TEST REPORT

No.I17N00776-EMC

for

Huawei Technologies Co., Ltd.

Smart Phone

Model Name: SLA-L03

FCC ID: QISSLA-L03

with

Hardware Version: HL1SLAM

Software Version: SLA-L03C900B044

Issued Date: 2017-07-10

Test Laboratory:

FCC 2.948 Listed: No.342690

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I17N00776-EMC	Rev.0	1st edition	2017-07-10

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1. Test Laboratory

1.1. Testing Location

Address:	TCL International E city No. 1001 Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong, China
Postal Code:	518048
Telephone:	+86(755)33322000
Fax:	+86(755)33322001

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project data

Testing Start Date:	2017-06-16
Testing End Date:	2017-06-30

1.4. Signature

Liang Yong
(Prepared this test report)

Zhang Yunzhuan
(Reviewed this test report)

Cao Junfei
Director of the laboratory
(Approved this test report)

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2. Client Information

2.1. Applicant Information

Company Name:	Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China

2.2. Manufacturer Information

Company Name:	Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China

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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Smart Phone
Model Name	SLA-L03
FCC ID	QISSLA-L03

The Equipment Under Test (EUT)are a model of Smart Phone with integrated antenna.
The EUT supports GPRS service and EGPRS service.
Remark: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed information.

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI
EUT1	865548030005930
EUT2	865548030007852

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	/
AE2	Travel charger	/
AE3	USB cable	/

AE1-1

Model	HB405979ECW
Manufacturer	Sunwoda Electronic Co., Ltd.
Capacity	2920mAh
Nominal Voltage	3.82V

AE1-2

Model	HB405979ECW
Manufacturer	Huizhou Desay Battery Co., Ltd.
Capacity	2920mAh
Nominal Voltage	3.82V

AE2-1

Model	HW-050100U01
Manufacturer	HUIZHOU BYD ELECTRONIC CO.,LTD
SN	B78094H3905754

AE2-2

Model	HW-050100U01
Manufacturer	DONG GUAN PHITEK ELECTORNICS COL.,LTD.
SN	P78013H3D52088

AE2-3

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Model	HW-050100U01
Manufacturer	SHENZHEN HUNTKEY ELECTRIC CO.,LTD.
SN	H780K1GA502704
AE3-1	
Model	L99U2013-CS-H
Manufacturer	Luxshare Precision industry Co., Ltd
AE3-2	
Model	130-26654
Manufacturer	HONGLIN TECHNOLOGY CO.,LTD
AE3-3	
Model	CUBB01M-HC208-DH
Manufacturer	FOXCONN INTERCONNECT TECHNOLOGY LIMITED.

*AE ID: is used to identify the test sample in the lab internally.

3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT1+ AE1-1+AE2-1+ AE3-1	Charging mode
Set.2	EUT1+ AE1-1+AE2-2+ AE3-2	Charging mode
Set.3	EUT1+ AE1-1+AE2-3+ AE3-3	Charging mode
Set.4	EUT2+ AE1-2+AE2-1+ AE3-1	Charging mode
Set.5	EUT2+ AE1-2+AE2-2+ AE3-2	Charging mode
Set.6	EUT2+ AE1-2+AE2-3+ AE3-3	Charging mode
Set.7	EUT1+ AE1-1+ AE3-1	USB mode
Set.8	EUT1+ AE1-1+ AE3-2	USB mode
Set.9	EUT1+ AE1-1+ AE3-3	USB mode

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4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	10-1-2016 Edition
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

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5. LABORATORY ENVIRONMENT

Semi-anechoic chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-18000MHz,>90dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ±4 dB, 3 m distance, from 30 to 1000 MHz

Shield room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. =35 %, Max. = 60 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-10000MHz,>90dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω

Fully-anechoic chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-18000MHz,>90dB
Electrical insulation	> 2MΩ
Ground system resistance	< 4 Ω
Voltage Standing Wave Ratio （VSWR）	≤ 6 dB, from 1 to 18 GHz，3 m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

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6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

Items	Test Name	Clause in FCC rules	Section in this report	Verdict
1	Radiated Emission	15.109(a)	A.1	P
2	Conducted Emission	15.107(a)	A.2	P

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7. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CALDUE DATE	CAL PERIOD
1.	Test Receiver	ESCI	100701	R&S	2017.08.09	1 year
2.	Test Receiver	ESR7	101675	R&S	2017.07.21	1 year
3.	Spectrum Analyzer	FSP 40	100378	R&S	2017.12.15	1 year
4.	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2020.02.27	3 years
5.	LISN	ESH2-Z5	100196	R&S	2018.01.05	1 year
6.	Horn Antenna	3117	00066585	ETS-Lindgren	2019.03.05	3 years
7.	Universal Radio Communication Tester	CMU200	114544	R&S	2017.09.09	1 year
8.	PC	2OET-A00DCD	PF-OIYDAK	Lenovo	/	/
9.	Printer	P1008	VNF6C12491	HP	/	/
10.	Mouse	MO28UOL	44B39412	Lenovo	/	/
11.	Chamber	FACT5-2.0	4166	ETS-Lindgren	2018.05.13	3 years

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ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

Reference

FCC: CFR Part 15.109(a)

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 - 2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.1.2 EUT Operating Mode:

Charging mode: The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

USB mode: The model of the PC is Lenovo 2OET-A00DCD, and the serial number of the PC is PF-OIYDAK. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

A.1.3 Measurement Limit

Limit from CFR Part 15.109(a)

Frequency range (MHz)	Field strength limit (μV/m)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

A.1.4 Test Condition

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	120kHz (IF bandwidth)	5
Above 1000	1MHz/3MHz	15

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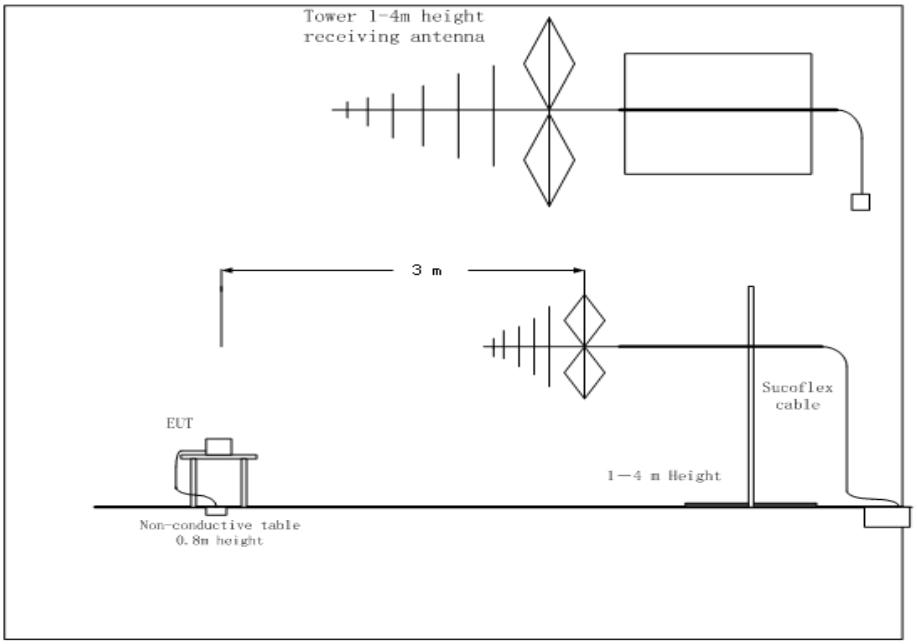
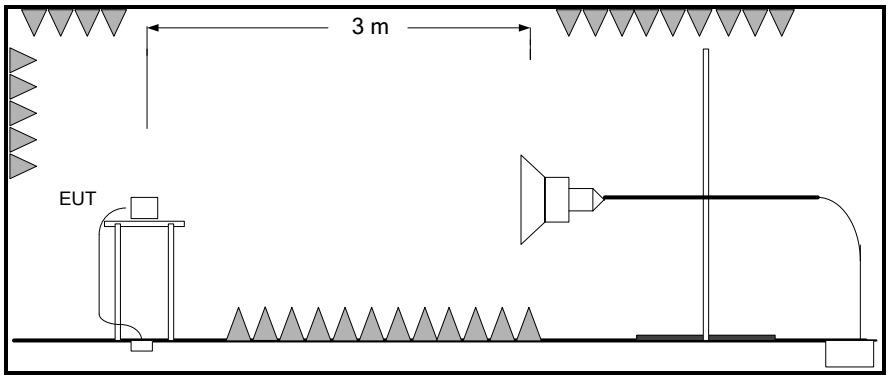
A.1.5 Test set-up:

30MHz-1GHz



1GHz-18GHz



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A.1.6 Measurement Results

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”. It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

Result = $P_{Mea} + A_{Rpl} = P_{Mea} + G_A + G_{PL}$

Where

G_A: Antenna factor of receive antenna

G_{PL}: Path Loss

P_{Mea}: Measurement result on receiver.

Note: the result contains vertical part and Horizontal part

RE Measurement uncertainty: 30M-1GHz: 5.12dB (k=2);
1GHz-18GHz: 4.48 dB (k=2)

Set.1 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14150.000000	56.09	74.00	17.91	V	11.2
15107.000000	57.08	74.00	16.92	H	12.1
15748.000000	58.81	74.00	15.19	H	12.8
16324.000000	59.11	74.00	14.89	V	13.4
16697.000000	60.02	74.00	13.98	V	13.8
17419.000000	59.31	74.00	14.69	H	14.0

Set.1 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14195.500000	44.41	54.00	9.59	V	11.3
15185.000000	45.42	54.00	8.58	V	12.2
15762.000000	47.11	54.00	6.89	V	12.8
16208.500000	47.49	54.00	6.51	V	13.1
16789.000000	48.19	54.00	5.82	H	13.9
17297.500000	47.58	54.00	6.42	H	13.9

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Set.2 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14342.000000	55.88	74.00	18.12	V	11.5
15177.000000	57.64	74.00	16.36	V	12.2
15804.000000	59.08	74.00	14.92	V	12.8
16241.000000	59.05	74.00	14.95	V	13.2
16771.500000	59.84	74.00	14.16	V	13.9
17395.000000	59.02	74.00	14.98	V	14.0

Set.2 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14000.000000	44.17	54.00	9.83	V	10.8
15180.000000	45.07	54.00	8.93	H	12.2
15697.000000	46.99	54.00	7.01	H	12.7
16218.000000	47.43	54.00	6.57	H	13.1
16796.500000	48.21	54.00	5.79	H	13.9
17347.500000	47.53	54.00	6.47	H	14.0

Set.3 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14142.000000	55.89	74.00	18.11	V	11.2
15174.500000	57.18	74.00	16.82	H	12.1
15692.000000	58.67	74.00	15.33	V	12.7
16231.000000	59.41	74.00	14.59	V	13.1
16792.000000	60.27	74.00	13.73	H	13.9
17410.000000	59.63	74.00	14.37	V	14.0

Set.3 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14547.500000	44.28	54.00	9.72	V	11.9
15174.500000	45.28	54.00	8.72	V	12.1
15701.000000	47.13	54.00	6.87	H	12.7
16224.500000	47.68	54.00	6.32	V	13.1
16772.000000	48.56	54.00	5.44	H	13.9
17363.000000	47.68	54.00	6.32	V	14.0

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Set.4 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
13993.000000	56.63	74.00	17.37	H	10.8
14847.000000	56.68	74.00	17.32	V	11.9
15704.500000	58.86	74.00	15.14	V	12.7
16222.000000	58.92	74.00	15.08	H	13.1
16728.000000	59.36	74.00	14.64	H	13.8
17429.000000	59.19	74.00	14.81	H	14.0

Set.4 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14158.500000	44.45	54.00	9.55	V	11.2
15179.000000	45.32	54.00	8.68	V	12.2
15759.500000	47.20	54.00	6.80	V	12.8
16215.000000	47.79	54.00	6.21	H	13.1
16765.000000	48.30	54.00	5.70	V	13.9
17406.000000	47.69	54.00	6.31	V	14.0

Set.5 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14226.500000	56.38	74.00	17.62	V	11.3
15141.500000	56.88	74.00	17.12	V	12.1
15682.000000	59.41	74.00	14.59	H	12.6
16217.000000	58.85	74.00	15.15	H	13.1
16712.000000	59.79	74.00	14.21	V	13.8
17356.000000	60.21	74.00	13.79	V	14.0

Set.5 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14157.500000	44.30	54.00	9.70	H	11.2
15167.000000	45.42	54.00	8.58	H	12.1
15711.000000	47.08	54.00	6.92	H	12.7
16199.000000	47.45	54.00	6.55	H	13.1
16787.000000	48.44	54.00	5.56	V	13.9
17276.000000	47.84	54.00	6.16	V	13.9

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Set.6 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14244.500000	56.07	74.00	17.93	V	11.3
14694.500000	56.76	74.00	17.24	V	11.9
15642.000000	59.05	74.00	14.95	V	12.6
16218.000000	59.09	74.00	14.91	H	13.1
16779.500000	59.91	74.00	14.09	V	13.9
17768.000000	59.35	74.00	14.65	H	13.9

Set.6 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14159.000000	44.31	54.00	9.69	H	11.2
15169.000000	45.55	54.00	8.45	V	12.1
15686.000000	47.20	54.00	6.80	H	12.6
16206.000000	47.58	54.00	6.42	V	13.1
16789.000000	48.23	54.00	5.77	V	13.9
17284.500000	47.83	54.00	6.17	H	13.9

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Set.7 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14493.500000	56.35	74.00	17.65	V	11.8
15125.000000	57.04	74.00	16.96	V	12.1
15666.000000	58.76	74.00	15.24	V	12.6
16244.000000	59.38	74.00	14.62	H	13.2
16736.500000	59.77	74.00	14.23	V	13.8
17347.000000	59.82	74.00	14.18	H	14.0

Set.7 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
13999.500000	44.48	54.00	9.52	H	10.8
15182.000000	45.33	54.00	8.67	V	12.2
15695.500000	47.05	54.00	6.95	V	12.7
16209.000000	47.60	54.00	6.40	V	13.1
16790.000000	48.29	54.00	5.71	H	13.9
17298.500000	47.69	54.00	6.31	V	13.9

Set.8 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14074.000000	56.53	74.00	17.47	V	11.0
14766.000000	57.01	74.00	16.99	V	11.9
15708.000000	58.28	74.00	15.72	V	12.7
16216.500000	58.83	74.00	15.17	H	13.1
16777.500000	59.55	74.00	14.45	V	13.9
17302.500000	59.39	74.00	14.61	V	13.9

Set.8 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14189.000000	44.41	54.00	9.59	H	11.2
15170.000000	45.49	54.00	8.51	V	12.1
15688.500000	47.31	54.00	6.69	H	12.7
16199.000000	47.56	54.00	6.44	V	13.1
16792.000000	48.32	54.00	5.68	H	13.9
17351.000000	47.75	54.00	6.25	H	14.0

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Set.9 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14517.500000	56.38	74.00	17.62	H	11.8
14678.000000	57.03	74.00	16.97	H	12.0
15664.000000	59.41	74.00	14.59	V	12.6
16261.500000	59.00	74.00	15.00	V	13.2
16803.000000	60.15	74.00	13.85	V	13.9
17388.000000	59.40	74.00	14.60	H	14.0

Set.9 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)
14000.000000	44.21	54.00	9.79	V	10.8
15175.000000	45.20	54.00	8.80	H	12.1
15683.000000	47.10	54.00	6.90	V	12.6
16230.000000	47.42	54.00	6.58	V	13.1
16784.500000	48.27	54.00	5.73	H	13.9
17359.500000	47.54	54.00	6.46	H	14.0

Note: The measurement result of Set.1, Set.2, Set.3, Set.4, Set.5, Set.6, Set.7, Set.8,and Set.9 showed here are worst cases of combinations of different batteries and USB cables.

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Charging mode: Set 1

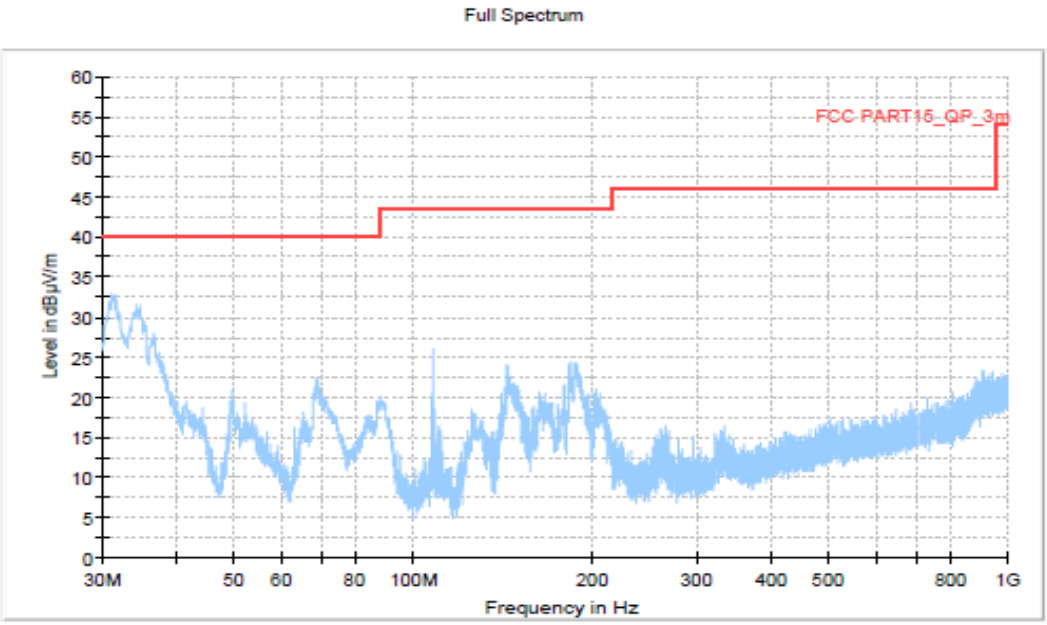

Figure A.1 Radiated Emission from 30MHz to 1GHz

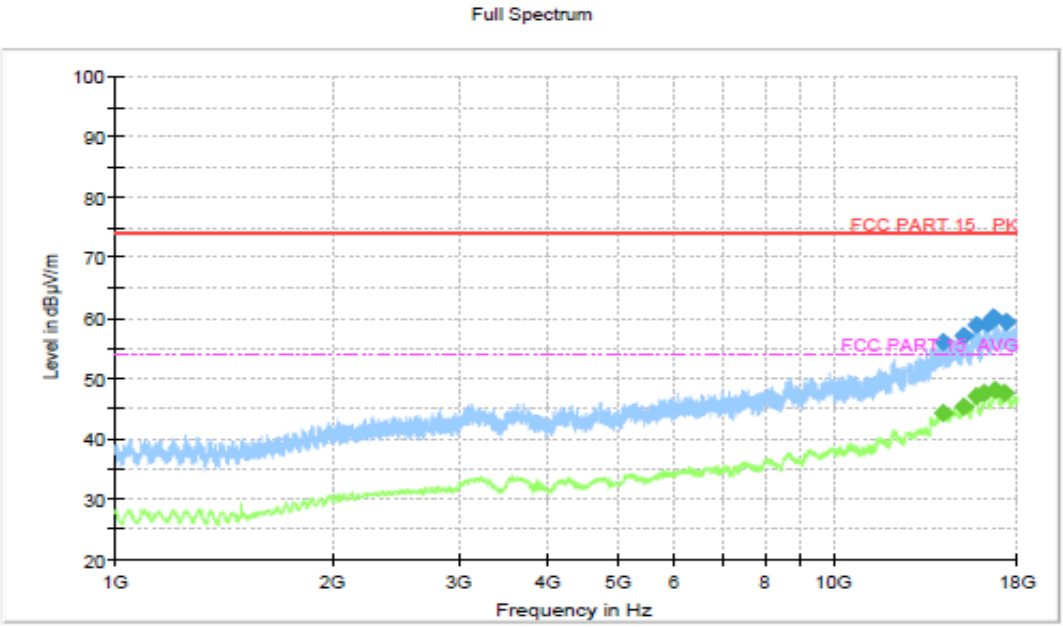

Figure A.2 Radiated Emission from 1GHz to 18GHz

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Charging mode: Set 2

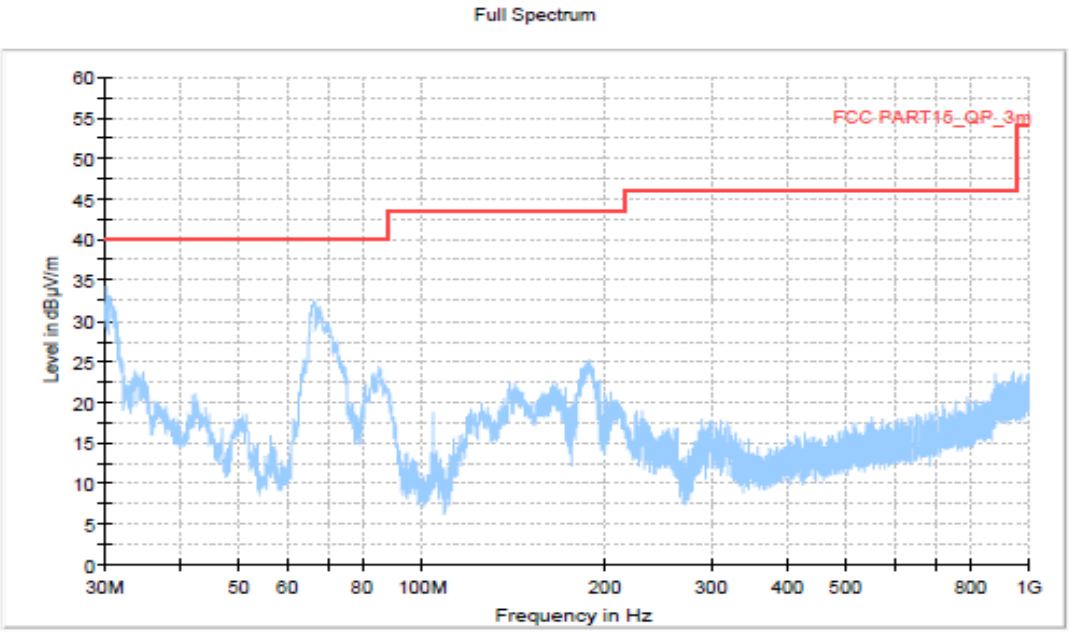

Figure A.3 Radiated Emission from 30MHz to 1GHz

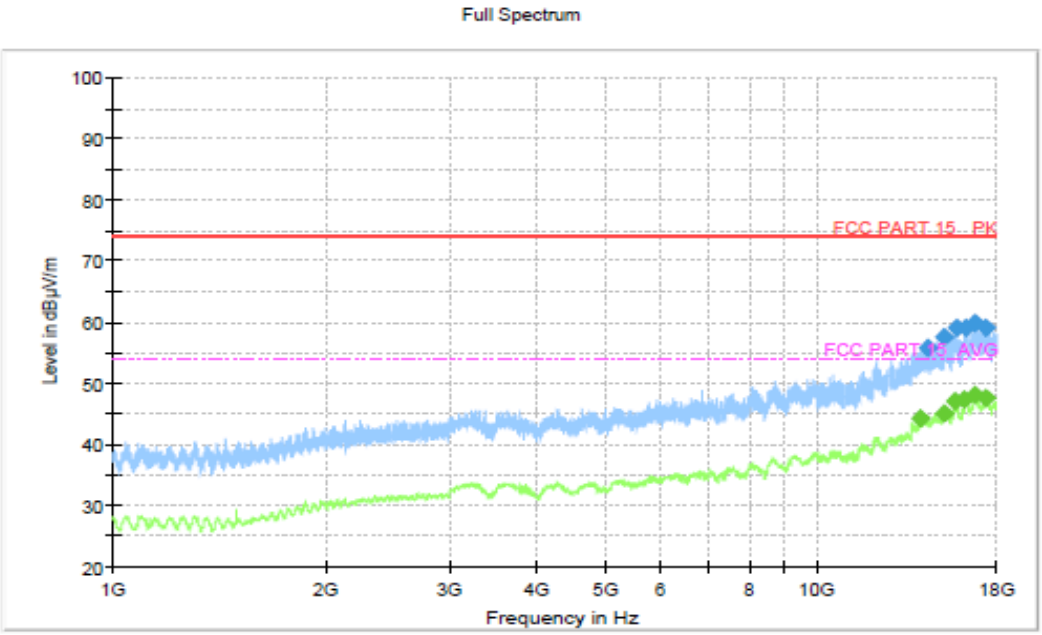

Figure A.4 Radiated Emission from 1GHz to 18GHz

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Charging mode: Set 3

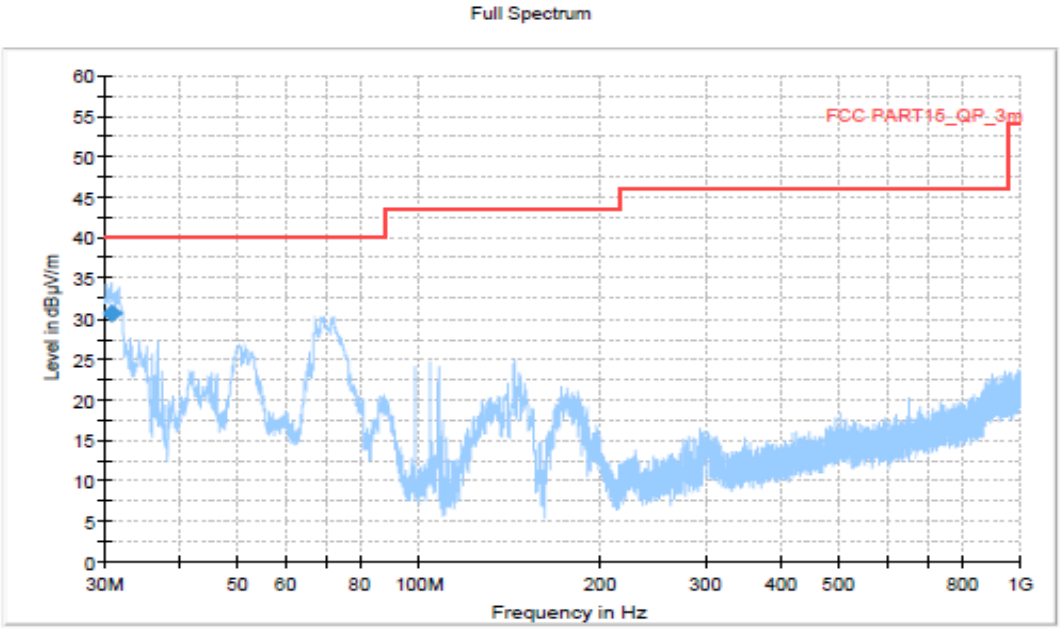

Figure A.5 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency(MHz)	QuasiPeak(dBµV/m)	Limit(dBµV/m)	Margin(dB)	Pol	Corr.(dB)
30.784000	30.60	40.00	9.40	V	-37.2

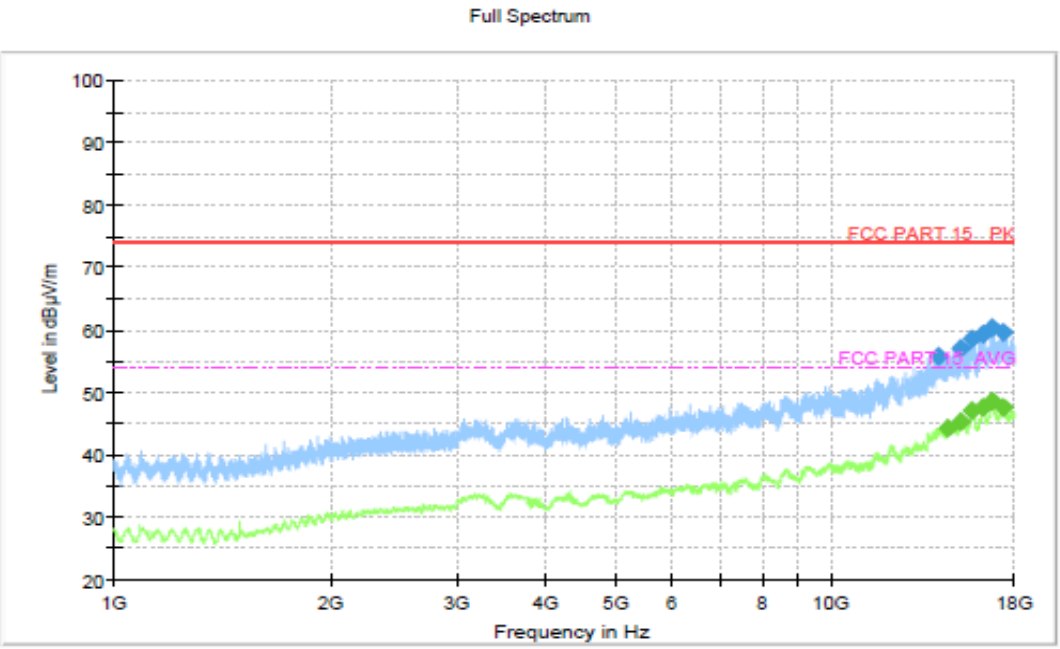

Figure A.6 Radiated Emission from 1GHz to 18GHz

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Charging mode: Set 4

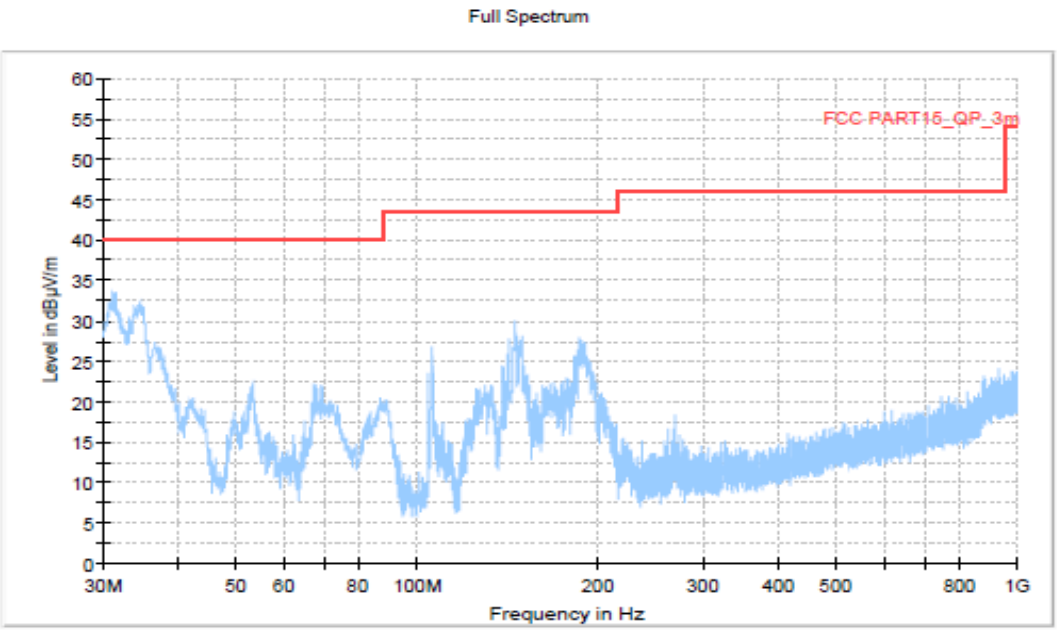

Figure A.7 Radiated Emission from 30MHz to 1GHz

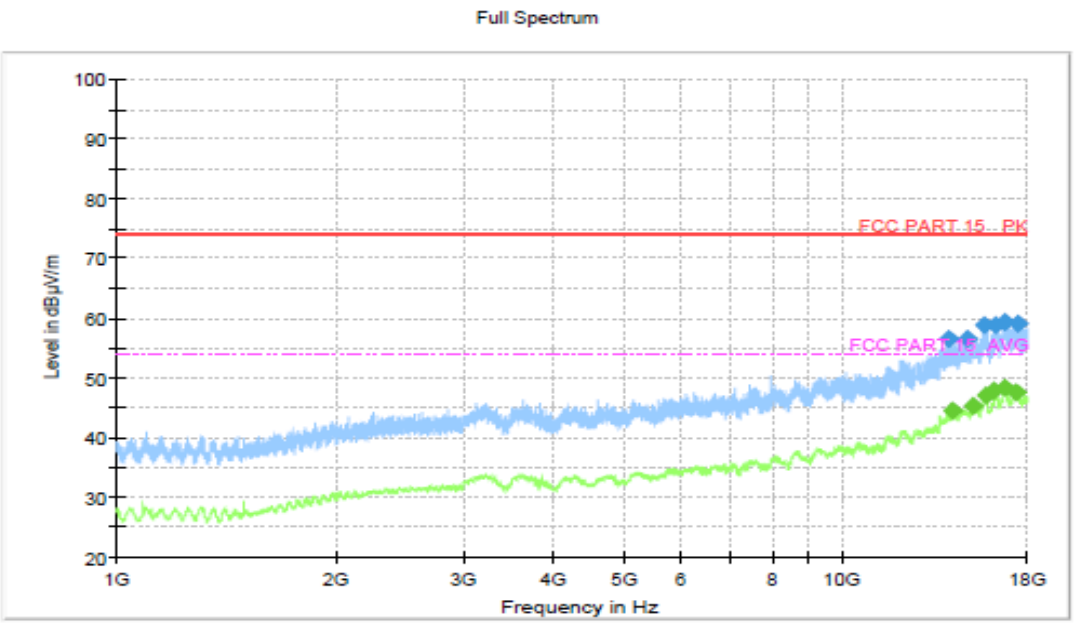

Figure A.8 Radiated Emission from 1GHz to 18GHz

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Charging mode: Set 5

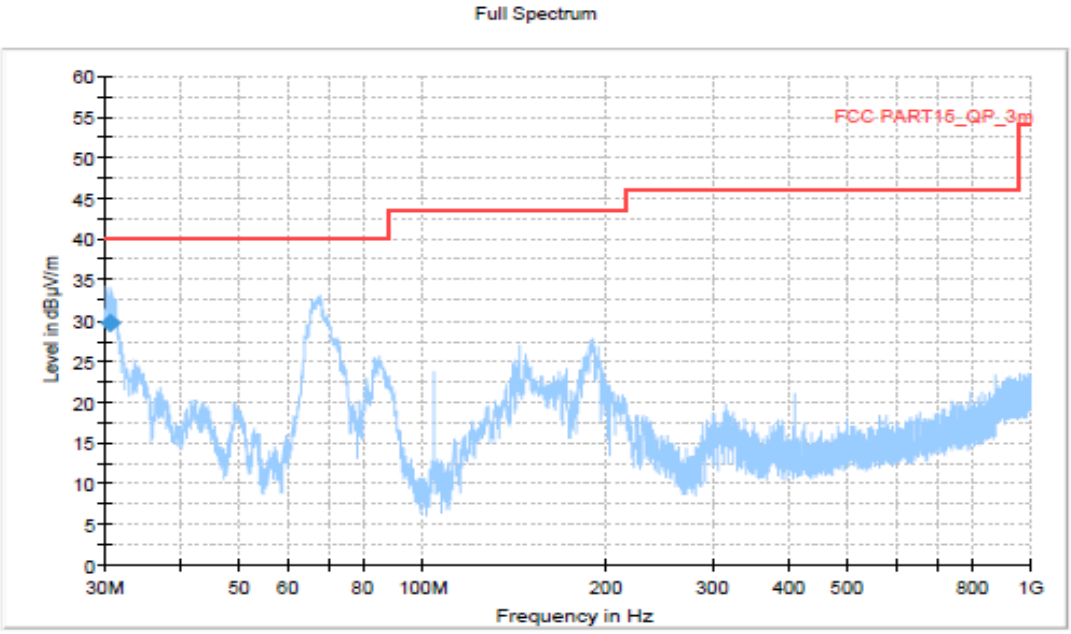

Figure A.9 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency(MHz)	QuasiPeak(dBµV/m)	Limit(dBµV/m)	Margin(dB)	Pol	Corr.(dB)
30.735000	29.81	40.00	10.19	V	-37.2

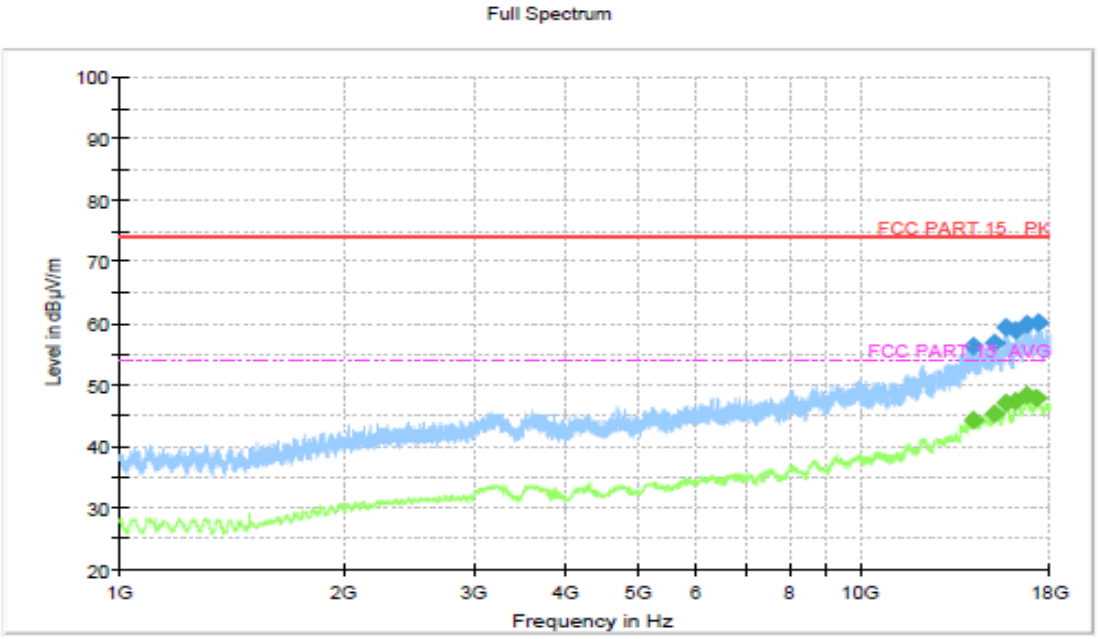

Figure A.10 Radiated Emission from 1GHz to 18GHz

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Charging mode: Set 6

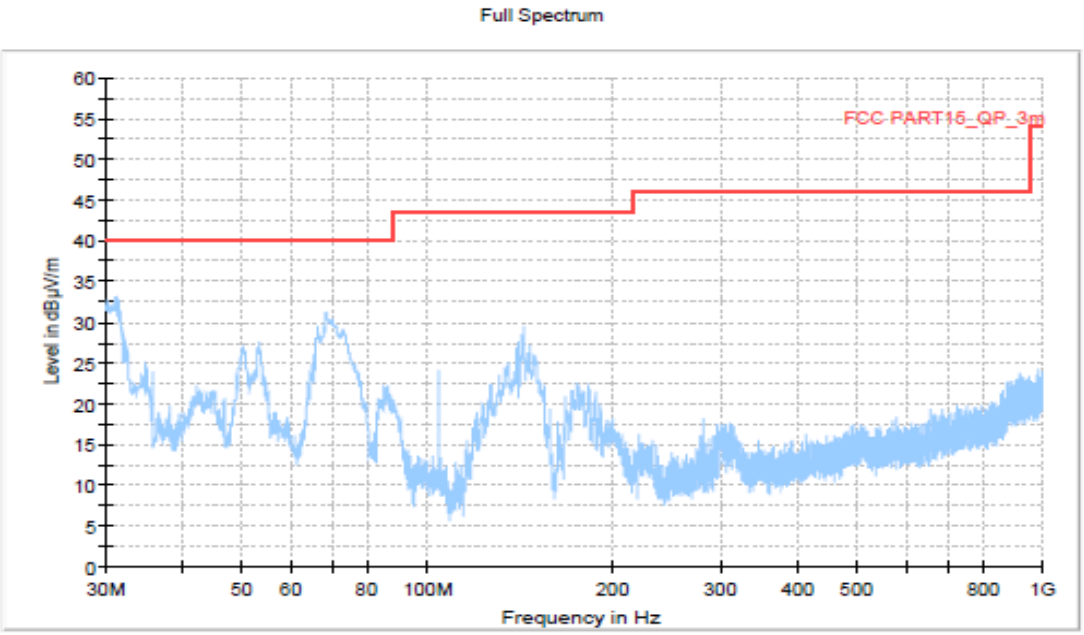

Figure A.11 Radiated Emission from 30MHz to 1GHz

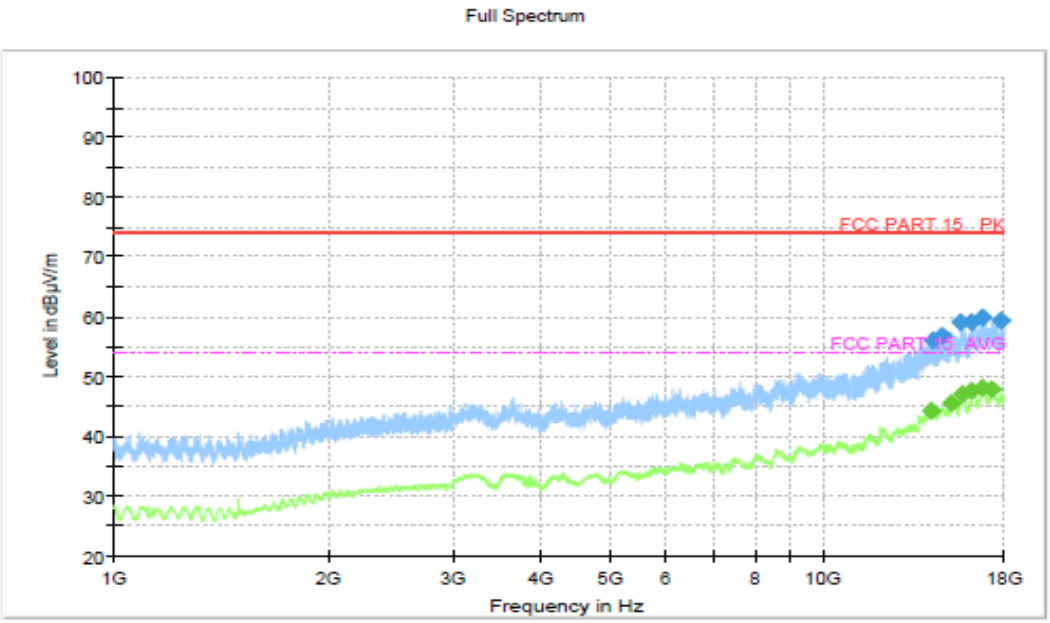

Figure A.12 Radiated Emission from 1GHz to 18GHz

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USB mode: Set 7

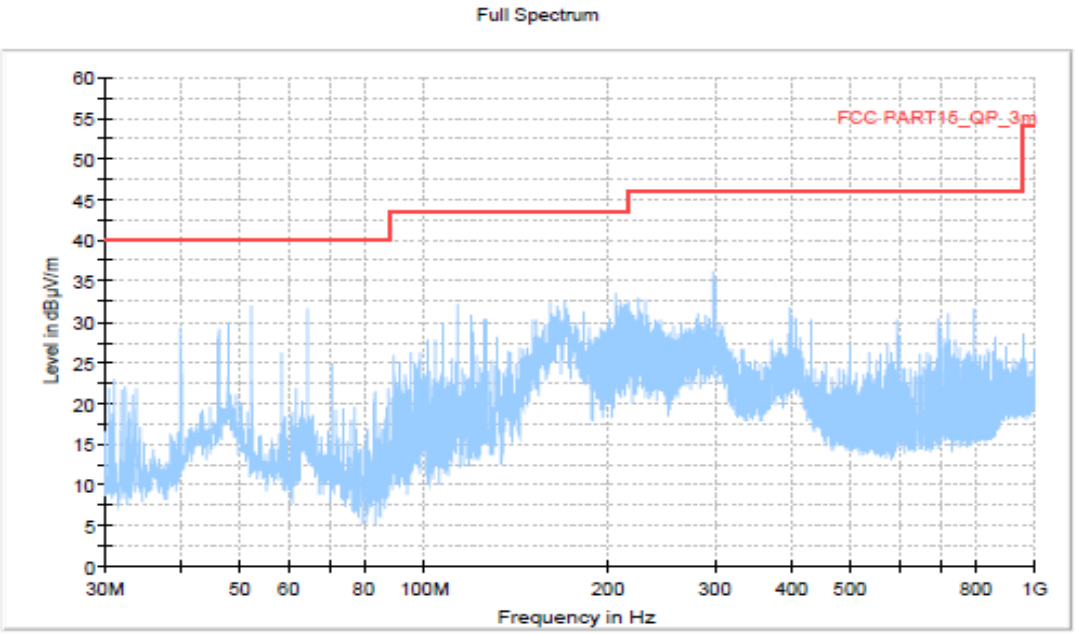

Figure A.13 Radiated Emission from 30MHz to 1GHz

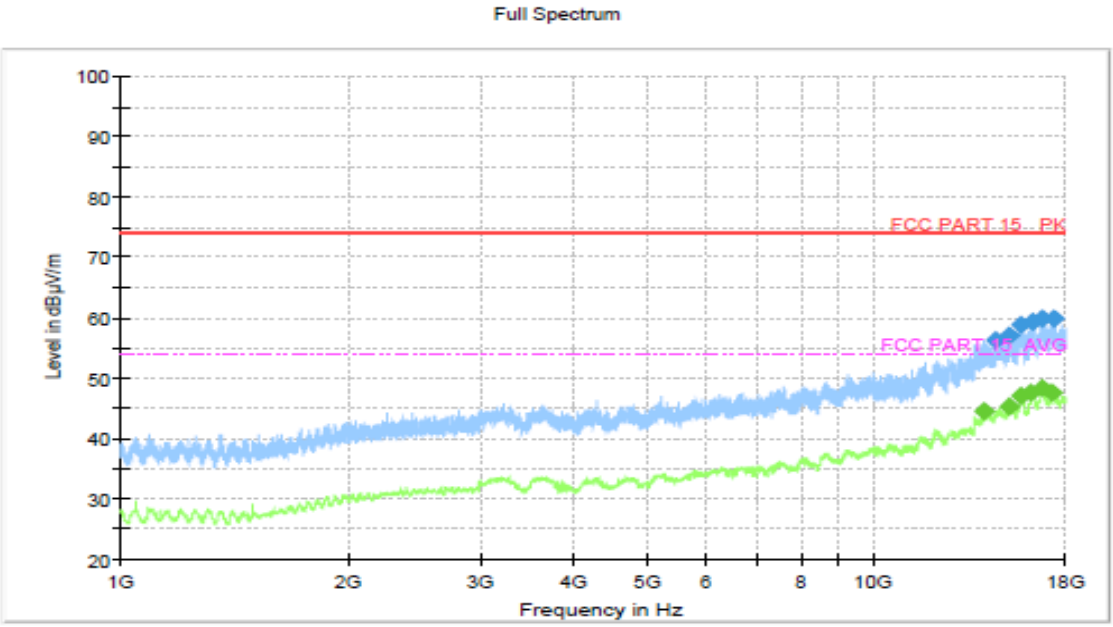

Figure A.14 Radiated Emission from 1GHz to 18GHz

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USB mode: Set 8

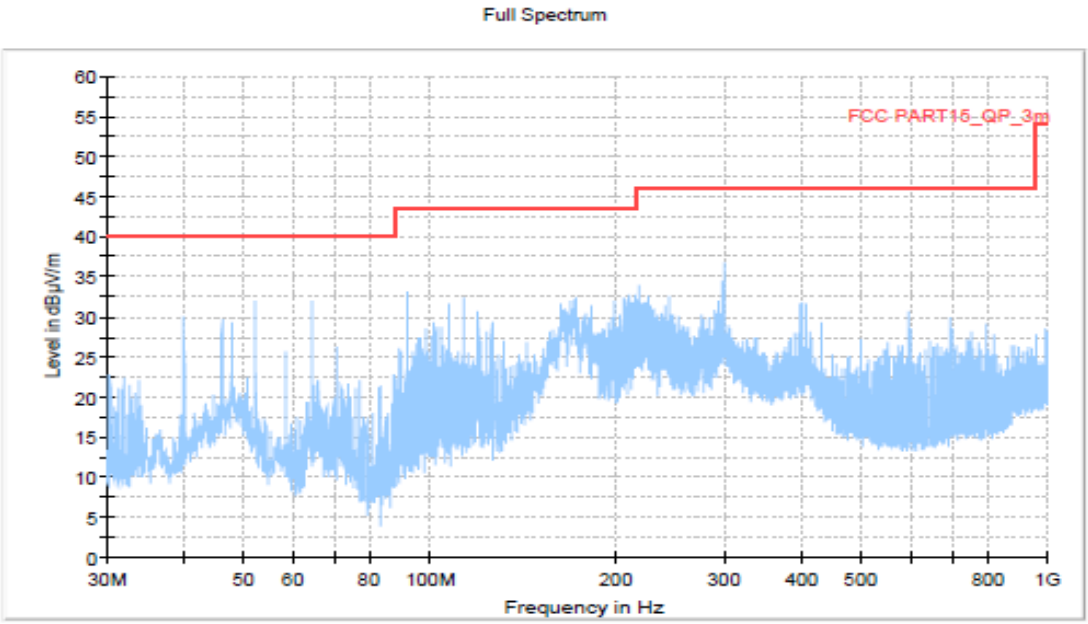

Figure A.15 Radiated Emission from 30MHz to 1GHz

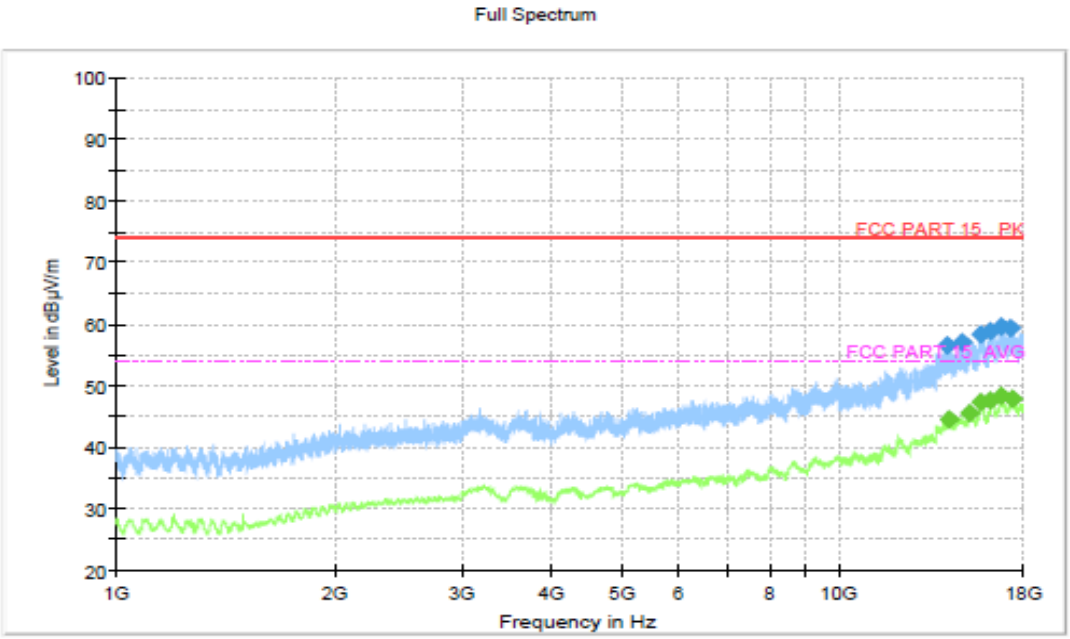

Figure A.16 Radiated Emission from 1GHz to 18GHz

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USB mode: Set 9

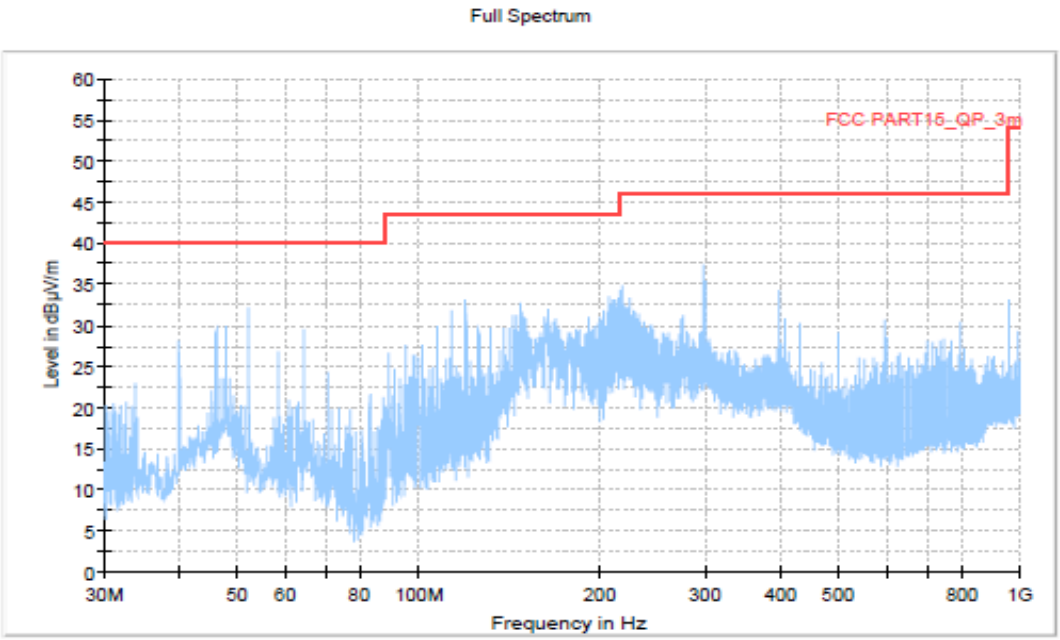

Figure A.17 Radiated Emission from 30MHz to 1GHz

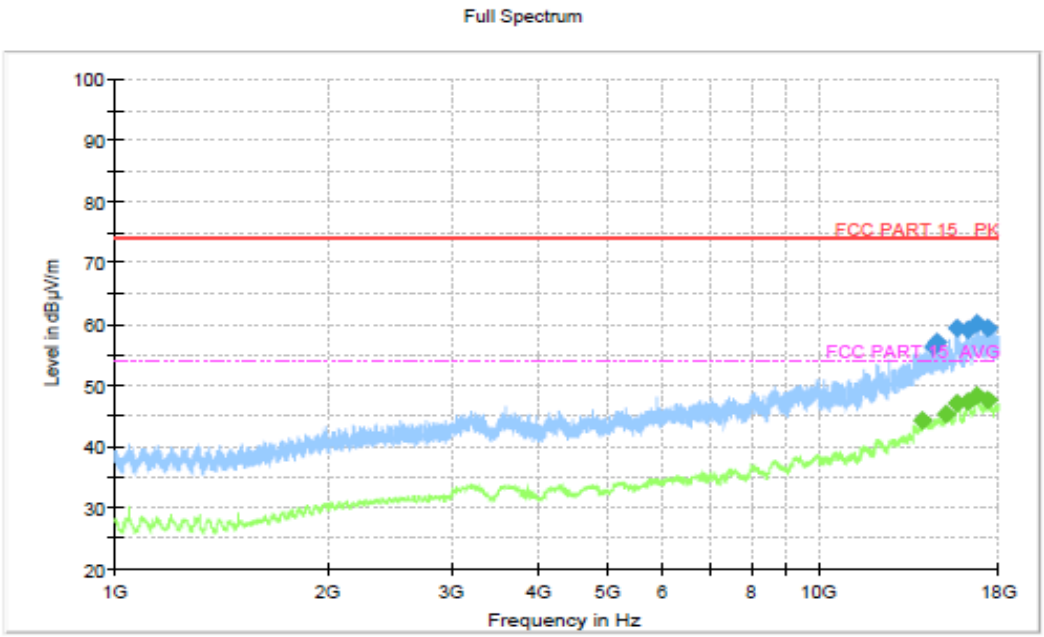

Figure A.18 Radiated Emission from 1GHz to 18GHz

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A.2 Conducted Emission (§15.107(a))

Reference

FCC: CFR Part 15.107(a)

A.2.1 Method of measurement

For equipment 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. Tested in accordance with the procedures of ANSI C63.4 - 2014, section 7.3.

A.2.2 EUT Operating Mode:

Charging mode: The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

USB mode: The model of the PC is Lenovo 2OET-A00DCD, and the serial number of the PC is PF-OIYDAK. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

A.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (dBμV)	
	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		

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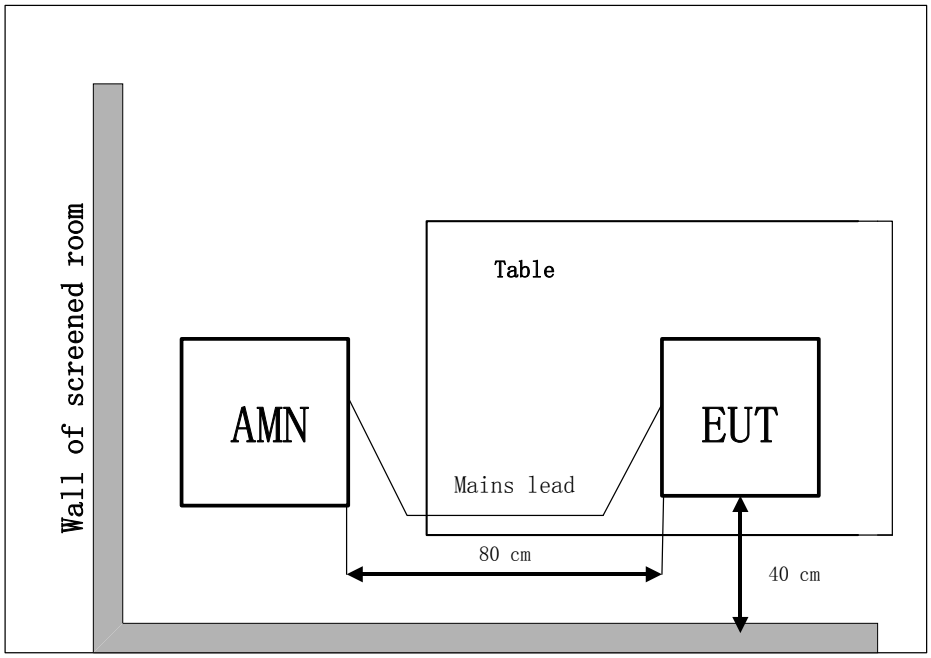
A.2.4 Test set-up:



A.2.5 Test Condition in charging mode

Voltage（V）	Frequency（Hz）
120	60
240	60

RBW	Sweep Time(s)
9kHz	1

CE Measurement uncertainty: 3.06 dB (k=2)

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A.2.6 Measurement Results

Charging mode:Set.1

Voltage:120V

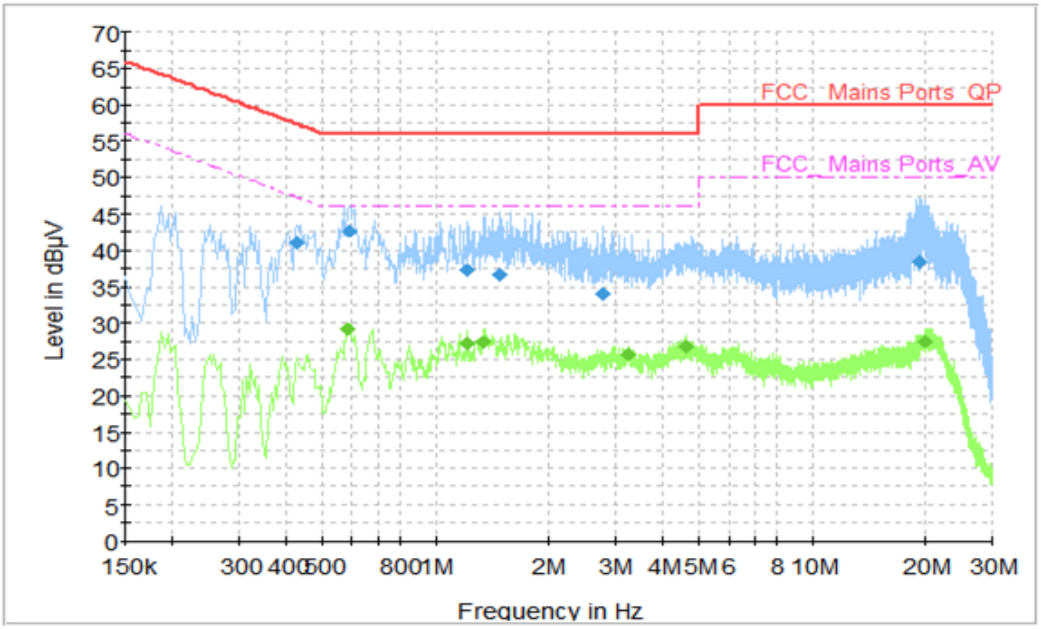

Figure A.19 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.426000	41.00	57.33	16.33	N	9.7
0.586000	42.66	56.00	13.34	N	9.7
1.218000	37.20	56.00	18.80	N	9.7
1.470000	36.66	56.00	19.34	N	9.7
2.762000	34.03	56.00	21.97	N	9.7
19.298000	38.38	60.00	21.62	N	10.4

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.582000	29.13	46.00	16.87	N	9.7
1.218000	27.10	46.00	18.90	N	9.7
1.342000	27.30	46.00	18.70	N	9.7
3.234000	25.73	46.00	20.27	N	9.7
4.646000	26.71	46.00	19.29	N	9.7
20.034000	27.57	50.00	22.43	N	10.4

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Charging mode:Set.2
Voltage:120V

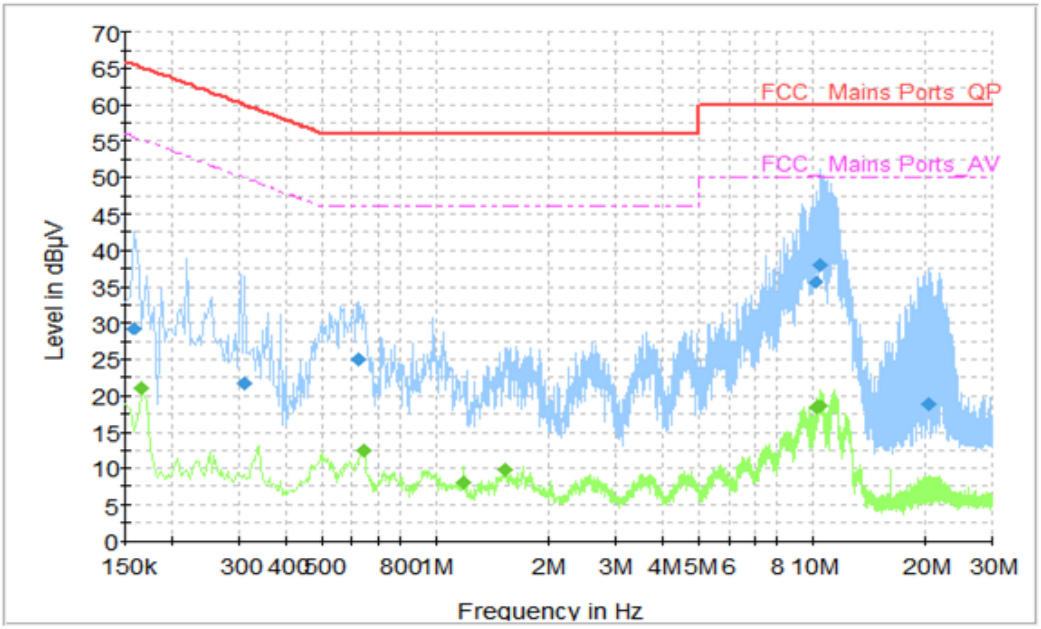

Figure A.20 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.158000	29.21	65.57	36.36	L1	9.7
0.310000	21.64	59.97	38.33	L1	9.7
0.622000	25.04	56.00	30.96	N	9.7
10.190000	35.54	60.00	24.46	L1	9.9
10.414000	37.98	60.00	22.02	L1	9.9
20.362000	18.87	60.00	41.13	N	10.4

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.166000	20.98	55.16	34.18	N	9.6
0.642000	12.54	46.00	33.46	N	9.7
1.186000	8.18	46.00	37.82	N	9.7
1.522000	9.94	46.00	36.06	N	9.7
10.282000	18.35	50.00	31.65	L1	9.9
10.414000	18.54	50.00	31.46	L1	9.9

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Charging mode:Set.3
Voltage:120V

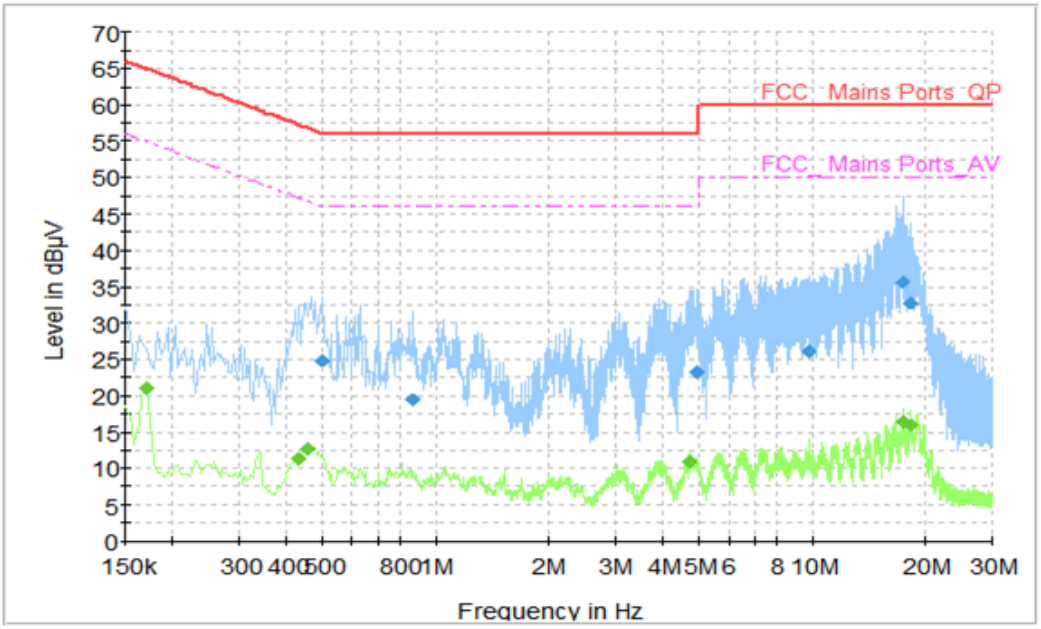

Figure A.21 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.502000	24.94	56.00	31.06	L1	9.7
0.870000	19.34	56.00	36.66	N	9.7
4.906000	23.32	56.00	32.68	L1	9.8
9.734000	26.05	60.00	33.95	L1	9.8
17.270000	35.56	60.00	24.44	L1	10.1
18.326000	32.81	60.00	27.19	L1	10.1

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	21.04	54.96	33.92	N	9.6
0.430000	11.26	47.25	35.99	L1	9.7
0.458000	12.69	46.73	34.04	L1	9.7
4.726000	10.97	46.00	35.03	L1	9.8
17.438000	16.34	50.00	33.66	L1	10.1
18.326000	15.83	50.00	34.17	L1	10.1

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Charging mode:Set.4
Voltage:120V

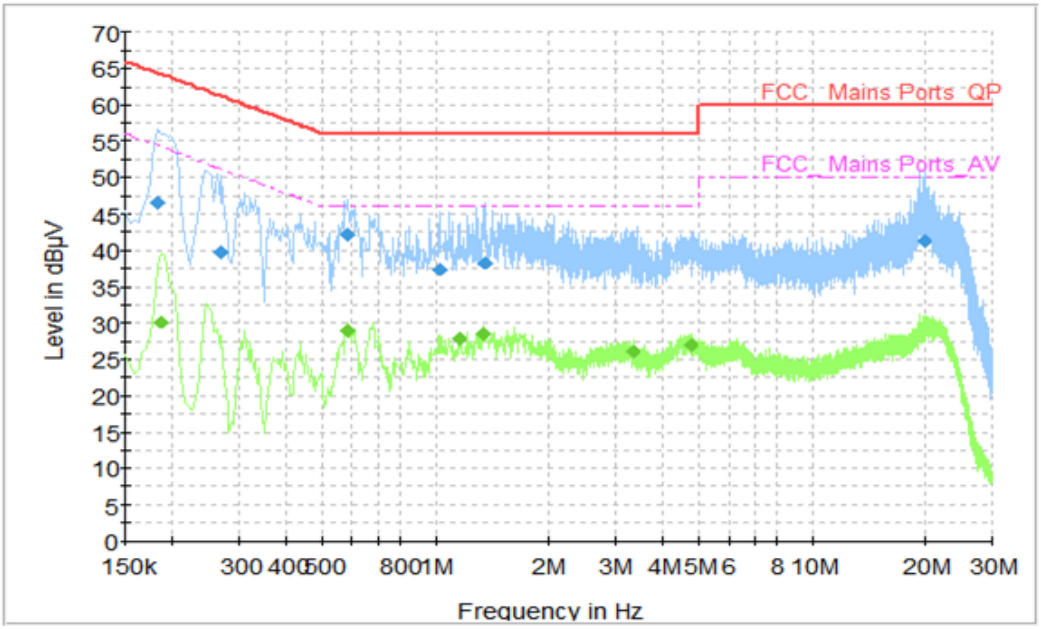

Figure A.22 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.182000	46.55	64.39	17.84	N	9.6
0.270000	39.67	61.12	21.45	N	9.6
0.582000	42.13	56.00	13.87	L1	9.7
1.026000	37.43	56.00	18.57	L1	9.7
1.346000	38.33	56.00	17.67	L1	9.7
19.810000	41.32	60.00	18.68	L1	10.2

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.186000	30.14	54.21	24.07	N	9.6
0.582000	28.99	46.00	17.01	L1	9.7
1.150000	27.83	46.00	18.17	L1	9.7
1.342000	28.48	46.00	17.52	L1	9.7
3.330000	26.14	46.00	19.86	L1	9.7
4.742000	26.89	46.00	19.11	L1	9.8

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Charging mode:Set.5
Voltage:120V

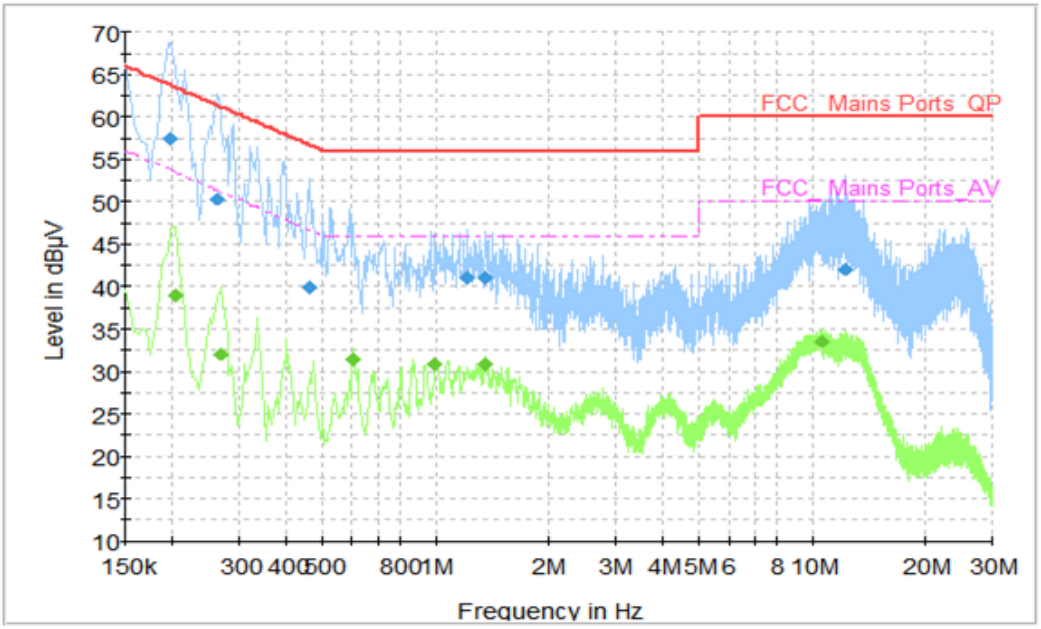

Figure A.23 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.198000	57.45	63.69	6.25	N	9.6
0.262000	50.29	61.37	11.08	N	9.6
0.462000	39.91	56.66	16.75	N	9.7
1.214000	41.05	56.00	14.95	L1	9.7
1.354000	40.97	56.00	15.03	L1	9.7
12.262000	41.98	60.00	18.02	L1	10.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.202000	39.01	53.53	14.52	N	9.6
0.270000	32.03	51.12	19.09	N	9.6
0.602000	31.53	46.00	14.47	N	9.7
0.994000	30.83	46.00	15.17	L1	9.7
1.354000	30.92	46.00	15.08	L1	9.7
10.550000	33.55	50.00	16.45	L1	9.9

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Charging mode:Set.6
Voltage:120V

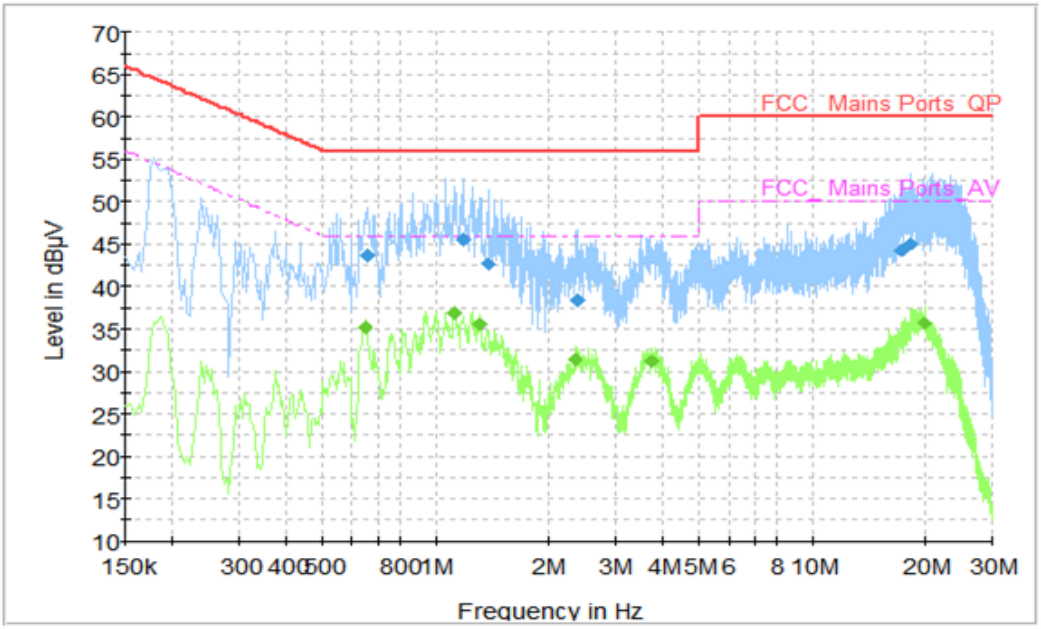

Figure A.24 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.658000	43.69	56.00	12.31	L1	9.7
1.178000	45.54	56.00	10.46	L1	9.7
1.370000	42.68	56.00	13.32	L1	9.7
2.374000	38.37	56.00	17.63	L1	9.7
17.194000	44.32	60.00	15.68	L1	10.2
18.262000	45.04	60.00	14.96	L1	10.1

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.650000	35.26	46.00	10.74	L1	9.7
1.118000	36.86	46.00	9.14	L1	9.7
1.302000	35.48	46.00	10.52	L1	9.7
2.346000	31.48	46.00	14.52	L1	9.7
3.734000	31.17	46.00	14.83	L1	9.7
19.710000	35.68	50.00	14.32	L1	10.2

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USB mode:Set.7
Voltage:120V

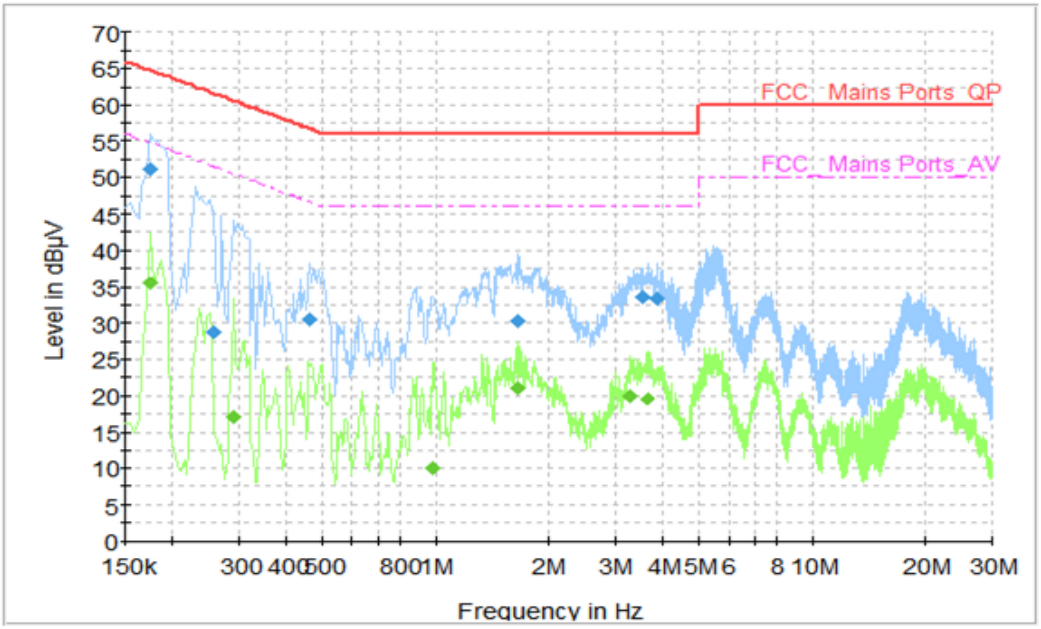

Figure A.25 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.174000	51.13	64.77	13.64	L1	9.7
0.258000	28.68	61.50	32.81	L1	9.7
0.462000	30.43	56.66	26.22	L1	9.7
1.658000	30.34	56.00	25.66	N	9.7
3.546000	33.44	56.00	22.56	N	9.7
3.862000	33.36	56.00	22.64	L1	9.7

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.174000	35.41	54.77	19.36	L1	9.7
0.290000	17.03	50.52	33.50	L1	9.7
0.982000	10.14	46.00	35.86	L1	9.7
1.658000	20.94	46.00	25.06	N	9.7
3.278000	19.91	46.00	26.09	L1	9.7
3.642000	19.63	46.00	26.37	L1	9.7

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USB mode:Set.8
Voltage:120V

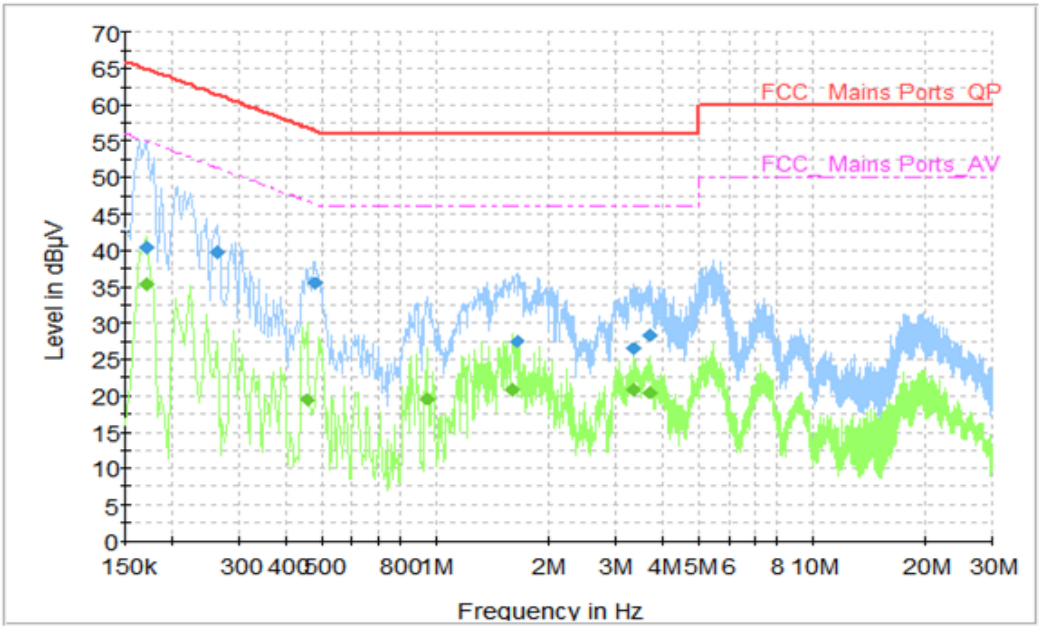

Figure A.26 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	40.41	64.96	24.55	N	9.6
0.262000	39.66	61.37	21.70	L1	9.7
0.478000	35.36	56.37	21.01	L1	9.7
1.634000	27.45	56.00	28.55	N	9.7
3.350000	26.51	56.00	29.49	N	9.7
3.718000	28.31	56.00	27.69	L1	9.7

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	35.27	54.96	19.69	N	9.6
0.454000	19.33	46.80	27.47	L1	9.7
0.946000	19.50	46.00	26.50	L1	9.7
1.602000	20.76	46.00	25.24	N	9.7
3.330000	20.86	46.00	25.14	N	9.7
3.710000	20.37	46.00	25.63	L1	9.7

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USB mode:Set.9
Voltage:120V

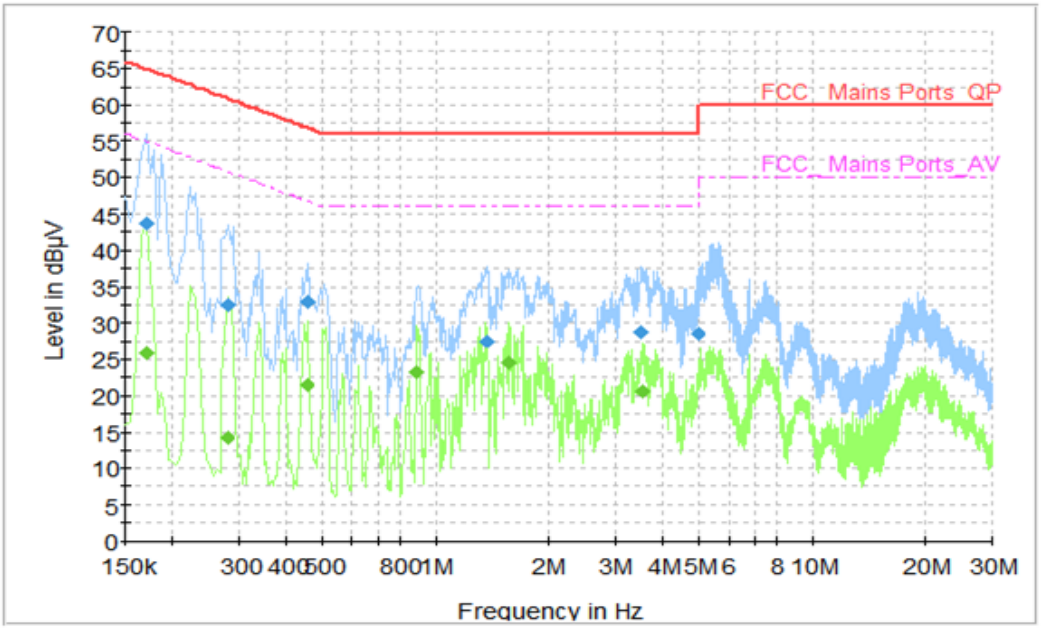

Figure A.27 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	43.75	64.96	21.21	L1	9.7
0.282000	32.43	60.76	28.33	L1	9.7
0.458000	33.01	56.73	23.72	L1	9.7
1.362000	27.55	56.00	28.45	N	9.7
3.502000	28.76	56.00	27.24	L1	9.7
4.982000	28.52	56.00	27.48	L1	9.8

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	25.90	54.96	29.07	L1	9.7
0.278000	14.31	50.88	36.57	N	9.6
0.454000	21.53	46.80	25.27	L1	9.7
0.890000	23.22	46.00	22.78	N	9.7
1.550000	24.48	46.00	21.52	N	9.7
3.562000	20.70	46.00	25.30	L1	9.7

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Charging mode:Set.1
Voltage:240V

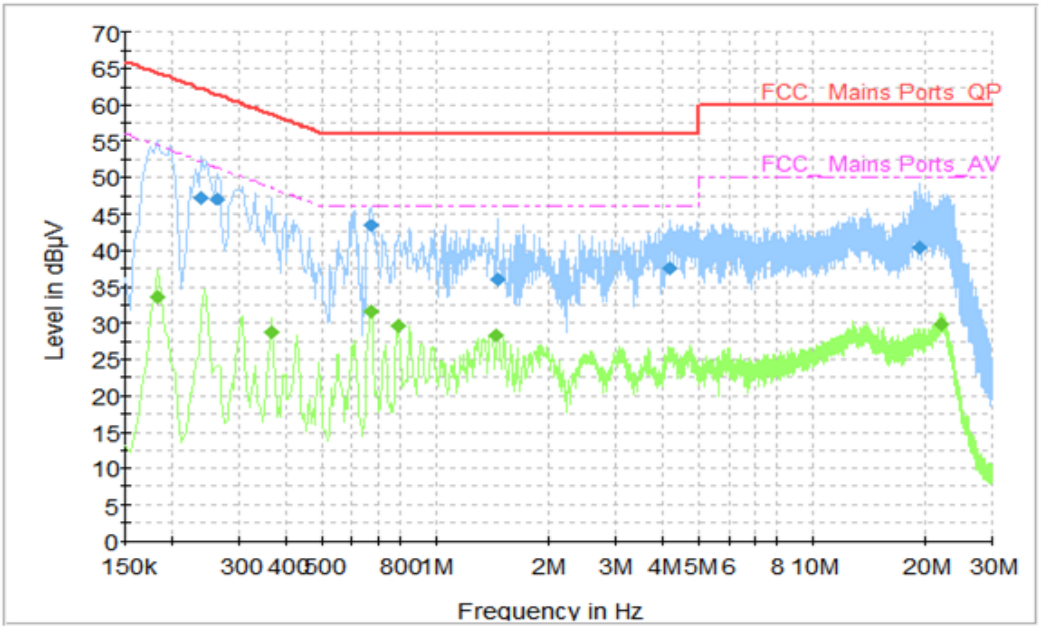

Figure A.28 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.238000	47.23	62.17	14.94	L1	9.7
0.262000	47.03	61.37	14.34	L1	9.7
0.670000	43.40	56.00	12.60	L1	9.7
1.458000	36.03	56.00	19.97	L1	9.7
4.198000	37.51	56.00	18.49	L1	9.7
19.278000	40.33	60.00	19.67	L1	10.2

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.182000	33.43	54.39	20.96	L1	9.7
0.366000	28.68	48.59	19.91	L1	9.7
0.670000	31.62	46.00	14.38	L1	9.7
0.790000	29.61	46.00	16.39	L1	9.7
1.450000	28.42	46.00	17.58	L1	9.7
22.066000	29.83	50.00	20.17	L1	10.1

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Charging mode:Set.2
Voltage:240V

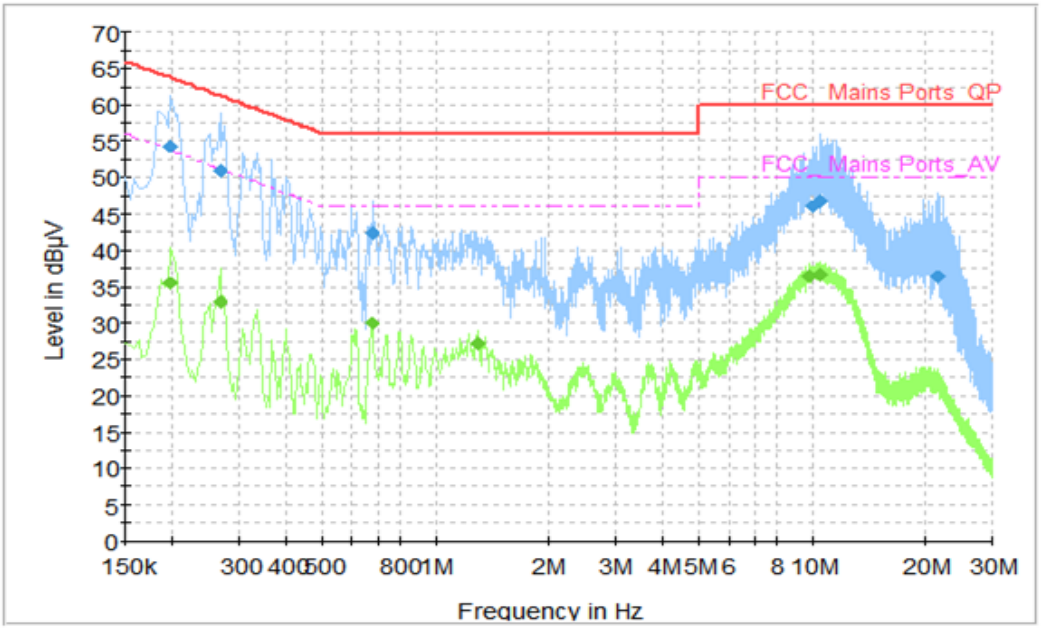

Figure A.29 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.198000	54.35	63.69	9.35	L1	9.7
0.266000	50.93	61.24	10.31	L1	9.7
0.674000	42.40	56.00	13.60	L1	9.7
10.042000	46.04	60.00	13.96	L1	9.8
10.498000	46.67	60.00	13.33	L1	9.9
21.398000	36.29	60.00	23.71	L1	10.1

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.198000	35.44	53.69	18.25	L1	9.7
0.266000	32.89	51.24	18.35	L1	9.7
0.674000	29.98	46.00	16.02	L1	9.7
1.290000	27.16	46.00	18.84	L1	9.7
9.862000	36.49	50.00	13.51	L1	9.8
10.442000	36.59	50.00	13.41	L1	9.9

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Charging mode:Set.3
Voltage:240V

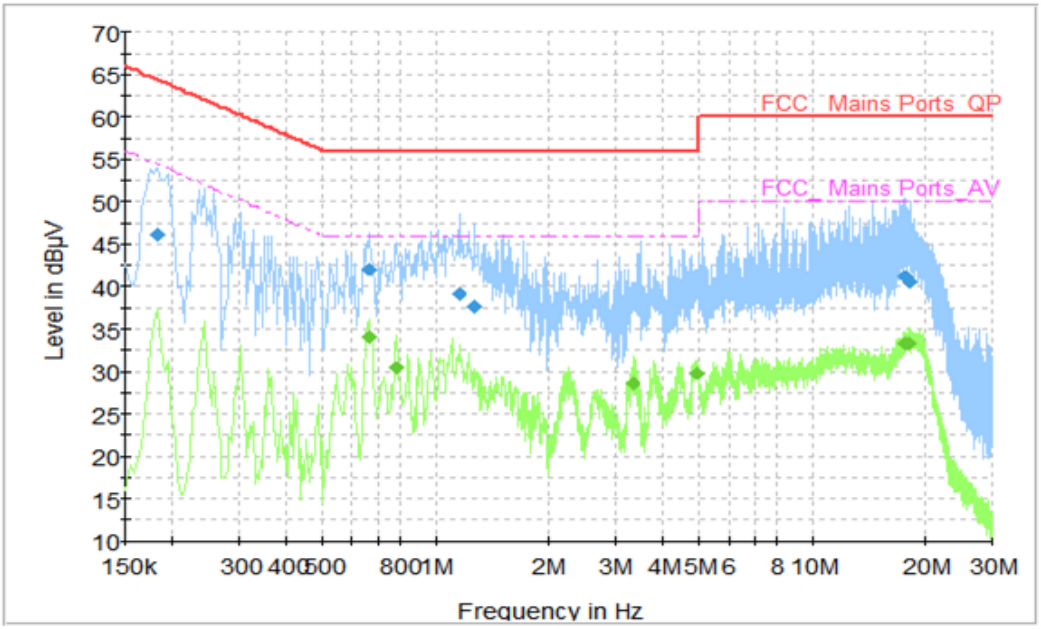

Figure A.30 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.182000	46.07	64.39	18.33	L1	9.7
0.662000	42.06	56.00	13.94	L1	9.7
1.150000	39.16	56.00	16.84	L1	9.7
1.266000	37.65	56.00	18.35	L1	9.7
17.558000	41.10	60.00	18.90	L1	10.1
18.042000	40.53	60.00	19.47	L1	10.1

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.662000	34.05	46.00	11.95	L1	9.7
0.786000	30.37	46.00	15.63	L1	9.7
3.346000	28.56	46.00	17.44	L1	9.7
4.922000	29.72	46.00	16.28	L1	9.8
17.602000	33.26	50.00	16.74	L1	10.1
17.966000	33.22	50.00	16.78	L1	10.1

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Charging mode:Set.4
Voltage:240V

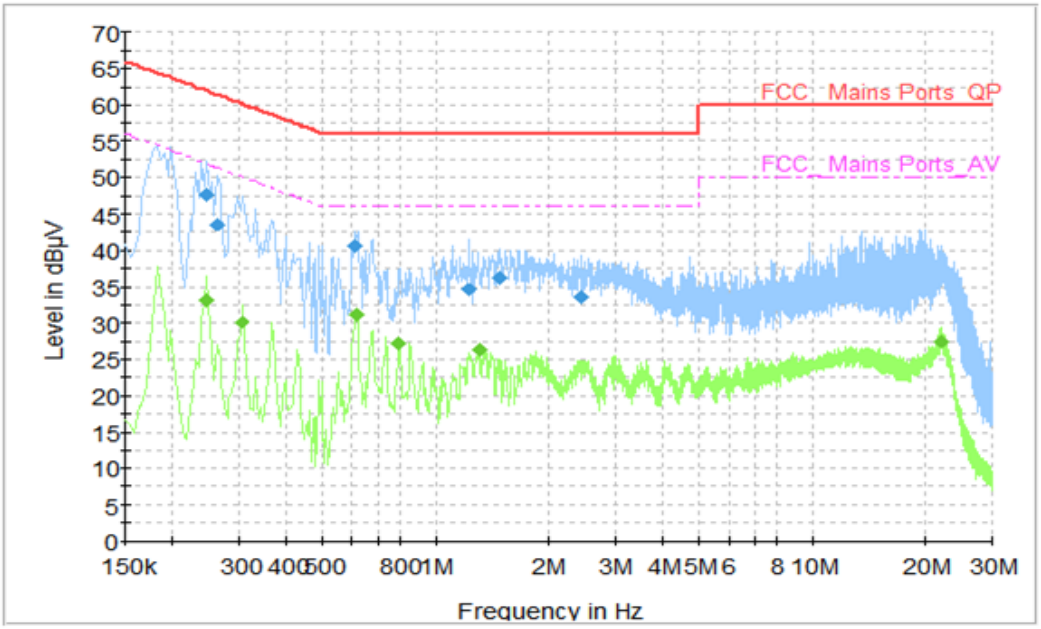

Figure A.31 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.246000	47.69	61.89	14.20	L1	9.7
0.262000	43.60	61.37	17.77	L1	9.7
0.610000	40.54	56.00	15.46	L1	9.7
1.226000	34.62	56.00	21.38	L1	9.7
1.474000	36.09	56.00	19.91	L1	9.7
2.422000	33.53	56.00	22.47	L1	9.7

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.246000	33.11	51.89	18.78	L1	9.7
0.306000	30.11	50.08	19.97	L1	9.7
0.614000	31.19	46.00	14.81	L1	9.7
0.794000	27.20	46.00	18.80	L1	9.7
1.298000	26.22	46.00	19.78	L1	9.7
22.022000	27.57	50.00	22.43	L1	10.1

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Charging mode:Set.5
Voltage:240V

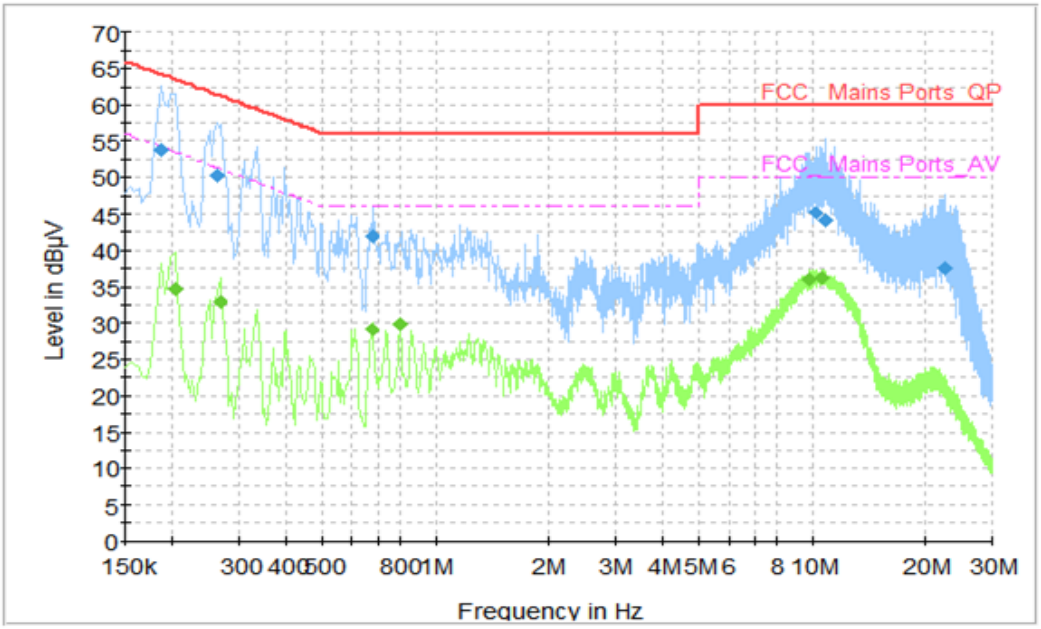

Figure A.32 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.186000	53.82	64.21	10.39	L1	9.7
0.262000	50.17	61.37	11.20	L1	9.7
0.678000	41.89	56.00	14.11	L1	9.7
10.138000	45.13	60.00	14.87	L1	9.8
10.842000	44.07	60.00	15.93	L1	9.9
22.386000	37.56	60.00	22.44	L1	10.1

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.202000	34.82	53.53	18.71	L1	9.7
0.266000	32.98	51.24	18.26	L1	9.7
0.678000	29.15	46.00	16.85	L1	9.7
0.798000	29.83	46.00	16.17	L1	9.7
9.806000	36.00	50.00	14.00	L1	9.8
10.586000	36.11	50.00	13.89	L1	9.9

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Charging mode:Set.6
Voltage:240V

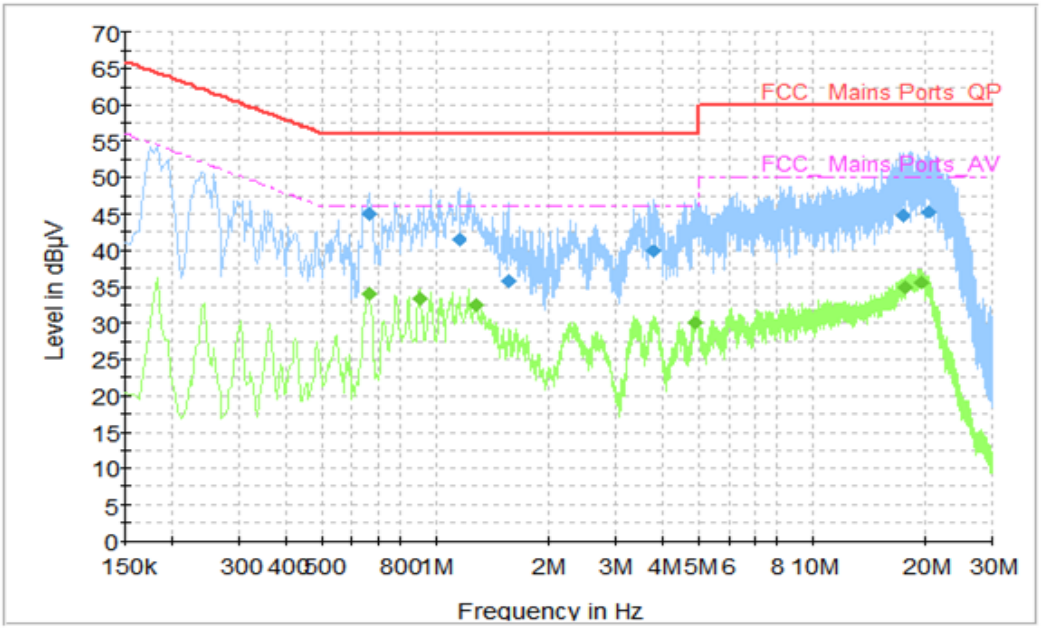

Figure A.33 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.662000	45.02	56.00	10.98	L1	9.7
1.146000	41.50	56.00	14.50	L1	9.7
1.550000	35.75	56.00	20.25	L1	9.7
3.766000	39.90	56.00	16.10	L1	9.7
17.274000	44.75	60.00	15.25	L1	10.1
20.334000	45.27	60.00	14.73	L1	10.2

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.662000	34.10	46.00	11.90	L1	9.7
0.906000	33.39	46.00	12.61	L1	9.7
1.282000	32.53	46.00	13.47	L1	9.7
4.882000	29.99	46.00	16.01	L1	9.8
17.598000	34.93	50.00	15.07	L1	10.1
19.374000	35.55	50.00	14.45	L1	10.2

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USB mode:Set.7
Voltage:240V

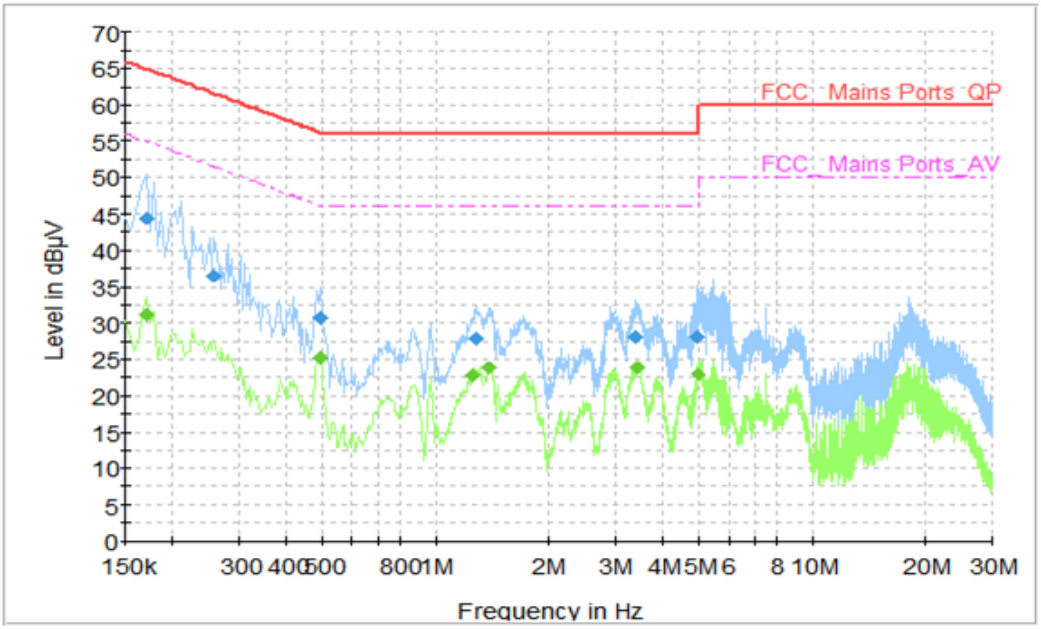

Figure A.34 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.170000	44.47	64.96	20.49	L1	9.7
0.258000	36.48	61.50	25.01	L1	9.7
0.490000	30.61	56.17	25.56	L1	9.7
1.278000	27.79	56.00	28.21	L1	9.7
3.406000	28.12	56.00	27.88	L1	9.7
4.934000	28.01	56.00	27.99	L1	9.8

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	31.26	54.96	23.70	L1	9.7
0.490000	25.26	46.17	20.91	L1	9.7
1.246000	22.80	46.00	23.20	L1	9.7
1.390000	23.80	46.00	22.20	L1	9.7
3.414000	23.73	46.00	22.27	L1	9.7
4.986000	22.92	46.00	23.08	L1	9.8

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USB mode:Set.8
Voltage:240V

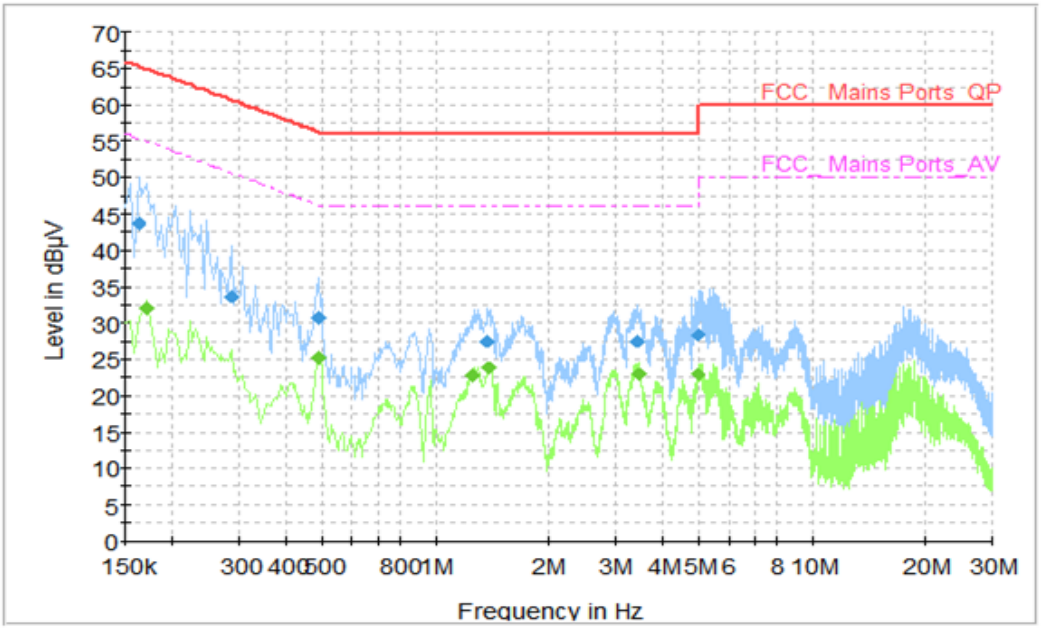

Figure A.35 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.162000	43.76	65.36	21.61	L1	9.7
0.286000	33.73	60.64	26.91	L1	9.7
0.486000	30.74	56.24	25.50	L1	9.7
1.366000	27.46	56.00	28.54	L1	9.7
3.422000	27.47	56.00	28.53	L1	9.7
4.978000	28.48	56.00	27.52	L1	9.8

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	32.15	54.96	22.81	L1	9.7
0.486000	25.15	46.24	21.08	L1	9.7
1.246000	22.76	46.00	23.24	L1	9.7
1.386000	23.78	46.00	22.22	L1	9.7
3.462000	22.92	46.00	23.08	L1	9.7
4.978000	22.89	46.00	23.11	L1	9.8

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USB mode:Set.9
Voltage:240V

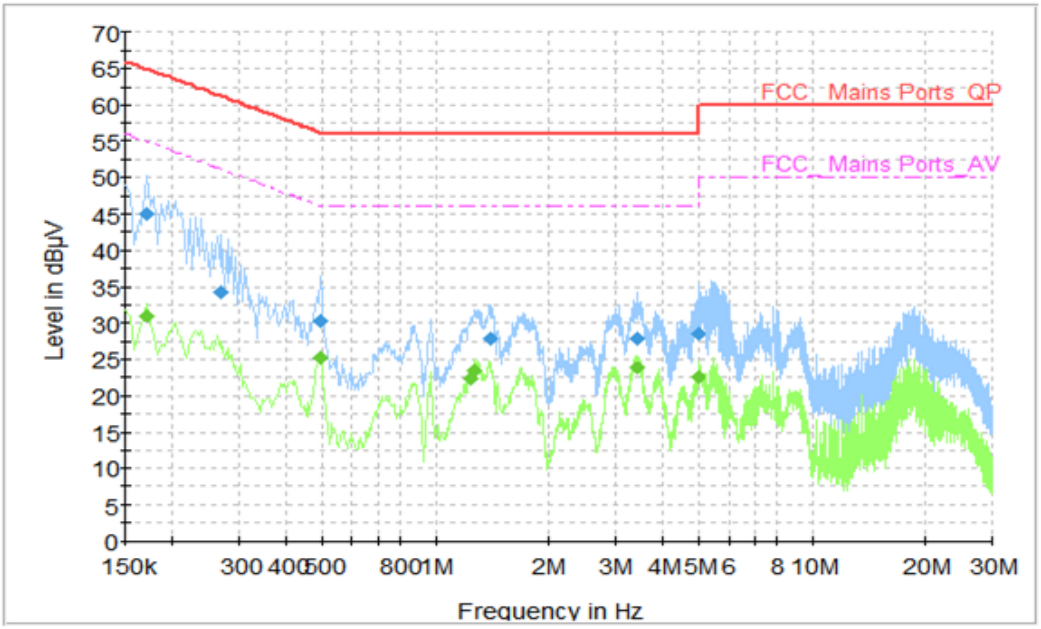

Figure A.36 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV	Margin (dB)	Line	Corr. (dB)
0.170000	44.89	64.96	20.07	L1	9.7
0.270000	34.28	61.12	26.84	L1	9.7
0.490000	30.40	56.17	25.77	L1	9.7
1.394000	27.79	56.00	28.21	L1	9.7
3.418000	27.84	56.00	28.16	L1	9.7
4.966000	28.53	56.00	27.47	L1	9.8

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.170000	31.10	54.96	23.86	L1	9.7
0.490000	25.15	46.17	21.02	L1	9.7
1.238000	22.40	46.00	23.60	L1	9.7
1.270000	23.46	46.00	22.54	L1	9.7
3.410000	23.88	46.00	22.12	L1	9.7
4.958000	22.61	46.00	23.39	L1	9.8

*****END OF REPORT*****

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