TEST REPORT

No.B17N00061-EMC

for

Huawei Technologies Co.,Ltd.

LTE CPE

Model Name: B525s-65a

FCC ID: QISB525S-65A

with

Hardware Version: WL1B525I

Software Version: 11.232.08.DM.00

Issued Date: 2017-02-17

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
B17N00061-EMC01	Rev.0	1st edition	2017-02-17

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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:	2017-01-17
Testing End Date:	2017-02-14

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	LTE CPE
Model Name	B525s-65a
FCC ID	QISB525S-65A

The Equipment Under Test (EUT)are a model of LTE CPE 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	864005030003291

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	antenna	/
AE2	Travel charger	/
AE3	net cable	/

AE1-1	
Model	1dBi antenna
AE1-2	
Model	3dBi antenna
AE2-1	
Model	HW-120200U01
Manufacturer	DONGGUAN SHILONG FUHUA ELECTRONIC CO.,LTD
SN	U75602GCK00010
AE2-2	
Model	HW-120200U01
Manufacturer	Shenzhen Honor Electronic Co.,Ltd
SN	A75601H1300067
AE3	
Model	/
Manufacturer	/

*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	Charging mode
Set.2	EUT1+ AE1-1 + AE2-2	Charging mode
Set.3	EUT1+ AE1-2 + AE2-1	Charging mode
Set.4	EUT1+ AE1-2+ AE2-2	Charging mode
Set.5	EUT1+ AE1-1 + AE2-1+AE3	USB mode
Set.6	EUT1+ AE1-1 + AE2-2+AE3	USB mode
Set.7	EUT1+ AE1-2 + AE2-1+AE3	USB mode
Set.8	EUT1+ AE1-2 + AE2-2+AE3	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	10-1-2015 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 ℃, 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

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	E5515C	GB44051324	Agilent	2017.05.18	1 year
8.	PC	0579-4EC	LR-0V41B	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:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is Lenovo 0579-4EC, and the serial number of the PC is LR-0V41B. The CMD.exe is used to let the PC keep on ping MS's IP address, pinging MS's IP address was until test 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

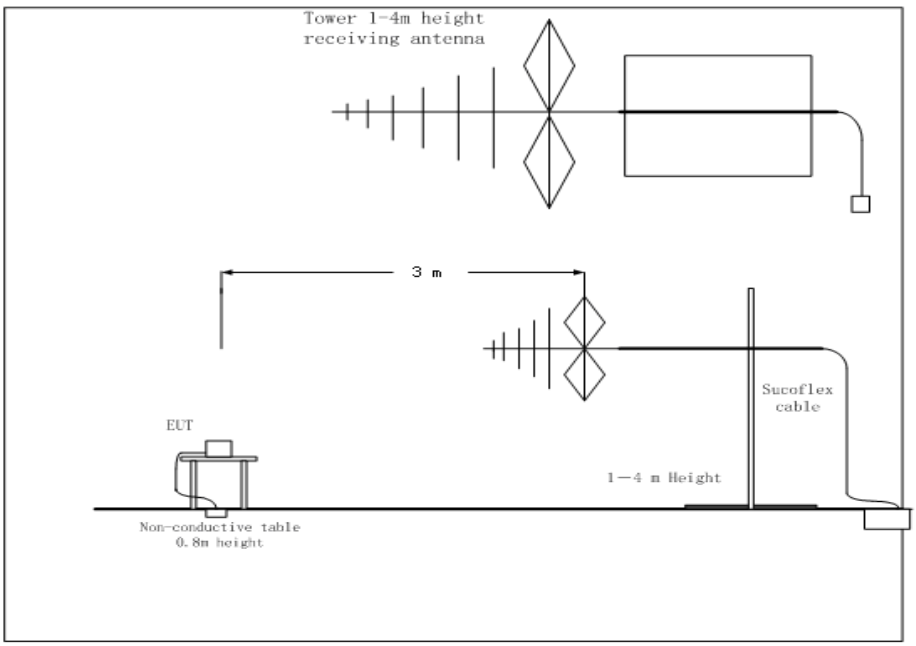
*Note: The original limit is defined at 10m test distance. This limit is calculated according to CISPR requirements.

A.1.4 Test Condition

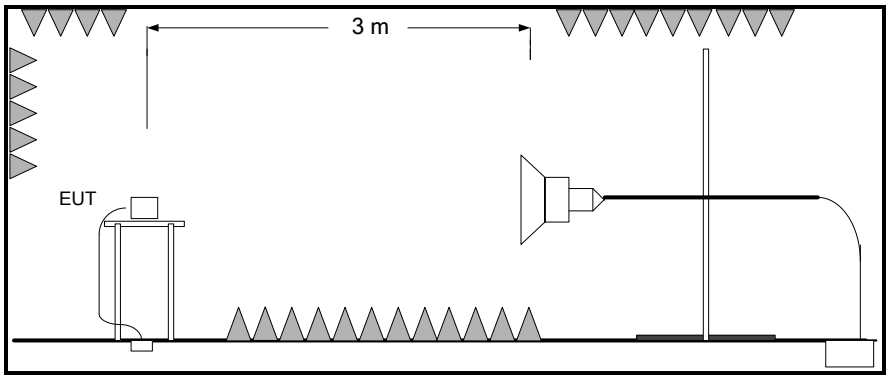
Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	120kHz (IF bandwidth)	5
Above 1000	1MHz/3MHz	15

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:

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)	PMea (dBµV)
14217.500000	54.83	74.00	19.17	V	11.3	43.53
14740.500000	54.66	74.00	19.34	V	11.9	42.76
15824.500000	55.76	74.00	18.24	V	12.8	42.96
15847.500000	57.06	74.00	16.94	V	12.9	44.16
16784.500000	56.05	74.00	17.95	V	13.9	42.15
17279.500000	55.57	74.00	18.44	V	13.9	41.67

Set.1 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14529.500000	43.12	54.00	10.88	V	11.8	31.32
15044.500000	43.30	54.00	10.70	V	12.1	31.2
15700.500000	44.51	54.00	9.49	V	12.7	31.81
16284.000000	44.20	54.00	9.80	V	13.3	30.9
16764.000000	44.76	54.00	9.24	V	13.9	30.86
17354.000000	44.26	54.00	9.74	V	14.0	30.26

Set.2 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14476.500000	54.87	74.00	19.13	V	11.7	43.17
15149.000000	54.99	74.00	19.01	V	12.1	42.89
15676.000000	56.36	74.00	17.64	V	12.6	43.76
16200.500000	55.90	74.00	18.10	V	13.1	42.8
16831.500000	56.59	74.00	17.41	V	13.9	42.69
17266.000000	56.12	74.00	17.88	V	13.9	42.22

Set.2 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14544.000000	43.16	54.00	10.84	V	11.9	31.26
15119.500000	43.75	54.00	10.25	V	12.1	31.65
15750.500000	44.89	54.00	9.11	V	12.8	32.09
16219.000000	44.64	54.00	9.36	V	13.1	31.54
16769.000000	45.28	54.00	8.72	V	13.9	31.38
17318.000000	44.69	54.00	9.31	V	13.9	30.79

Set.3 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14450.000000	54.92	74.00	19.08	V	11.7	43.22
15011.500000	55.50	74.00	18.50	V	12.0	43.5
15601.000000	56.21	74.00	17.79	V	12.5	43.71
16196.000000	57.54	74.00	16.46	V	13.1	44.44
16809.500000	57.11	74.00	16.89	V	13.9	43.21
17421.000000	57.63	74.00	16.37	V	14.0	43.63

Set.3 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14525.500000	43.45	54.00	10.55	V	11.8	31.65
15146.000000	44.33	54.00	9.67	V	12.1	32.23
15768.500000	45.60	54.00	8.40	V	12.8	32.8
16203.500000	45.58	54.00	8.42	V	13.1	32.48
16696.000000	45.95	54.00	8.05	V	13.8	32.15
17420.500000	45.42	54.00	8.58	V	14.0	31.42

Set.4 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14474.000000	54.43	74.00	19.57	V	11.7	42.73
15147.500000	55.53	74.00	18.47	V	12.1	43.43
15820.000000	55.94	74.00	18.06	V	12.8	43.14
16339.500000	56.42	74.00	17.58	V	13.4	43.02
16787.000000	56.44	74.00	17.56	V	13.9	42.54
17313.000000	56.86	74.00	17.14	V	13.9	42.96

Set.4 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14552.500000	43.36	54.00	10.64	V	11.9	31.46
15047.500000	43.73	54.00	10.27	V	12.1	31.63
15766.500000	44.97	54.00	9.03	V	12.8	32.17
16214.500000	44.78	54.00	9.22	V	13.1	31.68
16826.000000	45.29	54.00	8.71	V	13.9	31.39
17380.000000	44.84	54.00	9.16	V	14.0	30.84

Set.5 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14536.500000	55.12	74.00	18.88	V	11.9	43.22
15104.000000	55.27	74.00	18.73	V	12.1	43.17
15742.000000	55.67	74.00	18.33	V	12.8	42.87
16315.000000	55.92	74.00	18.08	V	13.3	42.62
16838.500000	56.10	74.00	17.90	V	13.9	42.2
17382.000000	55.40	74.00	18.61	V	14.0	41.4

Set.5 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14514.000000	43.27	54.00	10.73	V	11.8	31.47
15057.500000	43.34	54.00	10.66	V	12.1	31.24
15761.000000	44.37	54.00	9.63	V	12.8	31.57
16244.500000	44.08	54.00	9.92	V	13.2	30.88
16803.000000	44.59	54.00	9.41	V	13.9	30.69
17318.000000	43.94	54.00	10.06	V	13.9	30.04

Set.6 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14536.500000	54.01	74.00	19.99	V	11.9	42.11
14631.000000	54.64	74.00	19.37	V	11.9	42.74
15740.000000	55.75	74.00	18.25	V	12.8	42.95
15877.500000	55.60	74.00	18.40	V	12.9	42.7
16703.000000	55.78	74.00	18.22	V	13.8	41.98
17333.500000	55.52	74.00	18.48	V	14.0	41.52

Set.6 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14541.500000	43.14	54.00	10.86	V	11.9	31.24
15057.000000	43.41	54.00	10.59	V	12.1	31.31
15743.000000	44.61	54.00	9.39	V	12.8	31.81
16242.000000	44.19	54.00	9.81	V	13.2	30.99
16826.000000	45.03	54.00	8.97	V	13.9	31.13
17367.000000	44.29	54.00	9.71	V	14.0	30.29

Set.7 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14498.000000	54.74	74.00	19.26	V	11.8	42.94
15163.000000	55.37	74.00	18.63	V	12.1	43.27
15828.000000	55.69	74.00	18.31	V	12.8	42.89
16304.500000	54.97	74.00	19.03	V	13.3	41.67
16753.500000	55.99	74.00	18.01	V	13.9	42.09
17393.000000	56.03	74.00	17.97	V	14.0	42.03

Set.7 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14518.500000	43.00	54.00	11.00	V	11.8	31.2
15057.500000	43.31	54.00	10.69	V	12.1	31.21
15748.500000	44.60	54.00	9.40	V	12.8	31.8
16324.500000	44.11	54.00	9.89	V	13.4	30.71
16779.500000	44.66	54.00	9.34	V	13.9	30.76
17354.000000	44.07	54.00	9.93	V	14.0	30.07

Set.8 USB mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14529.000000	54.77	74.00	19.23	V	11.8	42.97
14563.000000	55.36	74.00	18.64	V	11.9	43.46
15727.000000	56.16	74.00	17.84	V	12.7	43.46
16310.500000	54.92	74.00	19.08	V	13.3	41.62
16779.500000	55.35	74.00	18.66	V	13.9	41.45
17314.500000	55.69	74.00	18.31	V	13.9	41.79

Set.8 USB mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dBµV/m)	Margin(dB)	Polarity	ARpl (dB)	PMea (dBµV)
14545.000000	42.92	54.00	11.08	V	11.9	31.02
15049.500000	43.31	54.00	10.69	V	12.1	31.21
15743.500000	44.58	54.00	9.42	V	12.8	31.78
16247.500000	44.14	54.00	9.86	V	13.2	30.94
16792.500000	44.60	54.00	9.40	V	13.9	30.7
17423.500000	43.88	54.00	10.12	V	14.0	29.88

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

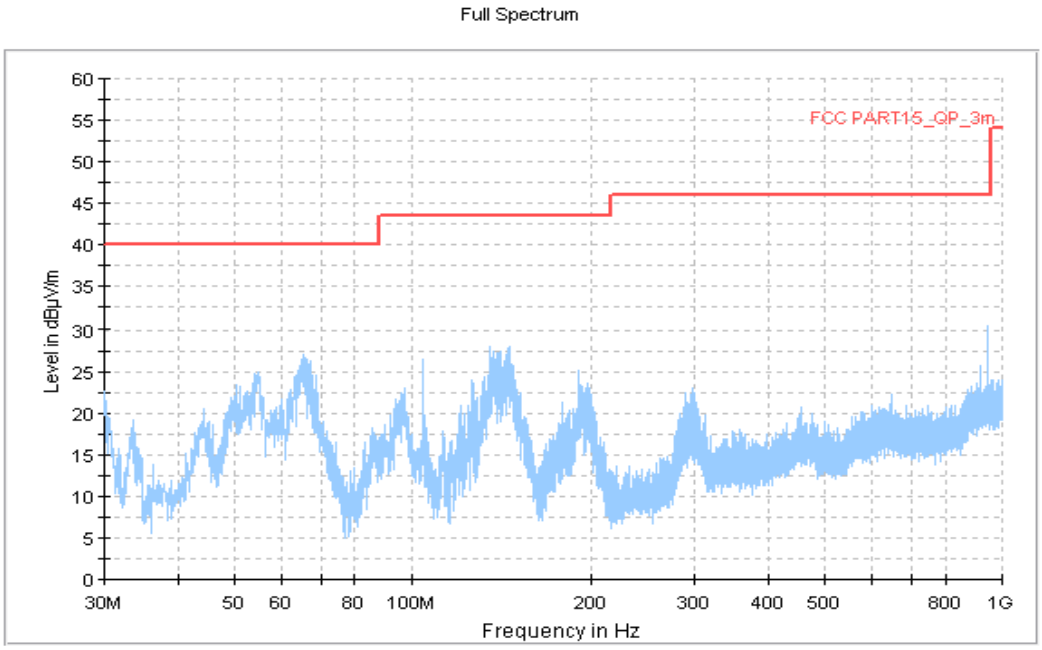


Figure A.1 Radiated Emission from 30MHz to 1GHz

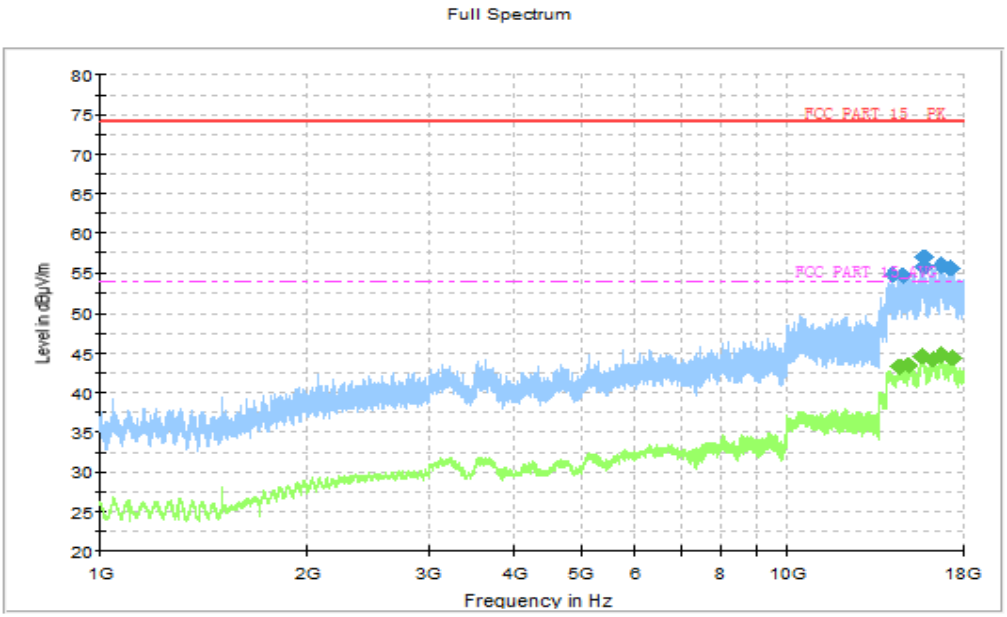


Figure A.2 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 2

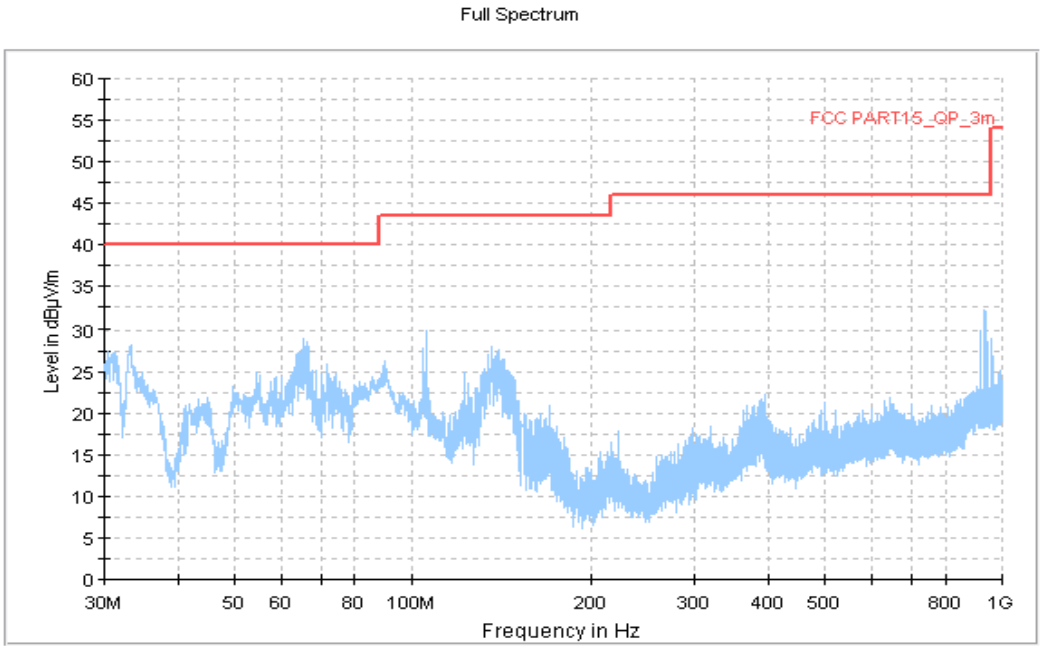


Figure A.3 Radiated Emission from 30MHz to 1GHz

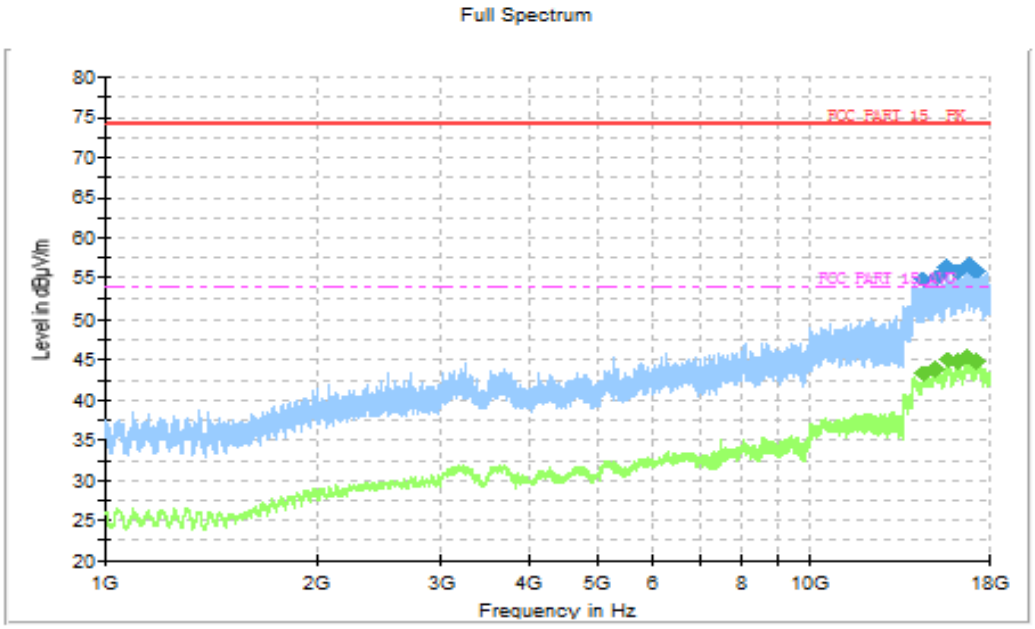


Figure A.4 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 3

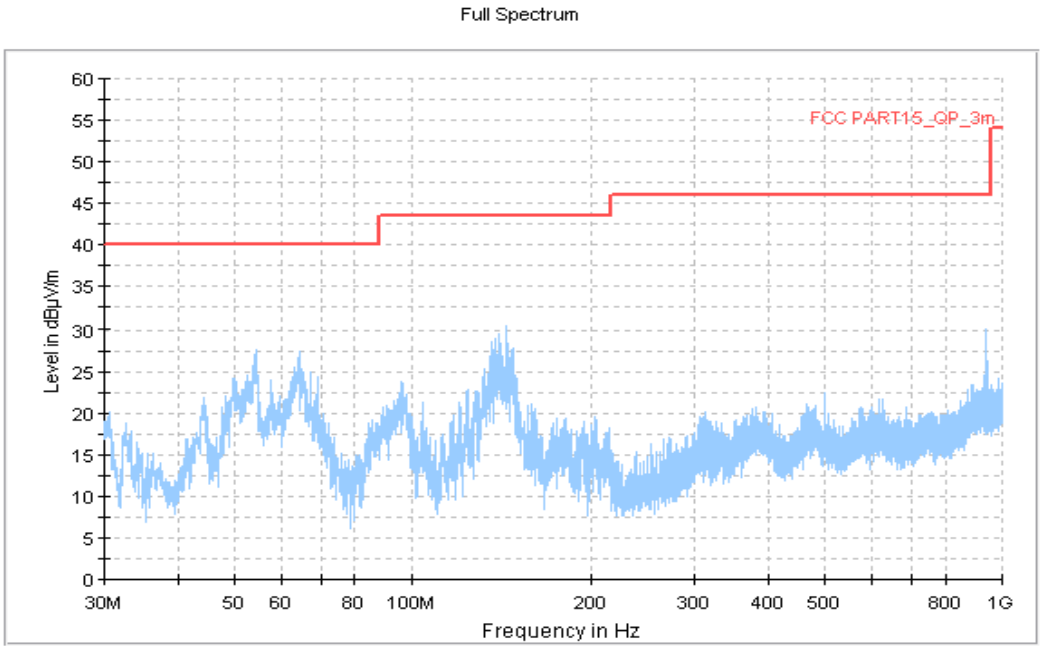


Figure A.5 Radiated Emission from 30MHz to 1GHz

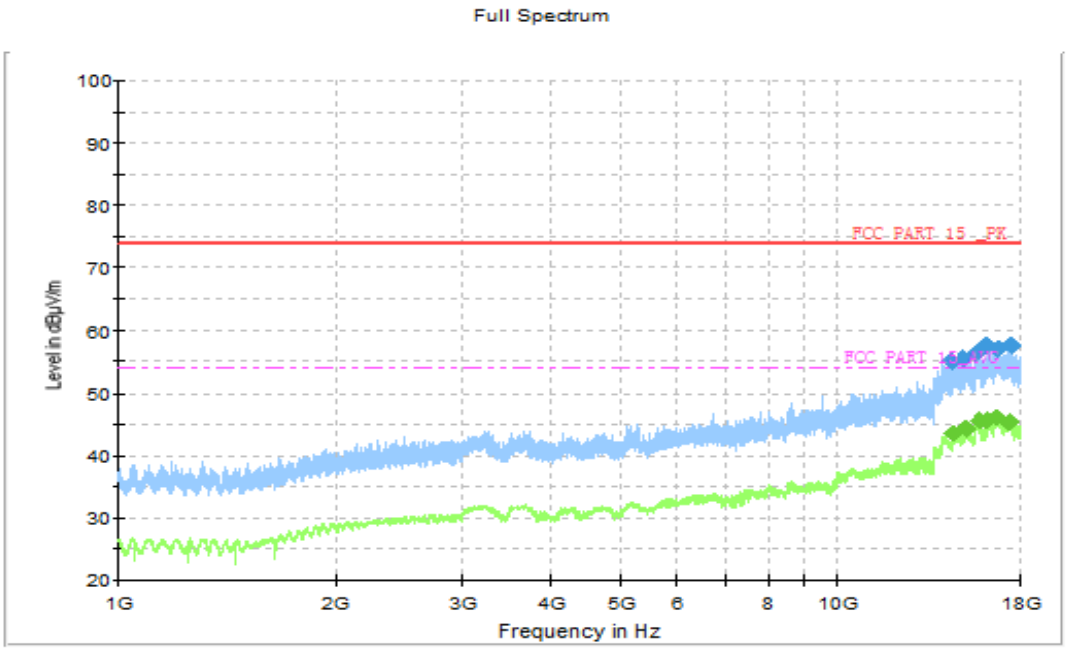


Figure A.6 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 4

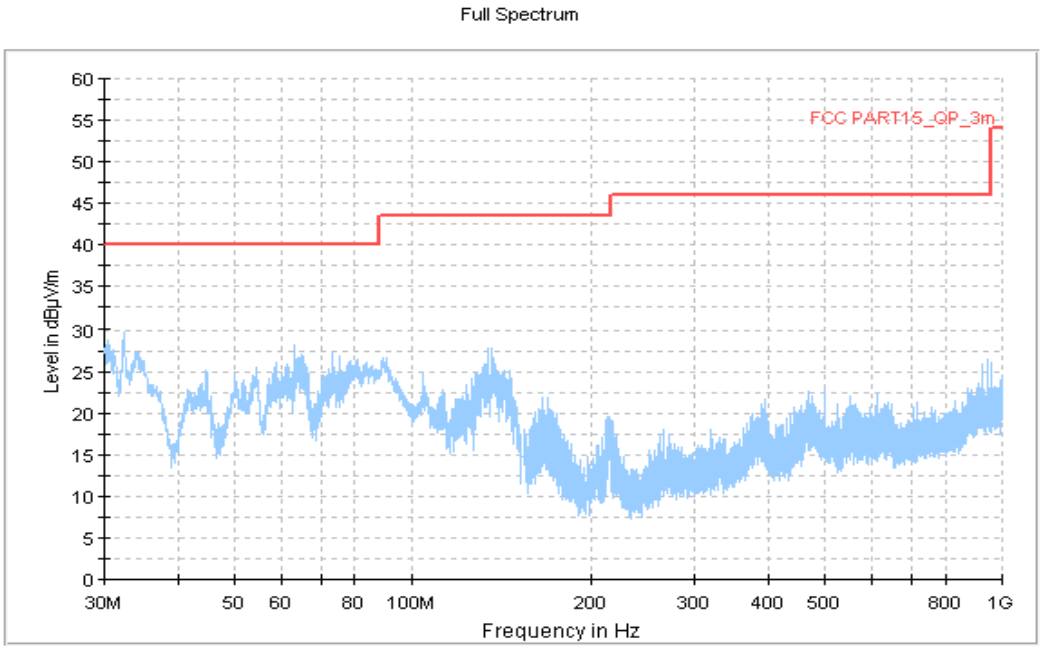


Figure A.7 Radiated Emission from 30MHz to 1GHz

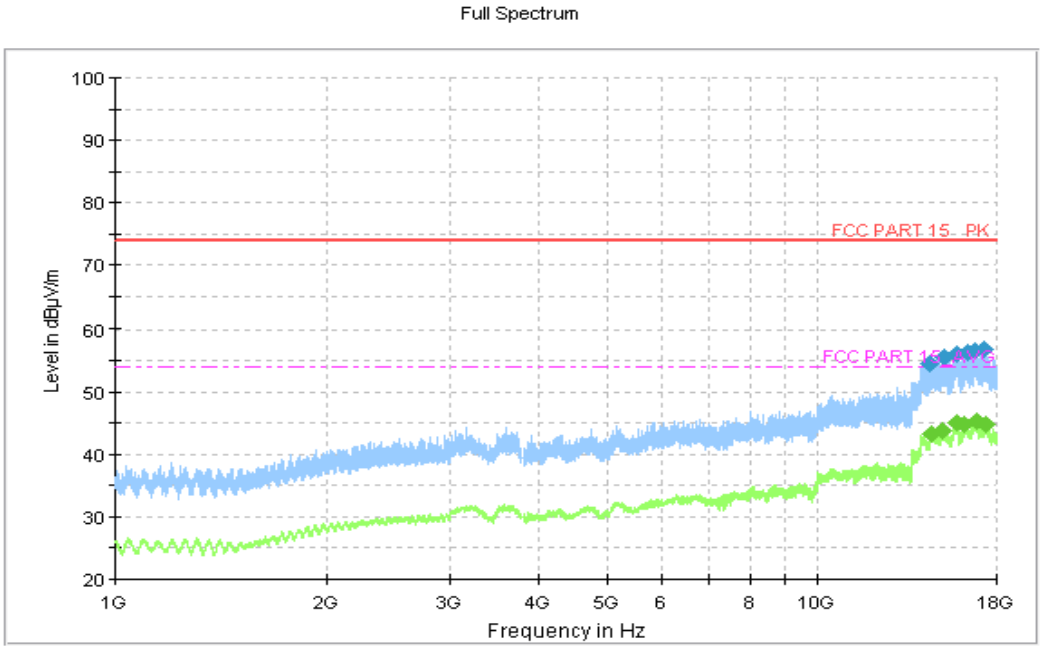


Figure A.8 Radiated Emission from 1GHz to 18GHz

USB mode: Set 5

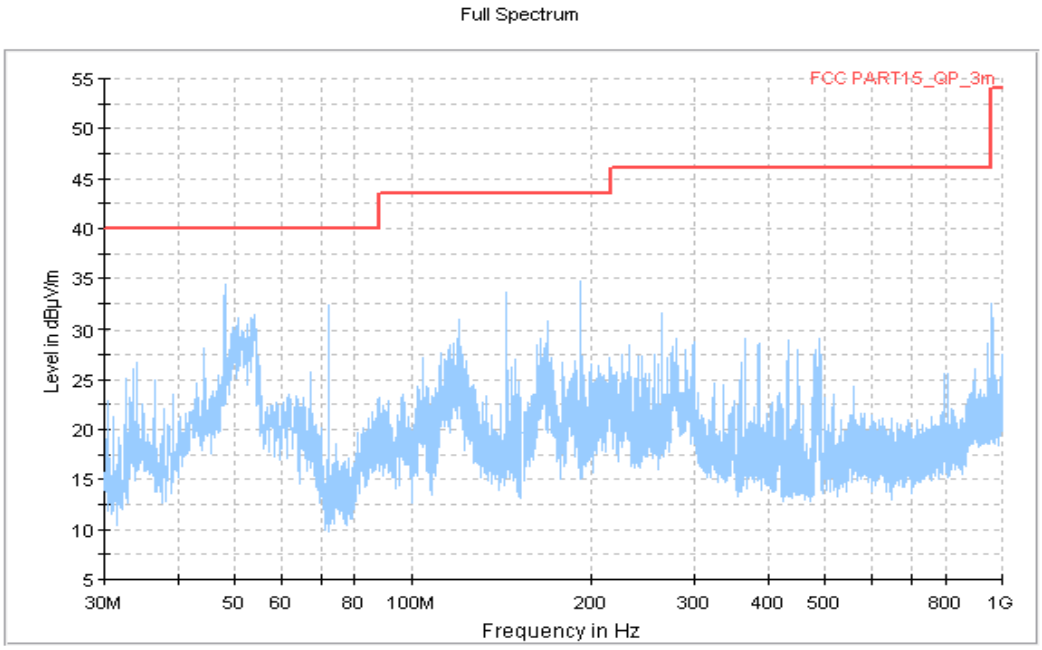


Figure A.9 Radiated Emission from 30MHz to 1GHz

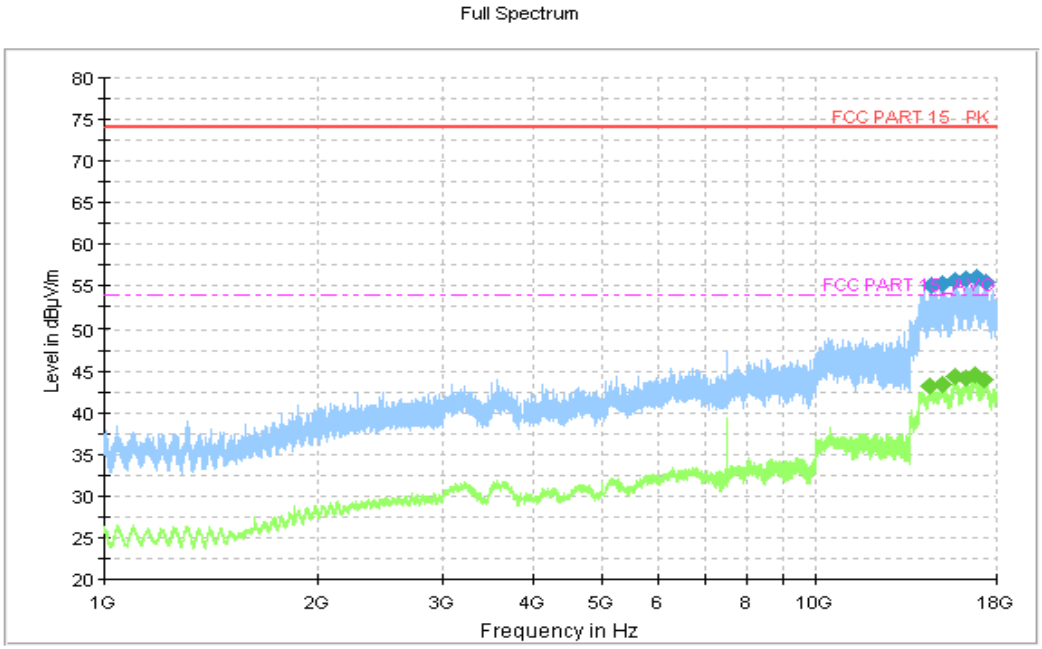


Figure A.10 Radiated Emission from 1GHz to 18GHz

USB mode: Set 6

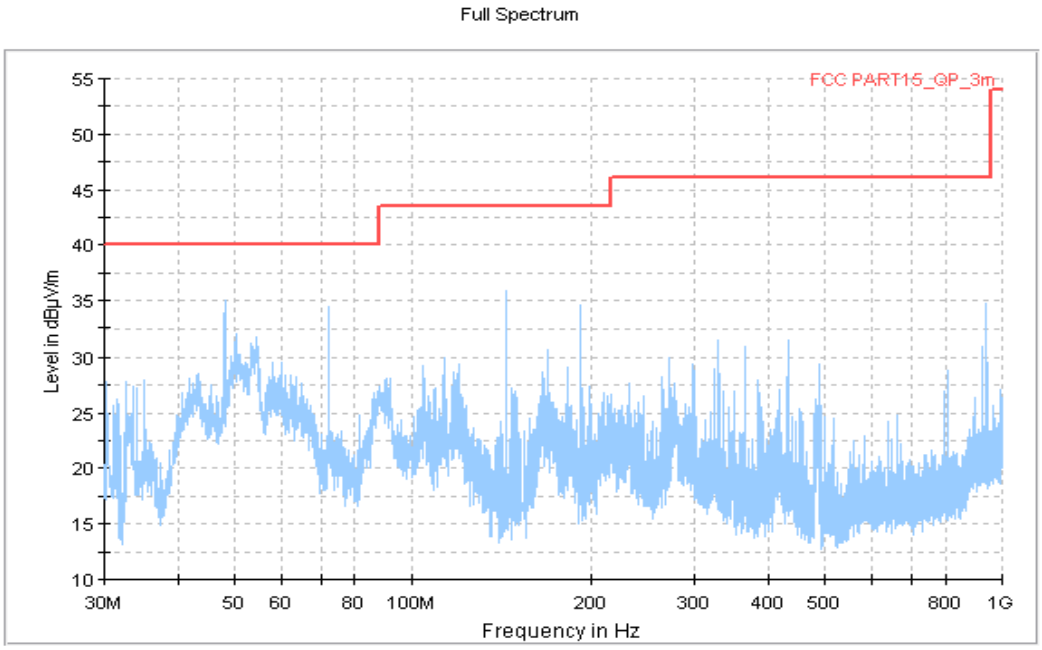


Figure A.11 Radiated Emission from 30MHz to 1GHz

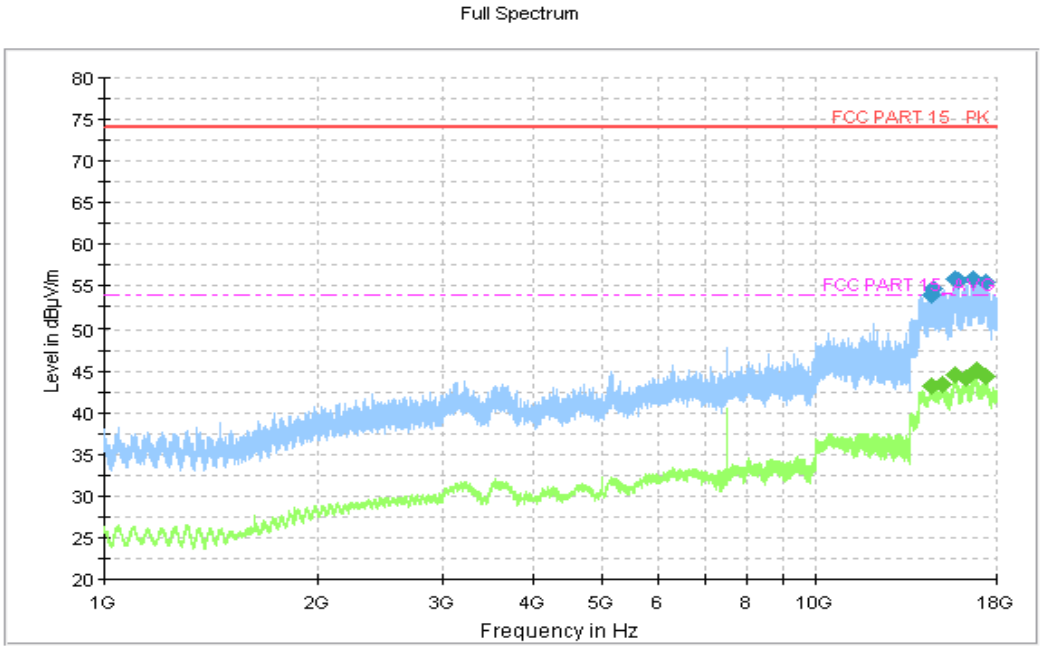


Figure A.12 Radiated Emission from 1GHz to 18GHz

USB mode: Set 7

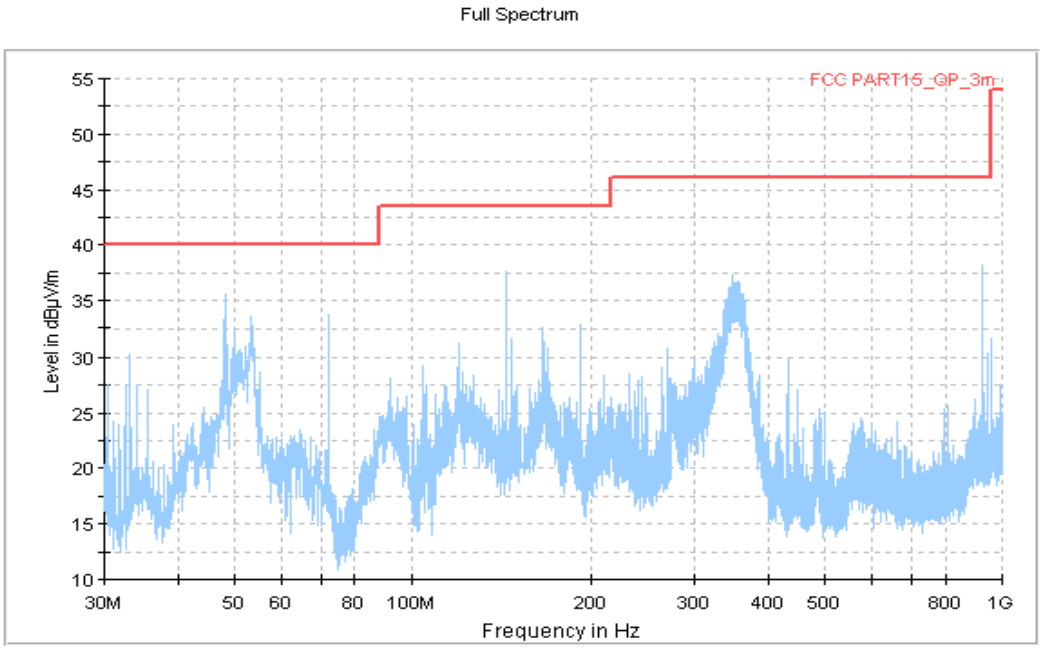


Figure A.13 Radiated Emission from 30MHz to 1GHz

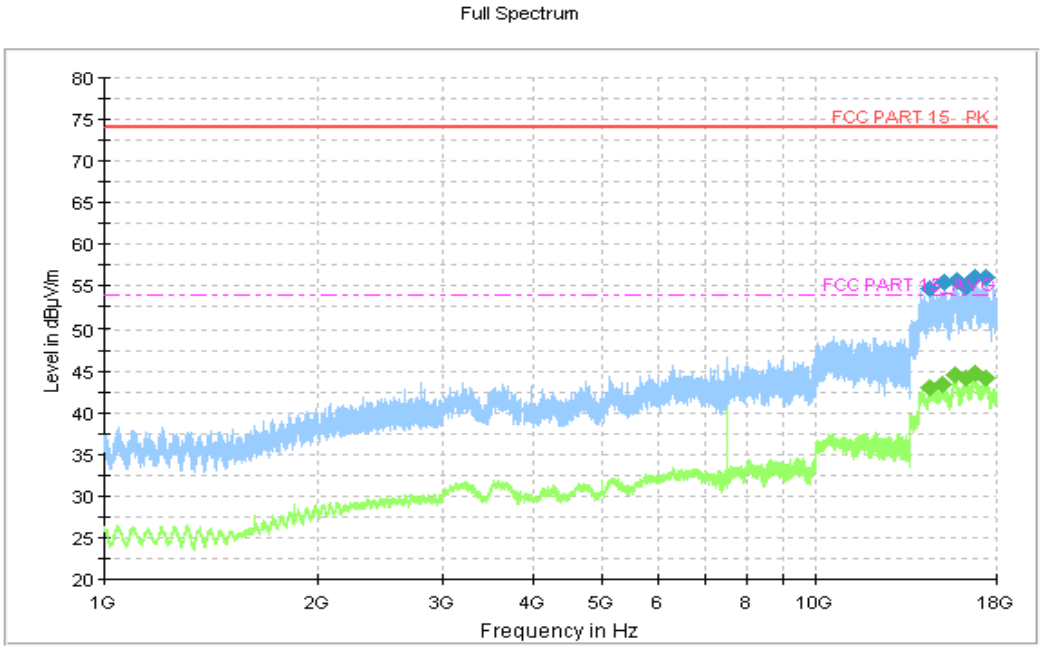


Figure A.14 Radiated Emission from 1GHz to 18GHz

USB mode: Set 8

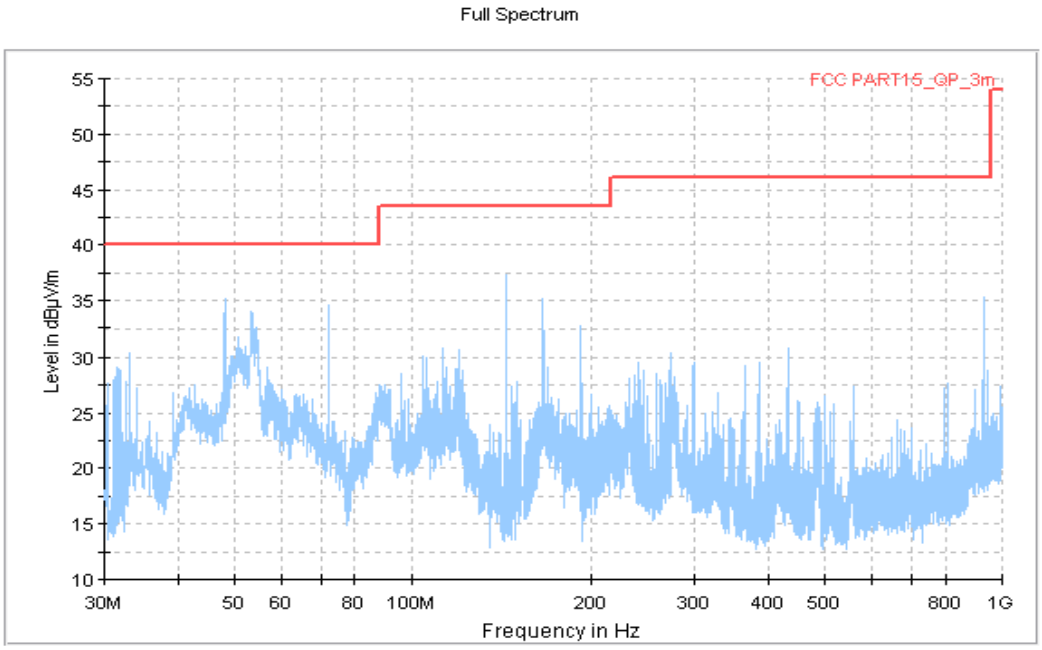


Figure A.15 Radiated Emission from 30MHz to 1GHz

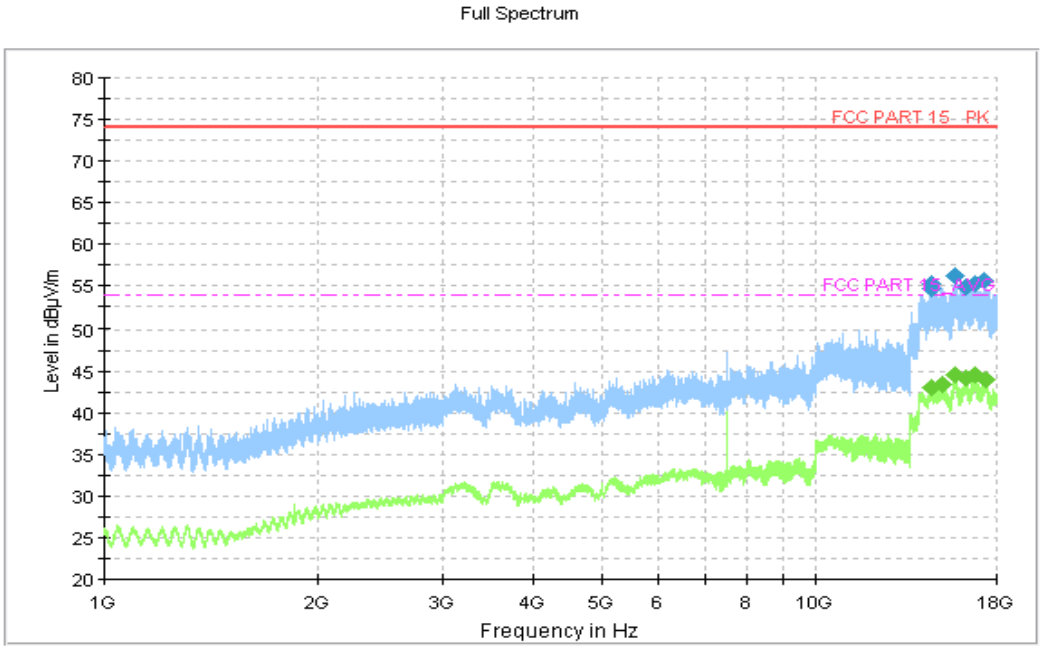


Figure A.16 Radiated Emission from 1GHz to 18GHz

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.

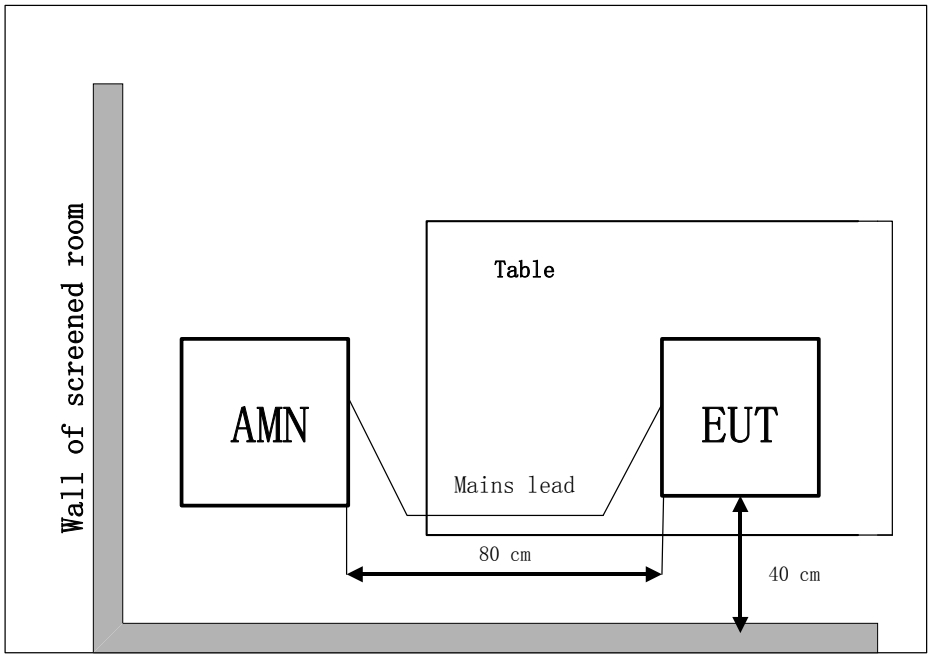
A.2.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is Lenovo 0579-4EC, and the serial number of the PC is LR-0V41B. The CMD.exe is used to let the PC keep on ping MS's IP address, pinging MS's IP address was until test 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		

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

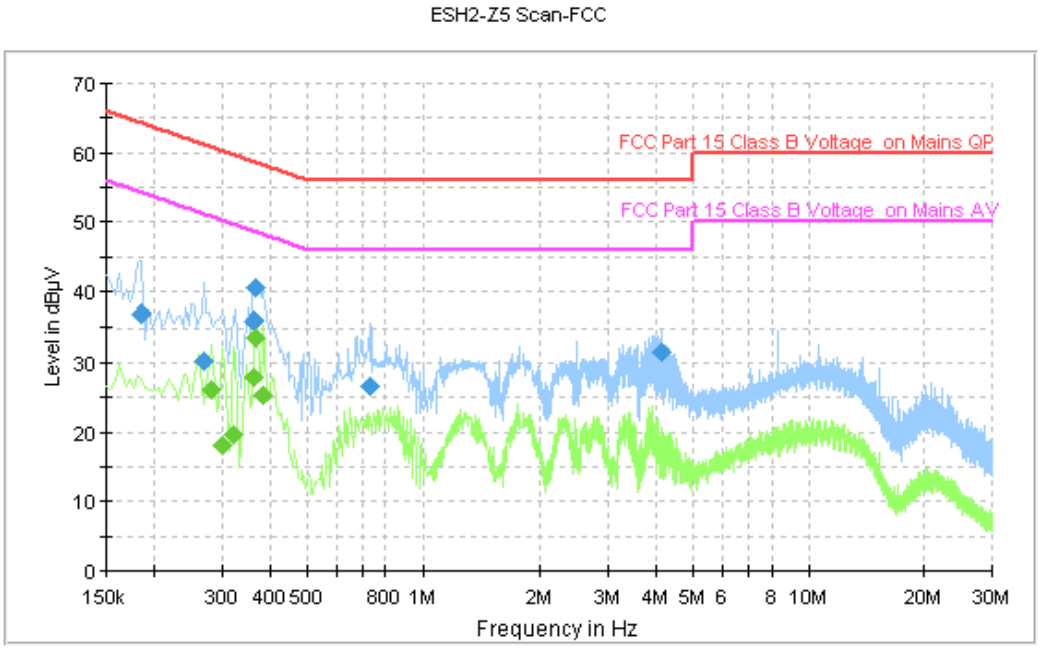


Figure A.17 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	36.9	GND	N	9.6	27.4	64.2
0.270000	30.3	GND	N	9.6	30.8	61.1
0.362000	36.0	GND	N	9.6	22.7	58.7
0.366000	40.5	GND	N	9.6	18.1	58.6
0.730000	26.5	GND	N	9.5	29.5	56.0
4.138000	31.4	GND	N	9.6	24.6	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.282000	26.1	GND	N	9.6	24.7	50.8
0.302000	18.2	GND	N	9.6	32.0	50.2
0.322000	19.6	GND	N	9.6	30.1	49.7
0.362000	27.9	GND	N	9.6	20.7	48.7
0.366000	33.6	GND	N	9.6	15.0	48.6
0.386000	25.3	GND	N	9.6	22.8	48.1

Charging mode:Set.2
Voltage:120V

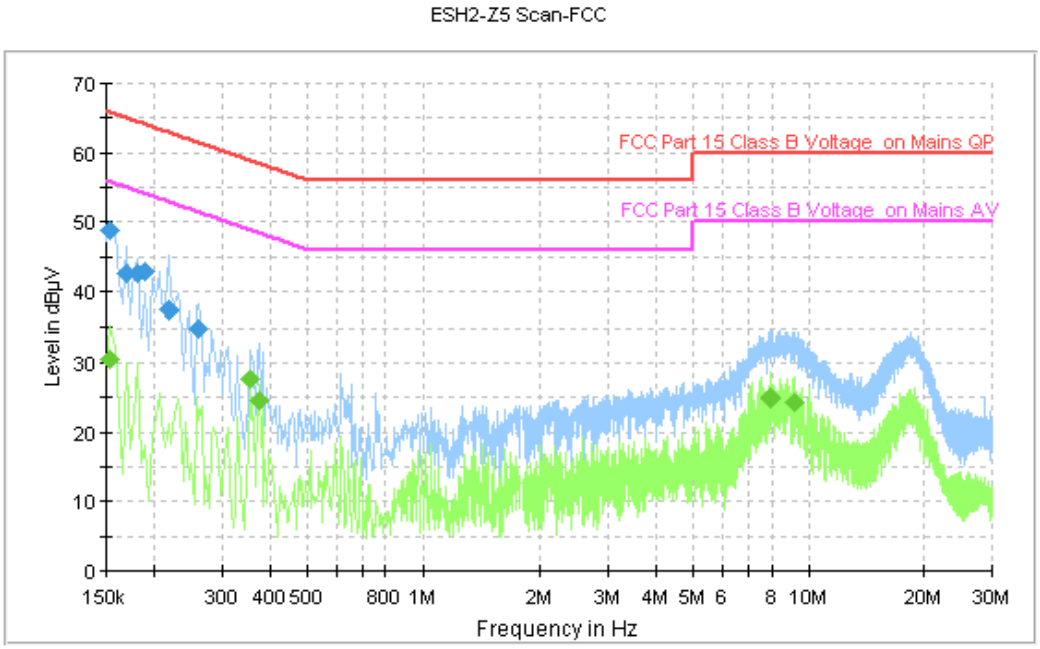


Figure A.18 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	48.7	GND	N	9.6	17.1	65.8
0.170000	42.5	GND	N	9.6	22.4	65.0
0.182000	42.6	GND	N	9.6	21.7	64.4
0.190000	43.0	GND	N	9.6	21.0	64.0
0.218000	37.4	GND	N	9.6	25.5	62.9
0.262000	34.9	GND	N	9.6	26.5	61.4

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	30.5	GND	N	9.6	25.3	55.8
0.354000	27.7	GND	N	9.6	21.2	48.9
0.374000	24.4	GND	N	9.6	24.0	48.4
7.930000	25.0	GND	N	9.8	25.0	50.0
7.954000	24.7	GND	N	9.8	25.3	50.0
9.214000	24.2	GND	N	9.8	25.8	50.0

Charging mode:Set.3
Voltage:120V

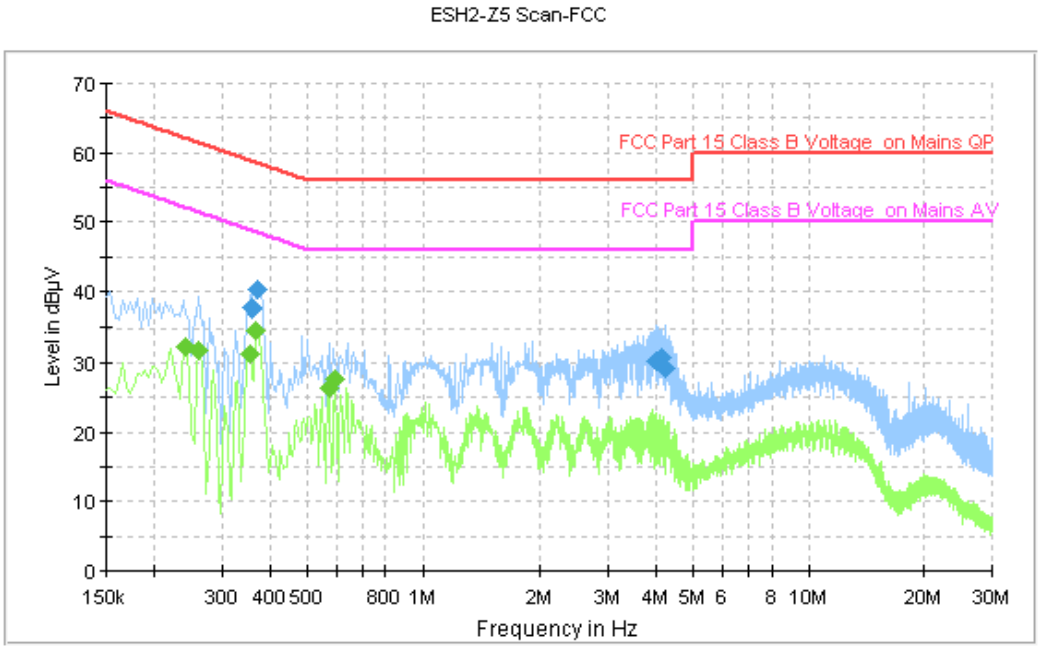


Figure A.19 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.358000	37.6	GND	N	9.6	21.2	58.8
0.370000	40.3	GND	N	9.6	18.2	58.5
3.986000	30.3	GND	N	9.6	25.7	56.0
4.046000	30.3	GND	N	9.6	25.7	56.0
4.122000	30.8	GND	N	9.6	25.2	56.0
4.230000	29.3	GND	N	9.6	26.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.242000	32.3	GND	N	9.6	19.7	52.0
0.262000	31.9	GND	N	9.6	19.5	51.4
0.354000	31.3	GND	N	9.6	17.6	48.9
0.366000	34.6	GND	N	9.6	14.0	48.6
0.570000	26.2	GND	N	9.7	19.8	46.0
0.590000	27.6	GND	N	9.6	18.4	46.0

Charging mode:Set.4
Voltage:120V

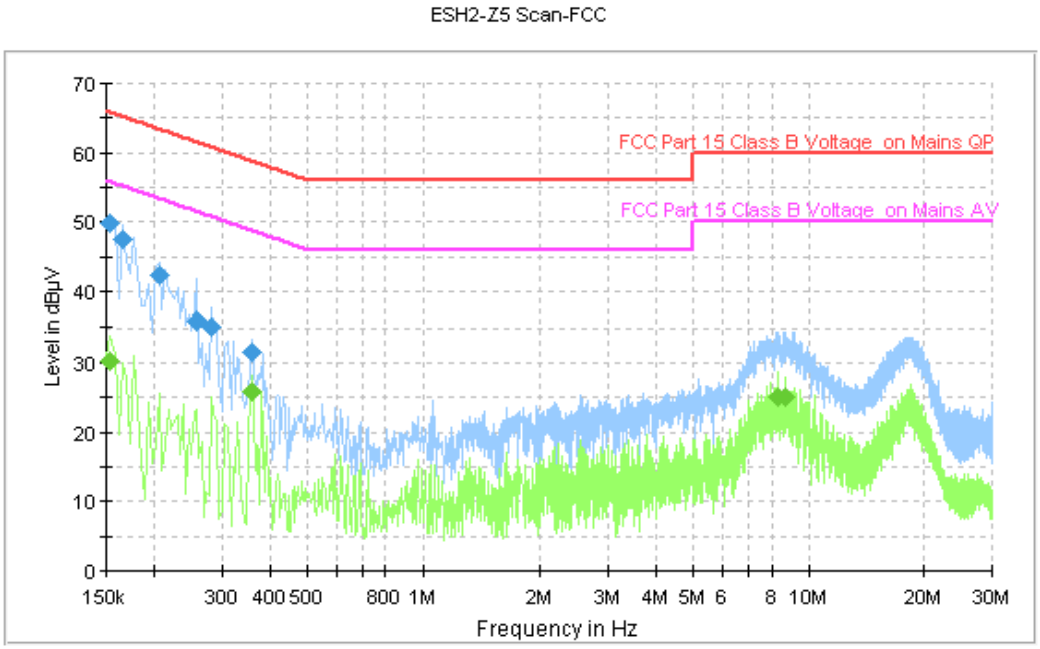


Figure A.20 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	49.8	GND	N	9.6	15.9	65.8
0.166000	47.6	GND	N	9.6	17.5	65.2
0.206000	42.3	GND	N	9.6	21.1	63.4
0.258000	35.9	GND	N	9.6	25.6	61.5
0.282000	35.1	GND	N	9.6	25.7	60.8
0.358000	31.5	GND	N	9.6	27.3	58.8

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	30.2	GND	N	9.6	25.6	55.8
0.358000	25.7	GND	N	9.6	23.0	48.8
8.306000	25.2	GND	N	9.8	24.8	50.0
8.334000	24.9	GND	N	9.8	25.1	50.0
8.358000	25.1	GND	N	9.8	24.9	50.0
8.714000	25.0	GND	N	9.8	25.0	50.0

USB mode:Set.5
Voltage:120V

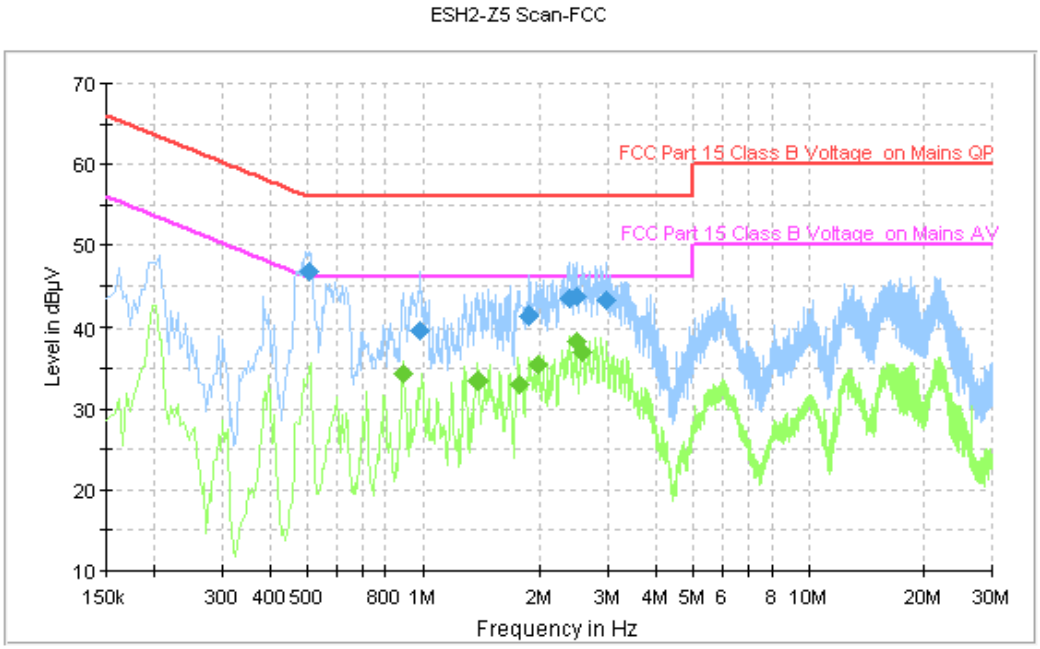


Figure A.21 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.506000	46.7	GND	N	9.7	9.3	56.0
0.986000	39.6	GND	N	9.6	16.4	56.0
1.878000	41.4	GND	N	9.6	14.6	56.0
2.378000	43.5	GND	N	9.6	12.5	56.0
2.478000	43.7	GND	N	9.6	12.3	56.0
2.974000	43.3	GND	N	9.6	12.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.890000	34.4	GND	N	9.6	11.6	46.0
1.390000	33.5	GND	N	9.6	12.5	46.0
1.770000	33.1	GND	N	9.6	12.9	46.0
1.978000	35.5	GND	N	9.6	10.5	46.0
2.478000	38.4	GND	N	9.6	7.6	46.0
2.574000	37.1	GND	N	9.6	8.9	46.0

USB mode:Set.6
Voltage:120V

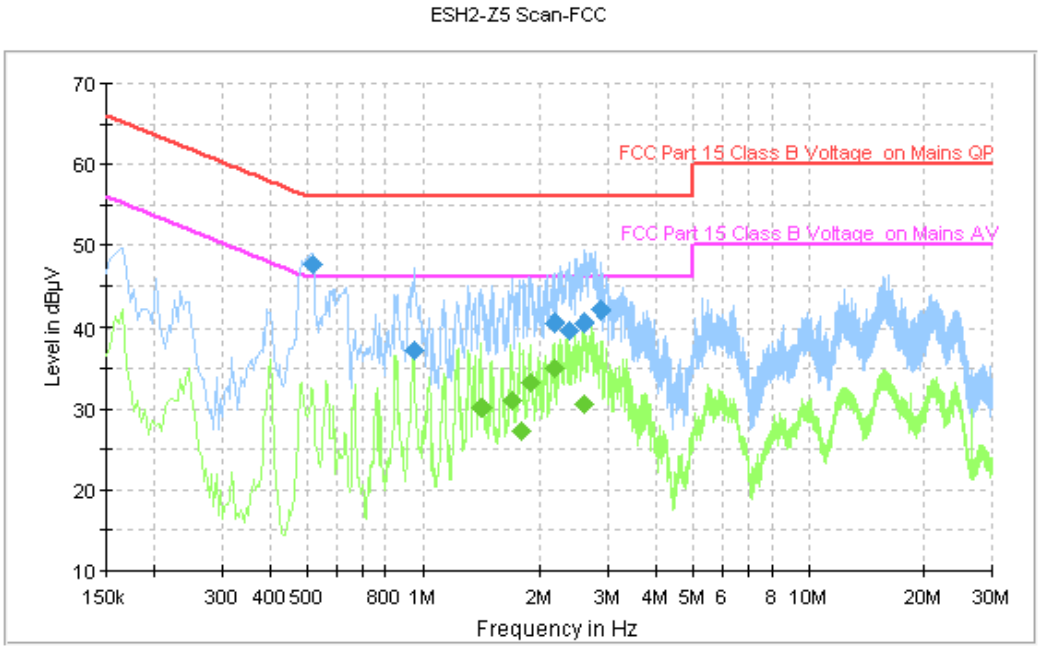


Figure A.22 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.518000	47.6	GND	N	9.7	8.4	56.0
0.950000	37.2	GND	N	9.6	18.8	56.0
2.170000	40.7	GND	N	9.6	15.3	56.0
2.370000	39.7	GND	N	9.6	16.3	56.0
2.614000	40.6	GND	N	9.6	15.4	56.0
2.890000	42.0	GND	N	9.6	14.0	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.410000	30.2	GND	N	9.5	15.8	46.0
1.694000	31.1	GND	N	9.5	14.9	46.0
1.790000	27.2	GND	N	9.6	18.8	46.0
1.894000	33.4	GND	N	9.6	12.6	46.0
2.170000	34.9	GND	N	9.6	11.1	46.0
2.598000	30.6	GND	N	9.6	15.4	46.0

USB mode:Set.7
Voltage:120V

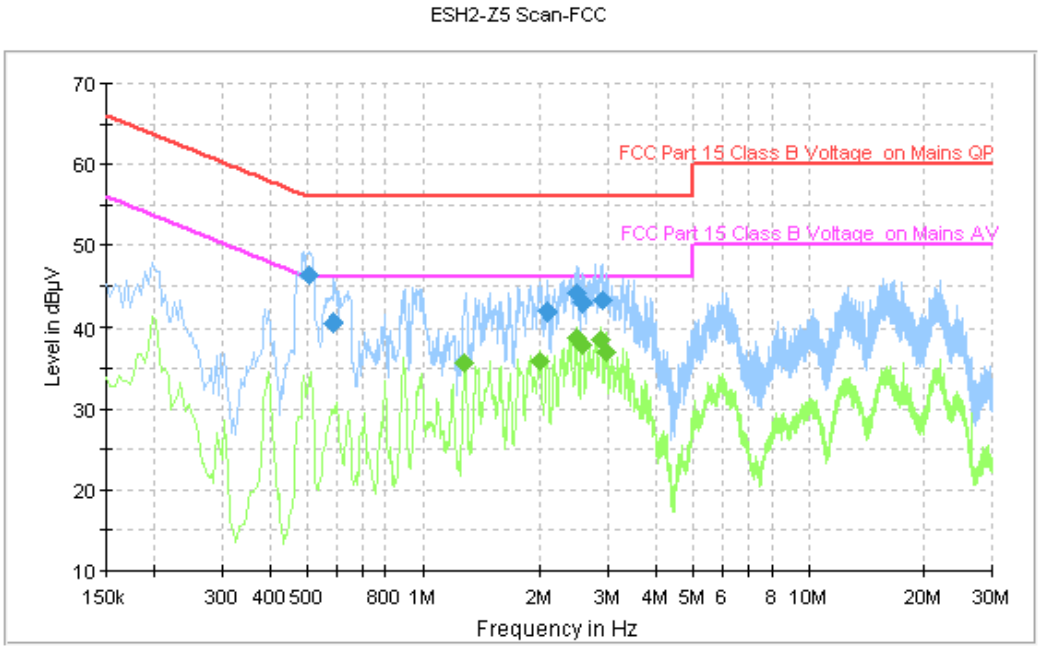


Figure A.23 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.506000	46.3	GND	N	9.7	9.7	56.0
0.586000	40.6	GND	N	9.6	15.4	56.0
2.086000	41.9	GND	N	9.6	14.1	56.0
2.494000	44.1	GND	N	9.6	11.9	56.0
2.586000	43.1	GND	N	9.6	12.9	56.0
2.898000	43.3	GND	N	9.6	12.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.286000	35.7	GND	N	9.6	10.3	46.0
1.998000	35.9	GND	N	9.6	10.1	46.0
2.478000	38.9	GND	N	9.6	7.1	46.0
2.574000	38.0	GND	N	9.6	8.0	46.0
2.890000	38.5	GND	N	9.6	7.5	46.0
2.986000	36.9	GND	N	9.6	9.1	46.0

USB mode:Set.8
Voltage:120V

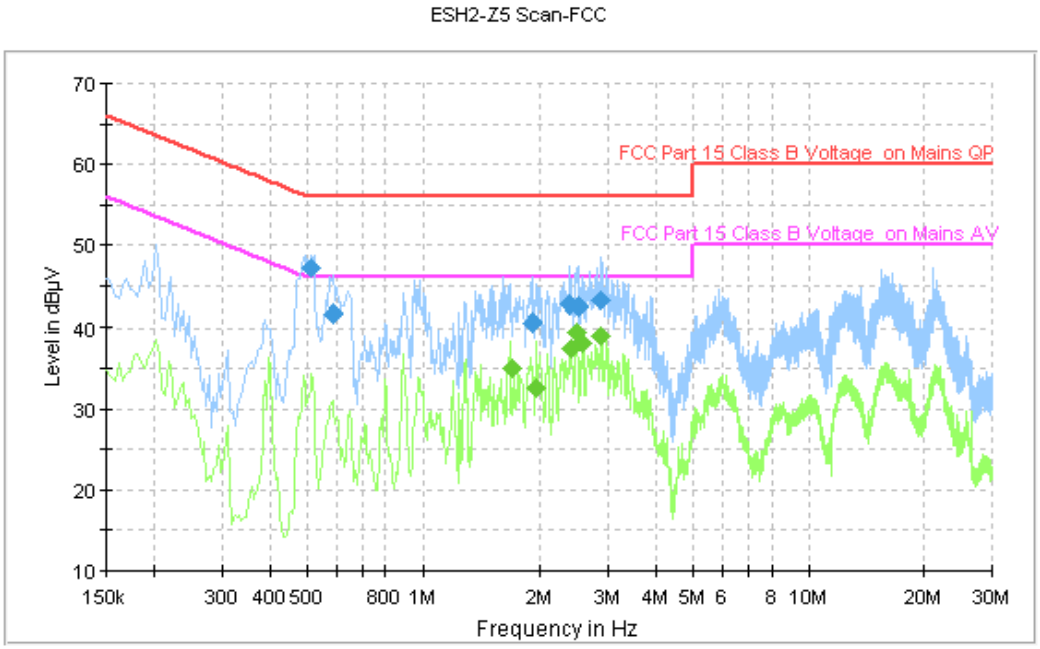


Figure A.24 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.514000	47.2	GND	N	9.7	8.8	56.0
0.582000	41.6	GND	N	9.6	14.4	56.0
1.902000	40.6	GND	N	9.6	15.4	56.0
2.382000	42.8	GND	N	9.6	13.2	56.0
2.506000	42.6	GND	N	9.6	13.4	56.0
2.874000	43.2	GND	N	9.6	12.8	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.686000	35.0	GND	N	9.5	11.0	46.0
1.954000	32.5	GND	N	9.6	13.5	46.0
2.406000	37.6	GND	N	9.6	8.4	46.0
2.486000	39.4	GND	N	9.6	6.6	46.0
2.582000	38.1	GND	N	9.6	7.9	46.0
2.890000	39.0	GND	N	9.6	7.0	46.0

Charging mode:Set.1
Voltage:240V

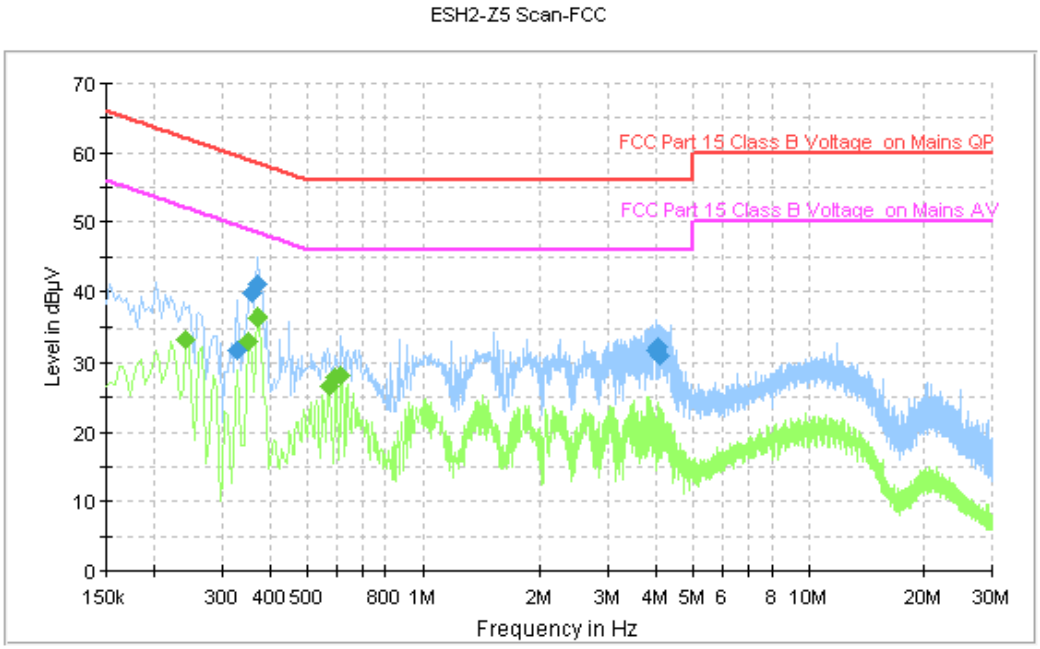


Figure A.25 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.330000	31.8	GND	N	9.6	27.7	59.5
0.358000	39.8	GND	N	9.6	19.0	58.8
0.370000	41.0	GND	N	9.6	17.5	58.5
4.002000	31.8	GND	N	9.6	24.2	56.0
4.046000	32.4	GND	N	9.6	23.6	56.0
4.090000	31.0	GND	N	9.6	25.0	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.242000	33.4	GND	N	9.6	18.6	52.0
0.350000	33.0	GND	N	9.6	16.0	49.0
0.370000	36.4	GND	N	9.6	12.1	48.5
0.570000	26.7	GND	N	9.7	19.3	46.0
0.594000	27.8	GND	N	9.6	18.2	46.0
0.614000	28.0	GND	N	9.6	18.0	46.0

Charging mode:Set.2
Voltage:240V

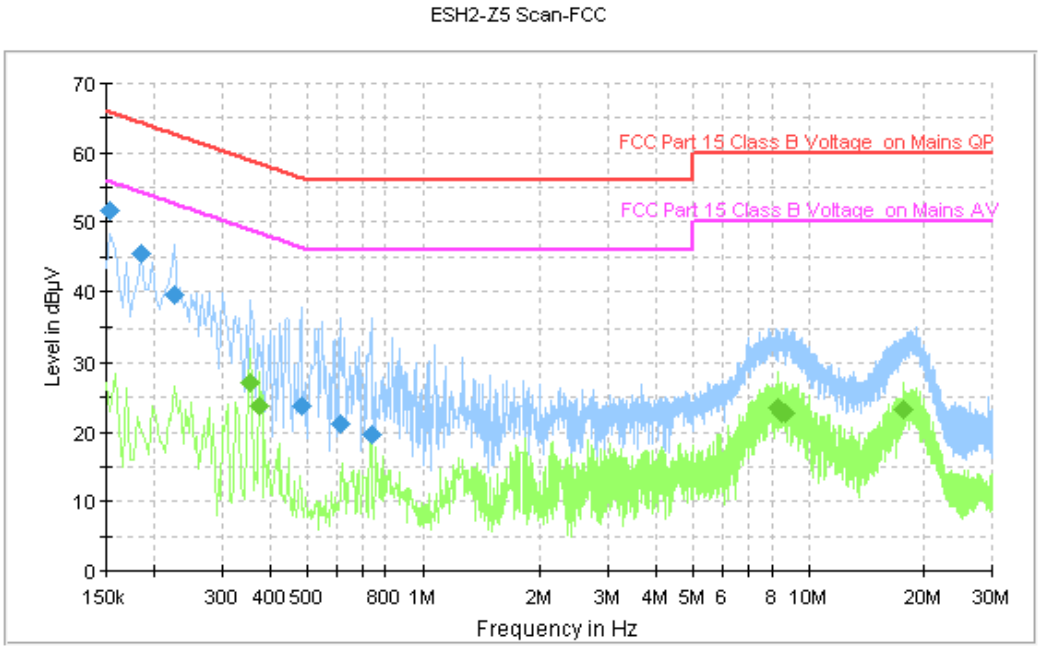


Figure A.26 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	51.5	GND	N	9.6	14.2	65.8
0.186000	45.4	GND	N	9.6	18.8	64.2
0.226000	39.5	GND	N	9.6	23.1	62.6
0.482000	23.9	GND	N	9.7	32.4	56.3
0.610000	21.2	GND	N	9.6	34.8	56.0
0.734000	19.7	GND	N	9.5	36.3	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.354000	27.2	GND	N	9.6	21.7	48.9
0.374000	23.7	GND	N	9.6	24.7	48.4
8.290000	23.5	GND	N	9.8	26.5	50.0
8.522000	22.8	GND	N	9.8	27.2	50.0
8.698000	22.8	GND	N	9.8	27.2	50.0
17.674000	23.3	GND	N	9.9	26.7	50.0

Charging mode:Set.3
Voltage:240V

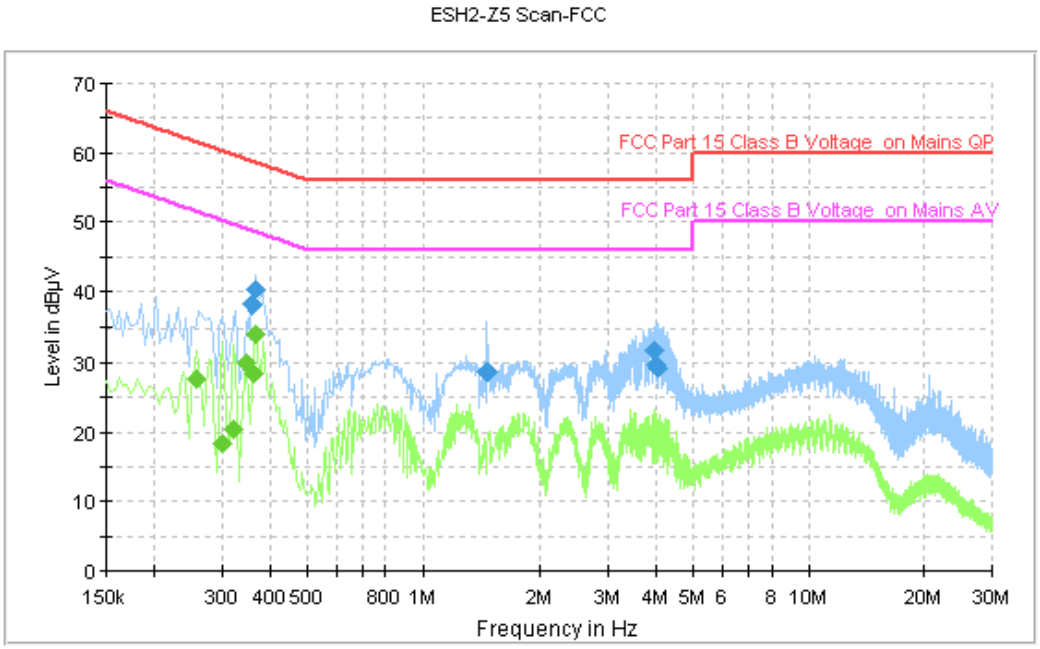


Figure A.27 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.358000	38.3	GND	N	9.6	20.5	58.8
0.366000	40.2	GND	N	9.6	18.4	58.6
1.470000	28.8	GND	N	9.5	27.2	56.0
3.942000	31.7	GND	N	9.6	24.3	56.0
4.018000	29.7	GND	N	9.6	26.3	56.0
4.070000	29.3	GND	N	9.6	26.7	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.258000	27.6	GND	N	9.6	23.9	51.5
0.302000	18.3	GND	N	9.6	31.9	50.2
0.322000	20.3	GND	N	9.6	29.3	49.7
0.346000	30.0	GND	N	9.6	19.1	49.1
0.362000	28.5	GND	N	9.6	20.2	48.7
0.366000	34.0	GND	N	9.6	14.5	48.6

Charging mode:Set.4
Voltage:240V

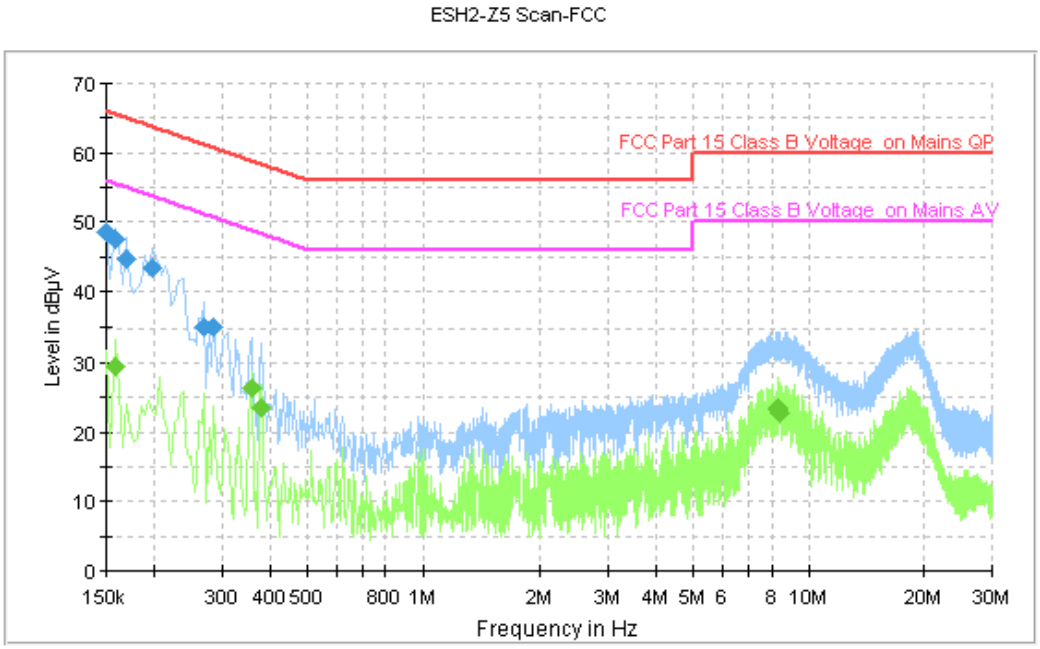


Figure A.28 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.6	GND	N	9.6	17.4	66.0
0.158000	47.5	GND	N	9.6	18.1	65.6
0.170000	44.7	GND	N	9.6	20.2	65.0
0.198000	43.5	GND	N	9.6	20.2	63.7
0.270000	35.2	GND	N	9.6	26.0	61.1
0.286000	35.2	GND	N	9.6	25.5	60.6

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	29.5	GND	N	9.6	26.0	55.6
0.358000	26.5	GND	N	9.6	22.3	48.8
0.378000	23.5	GND	N	9.6	24.9	48.3
8.282000	23.5	GND	N	9.8	26.5	50.0
8.334000	23.2	GND	N	9.8	26.8	50.0
8.362000	22.8	GND	N	9.8	27.2	50.0

USB mode:Set.5
Voltage:240V

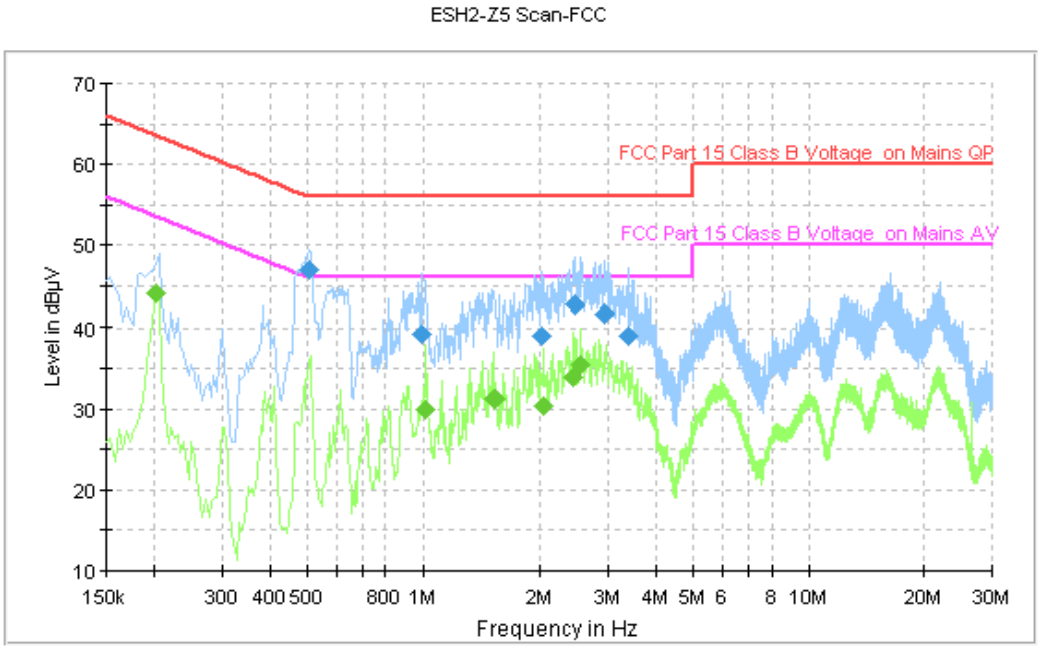


Figure A.29 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.506000	47.1	GND	N	9.7	8.9	56.0
0.990000	39.3	GND	N	9.6	16.7	56.0
2.010000	38.9	GND	N	9.6	17.1	56.0
2.466000	42.8	GND	N	9.6	13.2	56.0
2.954000	41.6	GND	N	9.6	14.4	56.0
3.398000	39.1	GND	N	9.6	16.9	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.202000	44.1	GND	N	9.6	9.5	53.5
1.022000	30.0	GND	N	9.5	16.0	46.0
1.526000	31.3	GND	N	9.6	14.7	46.0
2.042000	30.3	GND	N	9.6	15.7	46.0
2.446000	34.0	GND	N	9.6	12.0	46.0
2.550000	35.4	GND	N	9.6	10.6	46.0

USB mode:Set.6
Voltage:240V

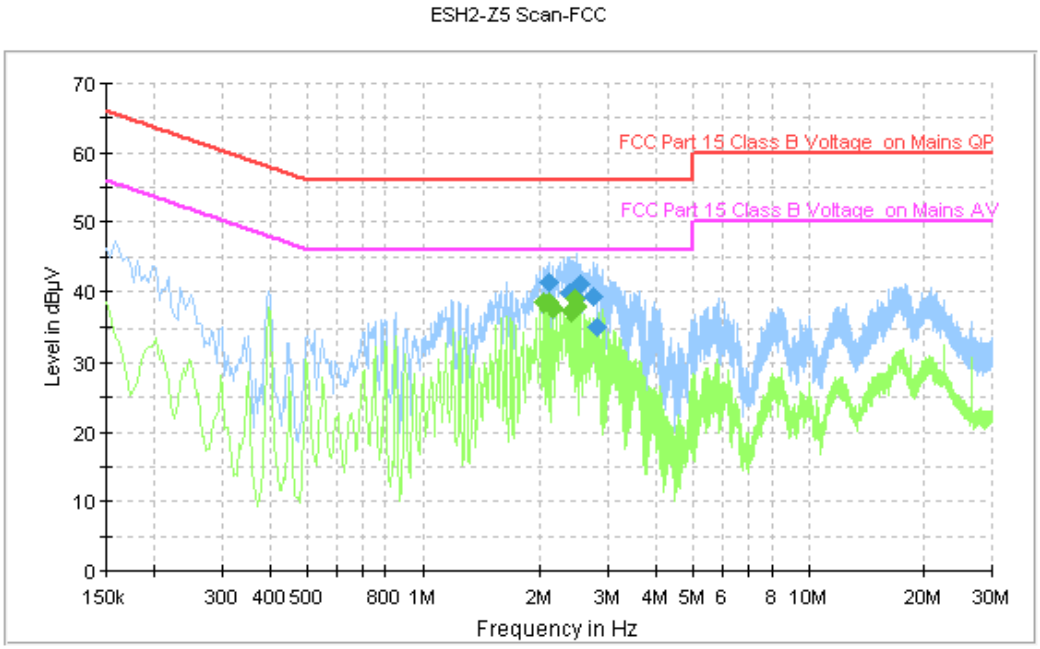


Figure A.30 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.106000	41.3	GND	N	9.6	14.7	56.0
2.390000	39.8	GND	N	9.6	16.2	56.0
2.490000	39.0	GND	N	9.6	17.0	56.0
2.554000	41.0	GND	N	9.6	15.0	56.0
2.766000	39.2	GND	N	9.6	16.8	56.0
2.826000	35.1	GND	N	9.6	20.9	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.050000	38.6	GND	N	9.6	7.4	46.0
2.098000	38.6	GND	N	9.6	7.4	46.0
2.146000	37.8	GND	N	9.6	8.2	46.0
2.402000	37.3	GND	N	9.6	8.7	46.0
2.454000	39.1	GND	N	9.6	6.9	46.0
2.498000	38.1	GND	N	9.6	7.9	46.0

USB mode:Set.7
Voltage:240V

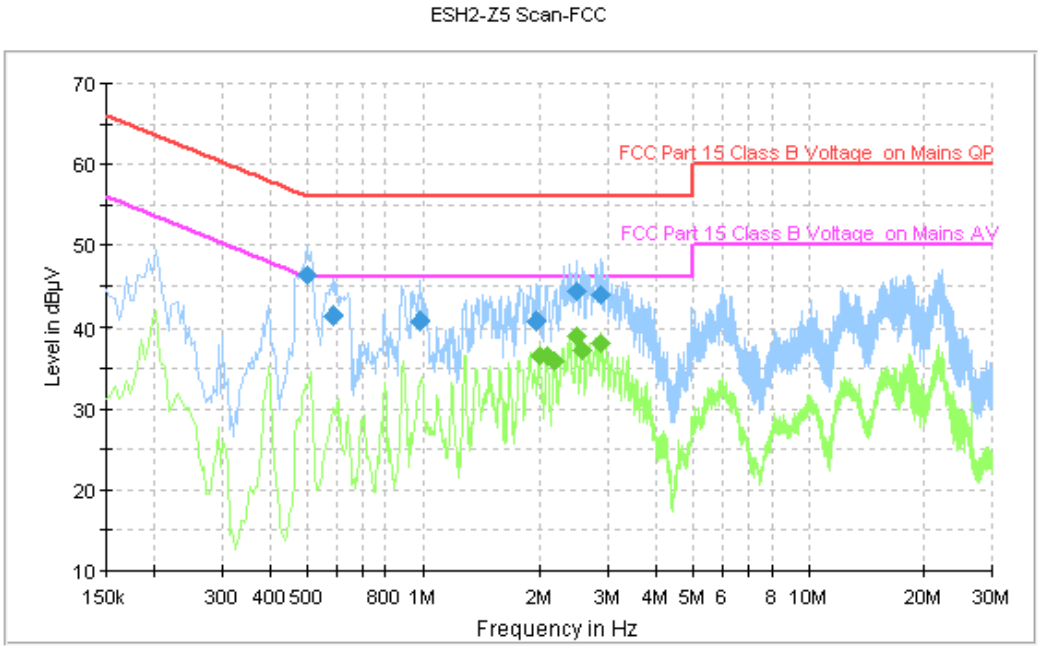


Figure A.31 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.502000	46.2	GND	N	9.7	9.8	56.0
0.582000	41.4	GND	N	9.6	14.6	56.0
0.978000	40.8	GND	N	9.6	15.2	56.0
1.958000	40.7	GND	N	9.6	15.3	56.0
2.486000	44.4	GND	N	9.6	11.6	56.0
2.874000	43.8	GND	N	9.6	12.2	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.990000	36.5	GND	N	9.6	9.5	46.0
2.082000	36.5	GND	N	9.6	9.5	46.0
2.182000	35.9	GND	N	9.6	10.1	46.0
2.486000	39.0	GND	N	9.6	7.0	46.0
2.586000	37.2	GND	N	9.6	8.8	46.0
2.890000	38.2	GND	N	9.6	7.8	46.0

USB mode:Set.8
Voltage:240V

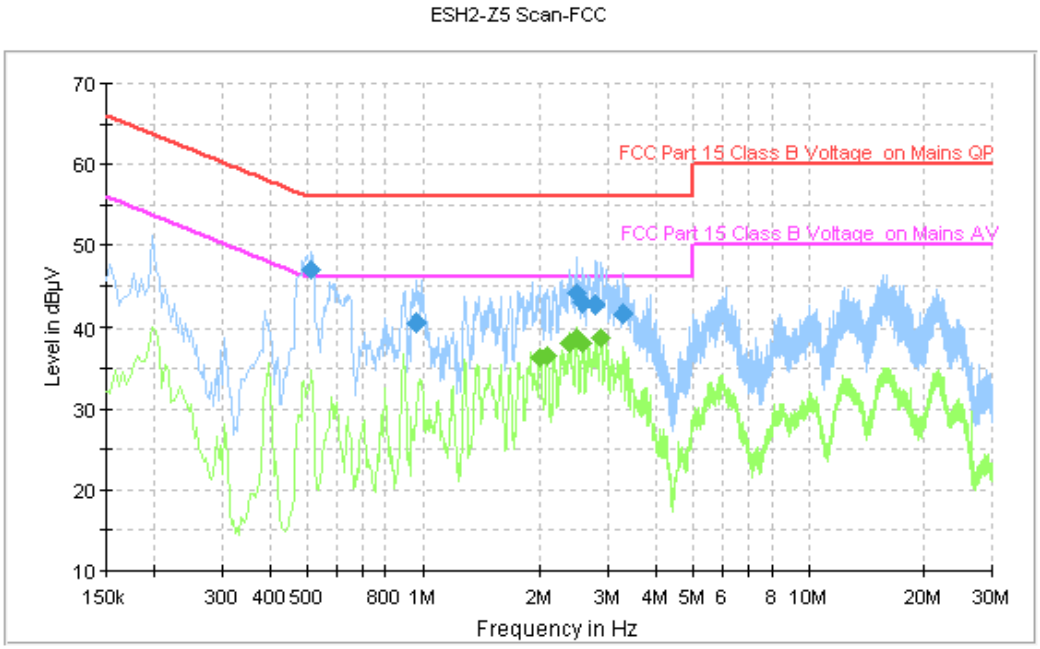


Figure A.32 Conducted Emission

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.514000	47.0	GND	N	9.7	9.0	56.0
0.958000	40.5	GND	N	9.6	15.5	56.0
2.494000	44.2	GND	N	9.6	11.8	56.0
2.586000	43.0	GND	N	9.6	13.0	56.0
2.774000	42.7	GND	N	9.6	13.3	56.0
3.298000	41.6	GND	N	9.6	14.4	56.0

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.998000	36.3	GND	N	9.6	9.7	46.0
2.090000	36.5	GND	N	9.6	9.5	46.0
2.390000	38.1	GND	N	9.6	7.9	46.0
2.494000	38.7	GND	N	9.6	7.3	46.0
2.574000	38.1	GND	N	9.6	7.9	46.0
2.890000	38.8	GND	N	9.6	7.2	46.0

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