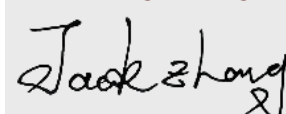




Test report No:
2370297R-RF-US-P06V02

FCC&IC TEST REPORT

Product Name	Wireless Phone Charger
Trademark	Tesla
Model and /or type reference	WC6
FCC ID	2AEIM-WC6
IC	20098-WC6
Applicant's name / address	Tesla, Inc 3500 Deer Creek Road, Palo Alto, 94304 California, United State
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C RSS-210 Issue 10
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao/ Project Manager 
Approved by (name / position & signature)	Jack Zhang/ Manager 
Date of issue	2023-08-23
Report Version	V1.1
Report template No	Template_FCC 15.225-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	July. 12, 2023
Date (start test)	July. 26, 2023
Date (finish test)	Aug. 02, 2023

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2370297R-RF-US-P06V02	V1.0	Initial issue of report.	2023-08-10
2370297R-RF-US-P06V02	V1.1	Page 30~37: Add descriptions to markers; Page 40: Add 99% occupied bandwidth data; Delete wrong data below page 40. (The test report No.: 2370297R-RF-US-P06V02 V1.1 is to replace the test report No.: 2370297R-RF-US-P06V02 V1.0, and test report 2370297R-RF-US-P06V02 V1.0 is obsoleted.)	2023-08-23

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.225 and RSS-210 Issue 10 (2019-12), RSS-Gen Issue 5 (2019-03).
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Informaion;
 - Chapter 1.3 Channel List.

USED EQUIPMENT

Field Strength of Fundamental, E-field Emission/ Field Strength of Spurious/ Frequency Stability/ Emission Bandwidth (9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
EMI Test Receiver	R&S	ESCI	100573	2022.09.17	2023.09.16
Loop Antenna	R&S	HFH2-Z2E	101149	2023.04.25	2024.04.24
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2023.02.10	2024.02.09
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2023.05.21	2024.05.20
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2023.05.19	2024.05.18

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Test item	Uncertainty
AC Power Line Conducted Emission	± 2.02 dB
Radiated Emission(9KHz~30MHz)	Horizontal: 9KHz~30MHz: 2.10 dB Vertical: 30MHz~200MHz: 2.30 dB
Radiated Emission(30MHz~1GHz)	± 3.80 dB
Occupied Bandwidth	± 1 kHz

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name..... :	Wireless Phone Charger
Model No. :	WC6
Trademark	Tesla
FCC ID	2AEIM-WC6
IC ID..... :	20098-WC6
Software Version	V2015
Hardware Version	24B0
Manufacturer	Tesla, Inc
Manufacturer Address..... :	3500 Deer Creek Road, Palo Alto, 94304 California, United State
Factory1	Xuancheng Luxshare Precision Industry Co., Ltd
Factory1 Address..... :	No.5, Baishou Road, Xuanzhou District, Xuancheng City, An'hui Province, China
Factory2	BCS Automotive Interface Solutions US LLC
Factory2 Address..... :	Carretera estatal 431 KM 2+200, Lote 1 y 2, Parque tecnológico innovacion queretaro, El Marques, CP 76246

Wireless Specification..... :	NFC
Operating frequency range(s)..... :	13.56 MHz
Type of modulation	ASK
Number of channel..... :	1

Rated power supply	Voltage and Frequency	
	☐	AC: 220 – 240 Vac, 50 / 60 Hz,
	☐	AC: 100 – 240 Vac, 50 / 60 Hz
	☒	DC: 48 Vdc
	☐	Battery: 12 Vdc
	☐	Adapter:
Adapter..... :	N/A	
	N/A	
Mounting position..... :	☐	Table top equipment
	☐	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held equipment
	☒	Other: Equipment for vehicular use

1.2. Antenna information

Antenna model..... :	WPC032 antenna		
Antenna Delivery	☒	1TX + 1RX	
	☐	2TX + 2RX	
	☐	Others:.....	
Antenna technology	☒	SISO	
	☐	MIMO	☐ CDD
			☐ Beam-forming
Antenna Type	☐	External	☐ Dipole
			☐ Sectorized
	☒	Internal	☐ Ceramic Chip
			☐ PIFA
			☒ PCB
			☐ Others:

1.3. Channel List

Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	13.56 MHz	--	--	--	--	--	--

Note: The general description of the Item(s), antenna information and channel list in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Mode	Mode 1: Transmit by NFC
-----------	-------------------------

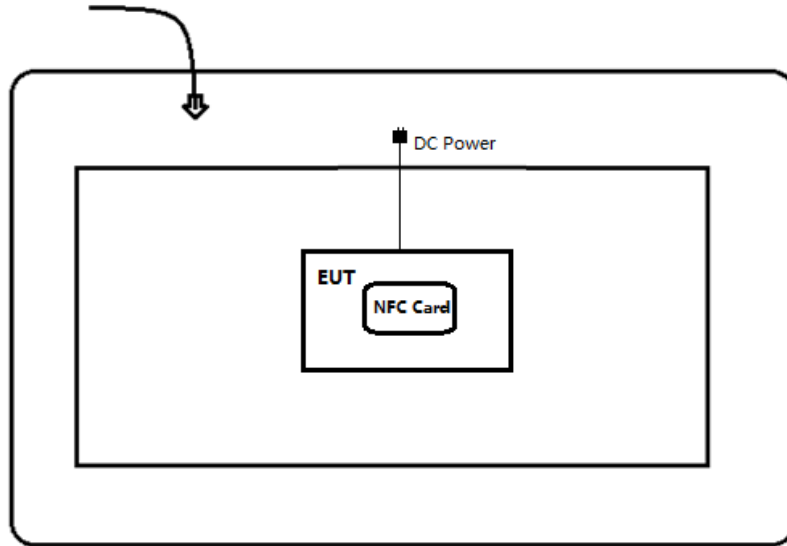
2.2 Support / Auxiliary equipment / unit / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
NFC Card	N/A	Tesla	N/A
software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- Radiated Emission

Chamber



2.4 Testing process

1	Setup the EUT as shown in Section 2.3.
2	Execute the power on the EUT.
3	Verify that the EUT works properly.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.225	2023	Operation within the band 13.110-14.010 MHz
RSS-210 Issue 10	2019	Band 13.110-14.010 MHz

3.2 Overview of results

For FCC

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.207	N/A ¹⁾	---
Field Strength of Fundamental, E-field Emission	FCC CFR Title 47 Part 15 Subpart C Section 15.225(a)(b)(c)	PASS	---
Field Strength of Spurious	FCC CFR Title 47 Part 15 Subpart C Section 15.209 & 15.225(d)	PASS	---
Frequency Stability	FCC CFR Title 47 Part 15 Subpart C Section 15.225(e)	PASS	---
Emission Bandwidth	FCC CFR Title 47 Part 15 Subpart C Section 15.215(c)	PASS	---
Antenna Requirement	FCC CFR Title 47 Part 15 Subpart C Section 15.203	PASS	---
Note 1: Not applicable, this device supplied by DC.			

For ISED

Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	N/A ¹⁾	---
Field Strength of Fundamental, E-field Emission	RSS-210 Issue 10 Section B.6	PASS	---
Field Strength of Spurious	RSS-210 Issue 10, Section B.6 RSS-Gen Issue 5, Section 8.9	PASS	---
Frequency Stability	RSS-210 Issue 10 Section B.6	PASS	---
Emission Bandwidth	RSS-Gen Section 6.7	PASS	---
Antenna Requirement	RSS-Gen Section 8.3	PASS	---
Note 1: Not applicable, this device supplied by DC.			

Performed Test Item	Remark
E-field Emission	Test data please refer to Appendix A
Field Strength of Spurious	Test data please refer to Appendix B
Frequency Stability	Test data please refer to Appendix C
Emission Bandwidth	Test data please refer to Appendix D

3.3 Test Matrix

Test item	Model: WC6		
	1(#1)	2()	3()
E-field Emission	☒	☐	☐
Field Strength of Spurious	☒	☐	☐
Frequency Stability	☒	☐	☐
Emission Bandwidth	☒	☐	☐
Field Strength of Fundamental	☒	☐	☐
Antenna Requirement	☒	☐	☐

3.4 Test Facility

USA	:	FCC Designation Number: CN1199
Canada	:	CAB identifier Number: CN0040

4 TEST RESULTS

4.1 AC Power Line Conducted Emission

VERDICT: N/A

4.1.1 Limit

Standard	FCC Part 15 Subpart E Paragraph 15.207	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

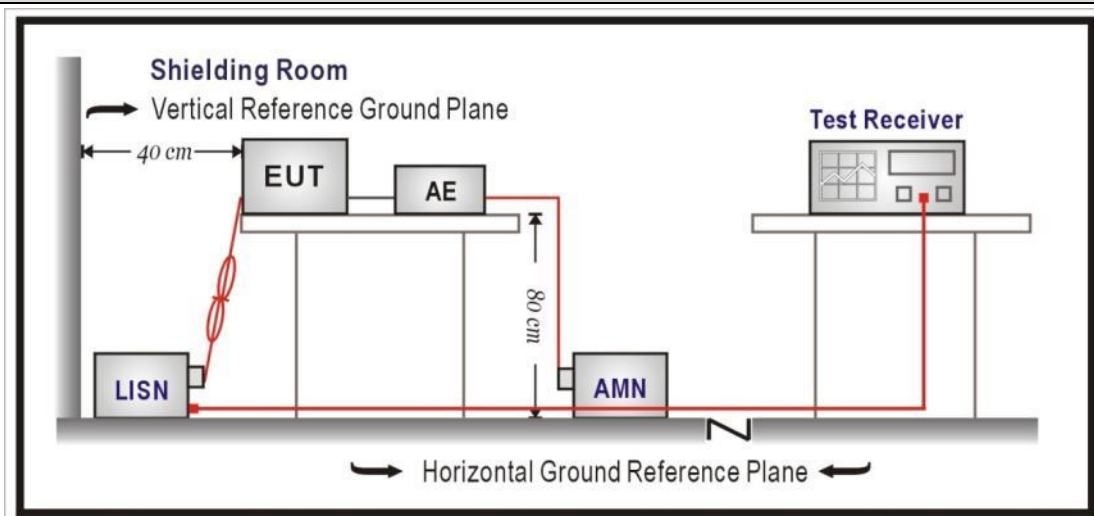
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10-2013	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.2 E-field Emission**VERDICT: PASS****4.2.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.225
-----------------	--

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

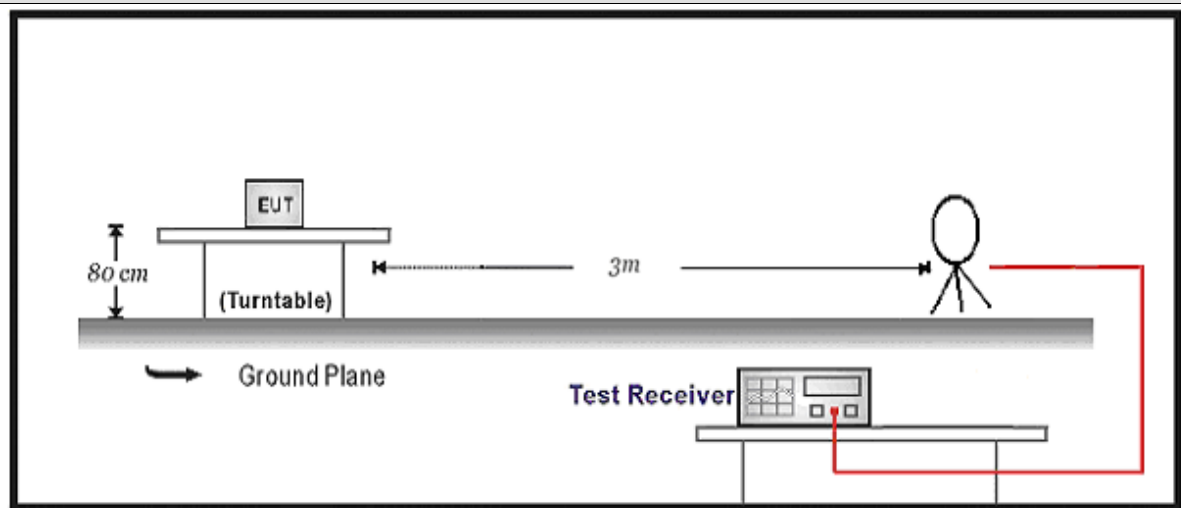
(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

4.2.2 Test Setup

Below 30MHz Test Setup:

**4.2.3 Test Procedure**

	References Rule	Chapter	Description
☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☐	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.3 Field Strength of Spurious**VERDICT: PASS****4.3.1 Limit****Standard**

FCC Part 15 Subpart C Paragraph 15. 209

Restricted Band Emissions Limit

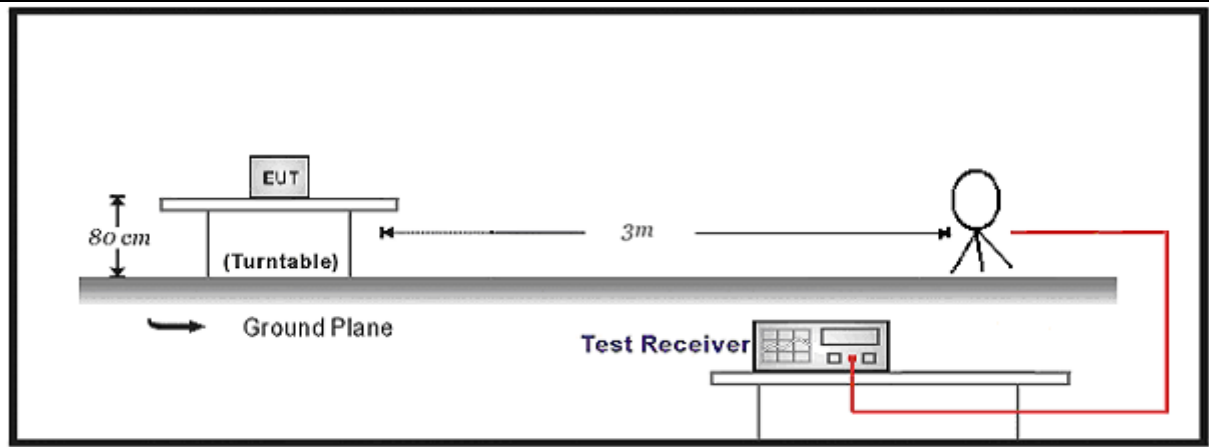
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 ^(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 ^(Note 1)
1.705 - 30	30	29.5	30 ^(Note 1)
30 - 88	100	40	3 ^(Note 2)
88 - 216	150	43.5	3 ^(Note 2)
216 - 960	200	46	3 ^(Note 2)
Above 960	500	54	3 ^(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

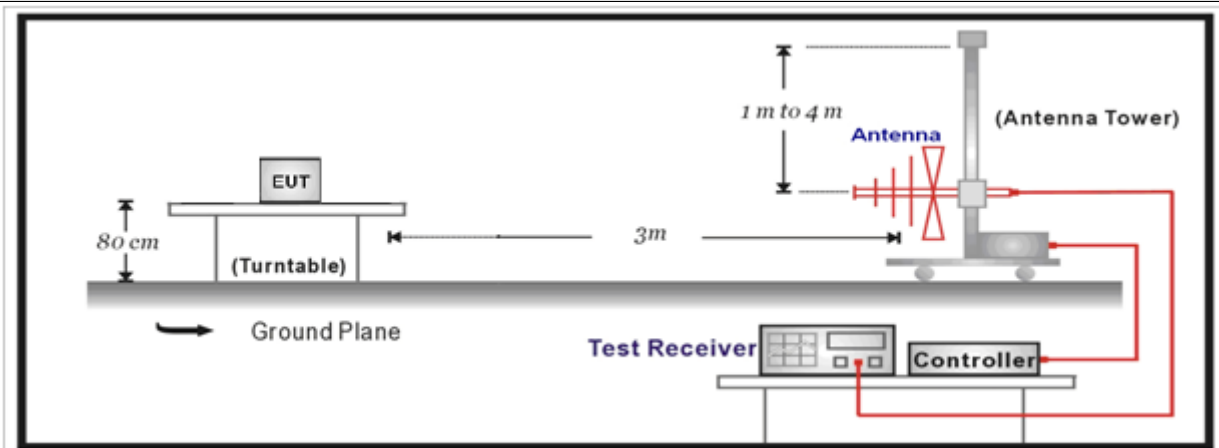
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.3.2 Test Setup

Below 30MHz Test Setup:



30MHz-1GHz Test Setup:

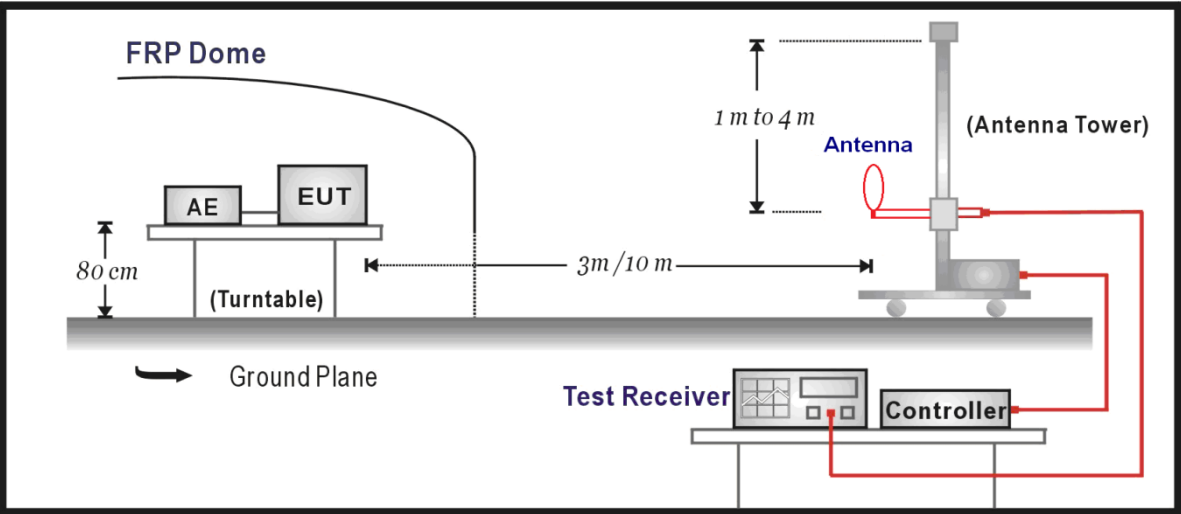


4.3.3 Test Procedure

	References Rule	Chapter	Description
	☒ ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒ ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☐ ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.4 Emission bandwidth	VERDICT: PASS
------------------------	---------------

4.4.1 Limit	
Standard	FCC Part 15 Subpart C Paragraph 15.215
Within the band.	

4.4.2 Test Setup	
	

4.4.3 Test Procedure			
	Reference Rule	Chapter	Description
☒	ANSI C63.10	6.9.2	Occupied bandwidth—relative measurement procedure

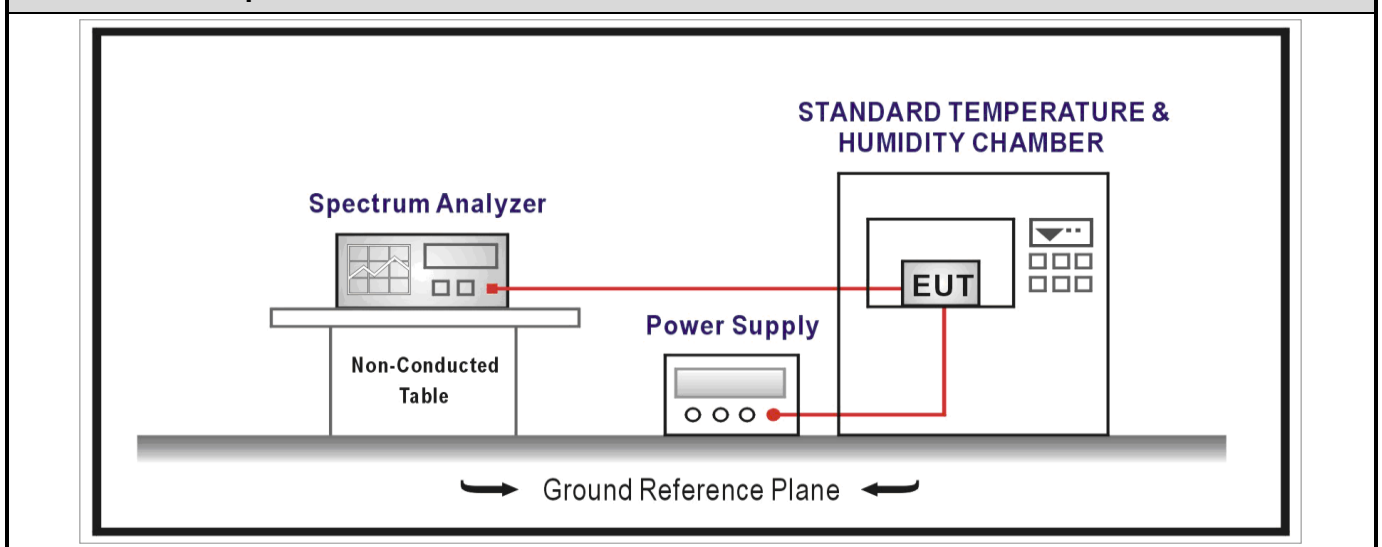
4.5 Frequency Stability

VERDICT: PASS

4.5.1 Limit:

Standard	FCC Part 15 Subpart C Paragraph 15.225(e)
☒	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.5.2 Test Setup



4.5.3 Test Procedure

	References Rule	Chapter	Description
☒	ANSI C63.10	6.8	Frequency stability tests
☒	ANSI C63.10	6.8.1	Frequency stability with respect to ambient temperature
☒	ANSI C63.10	6.8.2	Frequency stability when varying supply voltage

4.6 Antenna Requirement**VERDICT: PASS****4.6.1 Limit:****Standard**

FCC Part 15 Subpart E Paragraph 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. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.6.2 Antenna Connector Construction:

The use of a permanently attached antenna



The antenna use of a unique coupling to the intentional radiator



The use of a nonstandard antenna jack or electrical connector

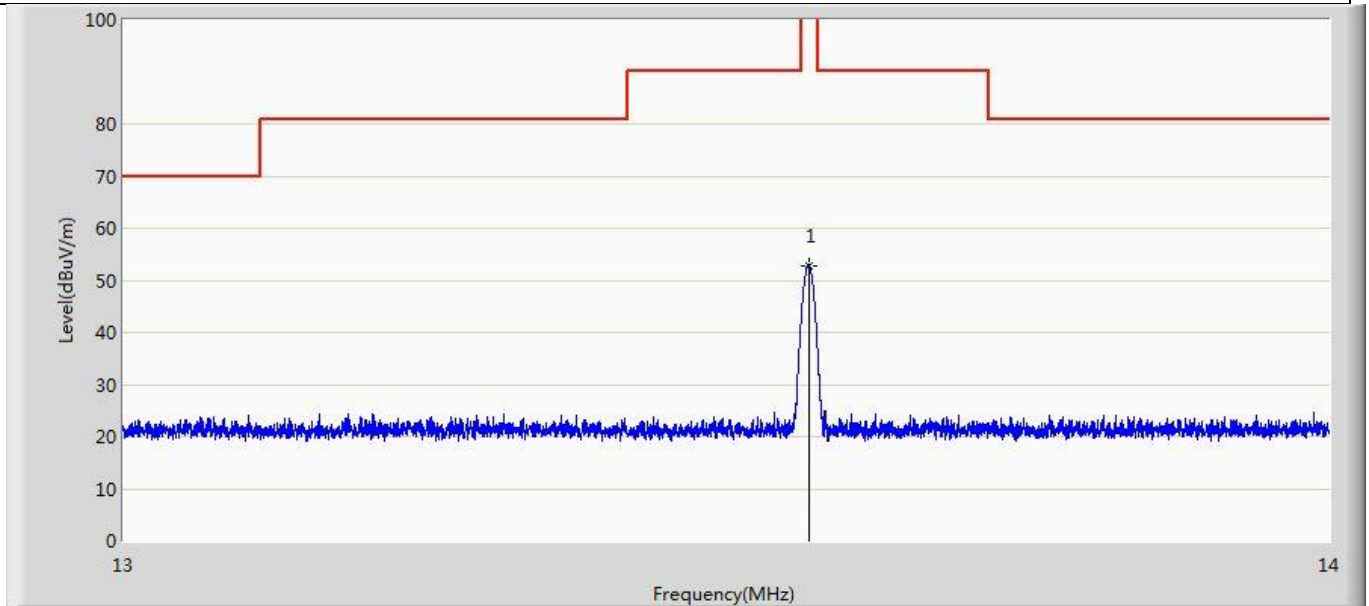
Please refer to the attached document "Internal Photograph" to show the antenna connector.

5 TEST SETUP PHOTO AND EUT PHOTO	VERDICT: PASS
--------------------------------------	------------------

Remark: The test setup photo and EUT Photo please see appendix.

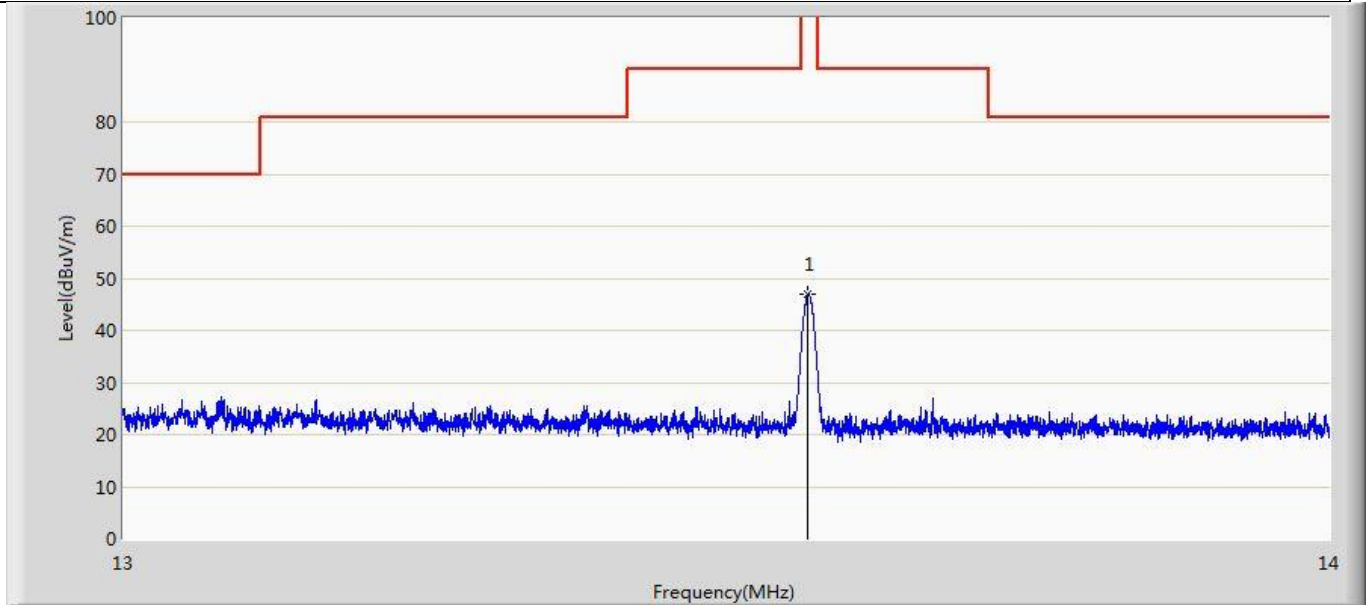
Appendix A: E-field Emission

Profile: 2370297R	Page No.: 7
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:11
Limit: 13.56 mask	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: Mode 1: Transmit by NFC	



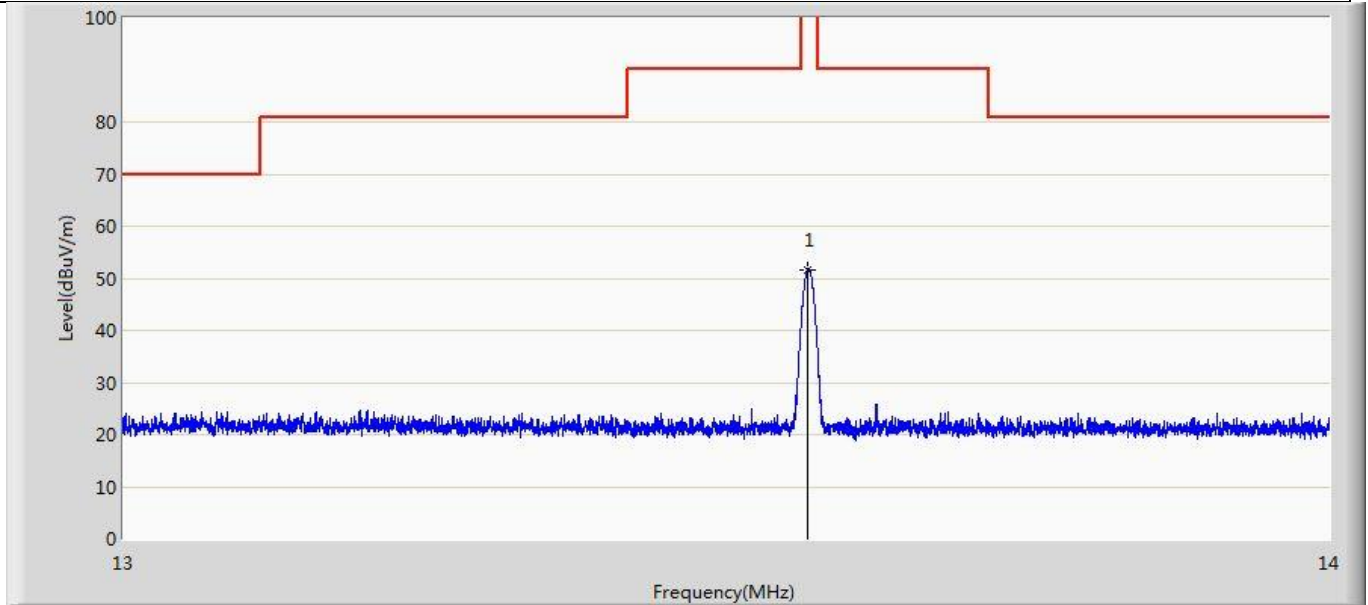
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	13.560	52.785	31.733	-71.215	124.000	21.052	QP

Profile: 2370297R	Page No.: 8
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:16
Limit: 13.56 mask	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: Mode 1 : Transmit by NFC	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	13.559	46.844	26.292	-77.156	124.000	20.552	QP

Profile: 2370297R	Page No.: 9
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:19
Limit: 13.56 mask	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: Mode 1 : Transmit by NFC	

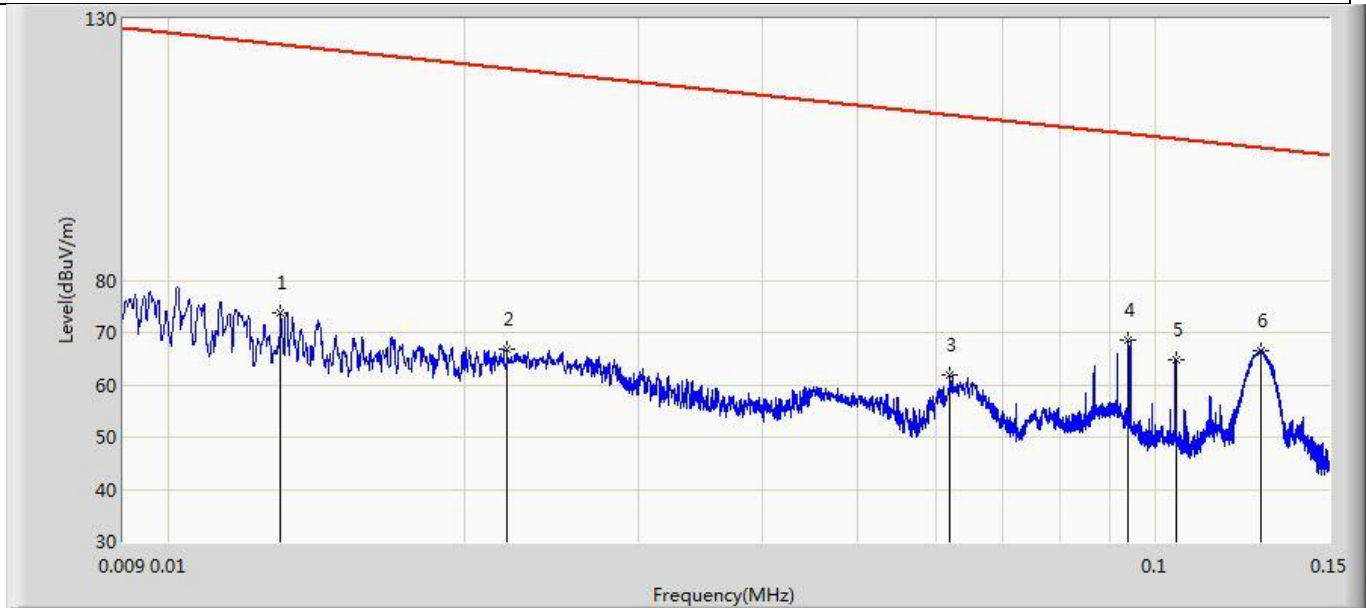


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	13.558	51.738	31.186	-72.262	124.000	20.552	QP

Note 1: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Appendix B: Field Strength of Spurious

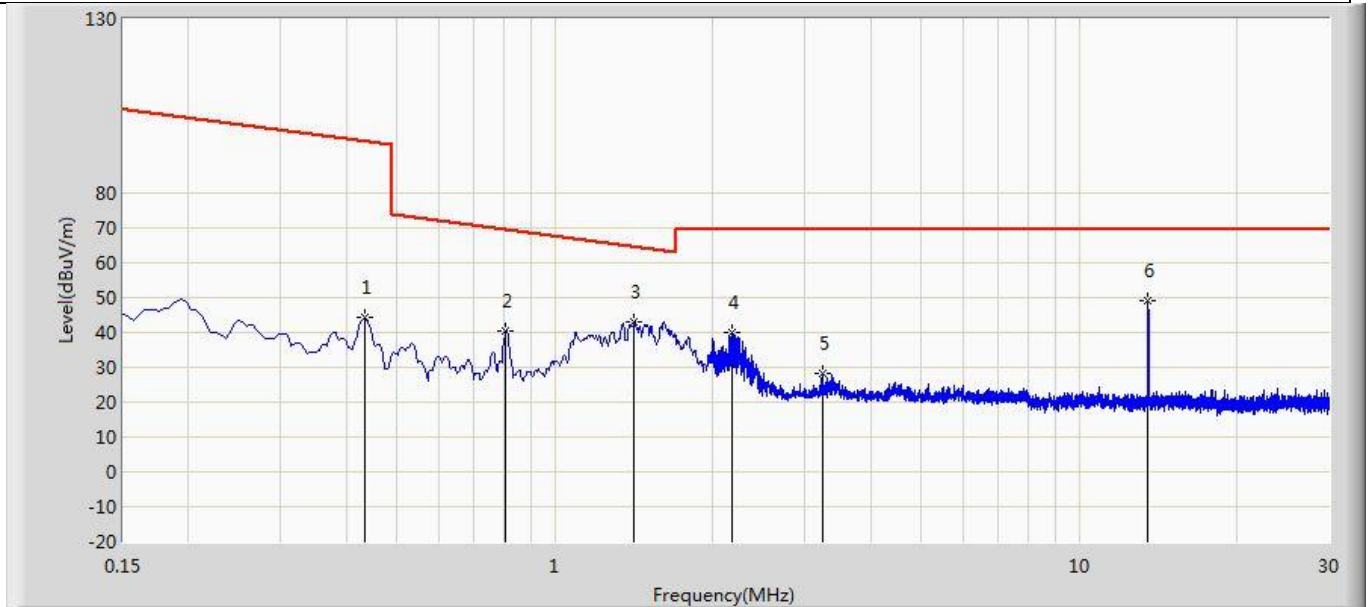
Profile: 2370297R	Page No.: 1
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 18:52
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.013	73.737	52.581	-51.471	125.208	21.155	PK
2		0.022	66.903	45.468	-53.738	120.641	21.434	PK
3		0.062	61.864	39.927	-49.782	111.646	21.937	PK
4		0.094	68.508	46.608	-39.525	108.033	21.901	PK
5		0.105	64.865	42.978	-42.207	107.073	21.888	PK
6	*	0.128	66.549	44.687	-38.805	105.353	21.862	PK

Note: Mark 6 is the fundamental emission of WPT, and the emission of other marks is irrelevant to the RF function.

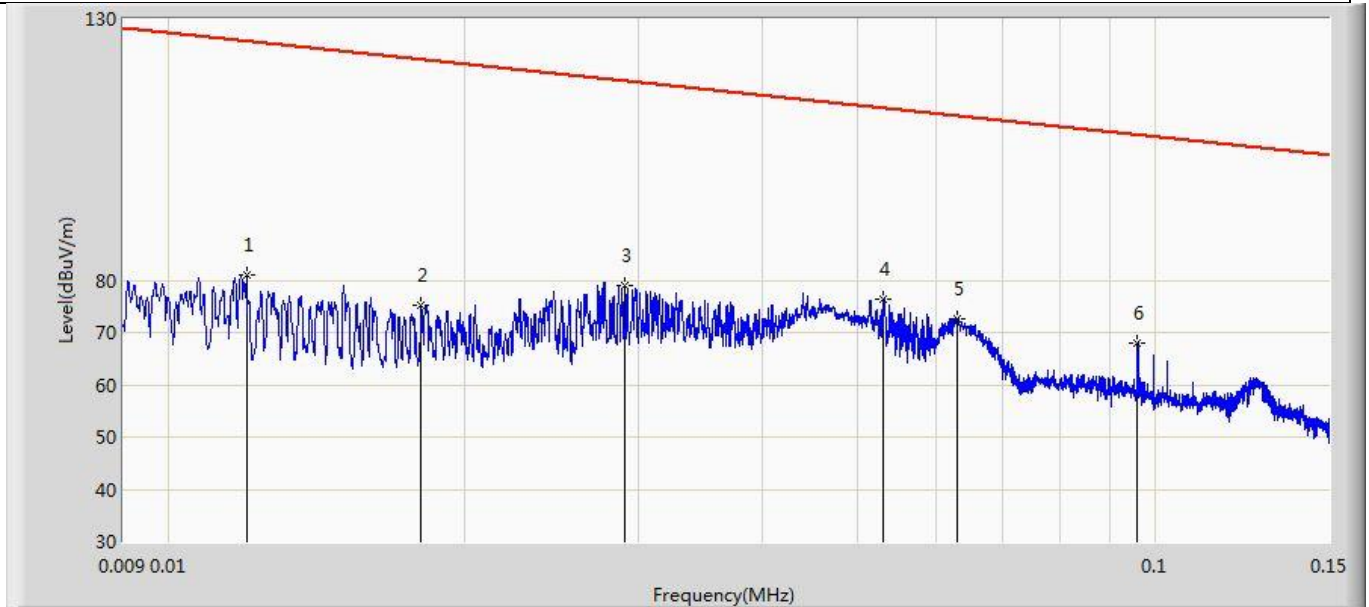
Profile: 2370297R	Page No.: 2
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 18:55
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: X Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.434	44.153	22.597	-50.600	94.754	21.556	PK
2		0.807	40.326	19.789	-29.052	69.379	20.537	PK
3		1.419	42.896	22.529	-21.594	64.490	20.367	PK
4		2.184	40.002	19.071	-29.398	69.400	20.931	PK
5		3.236	28.293	7.490	-41.107	69.400	20.803	PK
6	*	13.560	49.019	27.967	-20.381	69.400	21.052	PK

Note: Mark 6 is the fundamental emission., and the emission of mark 1~4 is irrelevant to the RF function.

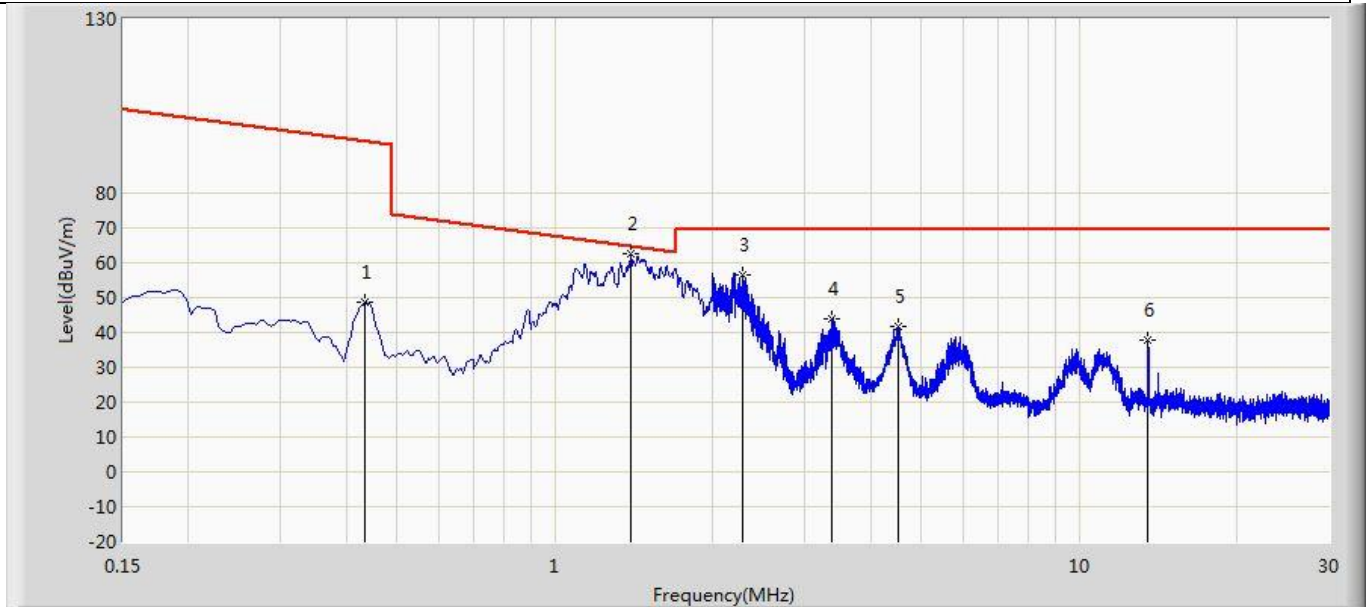
Profile: 2370297R	Page No.: 3
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 18:58
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.012	81.080	60.455	-44.823	125.903	20.625	PK
2		0.018	75.212	54.401	-47.171	122.383	20.811	PK
3		0.029	79.124	57.972	-39.118	118.242	21.152	PK
4	*	0.053	76.259	54.812	-36.749	113.008	21.447	PK
5		0.063	72.722	51.286	-38.785	111.507	21.436	PK
6		0.096	68.060	46.662	-39.791	107.851	21.398	PK

Note: All marked emissions are independent of RF functionality.

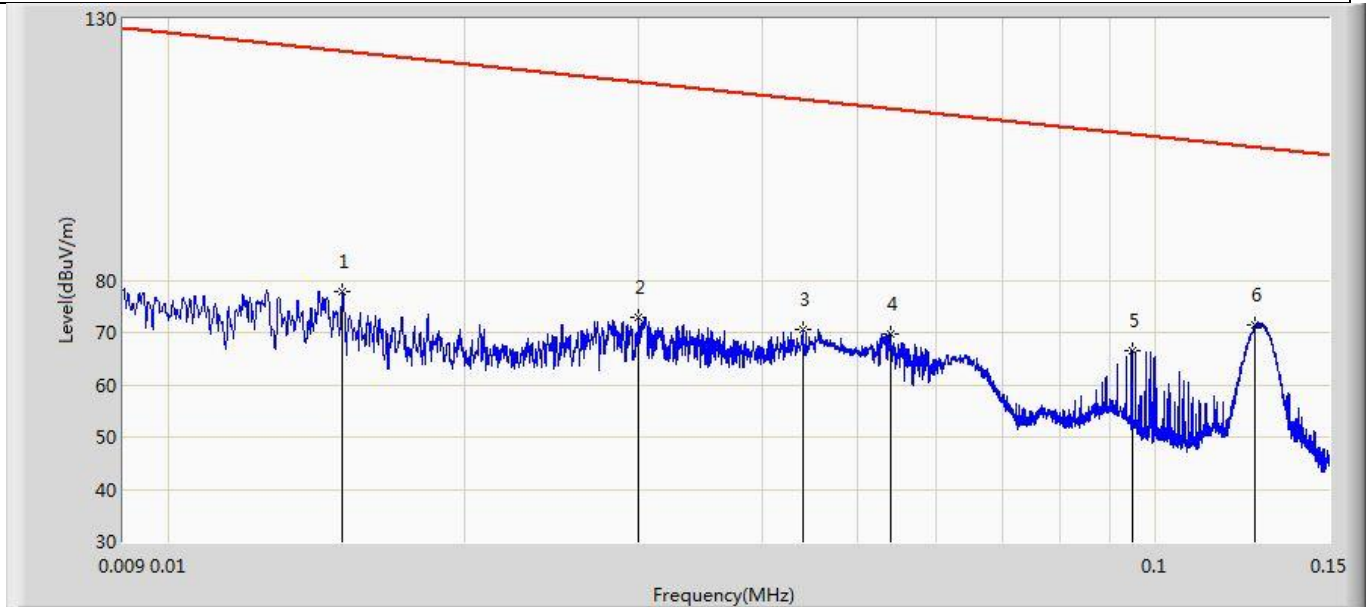
Profile: 2370297R	Page No.: 4
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:03
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Y Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.434	48.527	27.471	-46.226	94.754	21.056	PK
2	*	1.400	62.708	42.863	-1.900	64.607	19.844	PK
3		2.281	56.631	36.207	-12.769	69.400	20.424	PK
4		3.385	43.729	23.442	-25.671	69.400	20.287	PK
5		4.512	41.655	21.511	-27.745	69.400	20.144	PK
6		13.560	37.906	17.354	-31.494	69.400	20.552	PK

Note: Mark 6 is the fundamental emission., and the emission of mark 1~3 is irrelevant to the RF function.

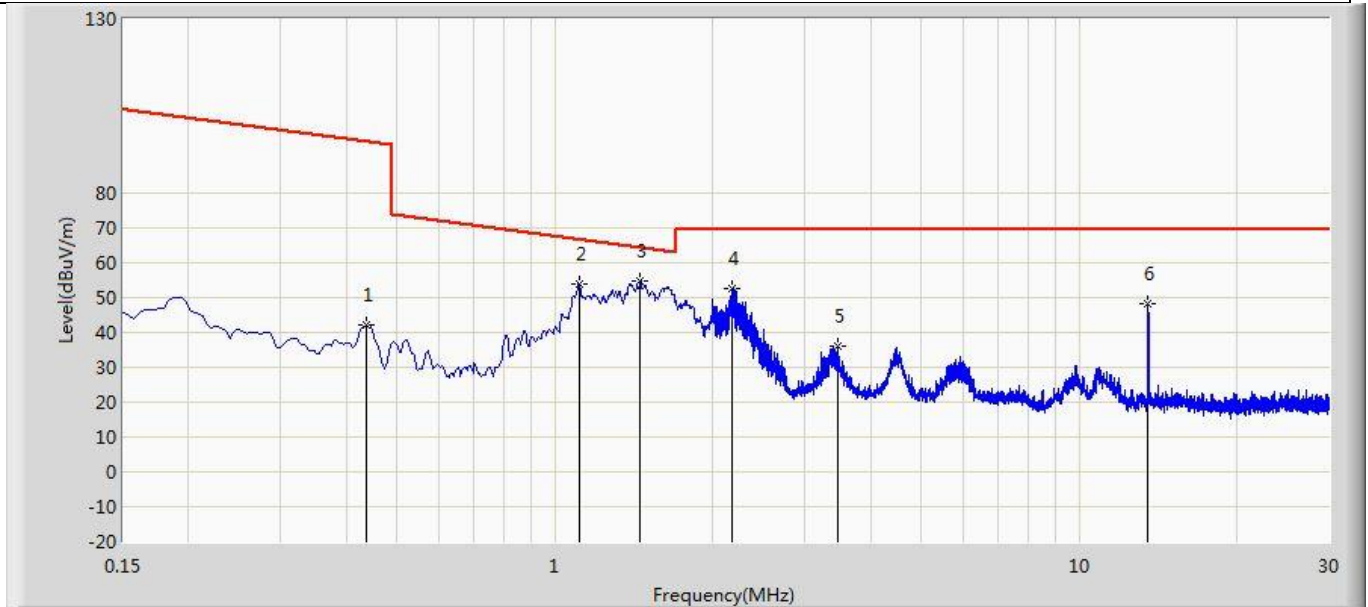
Profile: 2370297R	Page No.: 5
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:07
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.015	77.762	57.044	-46.204	123.965	20.718	PK
2		0.030	73.023	51.840	-44.925	117.948	21.183	PK
3		0.044	70.463	49.006	-44.161	114.623	21.457	PK
4		0.054	69.686	48.240	-43.160	112.846	21.446	PK
5		0.095	66.508	45.109	-41.434	107.942	21.399	PK
6	*	0.126	71.503	50.139	-33.987	105.490	21.364	PK

Note: Mark 6 is the basic emission of WPT, and the emission of other marks is irrelevant to the RF function.

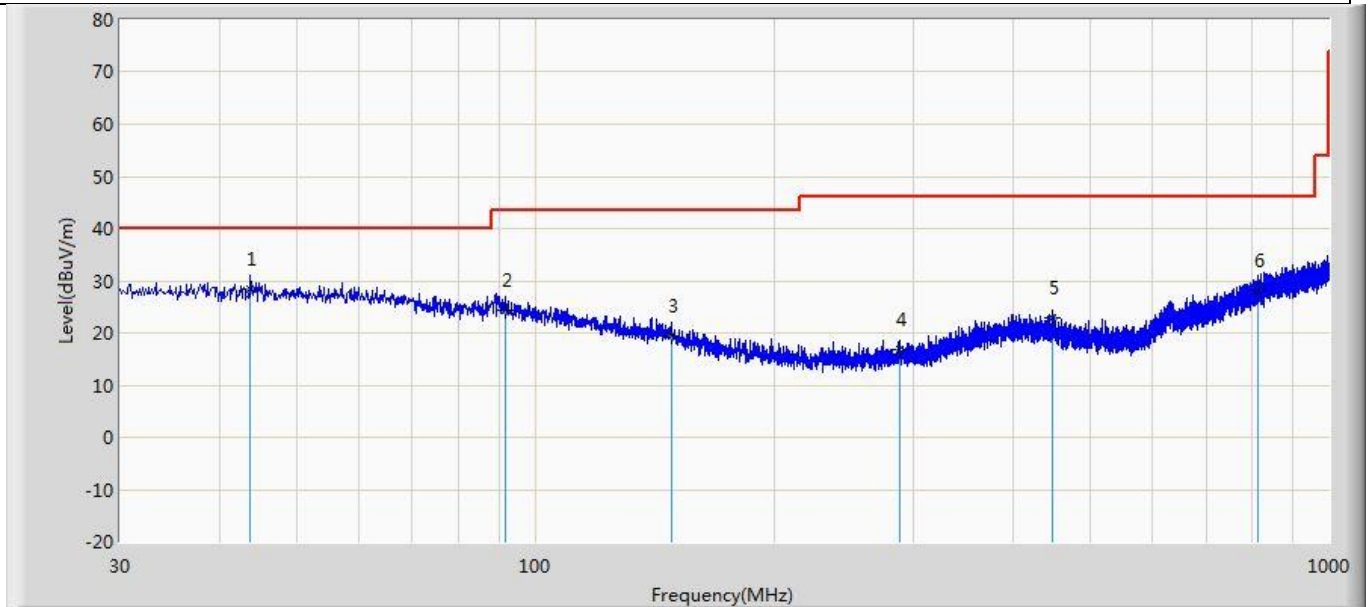
Profile: 2370297R	Page No.: 6
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 19:09
Limit: 15.209	Margin: 0
Probe: RF(0.009-30MHz)	Polarity: Z Axis
EUT: Wireless Phone Charger	Power: 48Vdc
Note: mode1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		0.437	42.333	21.280	-52.360	94.694	21.053	PK
2		1.113	53.850	34.294	-12.744	66.594	19.556	PK
3	*	1.456	54.957	35.048	-9.311	64.267	19.909	PK
4		2.184	52.476	32.045	-16.924	69.400	20.431	PK
5		3.467	35.960	15.681	-33.440	69.400	20.279	PK
6		13.560	48.203	27.651	-21.197	69.400	20.552	PK

Note: Mark 6 is the fundamental emission., and the emission of mark 1~4 is irrelevant to the RF function.

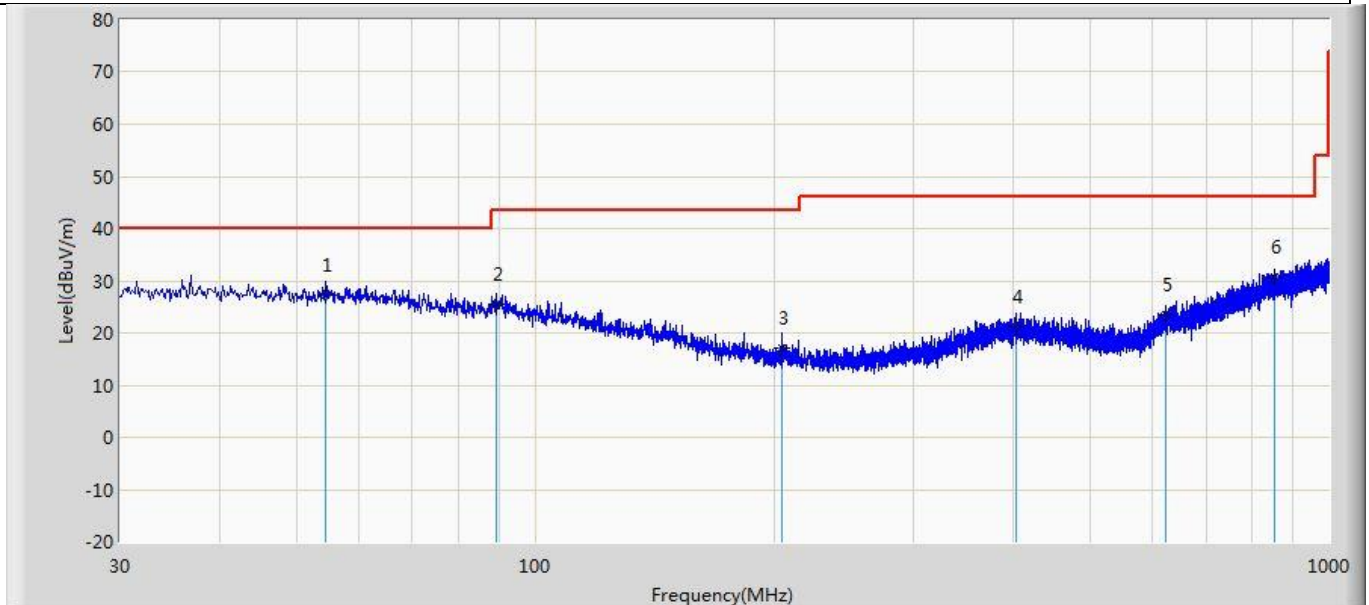
Profile: 2370297R	Page No.: 1
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 18:17
Limit: FCC_Part 15.209_RE (3m)	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)	Polarity: Horizontal
EUT: Wireless Phone Charger	Power: 48Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	43.822	28.298	3.050	-11.702	40.000	25.248	QP
2		91.716	24.490	2.206	-19.010	43.500	22.284	QP
3		148.340	19.398	1.450	-24.102	43.500	17.948	QP
4		287.899	16.770	2.308	-29.230	46.000	14.462	QP
5		448.434	22.833	3.514	-23.167	46.000	19.319	QP
6		812.305	28.188	1.744	-17.812	46.000	26.444	QP

Note: All marked emissions are background noise..

Profile: 2370297R	Page No.: 2
Engineer: Pengchengyang	
Site: AC2	Time: 2023/07/26 - 18:20
Limit: FCC_Part 15.209_RE (3m)	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)	Polarity: Vertical
EUT: Wireless Phone Charger	Power: 48Vdc
Note: Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	54.371	27.359	2.557	-12.641	40.000	24.802	QP
2		89.170	25.368	3.005	-18.132	43.500	22.363	QP
3		204.964	17.179	2.838	-26.321	43.500	14.340	QP
4		402.723	21.268	1.354	-24.732	46.000	19.914	QP
5		623.640	23.522	1.601	-22.478	46.000	21.921	QP
6		853.287	30.822	3.138	-15.178	46.000	27.683	QP

Note: All marked emissions are background noise..

Note 1: " * ", means this data is the worst emission level.

Note 2: Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

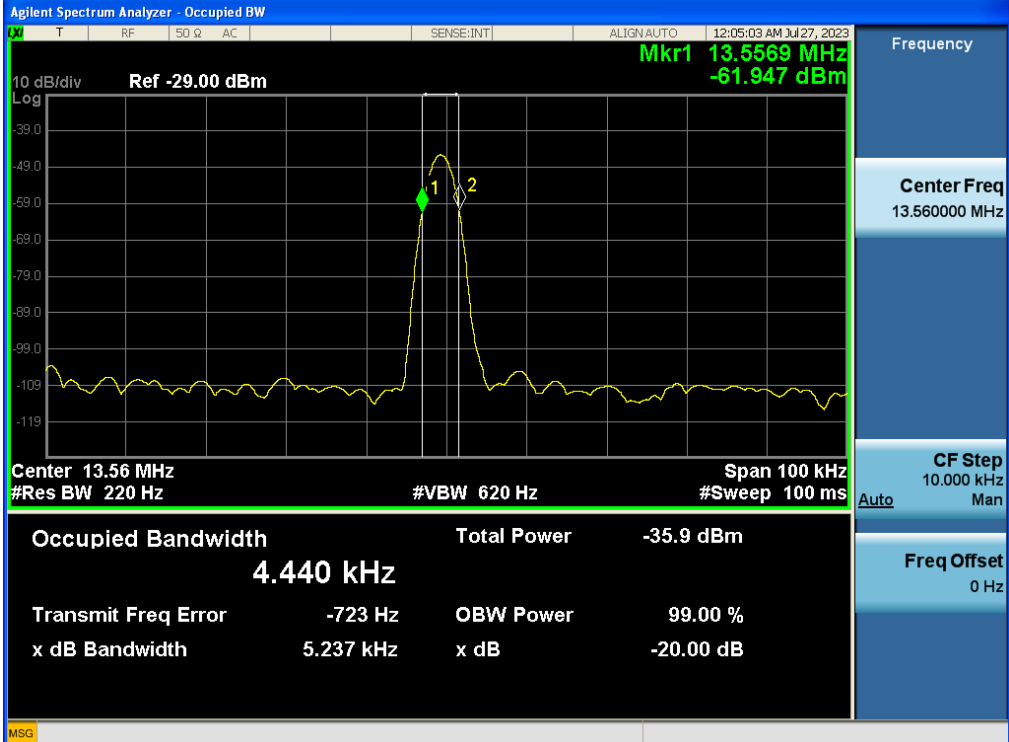
Appendix C: Frequency Stability

Frequency Stability under Temperature at 0min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
0	13.56	64.89	±100
10	13.56	64.87	±100
20	13.56	64.85	±100
30	13.56	64.86	±100
35	13.56	64.88	±100
Frequency Stability under Temperature at 2min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
0	13.56	64.86	±100
10	13.56	64.87	±100
20	13.56	64.87	±100
30	13.56	64.88	±100
35	13.56	64.86	±100
Frequency Stability under Temperature at 5min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
0	13.56	64.87	±100
10	13.56	64.87	±100
20	13.56	64.89	±100
30	13.56	64.88	±100
35	13.56	64.88	±100
Frequency Stability under Temperature at 10min			
Temperature Interval (°C)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
0	13.56	64.89	±100
10	13.56	64.87	±100
20	13.56	64.88	±100
30	13.56	64.85	±100
35	13.56	64.89	±100

Frequency Stability under Voltage			
DC Voltage (V)	Test Frequency (MHz)	Deviation (ppm)	Limit (ppm)
40.8	13.56	64.84	±100
48.0	13.56	64.89	±100
55.2	13.56	64.93	±100

Appendix D: Emission Bandwidth

Frequency (MHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)	Frequency Range Limit (MHz)	Result
13.56	5.237	4.440	13.553 ~ 13.567	Pass



The screenshot shows an Agilent Spectrum Analyzer in 'Occupied BW' mode. The main display shows a signal peak at 13.5569 MHz with a power of -61.947 dBm. The center frequency is 13.56 MHz, the span is 100 kHz, and the resolution bandwidth (Res BW) is 220 Hz. The occupied bandwidth is 4.440 kHz, and the total power is -35.9 dBm. The 20 dB bandwidth is 5.237 kHz, and the 99% bandwidth is 4.440 kHz. The transmit frequency error is -723 Hz, and the OBW power is 99.00 %.

The End