



TEST REPORT

No.B17N00263-EMC

for

Huawei Technologies Co.,Ltd.

HUAWEI MediaPad T3

Model Name: KOB-W09

FCC ID: QISKOB-W09

with

Hardware Version: REACHW-V1.0

Software Version: KOB-W09C331B002-log

Issued Date: 2017-06-16

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:

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No.52, HuayuanNorth Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633, Fax:+86(0)10-62304633Email:ctl@chinattl.com, website:www.chinattl.com



REPORT HISTORY

Report Number	Revision	Description	Issue Date
B17N00263-EMC	Rev.0	1st edition	2017-03-31
B17N00263-EMC	Rev.0	2nd edition	2017-06-16



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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

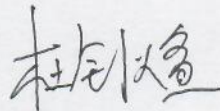
1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2017-03-14
Testing End Date: 2017-03-16

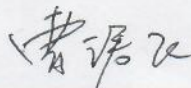
1.4. Signature



Du Zhaoxuan
(Prepared this test report)



Zhang Yunzhuan
(Reviewed this test report)



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



2. Client Information

2.1. Applicant Information

Company Name: Huawei Technologies Co.,Ltd.
Address: Administration Building, Headquarters of Huawei Technologies Co.,
Ltd., Bantian, Longgang District Shenzhen China

2.2. Manufacturer Information

Company Name: Huawei Technologies Co.,Ltd.
Address: Administration Building, Headquarters of Huawei Technologies Co.,
Ltd., Bantian, Longgang District Shenzhen China



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

3.1. About EUT

Description	HUAWEI MediaPad T3
Model Name	KOB-W09
FCC ID	QISKOB-W09

The Equipment Under Test (EUT) are a model of HUAWEI MediaPad T3 with integrated antenna.
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	GQE4T17222000035

*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	HB3080G1EBC	
Manufacturer	Huawei Technologies Co., Ltd	
Capacity	4650mAh	
Nominal Voltage	3.8V	
AE1-2		
Model	HB3080G1EBW	
Manufacturer	Huawei Technologies Co., Ltd	
Capacity	4650mAh	
Nominal Voltage	3.8V	
AE2-1		
Model	HW-050100U01	
Manufacturer	Shezhen Huntkey Electric Co.,Ltd	
SN	H780K1GCN01558	
AE2-2		
Model	HW-050100U01	
Manufacturer	HUIZHOU BYD ELECTRONIC CO.,LTD	
SN	B78004GAF00351	



AE2-3		
Model		HW-050100U01
Manufacturer		DONG GUAN PHITEK ELECTORNICS COL.,LTD.
SN		P78001GAK93676
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+AE2-1+ AE3-2	Charging mode
Set.3	EUT1+ AE1-1+AE2-1+ AE3-3	Charging mode
Set.4	EUT1+ AE1-1+AE2-2+ AE3-2	Charging mode
Set.5	EUT1+ AE1-1+AE2-3+ AE3-3	Charging mode
Set.6	EUT1+ AE1-1+ AE3-1	USB mode
Set.7	EUT1+ AE1-1+ AE3-2	USB mode
Set.8	EUT1+ AE1-1+ AE3-3	USB mode

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

5. LABORATORY ENVIRONMENT

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

Temperature	Min. = 15 °C, Max. = 30 °C
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 °C, Max. = 30 °C
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 °C, Max. = 30 °C
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



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



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 330	Schwarzbeck	2017.04.22	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

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)

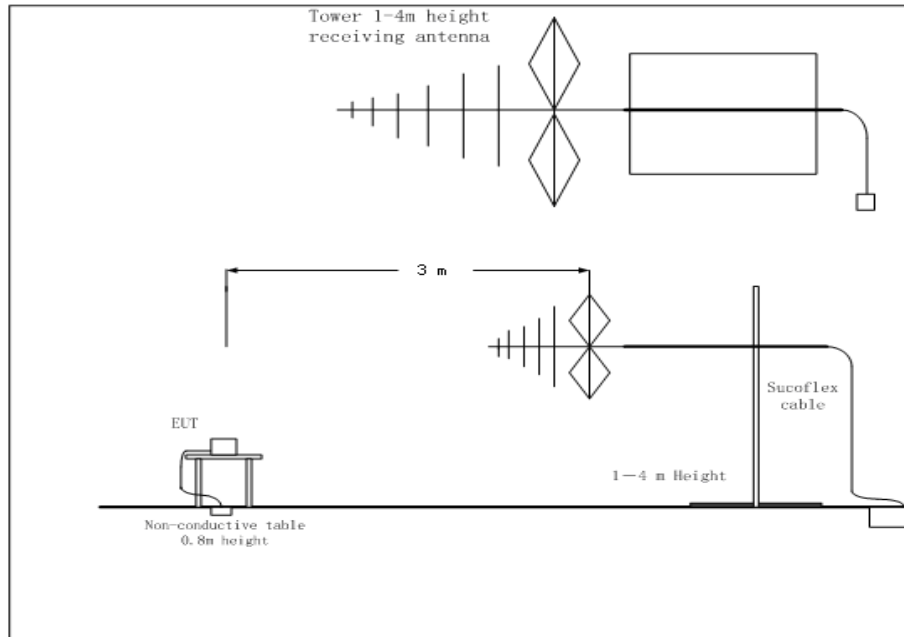
Frequency range (MHz)	Field strength limit ($\mu\text{V/m}$)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

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

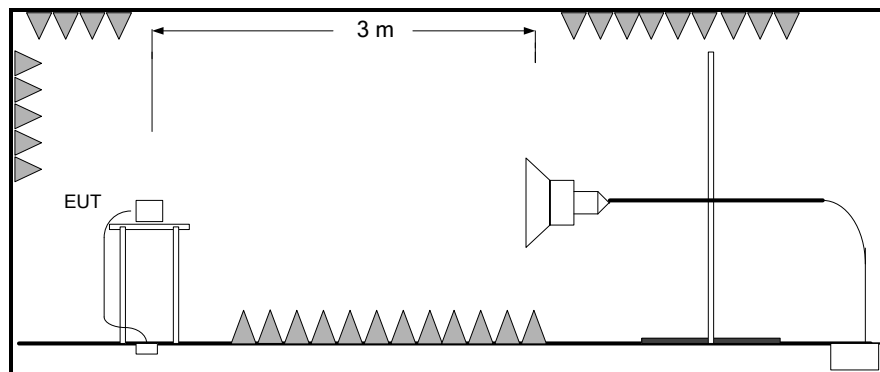
A.1.4 Test Condition

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

**A.1.5 Test set-up:
30MHz-1GHz**



1GHz-18GHz



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:

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

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)	PMea (dBμV)
14528.500000	54.79	74.00	19.21	V	11.8	42.99
15125.000000	55.42	74.00	18.58	V	12.1	43.32
15688.500000	56.50	74.00	17.50	V	12.7	43.8
16207.000000	56.29	74.00	17.71	H	13.1	43.19
16741.000000	57.56	74.00	16.44	H	13.9	43.66
17311.000000	56.87	74.00	17.13	H	13.9	42.97

Set.1 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBμV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBμV)
14530.500000	43.17	54.00	10.83	V	11.8	31.37
15153.500000	44.09	54.00	9.91	H	12.1	31.99
15700.500000	45.26	54.00	8.74	H	12.7	32.56
16206.500000	45.53	54.00	8.47	H	13.1	32.43
16759.500000	46.06	54.00	7.94	H	13.9	32.16
17318.500000	45.34	54.00	8.66	H	13.9	31.44

Set.2 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14547.500000	55.08	74.00	18.92	V	11.9	43.18
15162.500000	55.74	74.00	18.26	H	12.1	43.64
15734.000000	56.95	74.00	17.05	V	12.7	44.25
16178.000000	56.14	74.00	17.86	V	13.1	43.04
16813.500000	56.59	74.00	17.41	H	13.9	42.69
17550.000000	55.86	74.00	18.14	H	14.0	41.86

Set.2 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14538.000000	43.31	54.00	10.69	H	11.9	31.41
15049.500000	43.57	54.00	10.43	H	12.1	31.47
15754.500000	44.91	54.00	9.09	H	12.8	32.11
16317.500000	44.46	54.00	9.54	H	13.3	31.16
16743.500000	44.93	54.00	9.07	V	13.9	31.03
17274.500000	44.55	54.00	9.45	H	13.9	30.65

Set.3 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14444.000000	54.65	74.00	19.35	H	11.7	42.95
15163.000000	55.40	74.00	18.60	V	12.1	43.3
15703.500000	56.66	74.00	17.34	H	12.7	43.96
16183.500000	56.29	74.00	17.71	H	13.1	43.19
16809.000000	56.79	74.00	17.21	H	13.9	42.89
17375.500000	56.77	74.00	17.23	V	14.0	42.77

Set.3 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14551.000000	43.17	54.00	10.83	H	11.9	31.27
15157.500000	43.56	54.00	10.44	H	12.1	31.46
15754.000000	44.78	54.00	9.22	V	12.8	31.98
16243.000000	44.62	54.00	9.38	V	13.2	31.42
16751.000000	45.13	54.00	8.87	H	13.9	31.23
17347.000000	44.70	54.00	9.30	H	14.0	30.7

Set.4 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
1862.750000	51.73	74.00	22.27	H	-1.0	52.73
13911.000000	53.28	74.00	20.72	V	10.9	42.38
14522.000000	54.96	74.00	19.04	V	11.8	43.16
15065.000000	56.47	74.00	17.53	V	12.1	44.37
16356.500000	56.99	74.00	17.01	H	13.4	43.59
16801.000000	57.07	74.00	16.93	V	13.9	43.17

Set.4 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
13948.000000	41.30	54.00	12.70	V	10.8	30.5
15107.000000	43.83	54.00	10.17	H	12.1	31.73
15746.500000	45.05	54.00	8.95	V	12.8	32.25
16232.500000	45.05	54.00	8.95	H	13.1	31.95
16762.000000	45.55	54.00	8.45	V	13.9	31.65
17269.000000	45.10	54.00	8.90	H	13.9	31.2

Set.5 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
12580.000000	50.76	74.00	23.24	V	10.6	40.16
14547.000000	55.47	74.00	18.53	V	11.9	43.57
15841.000000	56.79	74.00	17.21	V	12.9	43.89
16330.000000	57.07	74.00	16.93	V	13.4	43.67
16847.500000	57.23	74.00	16.77	V	13.9	43.33
17344.000000	56.15	74.00	17.85	V	14.0	42.15

Set.5 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
12178.000000	38.50	54.00	15.50	V	10.3	28.2
14523.500000	43.23	54.00	10.77	V	11.8	31.43
15128.500000	43.99	54.00	10.01	V	12.1	31.89
16222.500000	44.87	54.00	9.13	V	13.1	31.77
16751.500000	45.50	54.00	8.50	V	13.9	31.6
17287.500000	44.92	54.00	9.08	H	13.9	31.02

Set.6 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
13007.000000	51.09	74.00	22.91	V	11.1	39.99
15003.500000	55.20	74.00	18.80	H	12.0	43.2
15696.000000	57.27	74.00	16.73	H	12.7	44.57
16313.500000	56.70	74.00	17.30	H	13.3	43.4
16742.500000	57.61	74.00	16.39	V	13.9	43.71
17366.000000	56.73	74.00	17.27	V	14.0	42.73

Set.6 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14530.500000	43.61	54.00	10.39	V	11.8	31.81
15054.500000	43.89	54.00	10.11	H	12.1	31.79
15772.500000	45.34	54.00	8.66	H	12.8	32.54
16210.000000	45.13	54.00	8.87	V	13.1	32.03
16745.500000	45.53	54.00	8.47	H	13.9	31.63
17338.000000	45.18	54.00	8.82	V	14.0	31.18

Set.7 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
13676.500000	53.43	74.00	20.57	V	11.2	42.23
14163.000000	54.94	74.00	19.06	V	11.2	43.74
15092.500000	56.13	74.00	17.87	V	12.1	44.03
15773.500000	57.54	74.00	16.46	V	12.8	44.74
16179.500000	57.11	74.00	16.89	V	13.1	44.01
17299.000000	57.63	74.00	16.37	V	13.9	43.73

Set.7 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
13184.500000	39.93	54.00	14.07	V	11.2	28.73
14529.000000	43.65	54.00	10.35	V	11.8	31.85
15161.000000	44.18	54.00	9.82	V	12.1	32.08
15772.000000	45.61	54.00	8.39	V	12.8	32.81
16786.500000	46.09	54.00	7.91	V	13.9	32.19
17335.500000	45.84	54.00	8.16	V	14.0	31.84

Set.8 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14542.500000	56.19	74.00	17.81	V	11.9	44.29
15064.000000	56.41	74.00	17.59	V	12.1	44.31
15767.000000	57.94	74.00	16.06	V	12.8	45.14
16229.000000	57.71	74.00	16.29	V	13.1	44.61
16637.500000	58.81	74.00	15.19	H	13.8	45.01
17493.000000	58.92	74.00	15.08	H	14.0	44.92

Set.8 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB μ V/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dB μ V)
14535.000000	44.11	54.00	9.89	H	11.9	32.21
15143.500000	44.82	54.00	9.18	V	12.1	32.72
15681.000000	46.32	54.00	7.68	V	12.6	33.72
16181.000000	46.80	54.00	7.20	V	13.1	33.7
16766.500000	47.49	54.00	6.51	V	13.9	33.59
17274.500000	46.86	54.00	7.14	V	13.9	32.96

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

Charging mode: Set 1

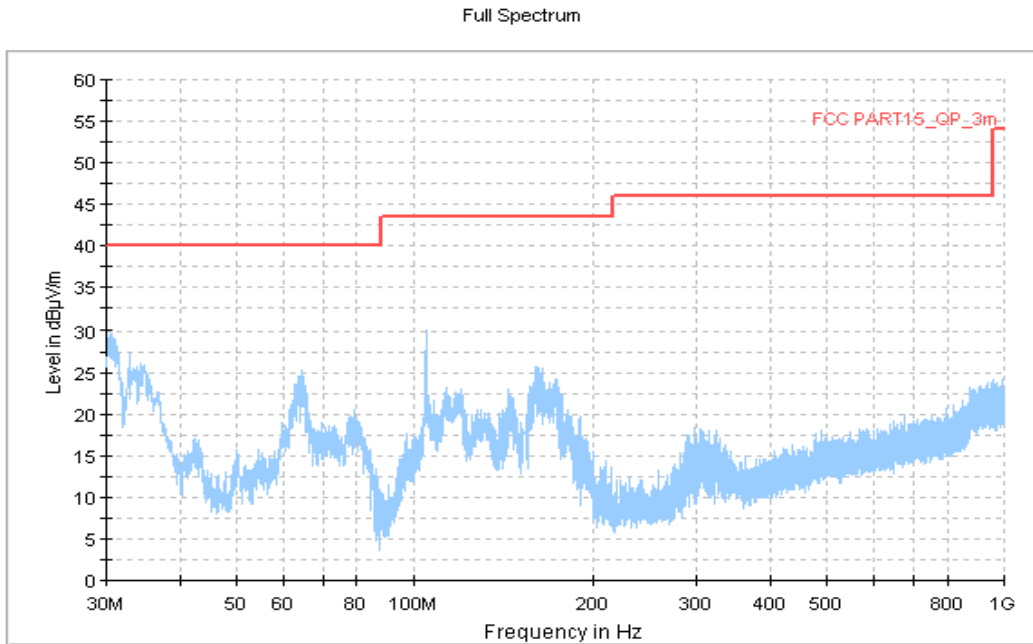


Figure A.1 Radiated Emission from 30MHz to 1GHz

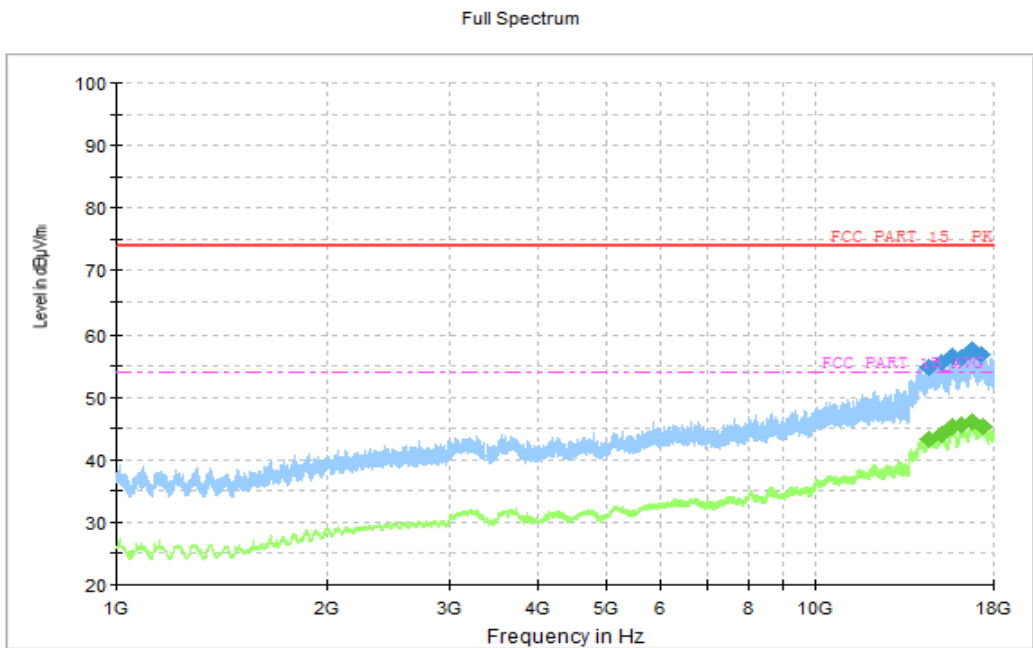


Figure A.2 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 2

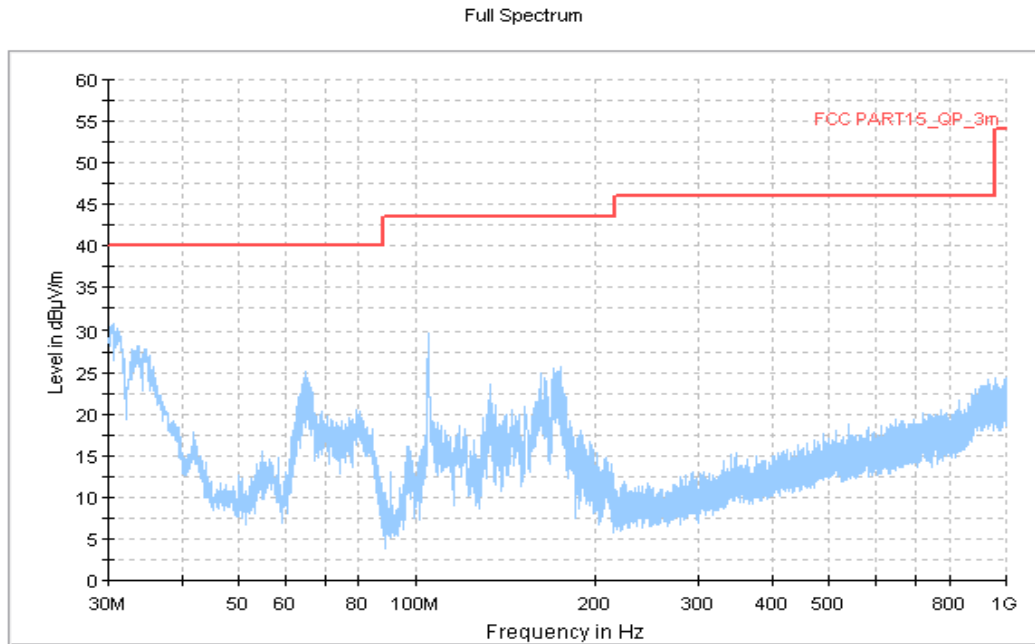


Figure A.3 Radiated Emission from 30MHz to 1GHz

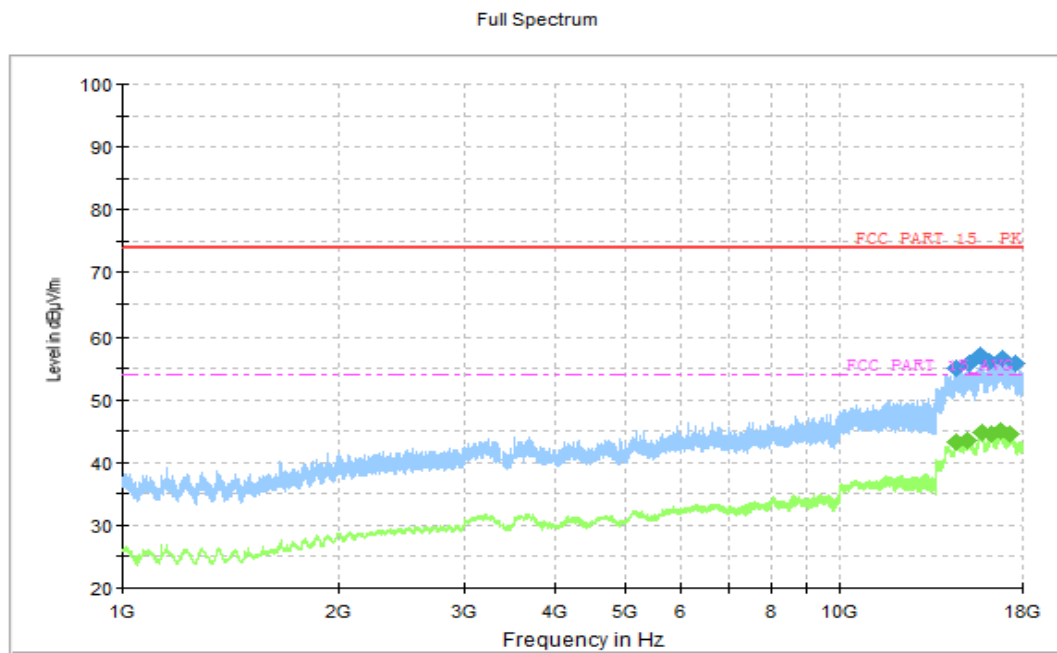


Figure A.4 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 3

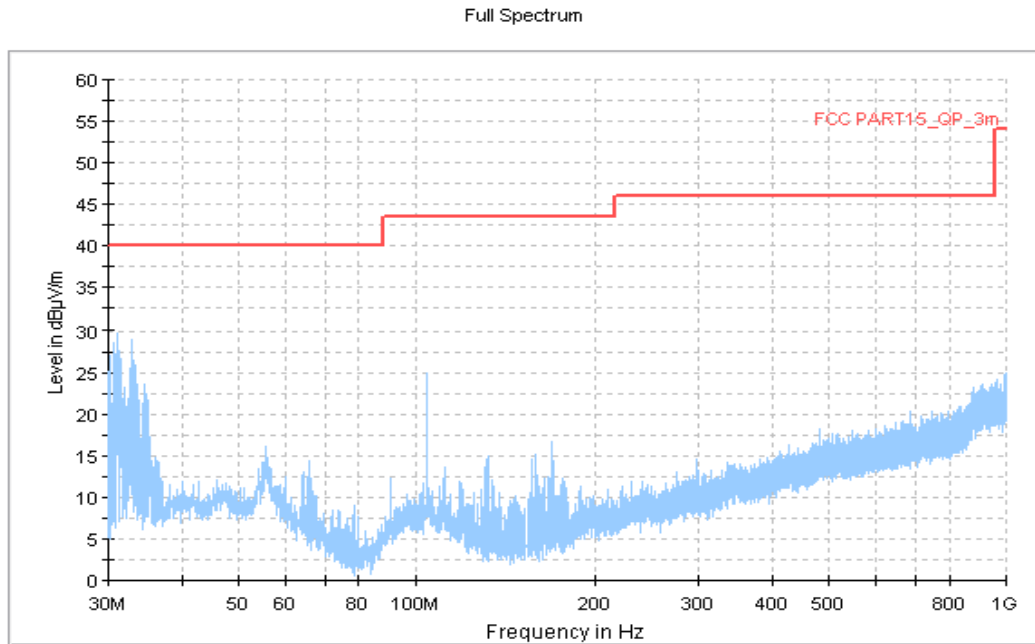


Figure A.5 Radiated Emission from 30MHz to 1GHz

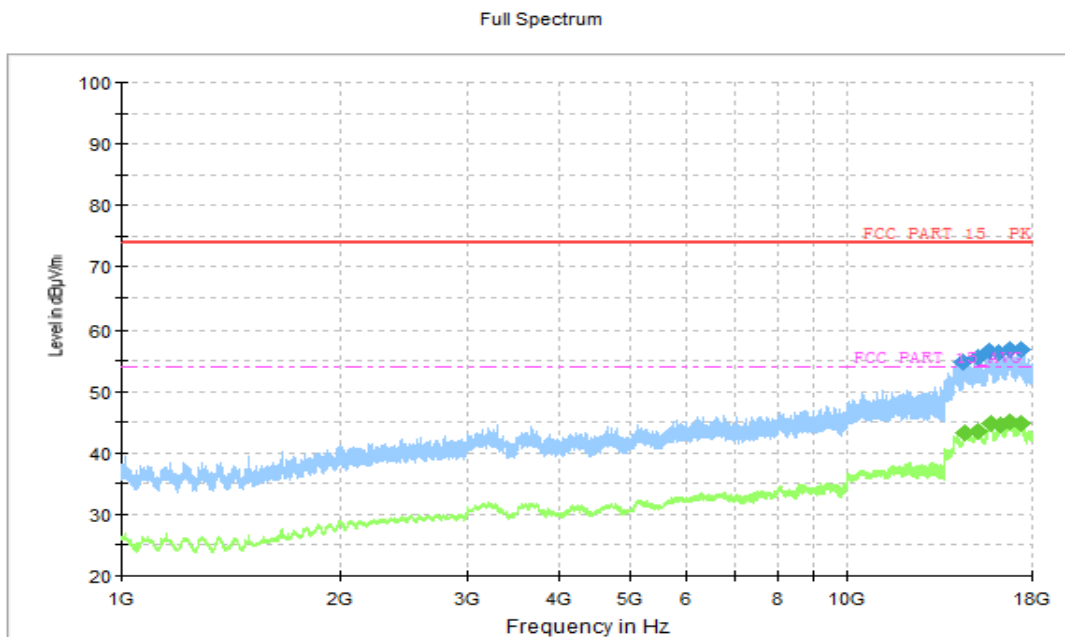


Figure A.6 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 4

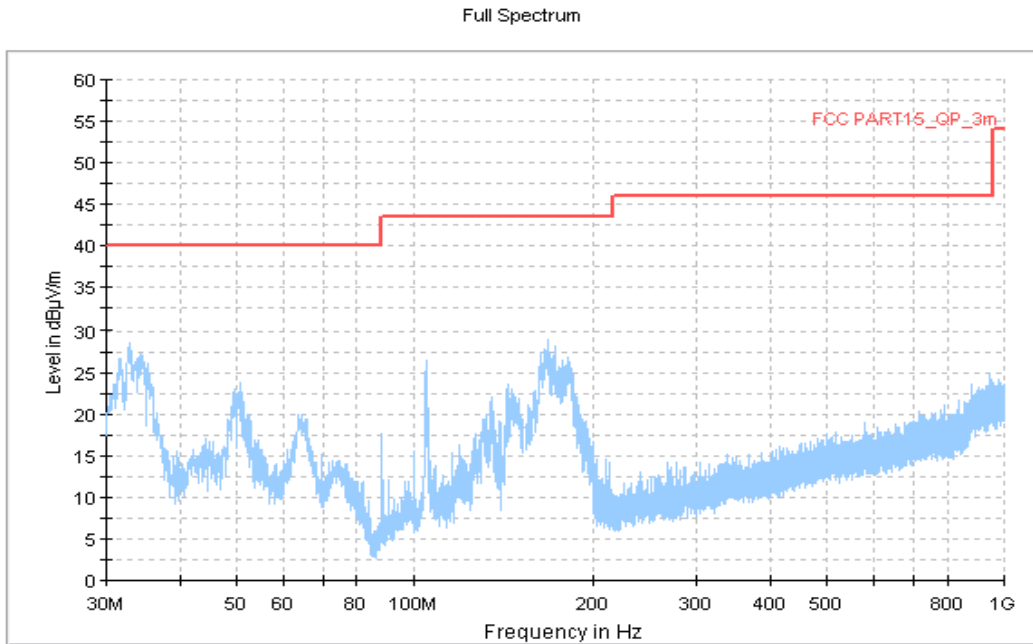


Figure A.7 Radiated Emission from 30MHz to 1GHz

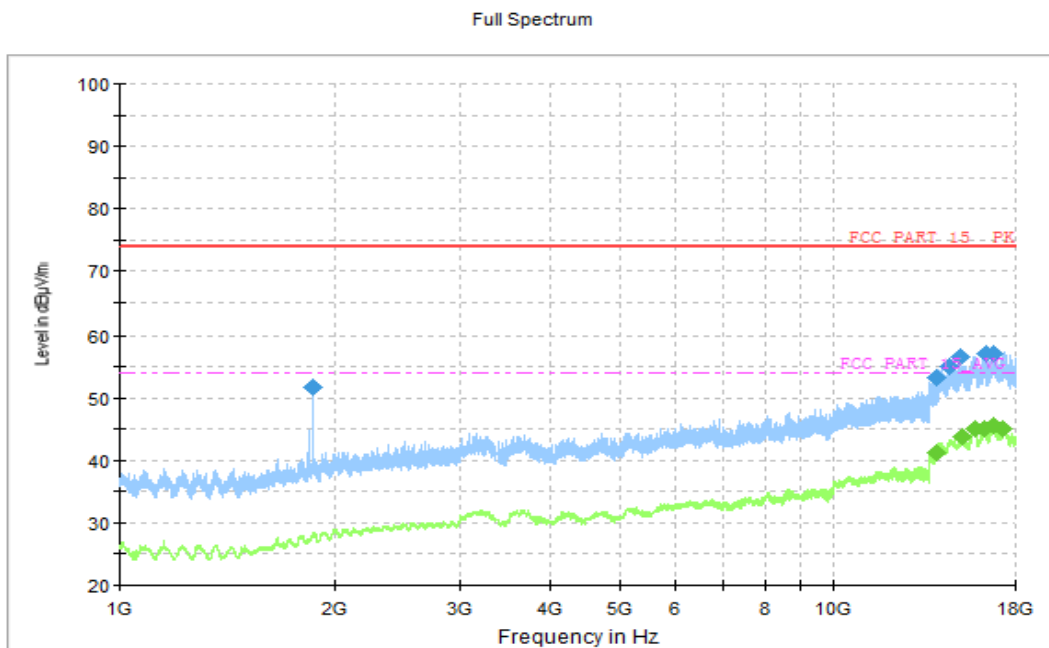


Figure A.8 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 5

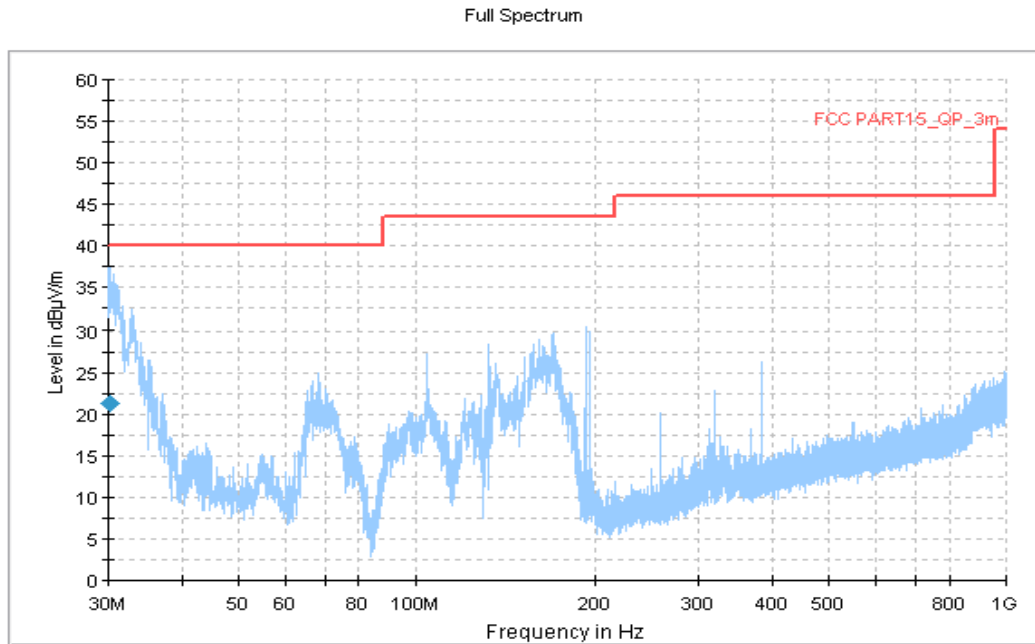


Figure A.9 Radiated Emission from 30MHz to 1GHz

Frequency(MHz)	QuasiPeak(dBµV/m)	Limit(dBµV/m)	Margin(dB)	Pol	Corr.(dB)
30.245000	21.25	40.00	18.75	V	-36.9

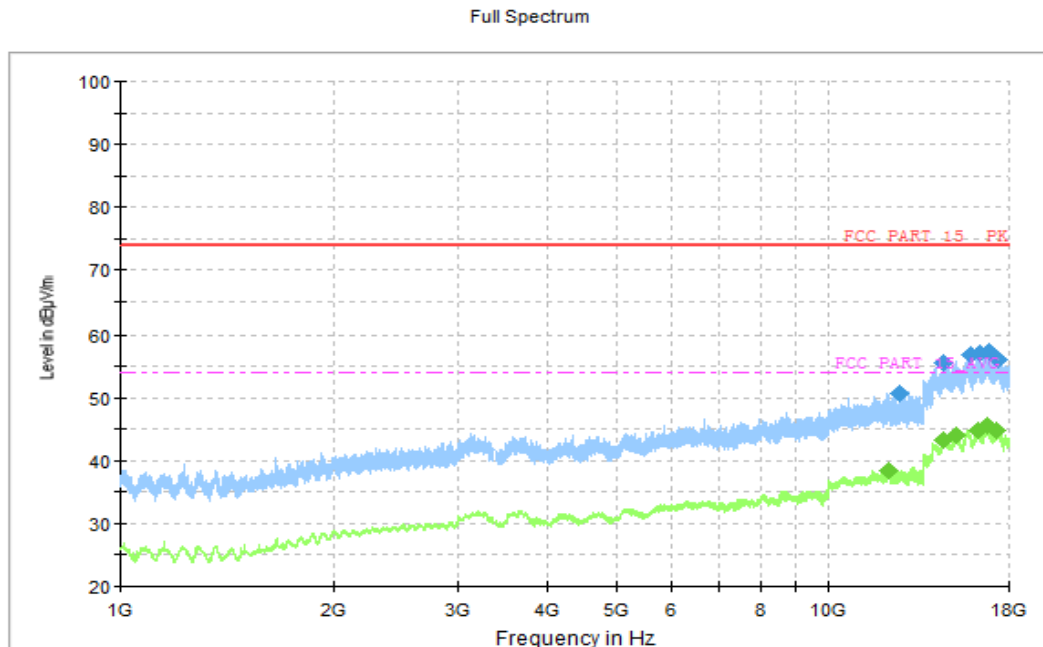


Figure A.10 Radiated Emission from 1GHz to 18GHz

USB mode: Set 6

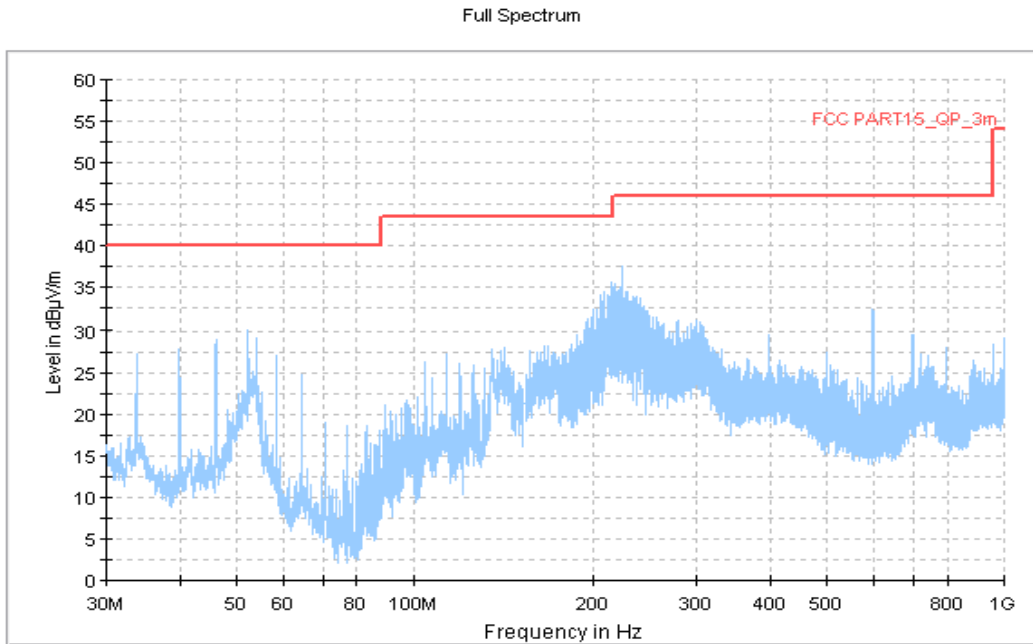


Figure A.11 Radiated Emission from 30MHz to 1GHz

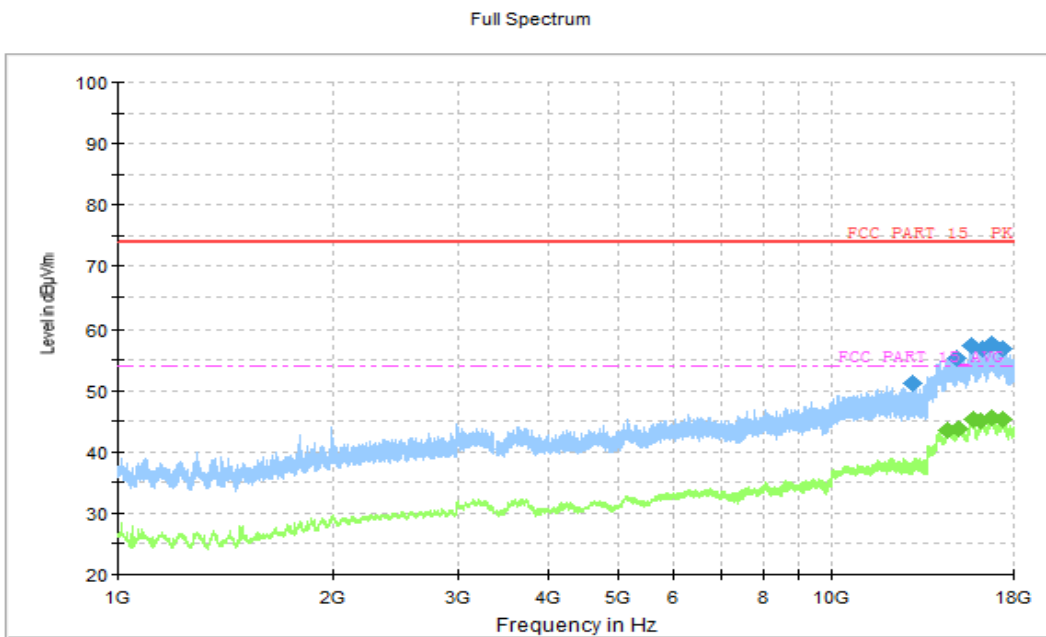


Figure A.12 Radiated Emission from 1GHz to 18GHz

USB mode: Set 7

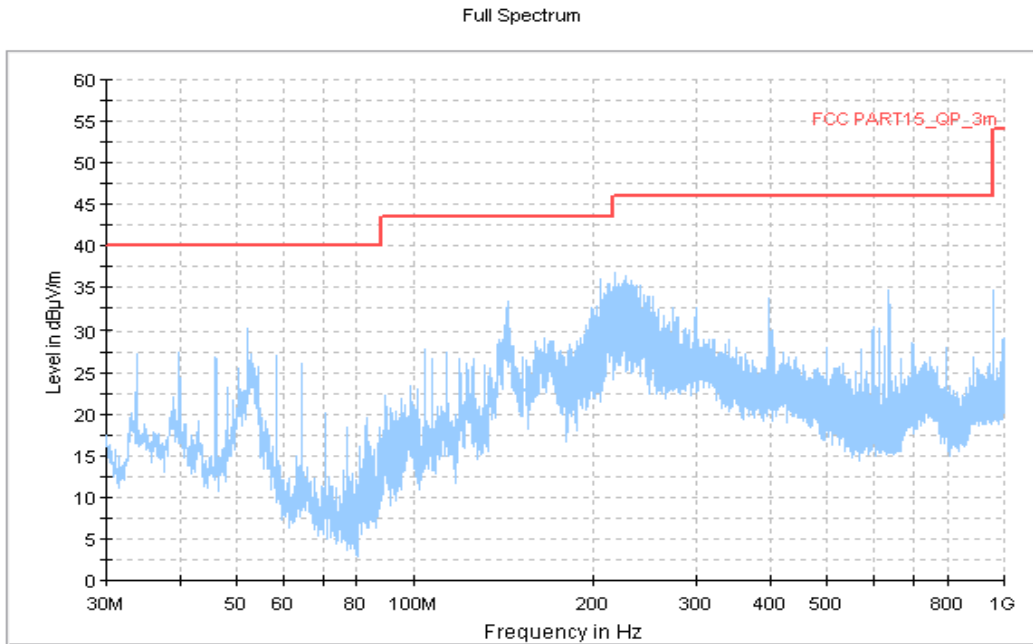


Figure A.13 Radiated Emission from 30MHz to 1GHz

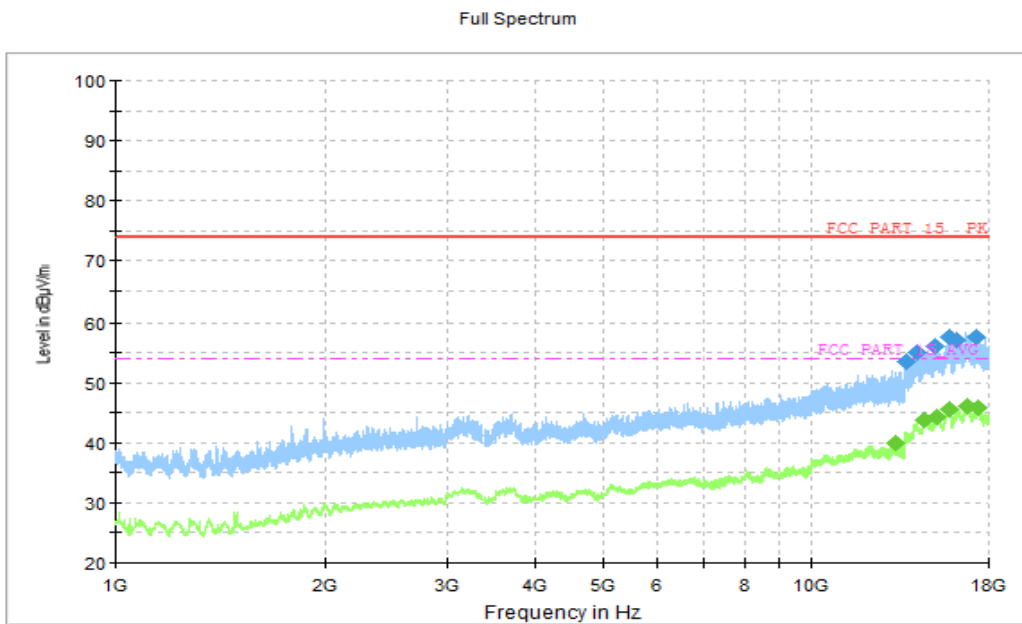


Figure A.14 Radiated Emission from 1GHz to 18GHz

USB mode: Set 8

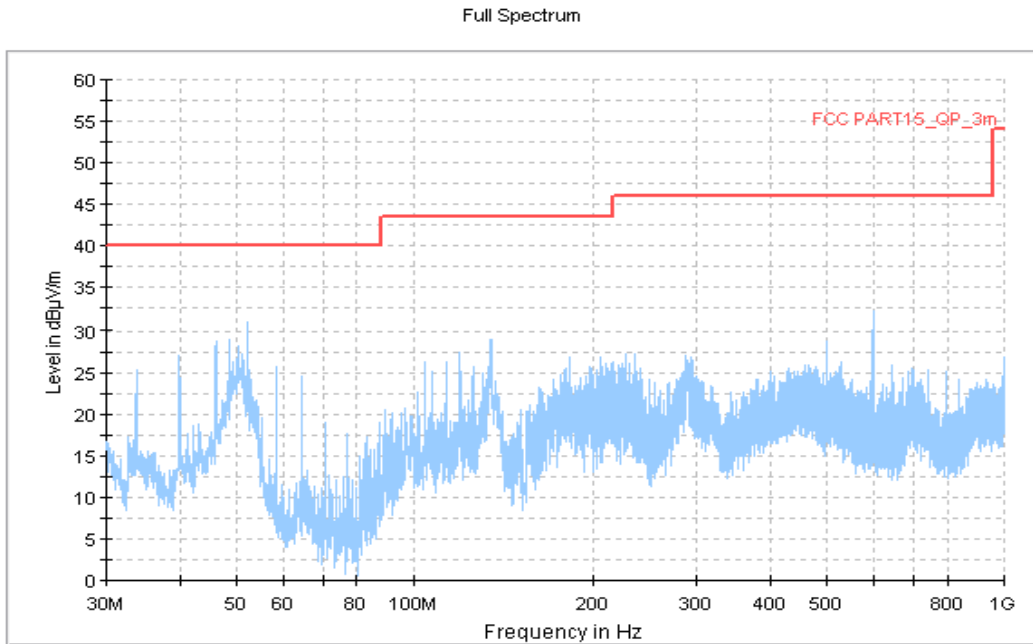


Figure A.15 Radiated Emission from 30MHz to 1GHz

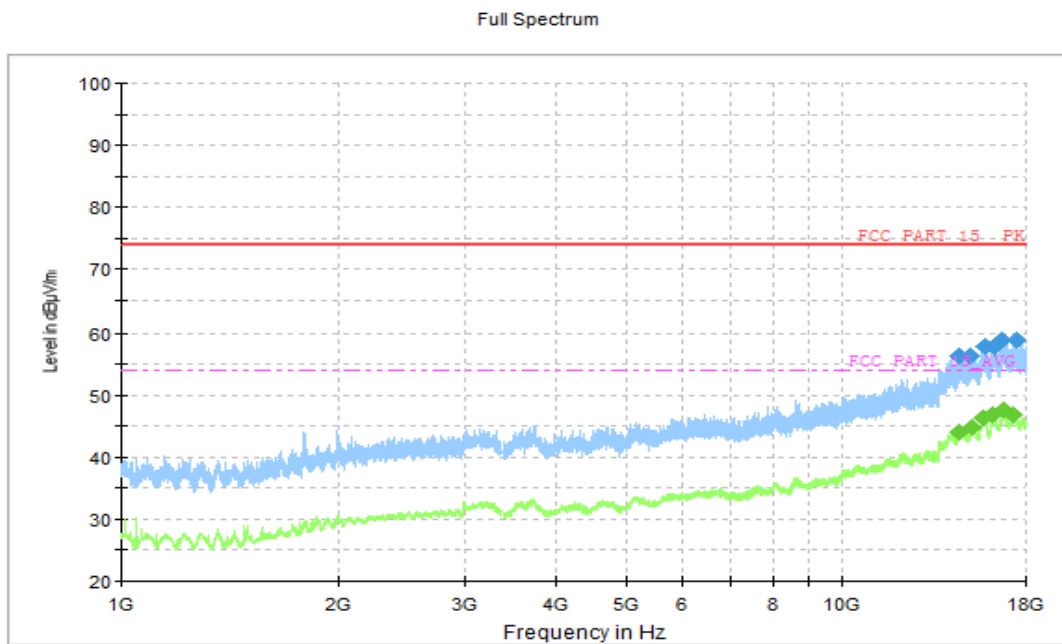


Figure A.16 Radiated Emission from 1GHz to 18GHz

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:

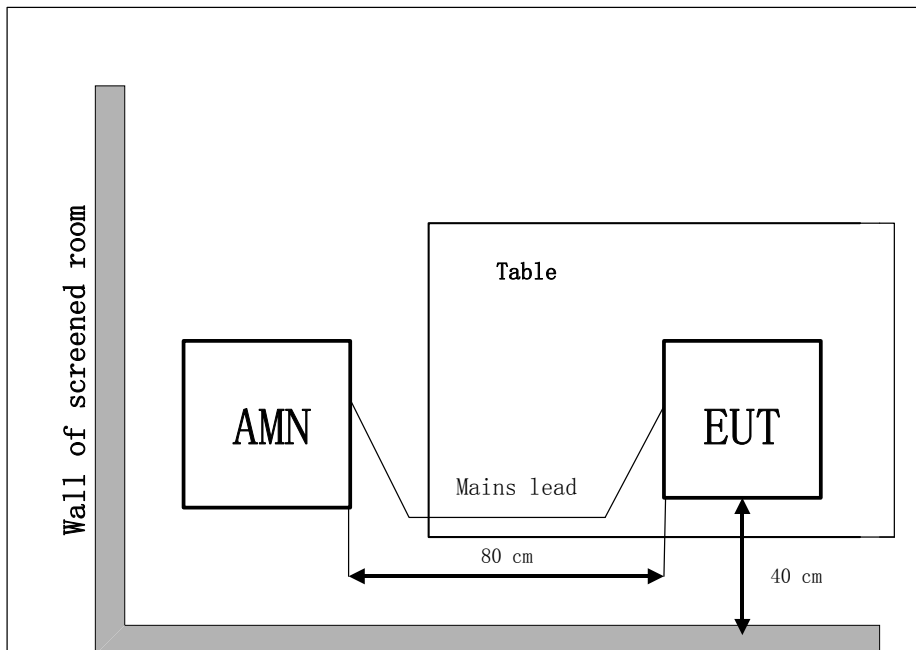
Charging mode: The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

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 (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		

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)

A.2.6 Measurement Results
Charging mode:Set.1
Voltage:120V

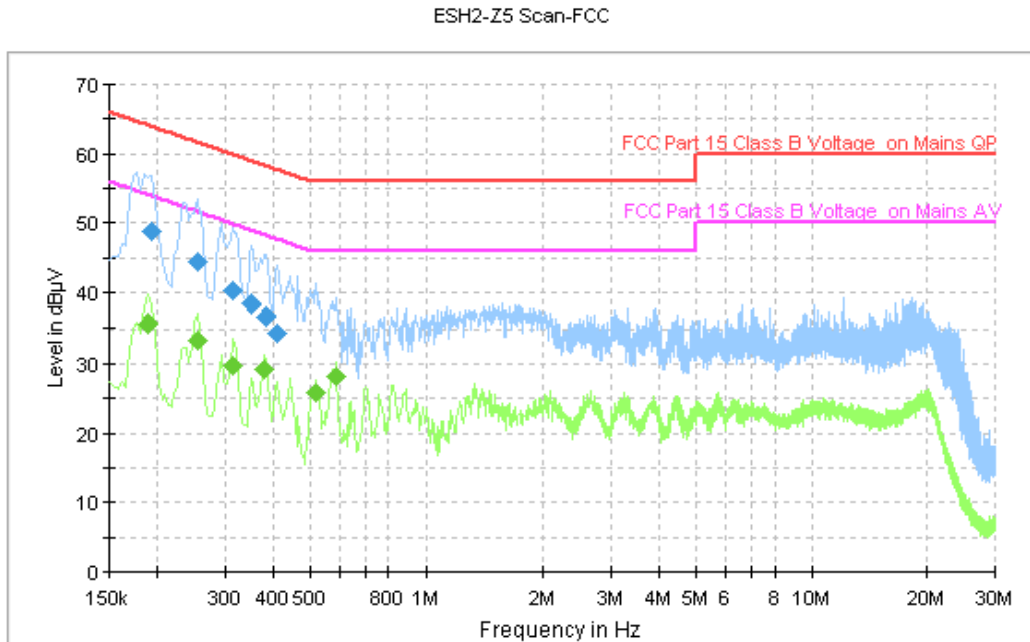


Figure A.17 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.194000	48.9	GND	N	9.6	15.0	63.9
0.254000	44.5	GND	N	9.6	17.1	61.6
0.314000	40.4	GND	N	9.6	19.4	59.9
0.350000	38.5	GND	N	9.6	20.4	59.0
0.386000	36.7	GND	N	9.6	21.4	58.1
0.410000	34.4	GND	N	9.7	23.2	57.6

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.190000	35.7	GND	N	9.6	18.4	54.0
0.254000	33.4	GND	N	9.6	18.3	51.6
0.314000	29.7	GND	N	9.6	20.1	49.9
0.378000	29.1	GND	N	9.6	19.2	48.3
0.518000	25.8	GND	N	9.7	20.2	46.0
0.582000	28.2	GND	N	9.6	17.8	46.0

Charging mode: Set.2
Voltage: 120V

ESH2-Z5 Scan-FCC

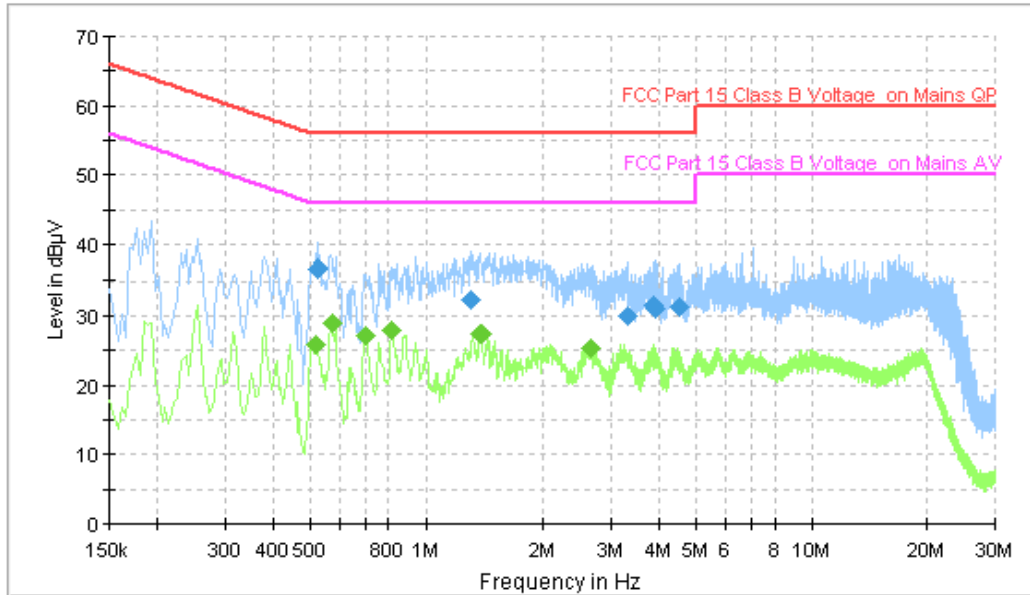


Figure A.18 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.526000	36.6	GND	N	9.7	19.4	56.0
1.306000	32.3	GND	N	9.6	23.7	56.0
3.318000	29.8	GND	N	9.6	26.2	56.0
3.874000	31.4	GND	N	9.6	24.6	56.0
3.906000	30.9	GND	N	9.6	25.1	56.0
4.506000	31.4	GND	N	9.6	24.6	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.518000	25.7	GND	N	9.7	20.3	46.0
0.570000	28.8	GND	N	9.7	17.2	46.0
0.698000	27.2	GND	N	9.5	18.8	46.0
0.818000	27.9	GND	N	9.6	18.1	46.0
1.386000	27.4	GND	N	9.6	18.6	46.0
2.658000	25.4	GND	N	9.6	20.6	46.0

Charging mode:Set.3
Voltage:120V

ESH2-Z5 Scan-FCC

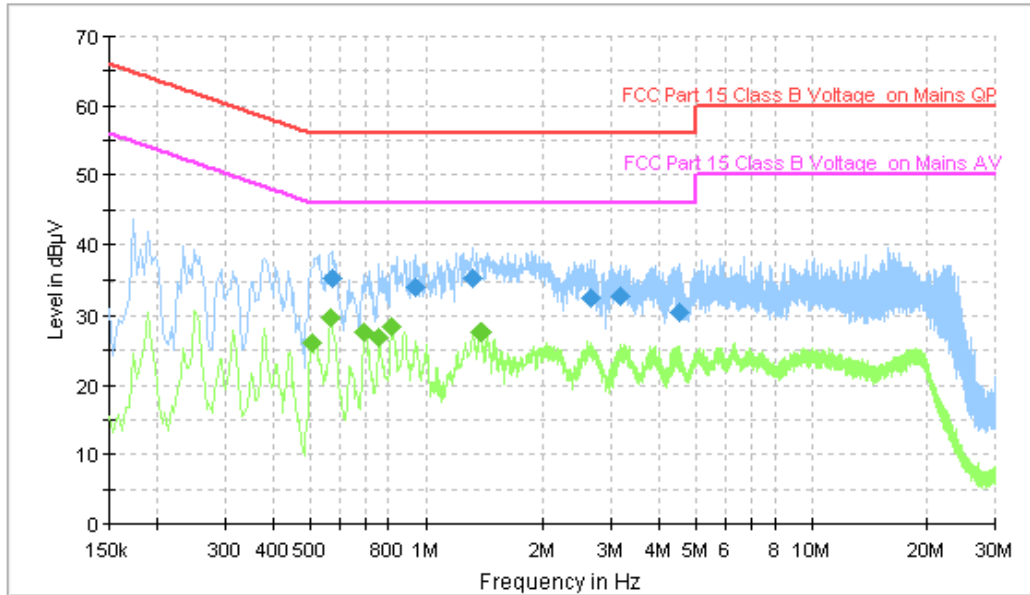


Figure A.19 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.570000	35.4	GND	N	9.7	20.6	56.0
0.942000	34.1	GND	N	9.6	21.9	56.0
1.326000	35.5	GND	N	9.6	20.5	56.0
2.670000	32.5	GND	N	9.6	23.5	56.0
3.178000	32.7	GND	N	9.6	23.3	56.0
4.502000	30.5	GND	N	9.6	25.5	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.506000	26.0	GND	N	9.7	20.0	46.0
0.566000	29.6	GND	N	9.7	16.4	46.0
0.694000	27.5	GND	N	9.5	18.5	46.0
0.758000	26.8	GND	N	9.6	19.2	46.0
0.818000	28.4	GND	N	9.6	17.6	46.0
1.390000	27.7	GND	N	9.6	18.3	46.0

Charging mode:Set.4
Voltage:120V

ESH2-Z5 Scan-FCC

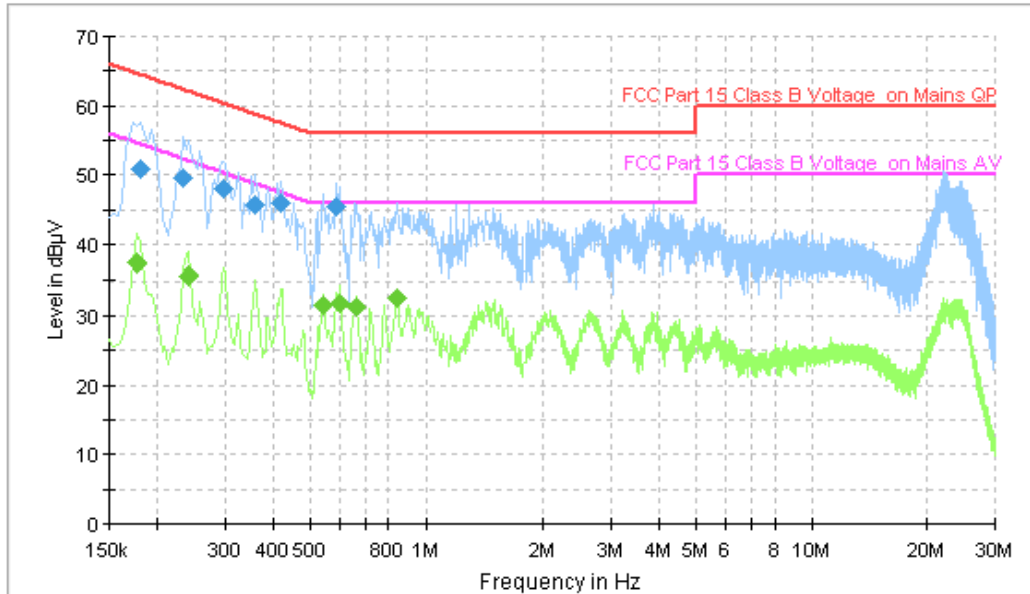


Figure A.20 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.182000	50.9	GND	N	9.6	13.5	64.4
0.234000	49.6	GND	N	9.6	12.7	62.3
0.298000	48.1	GND	N	9.6	12.2	60.3
0.358000	45.7	GND	N	9.6	13.0	58.8
0.418000	46.0	GND	N	9.7	11.5	57.5
0.582000	45.5	GND	N	9.6	10.5	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.178000	37.4	GND	N	9.6	17.2	54.6
0.242000	35.7	GND	N	9.6	16.4	52.0
0.542000	31.6	GND	N	9.7	14.4	46.0
0.598000	31.8	GND	N	9.6	14.2	46.0
0.658000	31.1	GND	N	9.6	14.9	46.0
0.838000	32.6	GND	N	9.5	13.4	46.0

Charging mode:Set.5
Voltage:120V

ESH2-Z5 Scan-FCC

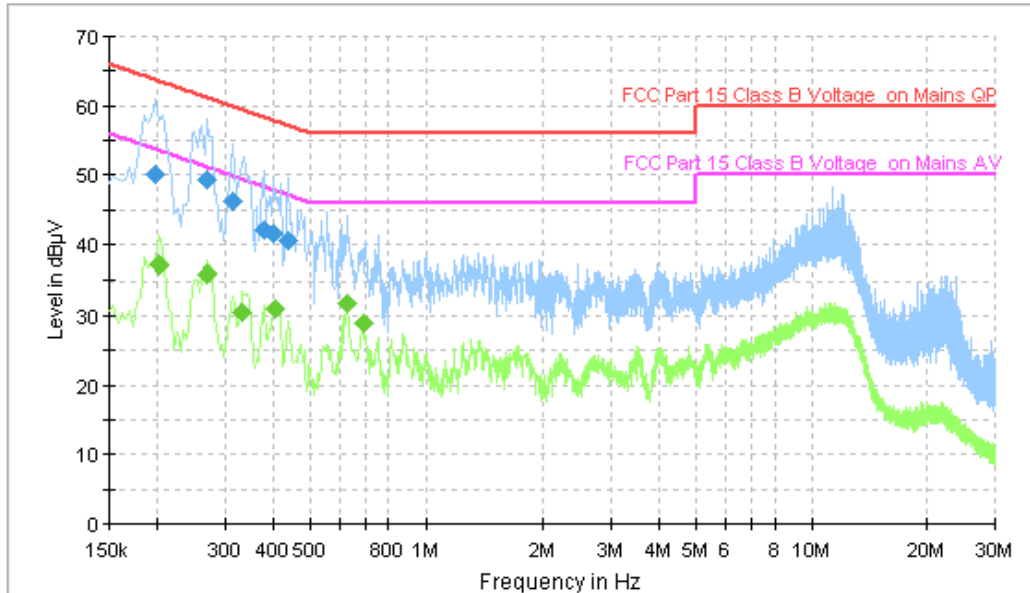


Figure A.21 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.198000	50.1	GND	N	9.6	13.5	63.7
0.270000	49.3	GND	N	9.6	11.8	61.1
0.314000	46.2	GND	N	9.6	13.7	59.9
0.378000	42.2	GND	N	9.6	16.1	58.3
0.402000	41.6	GND	N	9.6	16.3	57.8
0.438000	40.6	GND	N	9.7	16.5	57.1

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.202000	37.2	GND	N	9.6	16.3	53.5
0.270000	35.8	GND	N	9.6	15.3	51.1
0.334000	30.4	GND	N	9.6	18.9	49.4
0.406000	31.1	GND	N	9.7	16.6	47.7
0.622000	31.8	GND	N	9.6	14.2	46.0
0.690000	28.9	GND	N	9.5	17.1	46.0

USB mode:Set.6
Voltage:120V

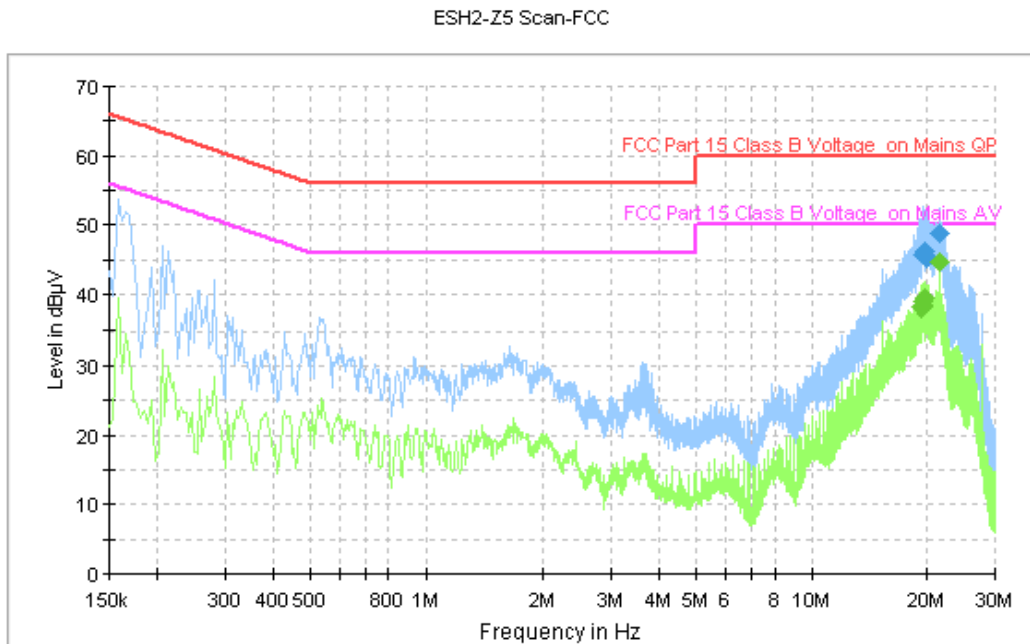


Figure A.22 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.434000	45.7	GND	N	10.0	14.3	60.0
19.578000	45.7	GND	N	10.0	14.3	60.0
19.754000	46.2	GND	N	10.0	13.8	60.0
19.926000	45.4	GND	N	10.0	14.6	60.0
19.962000	45.2	GND	N	10.0	14.8	60.0
21.506000	48.7	GND	N	10.0	11.3	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.334000	38.1	GND	N	10.0	11.9	50.0
19.418000	38.4	GND	N	10.0	11.6	50.0
19.450000	38.9	GND	N	10.0	11.1	50.0
19.526000	39.1	GND	N	10.0	10.9	50.0
19.794000	39.4	GND	N	10.0	10.6	50.0
21.506000	44.8	GND	N	10.0	5.2	50.0

USB mode:Set.7
Voltage:120V

ESH2-Z5 Scan-FCC

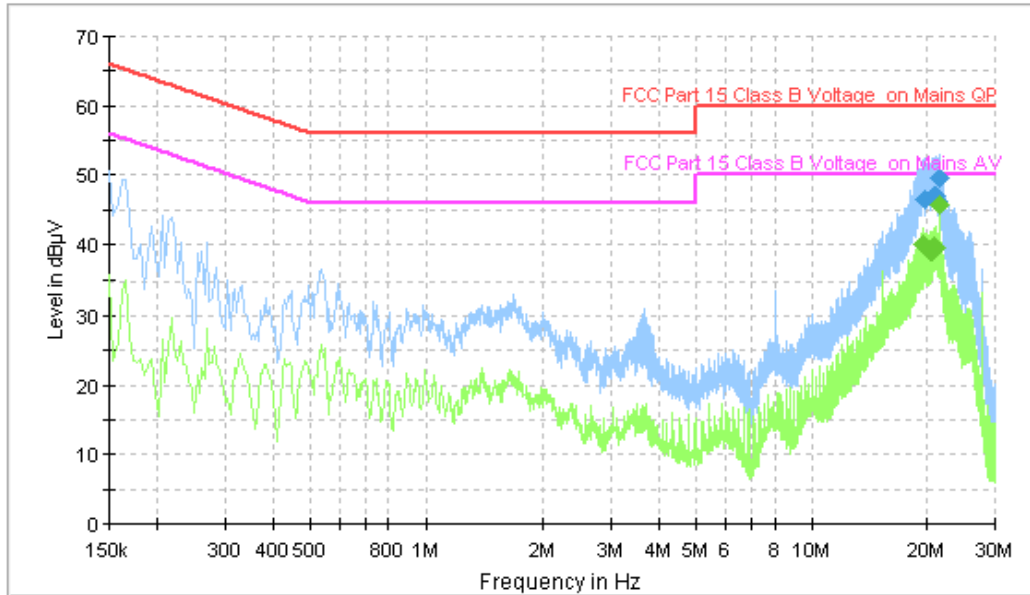


Figure A.23 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.726000	46.5	GND	N	10.0	13.5	60.0
20.594000	46.9	GND	N	10.0	13.1	60.0
20.914000	46.9	GND	N	10.0	13.1	60.0
20.974000	47.0	GND	N	10.0	13.0	60.0
21.326000	46.3	GND	N	10.0	13.7	60.0
21.502000	49.5	GND	N	10.0	10.5	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.566000	40.1	GND	N	10.0	9.9	50.0
20.462000	38.9	GND	N	10.0	11.1	50.0
20.614000	39.1	GND	N	10.0	10.9	50.0
20.858000	39.8	GND	N	10.0	10.2	50.0
20.958000	39.6	GND	N	10.0	10.4	50.0
21.502000	45.8	GND	N	10.0	4.2	50.0

USB mode:Set.8
Voltage:120V

ESH2-Z5 Scan-FCC

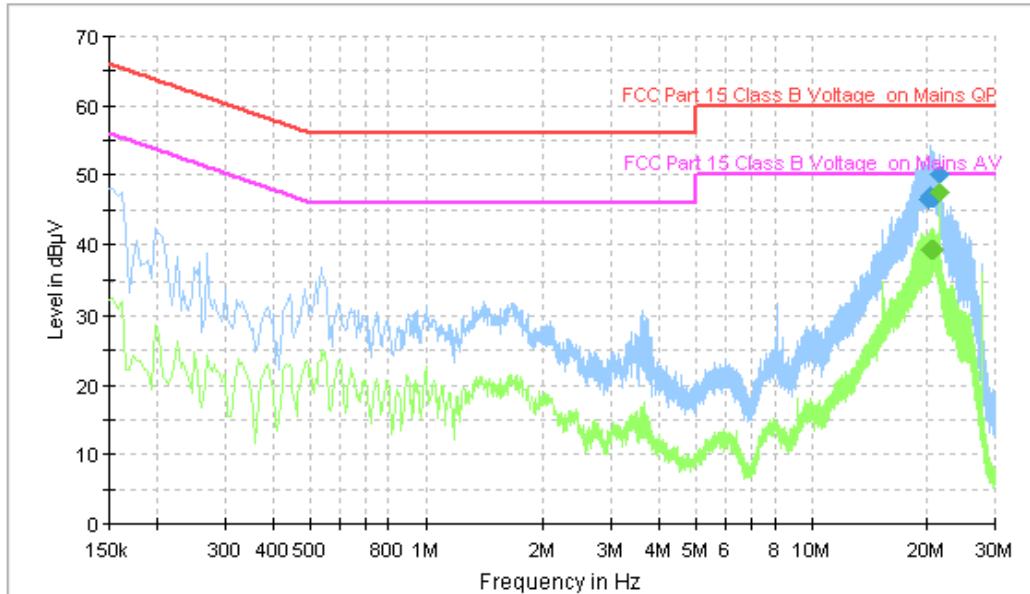


Figure A.24 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
20.190000	46.5	GND	N	10.0	13.5	60.0
20.374000	47.0	GND	N	10.0	13.0	60.0
20.458000	47.0	GND	N	10.0	13.0	60.0
20.710000	46.8	GND	N	10.0	13.2	60.0
20.754000	46.8	GND	N	10.0	13.2	60.0
21.502000	50.0	GND	N	10.0	10.0	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
20.426000	39.3	GND	N	10.0	10.7	50.0
20.434000	39.2	GND	N	10.0	10.8	50.0
20.518000	39.3	GND	N	10.0	10.7	50.0
20.646000	39.4	GND	N	10.0	10.6	50.0
20.738000	39.3	GND	N	10.0	10.7	50.0
21.502000	47.6	GND	N	10.0	2.4	50.0

Charging mode:Set.1
Voltage:240V

ESH2-Z5 Scan-FCC

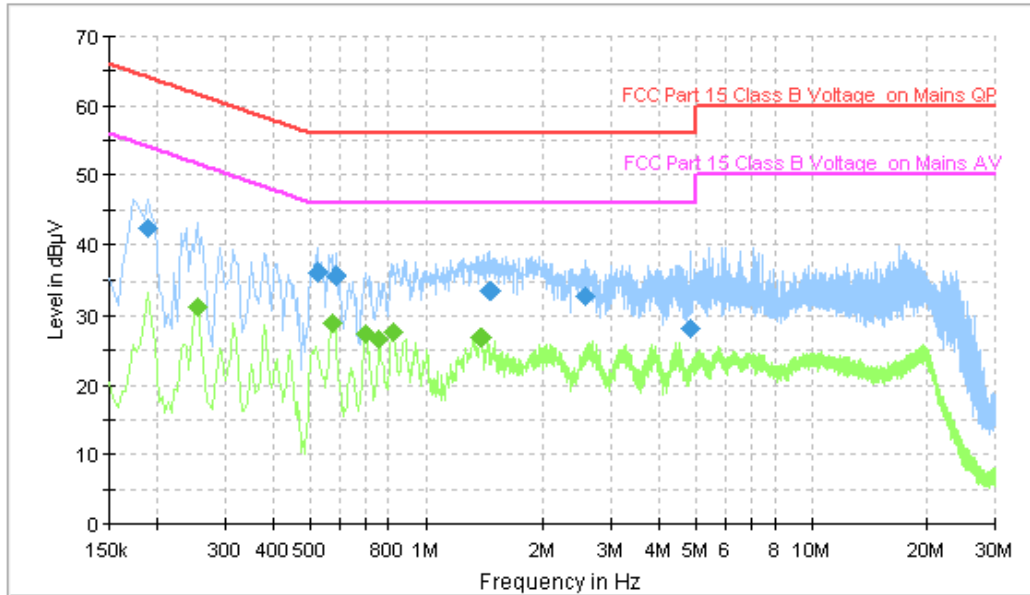


Figure A.25 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.190000	42.5	GND	N	9.6	21.6	64.0
0.522000	36.3	GND	N	9.7	19.8	56.0
0.582000	35.8	GND	N	9.6	20.2	56.0
1.458000	33.6	GND	N	9.5	22.4	56.0
2.574000	32.8	GND	N	9.6	23.2	56.0
4.822000	28.3	GND	N	9.6	27.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.254000	31.2	GND	N	9.6	20.4	51.6
0.570000	29.0	GND	N	9.7	17.0	46.0
0.698000	27.3	GND	N	9.5	18.7	46.0
0.758000	26.5	GND	N	9.6	19.5	46.0
0.822000	27.6	GND	N	9.5	18.4	46.0
1.390000	26.8	GND	N	9.6	19.2	46.0

Charging mode:Set.2
Voltage:240V

ESH2-Z5 Scan-FCC

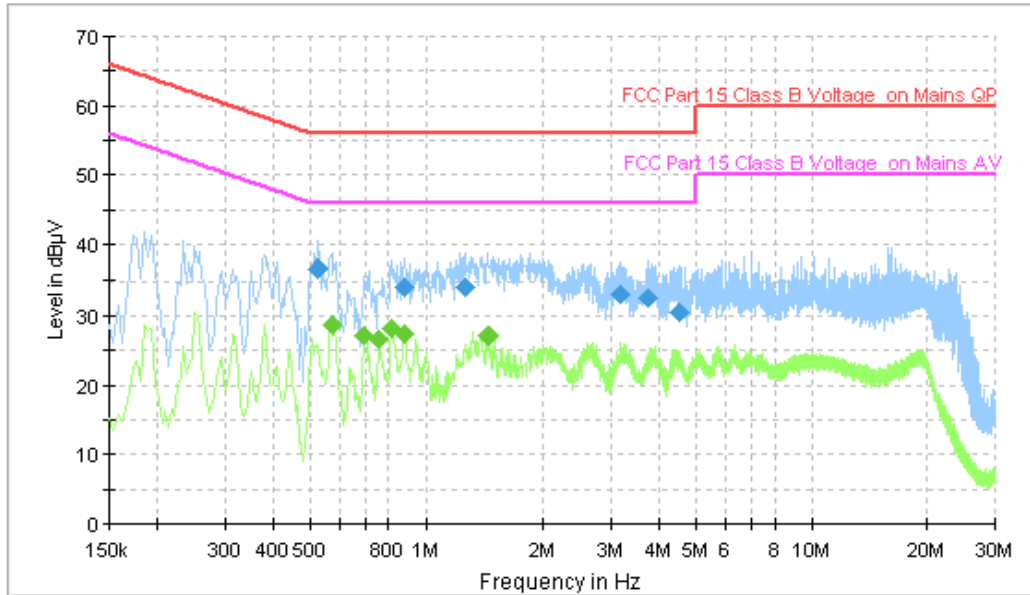


Figure A.26 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.526000	36.8	GND	N	9.7	19.2	56.0
0.882000	34.1	GND	N	9.6	21.9	56.0
1.266000	34.0	GND	N	9.6	22.0	56.0
3.174000	33.1	GND	N	9.6	22.9	56.0
3.754000	32.6	GND	N	9.6	23.4	56.0
4.506000	30.4	GND	N	9.6	25.6	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.570000	28.7	GND	N	9.7	17.3	46.0
0.694000	27.2	GND	N	9.5	18.8	46.0
0.758000	26.5	GND	N	9.6	19.5	46.0
0.818000	28.1	GND	N	9.6	17.9	46.0
0.882000	27.4	GND	N	9.6	18.6	46.0
1.446000	27.0	GND	N	9.5	19.0	46.0

Charging mode:Set.3
Voltage:240V

ESH2-Z5 Scan-FCC

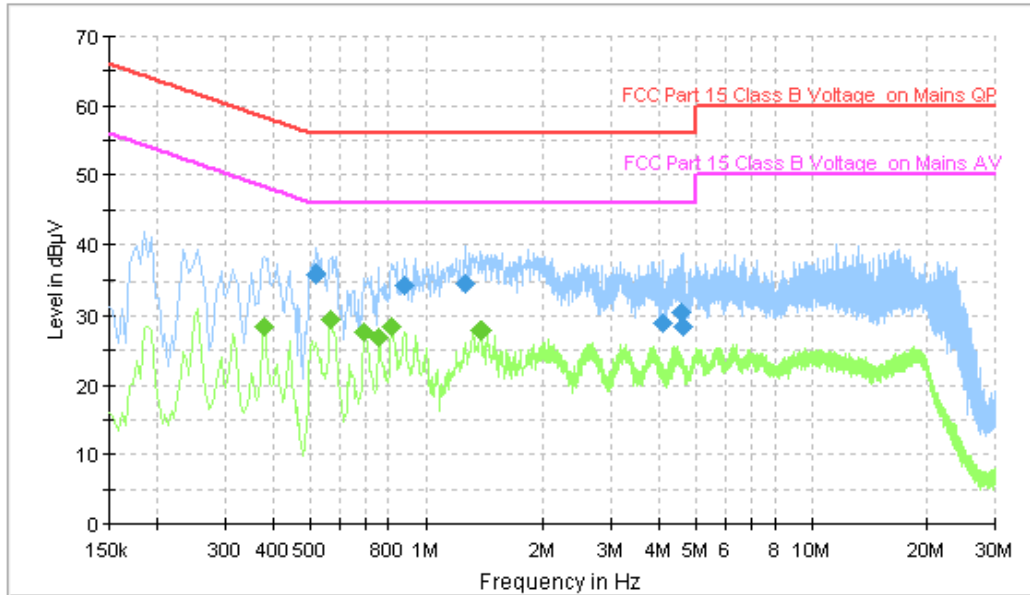


Figure A.27 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.518000	36.0	GND	N	9.7	20.0	56.0
0.882000	34.3	GND	N	9.6	21.7	56.0
1.262000	34.6	GND	N	9.6	21.4	56.0
4.110000	28.8	GND	N	9.6	27.2	56.0
4.598000	30.5	GND	N	9.6	25.5	56.0
4.642000	28.4	GND	N	9.6	27.6	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.378000	28.5	GND	N	9.6	19.9	48.3
0.566000	29.6	GND	N	9.7	16.4	46.0
0.694000	27.6	GND	N	9.5	18.4	46.0
0.758000	26.7	GND	N	9.6	19.3	46.0
0.818000	28.4	GND	N	9.6	17.6	46.0
1.386000	27.9	GND	N	9.6	18.1	46.0

Charging mode:Set.4
Voltage:240V

ESH2-Z5 Scan-FCC

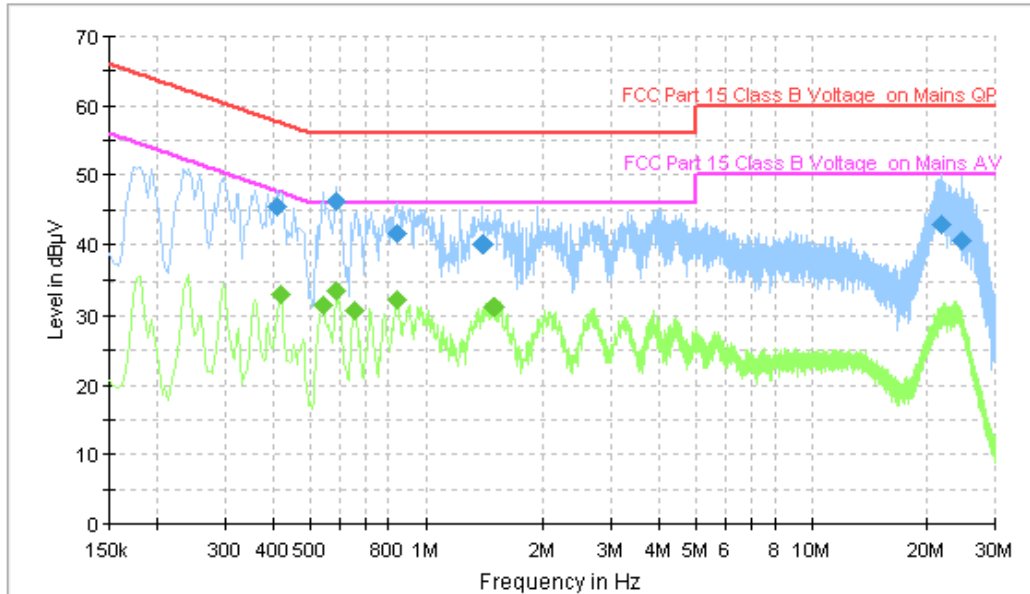


Figure A.28 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.410000	45.4	GND	N	9.7	12.3	57.6
0.582000	46.1	GND	N	9.6	9.9	56.0
0.838000	41.7	GND	N	9.5	14.3	56.0
1.398000	40.2	GND	N	9.6	15.8	56.0
21.806000	43.0	GND	N	10.0	17.0	60.0
24.570000	40.7	GND	N	10.0	19.3	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.418000	33.1	GND	N	9.7	14.4	47.5
0.542000	31.4	GND	N	9.7	14.6	46.0
0.582000	33.6	GND	N	9.6	12.4	46.0
0.650000	30.7	GND	N	9.6	15.3	46.0
0.846000	32.2	GND	N	9.5	13.8	46.0
1.494000	31.3	GND	N	9.6	14.7	46.0

Charging mode:Set.5
Voltage:240V

ESH2-Z5 Scan-FCC

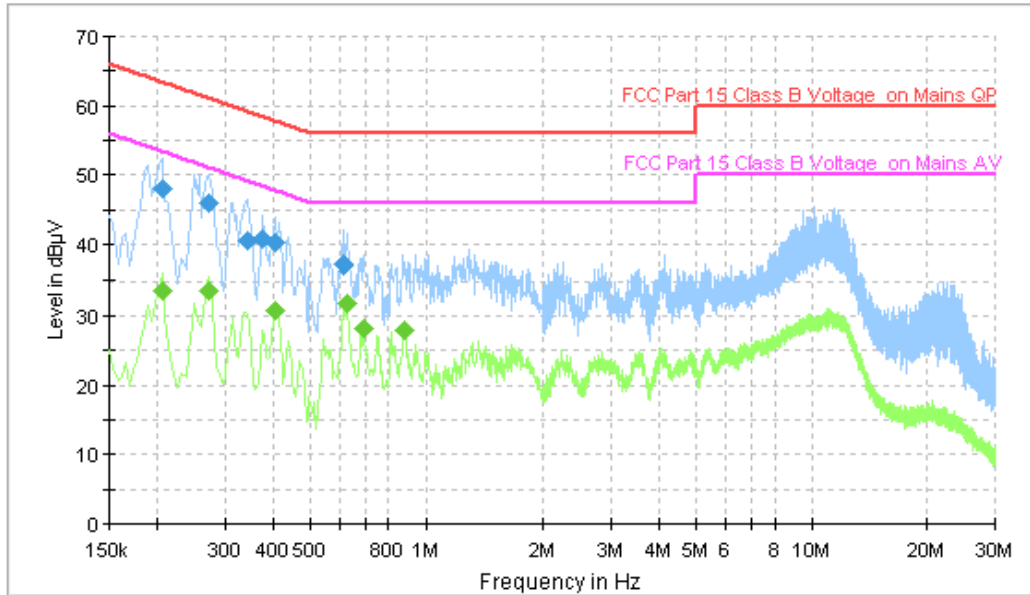


Figure A.29 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.206000	48.0	GND	N	9.6	15.3	63.4
0.274000	45.9	GND	N	9.6	15.1	61.0
0.342000	40.7	GND	N	9.6	18.5	59.2
0.374000	40.9	GND	N	9.6	17.5	58.4
0.406000	40.3	GND	N	9.7	17.4	57.7
0.610000	37.2	GND	N	9.6	18.8	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
0.206000	33.5	GND	N	9.6	19.9	53.4
0.274000	33.6	GND	N	9.6	17.4	51.0
0.406000	30.8	GND	N	9.7	17.0	47.7
0.622000	31.7	GND	N	9.6	14.3	46.0
0.690000	28.1	GND	N	9.5	17.9	46.0
0.878000	27.8	GND	N	9.6	18.2	46.0

USB mode:Set.6
Voltage:240V

ESH2-Z5 Scan-FCC

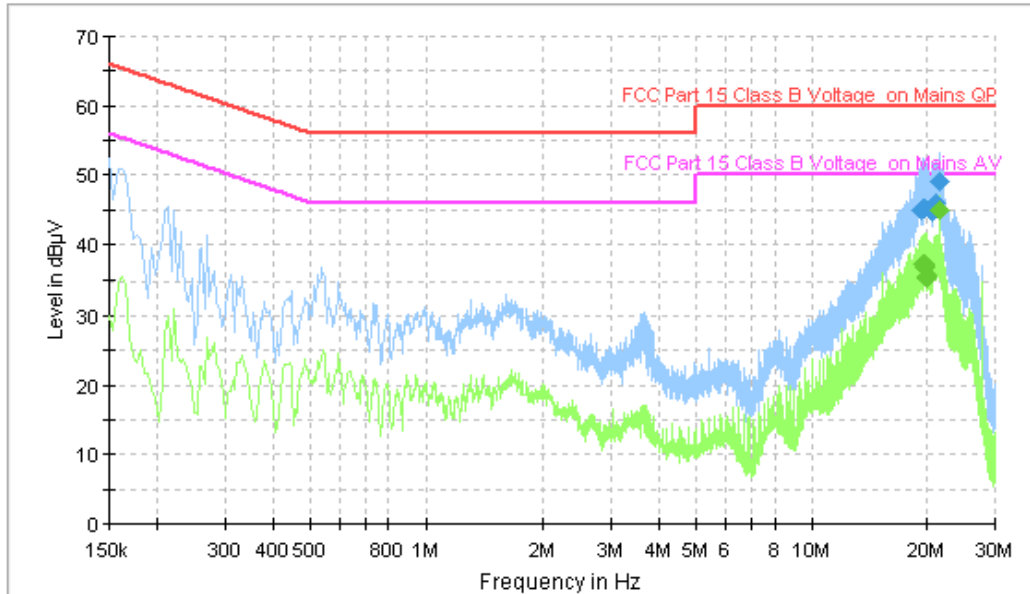


Figure A.30 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.290000	45.0	GND	N	10.0	15.0	60.0
19.566000	45.3	GND	N	10.0	14.7	60.0
19.694000	45.1	GND	N	10.0	14.9	60.0
20.622000	44.6	GND	N	10.0	15.4	60.0
21.134000	45.9	GND	N	10.0	14.1	60.0
21.502000	49.1	GND	N	10.0	10.9	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.466000	37.3	GND	N	10.0	12.7	50.0
19.642000	37.3	GND	N	10.0	12.7	50.0
19.758000	36.9	GND	N	10.0	13.1	50.0
19.818000	35.7	GND	N	10.0	14.3	50.0
20.018000	35.4	GND	N	10.0	14.6	50.0
21.502000	44.9	GND	N	10.0	5.1	50.0

USB mode:Set.7
Voltage:240V

ESH2-Z5 Scan-FCC

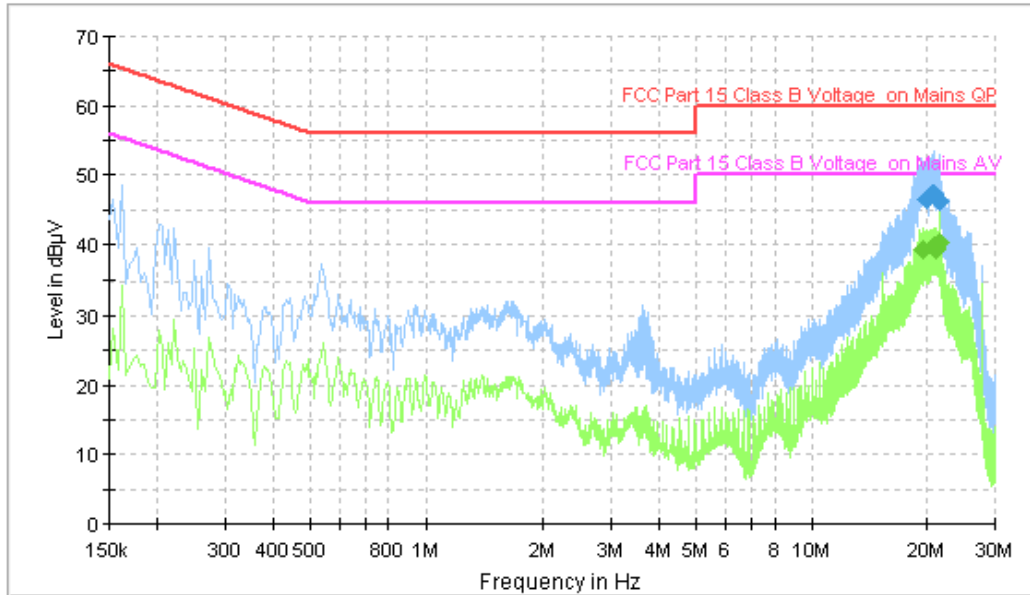


Figure A.31 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
20.018000	46.6	GND	N	10.0	13.4	60.0
20.338000	47.1	GND	N	10.0	12.9	60.0
20.614000	47.3	GND	N	10.0	12.7	60.0
20.750000	47.2	GND	N	10.0	12.8	60.0
20.850000	47.4	GND	N	10.0	12.6	60.0
21.506000	46.1	GND	N	10.0	13.9	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.414000	39.3	GND	N	10.0	10.7	50.0
20.826000	39.6	GND	N	10.0	10.4	50.0
20.926000	39.7	GND	N	10.0	10.3	50.0
21.010000	39.5	GND	N	10.0	10.5	50.0
21.102000	39.4	GND	N	10.0	10.6	50.0
21.506000	40.4	GND	N	10.0	9.6	50.0

USB mode:Set.8
Voltage:240V

ESH2-Z5 Scan-FCC

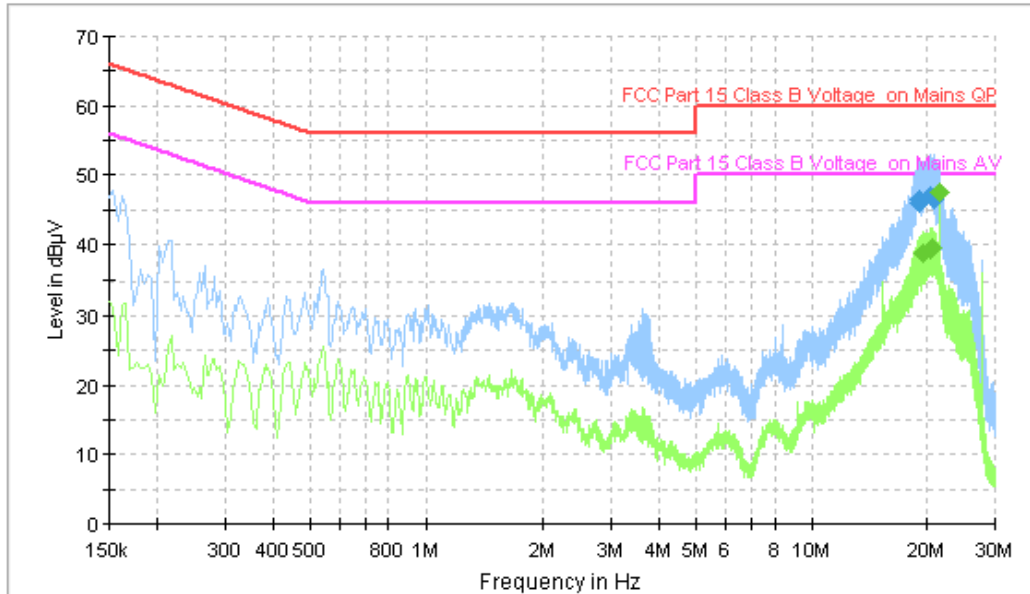


Figure A.32 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
18.962000	45.9	GND	N	10.0	14.1	60.0
19.122000	46.4	GND	N	10.0	13.6	60.0
20.294000	47.0	GND	N	10.0	13.0	60.0
20.442000	47.0	GND	N	10.0	13.0	60.0
20.766000	46.5	GND	N	10.0	13.5	60.0
20.790000	46.5	GND	N	10.0	13.5	60.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB µV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB µV)
19.390000	38.7	GND	N	10.0	11.3	50.0
19.474000	38.7	GND	N	10.0	11.3	50.0
20.286000	39.1	GND	N	10.0	10.9	50.0
20.470000	39.4	GND	N	10.0	10.6	50.0
20.562000	39.4	GND	N	10.0	10.6	50.0
21.502000	47.6	GND	N	10.0	2.4	50.0

END OF REPORT