TEST REPORT

No. I16Z41709-EMC01

for

TCL Communication Ltd.

LTE / UMTS / GSM mobile phone

Model Name: 5080A

FCC ID: 2ACCJH059

with

Hardware Version: PIO

Software Version: 2CA6

Issued Date: 2016-08-31

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:

FCC 2.948 Listed: No.525429

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

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

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I16Z41709-EMC01	Rev.0	1st edition	2016-08-31

CONTENTS

1. Test Laboratory

1.1. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

1.2. Testing Environment

Normal Temperature: 15-35 ℃

Relative Humidity: 20-75%

1.3. Project data

Testing Start Date: 2016-08-19

Testing End Date: 2016-08-31

1.4. Signature

张颖

Zhang Ying

(Prepared this test report)

屈鹏飞

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(Reviewed this test report)

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(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	China
Contact Person:	Gong Zhizhou
Contact Email	zhizhou.gong@tcl.com
Telephone:	0086-21-31363544
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2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	China
Telephone:	0086-21-31363544
Fax:	0086-21-61460602

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

3.1. About EUT

Description	LTE / UMTS / GSM mobile phone
Model Name	5080A
FCC ID	2ACCJH059
Extreme vol. Limits	3.5VDC to 4.2VDC (nominal: 3.8VDC)

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL,Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT5	014726000002133	PIO	2CA6

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

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN	Remarks
AE1	battery	/	/
AE2	battery	/	/
AE3	battery	/	/
AE4	battery	/	/
AE5	Travel charger	/	16TCT-CH-0881
AE6	Travel charger	/	16TCT-CH-0885
AE7	Travel charger	/	16TCT-CH-0803
AE8	Travel charger	/	16TCT-CH-0860
AE9	USB cable	/	16TCT-DC-0373
AE10	USB cable	/	/
AE11	USB cable	/	16TCT-DC-0394
AE12	USB cable	/	16TCT-DC-0419
AE13	Travel charger	/	16TCT-CH-0875
AE14	Travel charger	/	/
AE15	Travel charger	/	19TCT-CH-0615
AE16	Travel charger	/	16TCT-CH-0846
AE17	USB cable	/	16TCT-DC-0377
AE18	USB cable	/	16TCT-DC-0393
AE19	USB cable	/	16TCT-DC-0415
AE20	USB cable		16TCT-DC-0186

AE1

Model	CAC2400006CJ
Manufacturer	Coslight
Capacitance	2400 mAh
Nominal voltage	3.85V

AE2

Model	CAC2400008C1
Manufacturer	BYD
Capacitance	2400 mAh
Nominal voltage	3.85V

AE3

Model	CAC2400007C2
Manufacturer	SCUD
Capacitance	2400 mAh
Nominal voltage	3.85V

AE4

Model	CAC2400022CC
Manufacturer	TCL
Capacitance	2400 mAh
Nominal voltage	3.85V

AE5, AE13

Model	CBA0059AGAC4
Manufacturer	Aohai
Length of cable	/

AE6

Model	CBA0059AGAC2
Manufacturer	Tenpao
Length of cable	/

AE7, AE15

Model	CBA0058AGAC2
Manufacturer	Tenpao
Length of cable	/

AE8, AE16

Model	CBA0058AGAC3
Manufacturer	Yingju
Length of cable	/

AE9, AE17

Model	CDA3122002C1
Manufacturer	Juwei
Length of cable	99cm

AE10

Model	CDA3122005C1
Manufacturer	Juwei
Length of cable	99cm

AE11, AE18

Model	CDA3122002C8
Manufacturer	PUAN
Length of cable	99cm

AE12, AE19

Model	CDA3122005C8
Manufacturer	PUAN
Length of cable	99cm

AE20

Model	CDA0000024C2
Manufacturer	JUWEI
Length of cable	99cm

*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.10	EUT5 + AE1 + AE5 + AE9	Charger
Set.11	EUT5 + AE1 + AE6 + AE9	Charger
Set.12	EUT5 + AE1 + AE7 + AE9	Charger
Set.13	EUT5 + AE1 + AE8 + AE9	Charger
Set.14	EUT5 + AE1 + AE9	USB
Set.15	EUT5 + AE1 + AE11	USB
Set.16	EUT5 + AE1 + AE12	USB
Set.17	EUT5 + AE1 + AE20	USB

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 - Unintentional Radiators	10-1-15 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 SAC-1 (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C**,** Max. = 35 ˚C
Relative humidity	Min. = 15 %**,** Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	**<** ±4 dB, 10 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 6GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

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

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz－1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:		
Verdict Column	P	Pass
	NA	Not applicable
	F	Fail
Location Column	1/2/3/4	The test is performed in test location A, B, C or D which are described in section 1.1 of this report

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

7. Test Equipments Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL. DUE DATE	CAL. INTERVAL
1.	EMI Antenna	VULB 9163	9163-301	Schwarzbeck	2017-12-16	3 Years
2.	Test Receiver	ESCI 7	100948	R&S	2017-07-10	1 Year
3.	EMI Antenna	3115	6914	ETS-Lindgren	2017-12-15	3 Years
4.	Test Receiver	ESU26	100235	R&S	2017-03-02	1 Year
5.	LISN	ENV216	101200	R&S	2017-07-10	1 Year
6.	Universal Radio Communication Tester	CMW500	143008	R&S	2016-12-09	1 Year
7.	Universal Radio Communication Tester	CMW500	155415	R&S	2017-01-11	1 Year
8.	PC	OPTIPLEX 380	2X1YV2X	DELL	/	/
9.	Monitor	E1709Wc	CN-OJ672H-64180-9BF-1CRL	DELL	/	/
10.	Printer	P1606dn	VNC3L52122	HP	/	/
11.	Keyboard	L100	CN-ORH656-65890-03S-041Y	DELL	/	/
12.	Mouse	M-UAR	LZ013HC1YLV	DELL	/	/

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission

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 distances of 10 meters or 3 meters(for 30MHz-1GHz) and 3 meters (for above 1GHz) 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 3/10 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.

For the charging mode, the EUT is keeping on playing MP3 file.

For the USB 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 DELL OPTIPLEX 380, and the serial number of the PC is 2X1YV2X. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

Note：I/O information：Printer – USB, Mouse – PS/2, Keyboard – USB.

A.1.3 Measurement Limit

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 above limit is for 3 meters test distance. 10 meters' limit is got by converting.

A.1.4 Test Condition

Frequency range (MHz)	RBW/VBW	Sweep Time (s)	Detector
30-1000	120kHz (IF Bandwidth)	5	Peak/Quasi-peak
Above 1000	1MHz/1MHz	15	Peak, Average

A.1.5 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.

Measurement uncertainty (worst case): U = 5.26 dB, k=2.

Measurement results for Set.10:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17953.250	51.6	-17.7	45.6	23.700	V
17926.050	51.5	-17.7	45.6	23.600	H
17974.500	51.3	-17.7	45.6	23.400	V
17889.500	51.2	-18.5	45.6	24.100	H
17915.850	51.1	-17.7	45.6	23.200	H
17994.050	51.1	-17.7	45.6	23.200	V

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17874.200	62.1	-18.5	45.6	35.000	H
17973.650	61.1	-17.7	45.6	33.200	H
17993.200	60.9	-17.7	45.6	33.000	V
17933.700	60.8	-17.7	45.6	32.900	H
17939.650	60.8	-17.7	45.6	32.900	H
17979.600	60.8	-17.7	45.6	32.900	V

Measurement results for Set.11:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17936.250	51.5	-17.7	45.6	23.600	V
17970.250	51.3	-17.7	45.6	23.400	V
18000.000	51.2	-45.6	44.5	52.266	V
17941.350	51.1	-17.7	45.6	23.200	V
17867.400	51.0	-18.5	45.6	23.900	V
17966.850	51.0	-17.7	45.6	23.100	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17840.200	61.8	-18.5	45.6	34.700	V
17948.150	61.6	-17.7	45.6	33.700	V
17904.800	61.5	-18.5	45.6	34.400	V
18000.000	61.4	-45.6	44.5	62.466	H
17905.650	61.3	-18.5	45.6	34.200	H
17977.050	61.2	-17.7	45.6	33.300	H

Measurement results for Set.12:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17994.900	51.4	-17.7	45.6	23.500	H
17952.400	51.4	-17.7	45.6	23.500	V
17964.300	51.3	-17.7	45.6	23.400	V
17930.300	51.1	-17.7	45.6	23.200	V
17835.950	51.1	-18.5	45.6	24.000	H
17934.550	51.0	-17.7	45.6	23.100	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17977.050	62.2	-17.7	45.6	34.300	V
17918.400	61.4	-17.7	45.6	33.500	H
17957.500	61.2	-17.7	45.6	33.300	V
17883.550	61.1	-18.5	45.6	34.000	H
17827.450	61.1	-18.5	45.6	34.000	H
17909.900	61.1	-18.5	45.6	34.000	V

Measurement results for Set.13:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17884.400	51.2	-18.5	45.6	24.100	H
17927.750	51.1	-17.7	45.6	23.200	V
17835.100	51.1	-18.5	45.6	24.000	H
17977.900	51.0	-17.7	45.6	23.100	H
17909.050	50.9	-18.5	45.6	23.800	V
17946.450	50.9	-17.7	45.6	23.000	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17932.850	62.1	-17.7	45.6	34.200	H
17976.200	61.0	-17.7	45.6	33.100	H
17969.400	60.9	-17.7	45.6	33.000	V
17884.400	60.9	-18.5	45.6	33.800	H
17830.000	60.8	-18.5	45.6	33.700	V
17996.600	60.7	-17.7	45.6	32.800	V

Measurement result for Set.14:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1499.000	32.8	-40.3	24.1	49.000	H
1493.000	32.7	-40.3	24.1	48.900	V
1498.500	32.3	-40.3	24.1	48.500	H
5248.500	32.3	-34.5	34.6	32.200	H
1493.500	32.2	-40.3	24.1	48.400	V
1498.000	32.2	-40.3	24.1	48.400	V

USB Mode/ Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1206.500	49.8	-41.3	24.1	67.000	H
1185.000	49.0	-41.2	24.1	66.100	H
1465.000	49.0	-40.0	24.1	64.900	V
1464.500	48.9	-40.0	24.1	64.800	H
1185.500	48.6	-41.2	24.1	65.700	H
1206.000	48.4	-41.3	24.1	65.600	H

Measurement result for Set.15:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1499.000	32.8	-40.3	24.1	49.000	H
1493.000	32.6	-40.3	24.1	48.800	H
1493.500	32.3	-40.3	24.1	48.500	V
1494.000	32.3	-40.3	24.1	48.500	V
1498.500	32.2	-40.3	24.1	48.400	V
5248.500	32.1	-34.5	34.6	32.000	H

USB Mode/ Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1464.500	48.9	-40.0	24.1	64.800	H
1465.000	48.8	-40.0	24.1	64.700	V
1207.000	48.6	-41.3	24.1	65.800	V
1494.000	48.1	-40.3	24.1	64.300	V
1465.500	48.0	-40.0	24.1	63.900	H
1499.000	47.9	-40.3	24.1	64.100	H

Measurement result for Set.16:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1499.000	32.8	-40.3	24.1	49.000	V
1493.000	32.8	-40.3	24.1	49.000	H
1493.500	32.6	-40.3	24.1	48.800	H
5248.000	32.3	-34.5	34.6	32.200	V
5248.500	32.2	-34.5	34.6	32.100	V
1494.000	32.2	-40.3	24.1	48.400	V

USB Mode/ Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
1464.000	48.7	-40.0	24.1	64.600	V
1463.500	48.4	-40.0	24.1	64.300	H
1464.500	48.2	-40.0	24.1	64.100	H
1465.000	48.1	-40.0	24.1	64.000	V
1493.000	48.0	-40.3	24.1	64.200	V
1185.000	47.8	-41.2	24.1	64.900	H

Measurement result for Set.17:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
17998.300	51.9	-17.7	45.6	24.000	H
17971.100	51.6	-17.7	45.6	23.700	H
17961.750	51.5	-17.7	45.6	23.600	V
17941.350	51.4	-17.7	45.6	23.500	H
17996.600	51.3	-17.7	45.6	23.400	H
17954.950	51.3	-17.7	45.6	23.400	H

USB Mode/ Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{mea}(dBμV)	Polarity
17807.900	62.5	-18.5	45.6	35.400	H
17926.900	62.0	-17.7	45.6	34.100	H
17875.050	61.8	-18.5	45.6	34.700	V
17911.600	61.4	-18.5	45.6	34.300	H
17932.850	61.4	-17.7	45.6	33.500	H
17904.8	61.1	-18.5	45.6	34	H

Sample calculation: Peak detector, 17807.900 MHz

Result =P_{Mea} (35.400 dBμV) + G_A (45.6dB/m) + G_{PL} (-18.5 dB) =62.5dBμV/m

Note: The measurement results of Set.10, Set.11, Set.12, Set.13, Set.14, Set.15, Set.16 and Set.17 showed here are worst cases of the combinations of different batteries and USB cables.

Charging Mode, Set.10

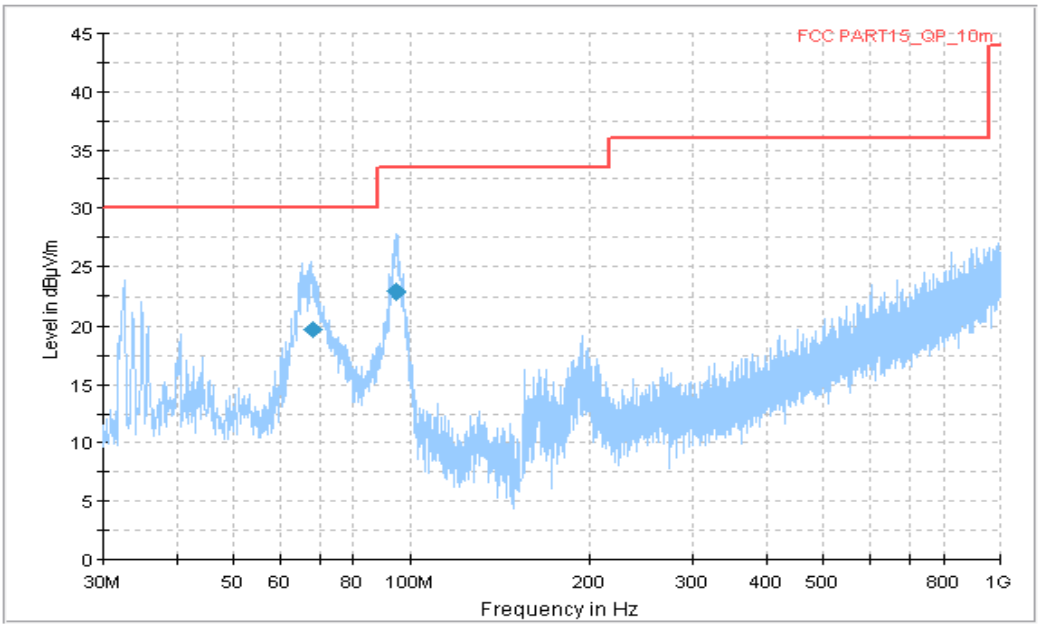

Figure A.1 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
68.047000	19.71	30.00	10.29	113.7	V	-21.0	-14.7
94.602000	22.96	33.50	10.56	113.5	V	25.0	-13.8

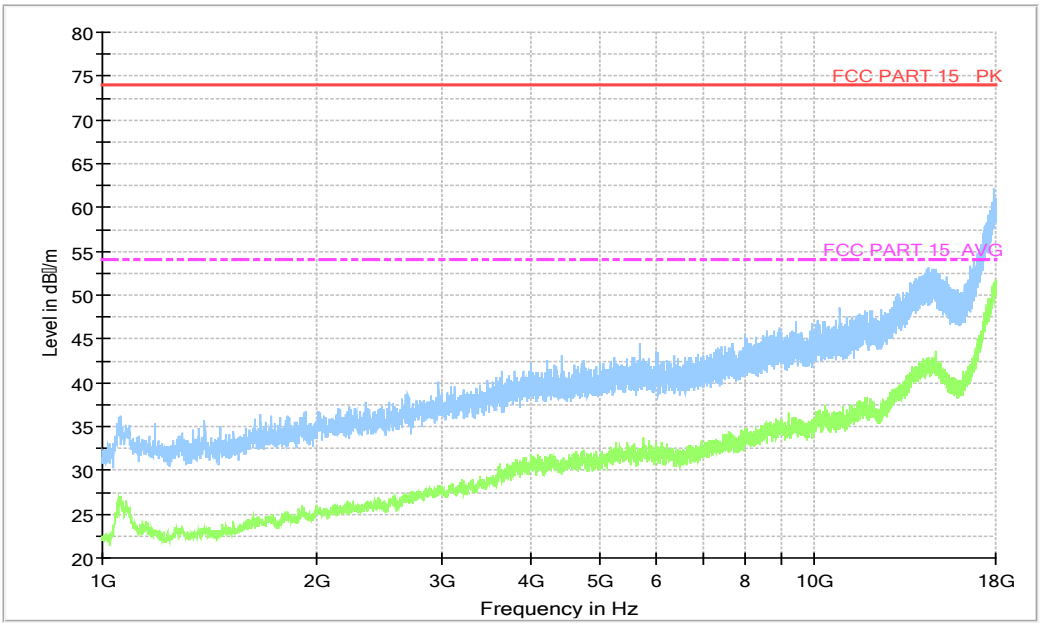

Figure A.2 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.11

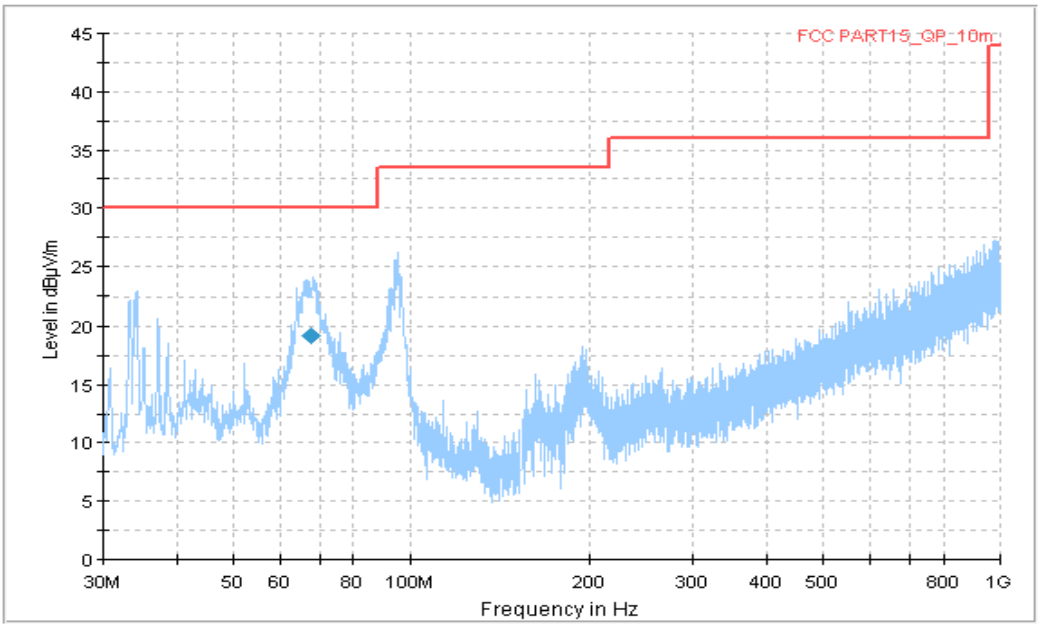

Figure A.3 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
67.904000	19.17	30.00	10.83	125.0	V	192.0	-14.6

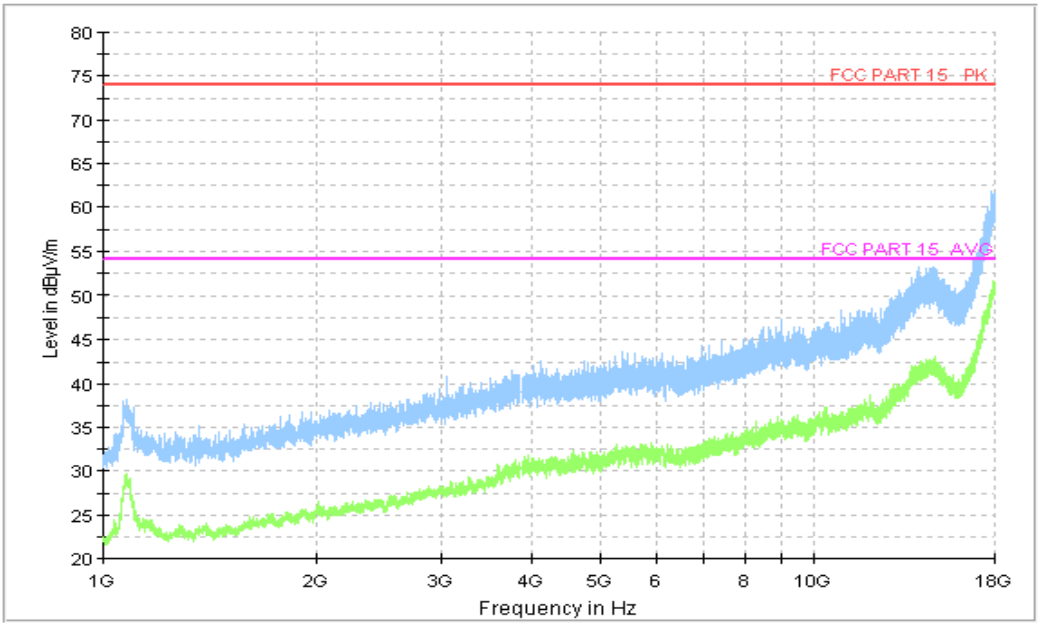

Figure A.4 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.12

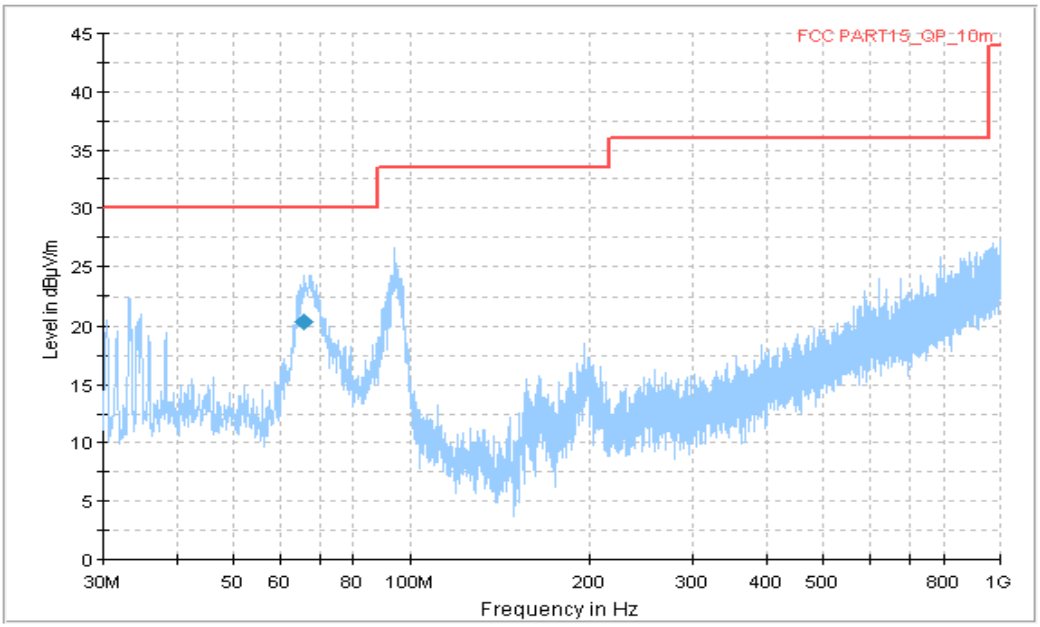

Figure A.5 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
65.733000	20.39	30.00	9.61	225.0	V	-7.0	-14.0

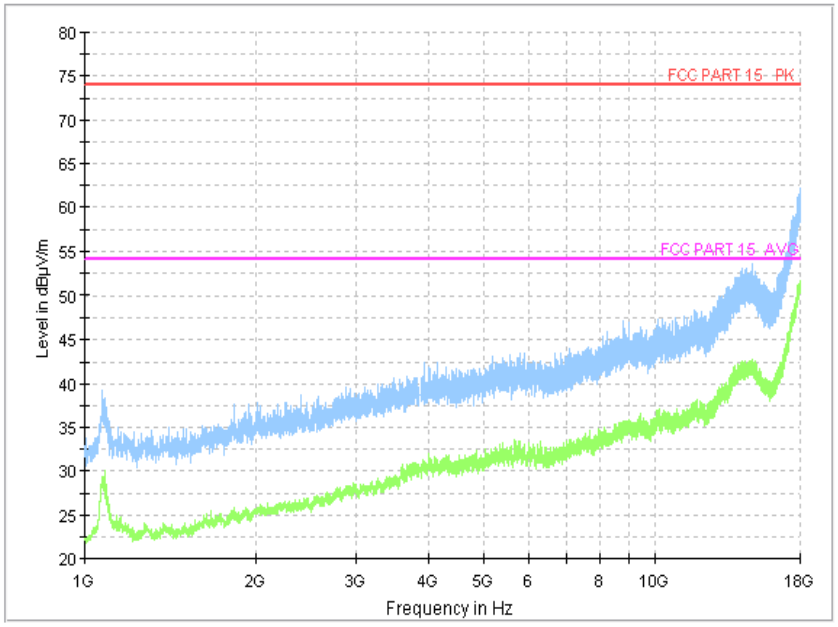

Figure A.6 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.13

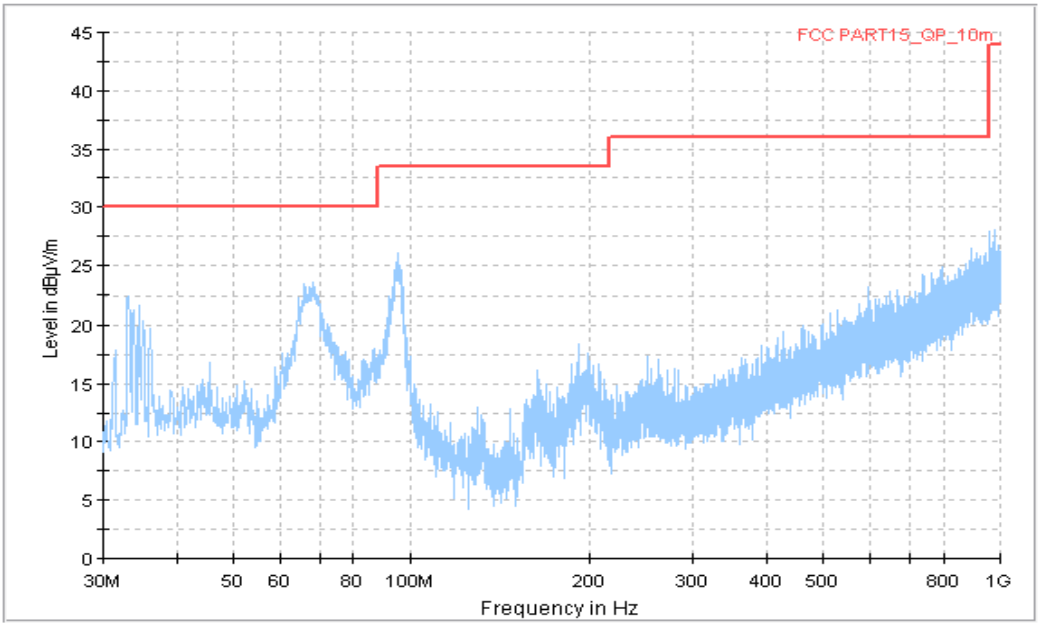

Figure A.7 Radiated Emission from 30MHz to 1GHz

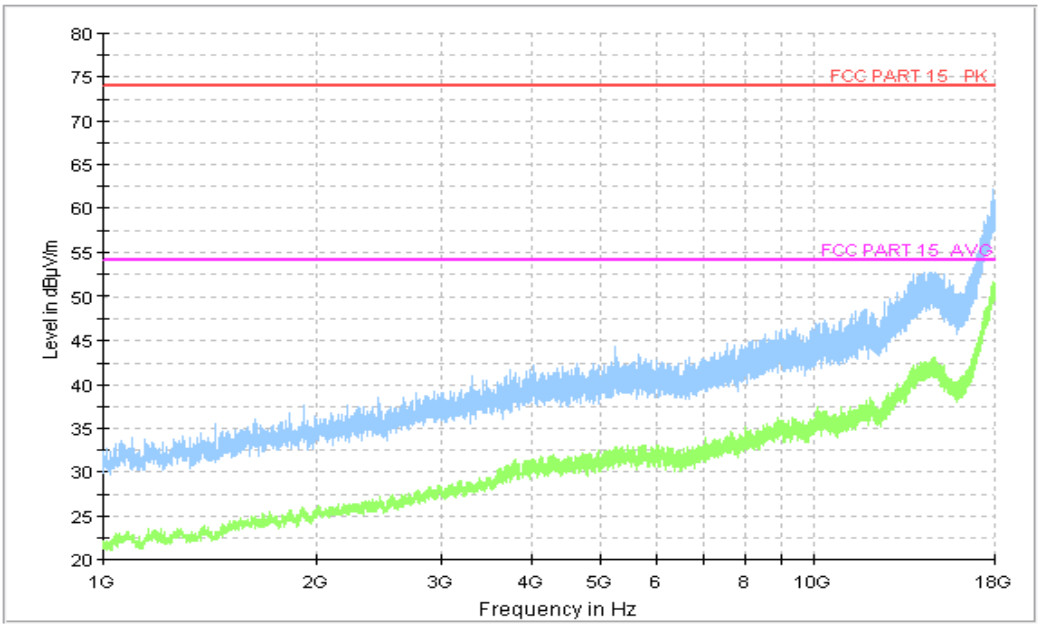

Figure A.8 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.14

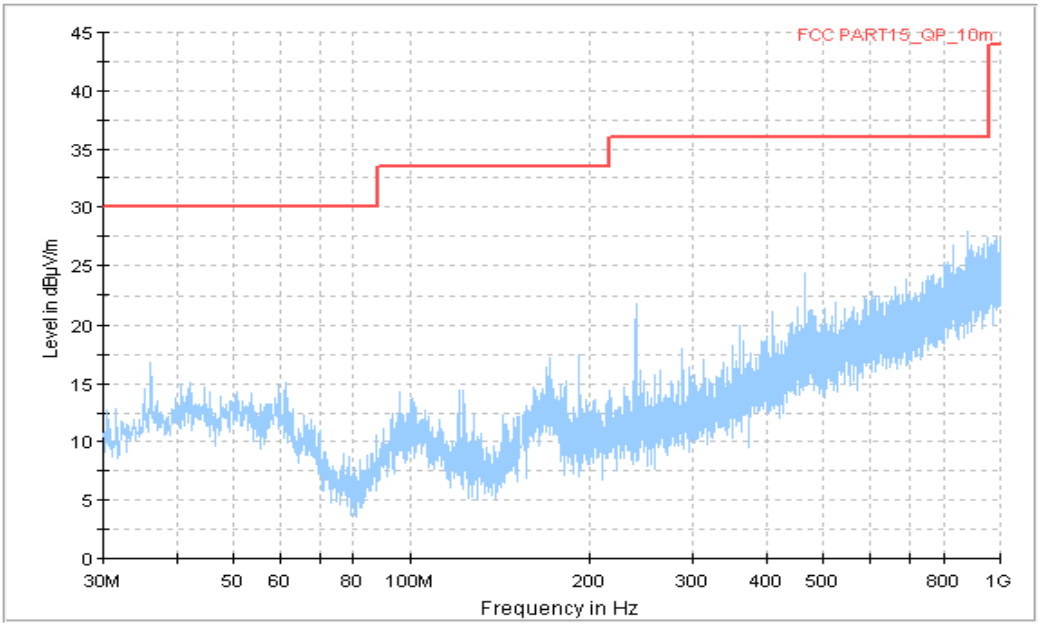

Figure A.9 Radiated Emission from 30MHz to 1GHz

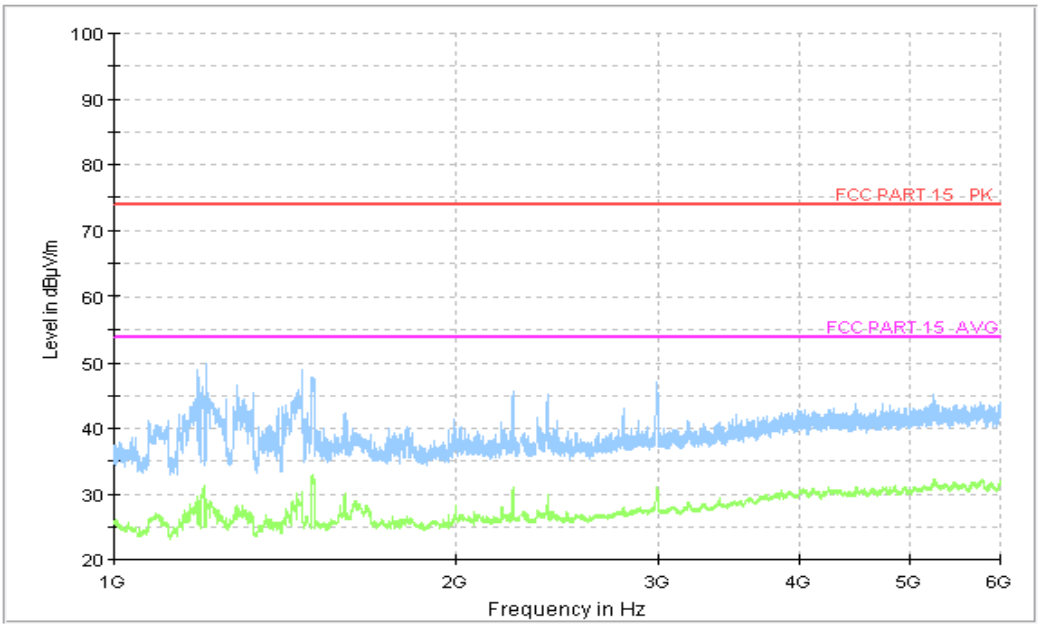

Figure A.10 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.15

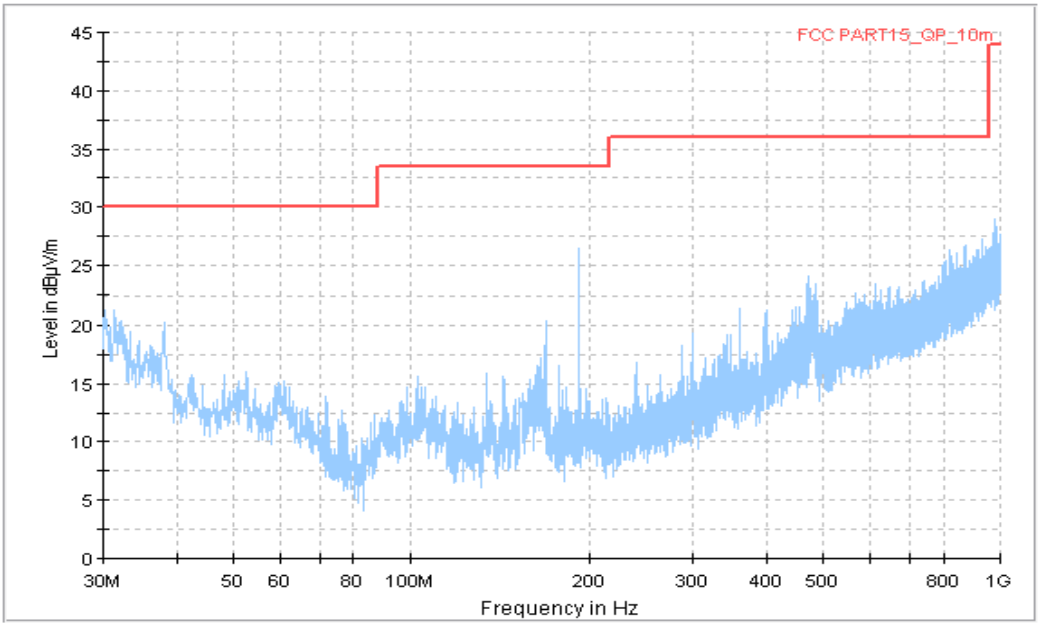

Figure A.11 Radiated Emission from 30MHz to 1GHz

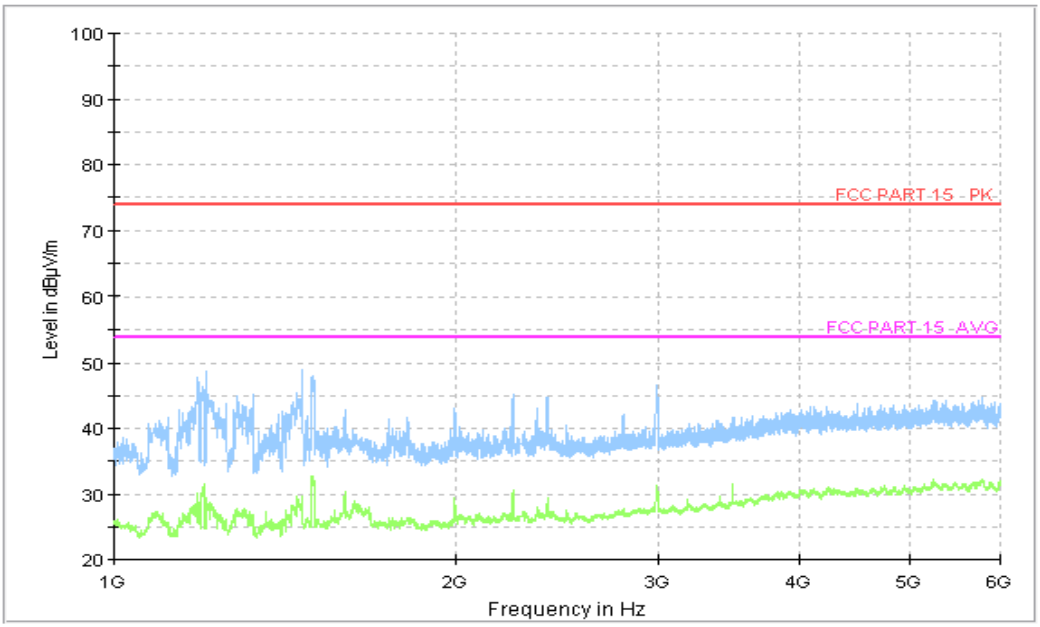

Figure A.12 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.16

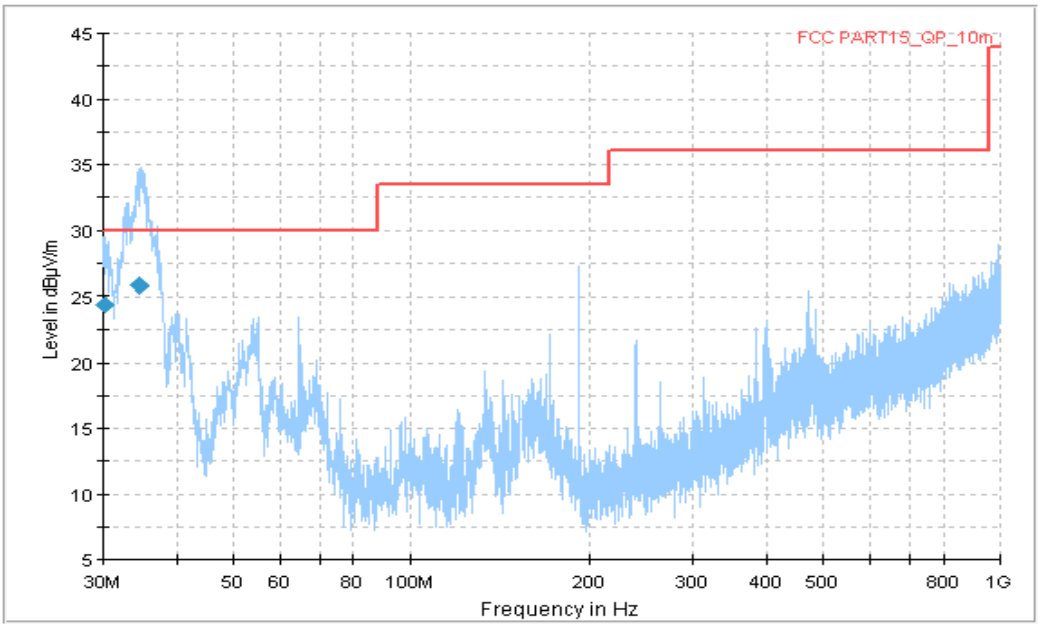

Figure A.13 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.300000	24.46	30.00	5.54	201.9	V	-1.0	-14.1
34.490000	25.86	30.00	4.14	125.0	V	150.0	-13.2

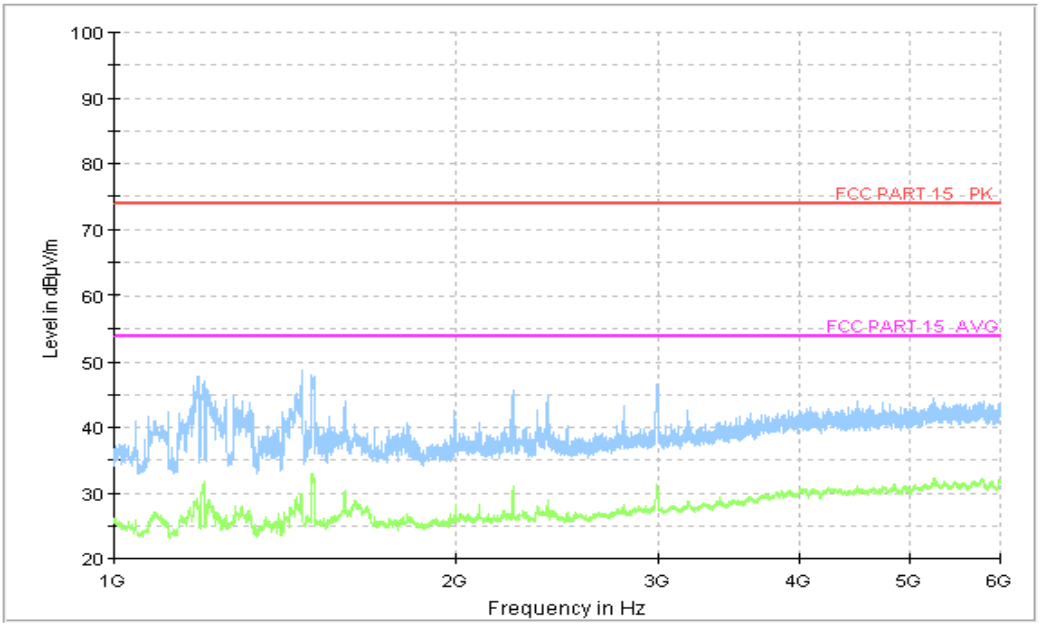

Figure A.14 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.17

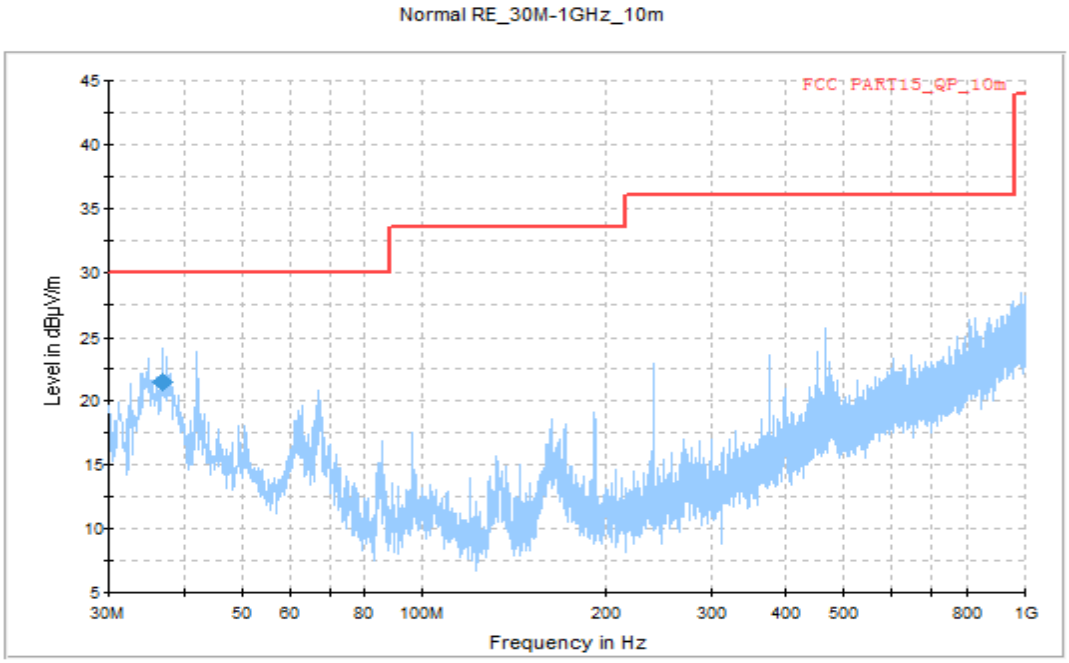

Figure A.15 Radiated Emission from 30MHz to 1GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.887000	21.6	118.0	V	151.0	-12.6	8.4	30.0

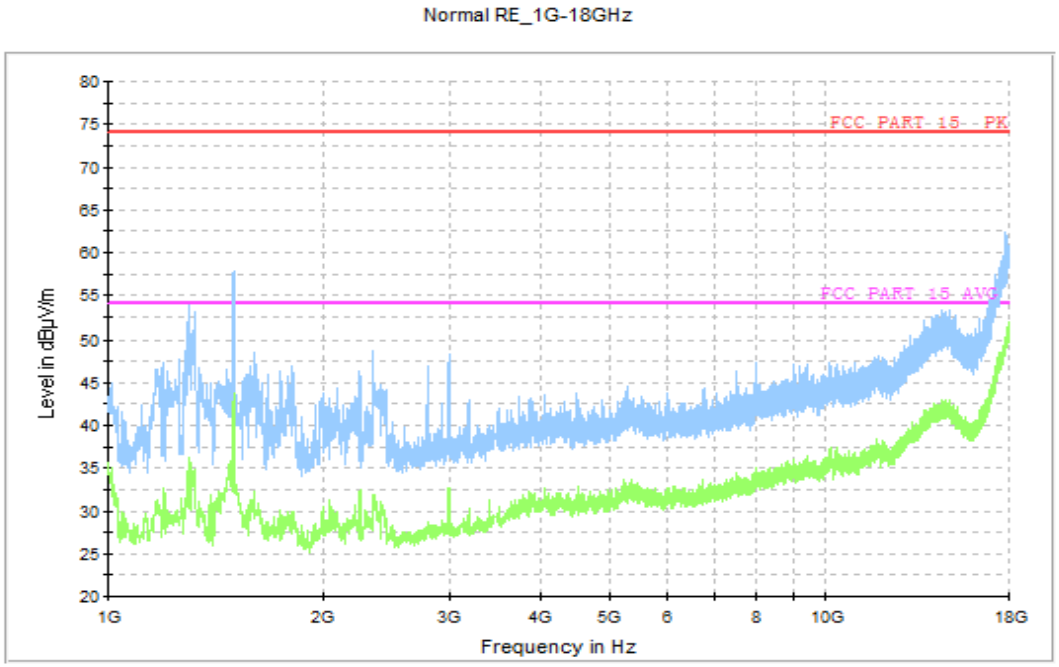

Figure A.16 Radiated Emission from 1GHz to 18GHz

A.2 Conducted Emission

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.

For the charging mode, the EUT is keeping on playing MP3 file.

For the USB 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 DELL OPTIPLEX 380, and the serial number of the PC is 2X1YV2X. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

Note：I/O information：Printer – USB, Mouse – PS/2, Keyboard – USB.

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 Condition in charging mode

Voltage（V）	Frequency（Hz）
120	60

RBW/IF bandwidth	Sweep Time(s)
9kHz	1

A.2.5 Measurement Results

Measurement uncertainty: U= 3.38 dB, *k*=2.

Charging Mode, Set.10

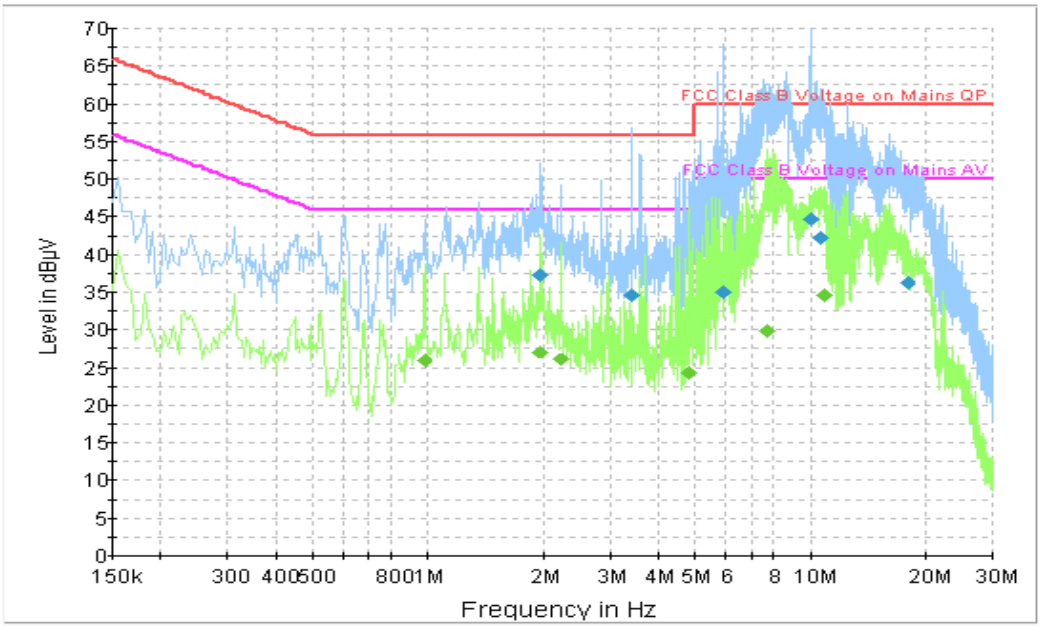

Figure A.17 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.963500	37.3	L1	19.7	18.7	56.0
3.430500	34.7	L1	19.4	21.3	56.0
5.878500	35.0	L1	19.6	25.0	60.0
10.000500	44.7	L1	19.7	15.3	60.0
10.653000	42.3	L1	19.7	17.7	60.0
17.857500	36.3	L1	19.9	23.7	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.982500	25.9	N	19.7	20.1	46.0
1.963500	27.1	L1	19.7	18.9	46.0
2.220000	26.0	L1	19.3	20.0	46.0
4.830000	24.2	L1	19.6	21.8	46.0
7.723500	29.9	L1	19.6	20.1	50.0
10.864500	34.7	L1	19.7	15.3	50.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

Charging Mode, Set.11

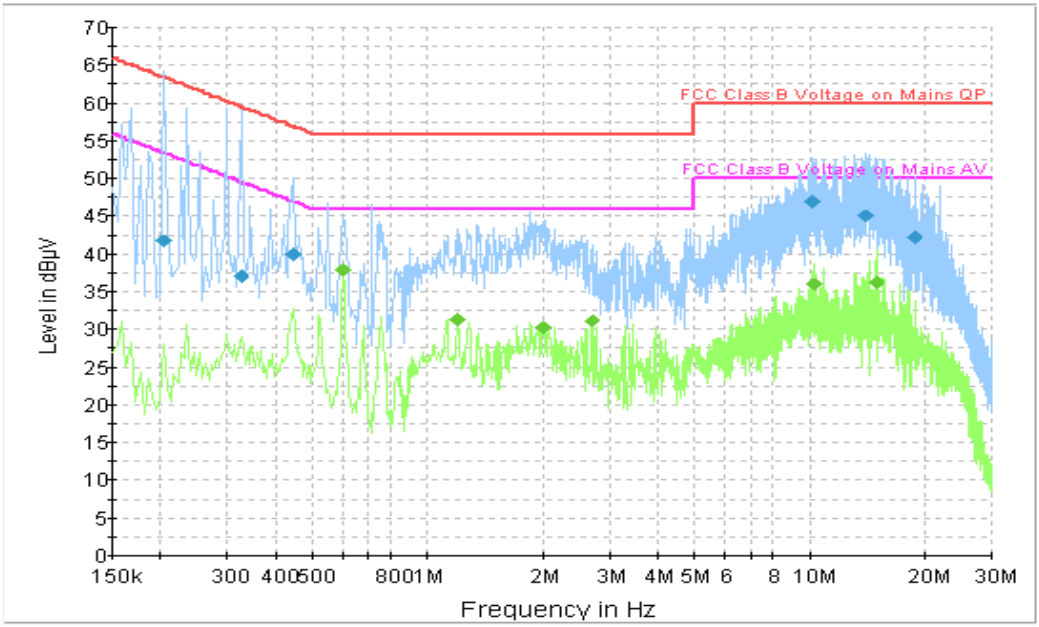

Figure A.18 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.204000	41.8	N	19.8	21.7	63.4
0.325500	37.1	L1	19.8	22.4	59.6
0.442500	40.0	N	19.9	17.1	57.0
10.144500	47.1	L1	19.7	12.9	60.0
13.951500	45.1	L1	19.8	14.9	60.0
18.793500	42.3	L1	19.9	17.7	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.600000	38.0	N	19.8	8.0	46.0
1.203000	31.3	N	19.7	14.7	46.0
2.008500	30.2	N	19.7	15.8	46.0
2.683500	31.2	N	19.4	14.8	46.0
10.180500	36.1	N	19.8	14.0	50.0
14.914500	36.2	L1	19.8	13.8	50.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

Charging Mode, Set.12

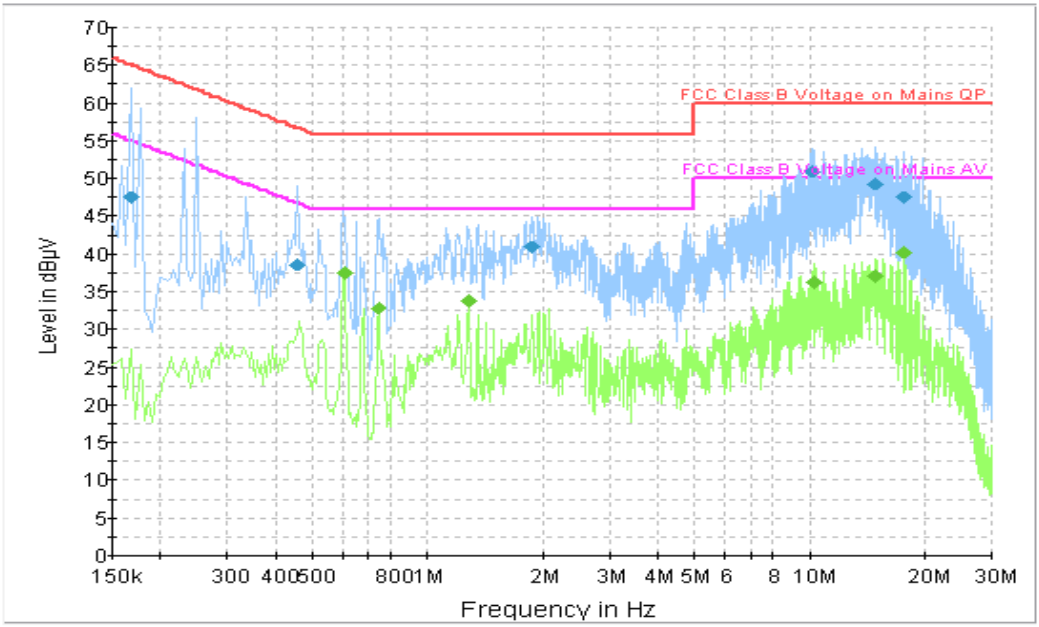

Figure A.19 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	47.5	L1	19.9	17.6	65.1
0.456000	38.7	N	19.9	18.1	56.8
1.878000	40.9	L1	19.7	15.1	56.0
10.140000	50.9	L1	19.7	9.1	60.0
14.833500	49.4	N	19.8	10.6	60.0
17.664000	47.6	L1	19.9	12.4	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.604500	37.5	L1	19.8	8.5	46.0
0.744000	32.9	N	19.8	13.1	46.0
1.275000	33.8	N	19.7	12.2	46.0
10.207500	36.3	N	19.8	13.7	50.0
14.838000	37.1	L1	19.8	12.9	50.0
17.664000	40.3	N	19.9	9.7	50.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

Charging Mode, Set.13

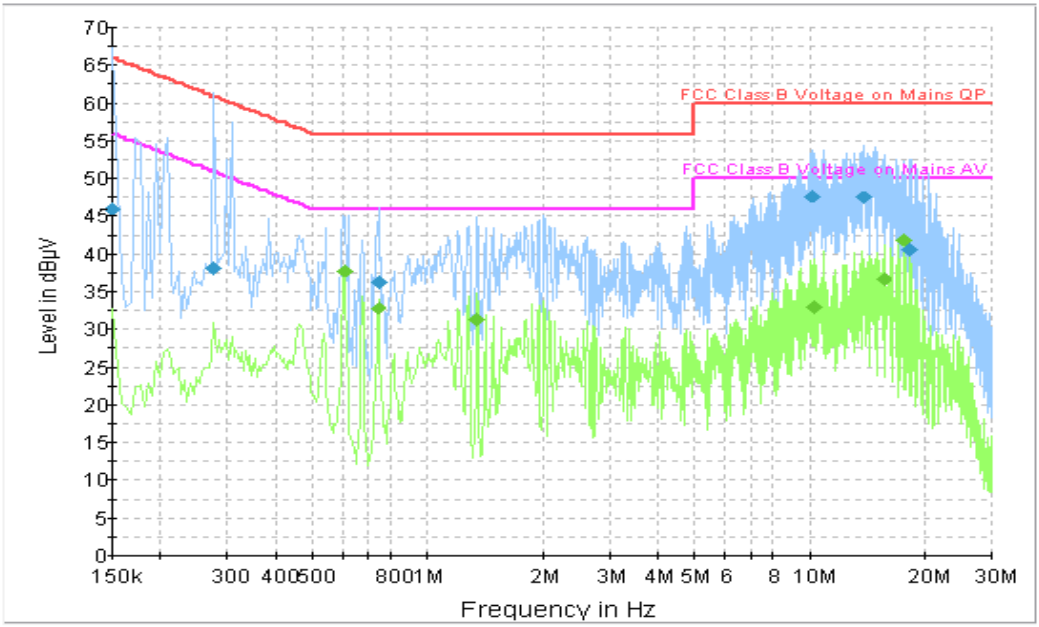

Figure A.20 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.1	L1	20.2	19.9	66.0
0.276000	38.1	L1	19.8	22.8	60.9
0.753000	36.2	L1	19.8	19.8	56.0
10.140000	47.7	N	19.8	12.3	60.0
13.839000	47.5	L1	19.8	12.5	60.0
18.334500	40.7	L1	19.9	19.3	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.604500	37.9	N	19.8	8.1	46.0
0.744000	32.8	N	19.8	13.2	46.0
1.342500	31.4	L1	19.7	14.6	46.0
10.212000	33.0	L1	19.7	17.0	50.0
15.585000	36.7	L1	19.8	13.3	50.0
17.668500	41.9	L1	19.9	8.1	50.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

USB Mode, Set.14

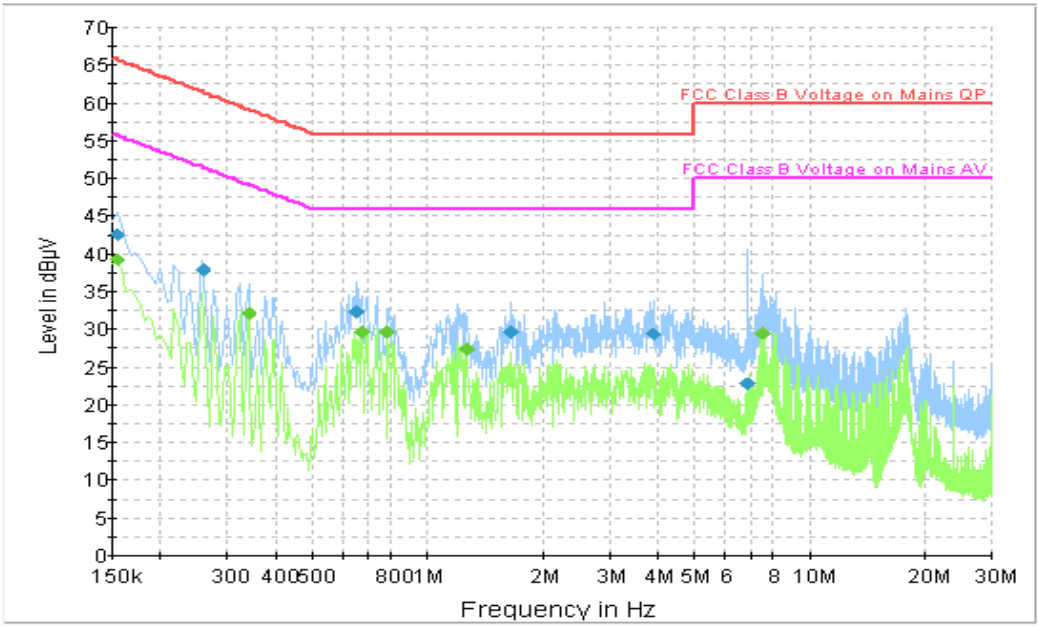

Figure A.21 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	42.6	N	20.0	23.2	65.8
0.258000	38.0	L1	19.8	23.5	61.5
0.654000	32.3	L1	19.8	23.7	56.0
1.657500	29.7	N	19.7	26.3	56.0
3.876000	29.5	L1	19.5	26.5	56.0
6.859500	22.8	L1	19.6	37.2	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	39.4	N	20.0	16.4	55.8
0.339000	32.1	N	19.9	17.1	49.2
0.672000	29.7	L1	19.8	16.3	46.0
0.789000	29.7	L1	19.8	16.3	46.0
1.266000	27.5	N	19.7	18.5	46.0
7.548000	29.6	L1	19.6	20.4	50.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

USB Mode, Set.15

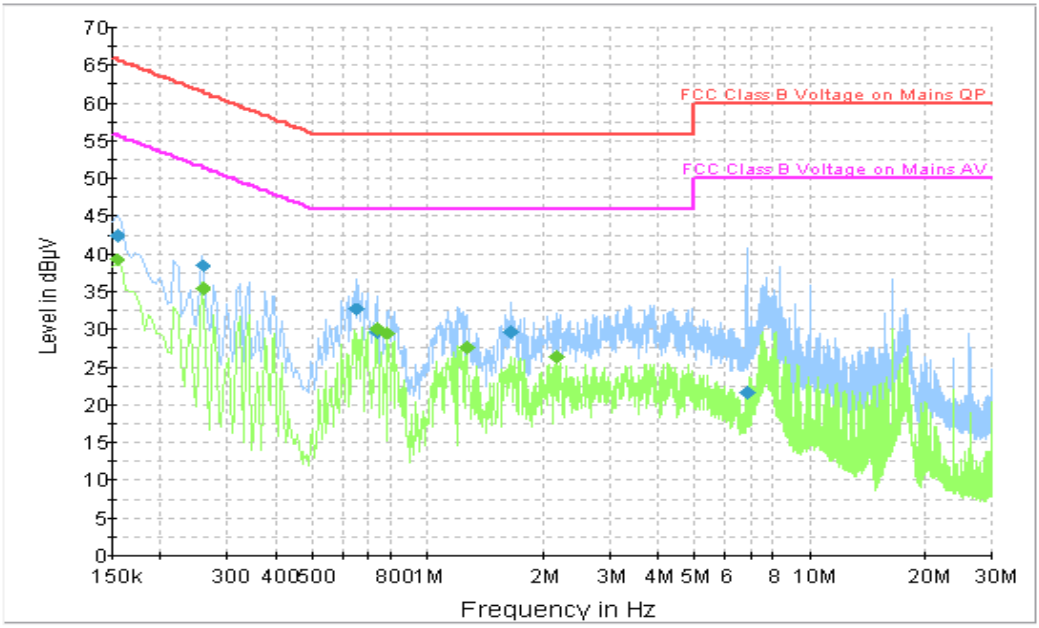

Figure A.22 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	42.5	N	20.0	23.3	65.8
0.258000	38.4	N	19.8	23.1	61.5
0.654000	32.7	L1	19.8	23.3	56.0
0.739500	29.7	L1	19.8	26.3	56.0
1.657500	29.8	N	19.7	26.2	56.0
6.859500	21.7	L1	19.6	38.3	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	39.3	N	20.0	16.4	55.8
0.258000	35.4	N	19.8	16.1	51.5
0.735000	30.0	N	19.8	16.0	46.0
0.789000	29.6	L1	19.8	16.4	46.0
1.266000	27.6	N	19.7	18.4	46.0
2.188500	26.4	L1	19.3	19.6	46.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

USB Mode, Set.16

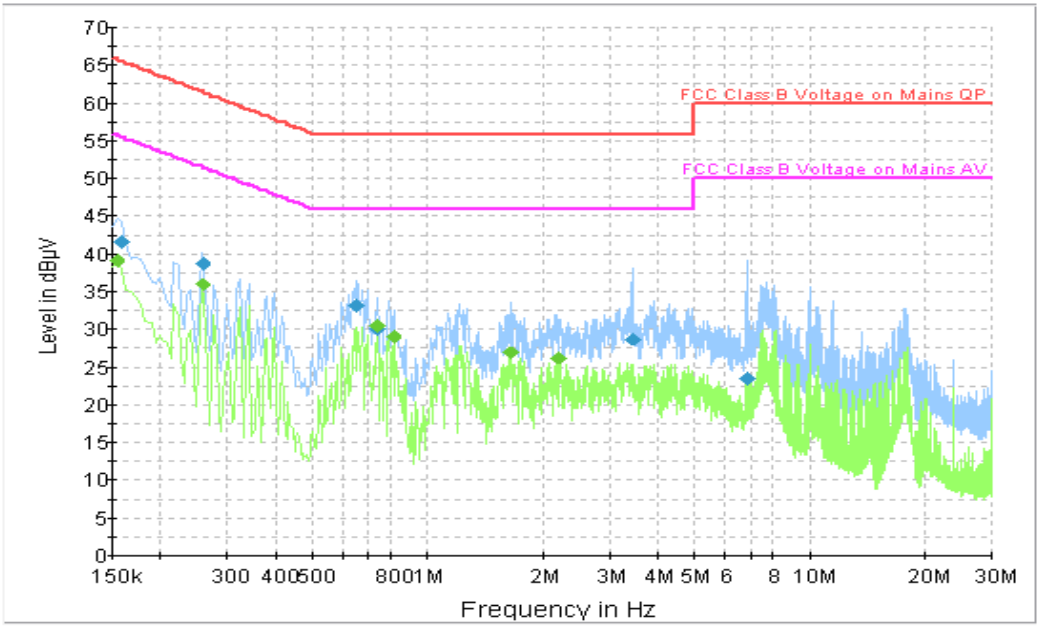

Figure A.23 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.159000	41.7	L1	19.9	23.8	65.5
0.258000	38.9	N	19.8	22.6	61.5
0.654000	33.3	N	19.8	22.7	56.0
0.739500	30.1	L1	19.8	25.9	56.0
3.439500	28.7	N	19.4	27.3	56.0
6.859500	23.4	N	19.6	36.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	39.2	N	20.0	16.6	55.8
0.258000	35.9	N	19.8	15.6	51.5
0.735000	30.6	N	19.8	15.4	46.0
0.811500	29.1	N	19.8	16.9	46.0
1.657500	27.0	N	19.7	19.0	46.0
2.193000	26.3	N	19.3	19.7	46.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

USB Mode, Set.17

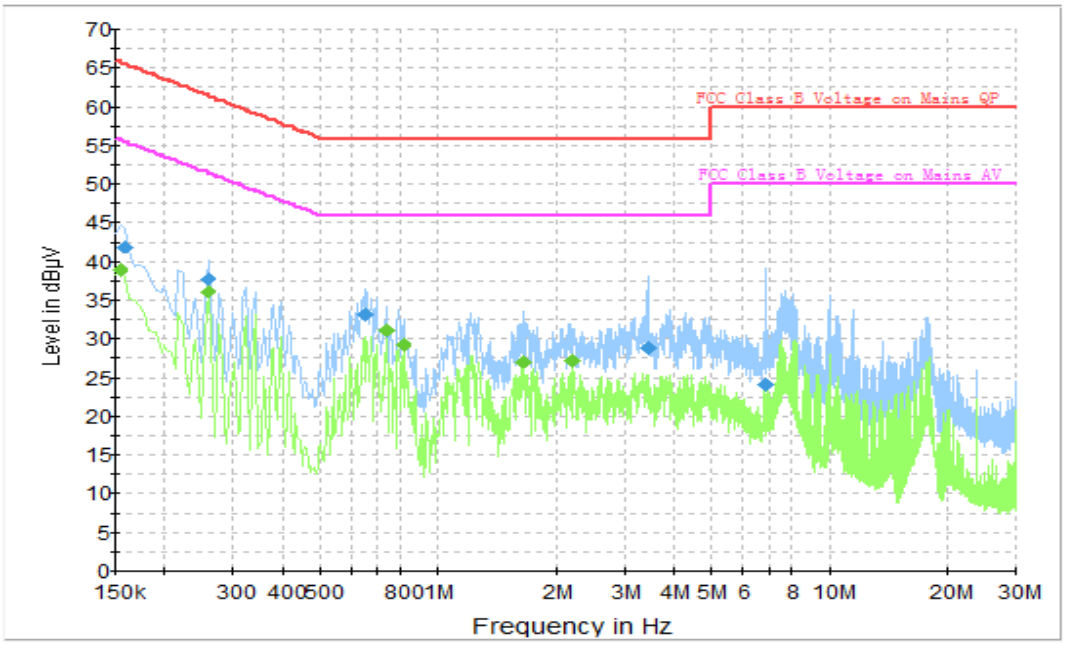

Figure A.24 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.159000	42.0	L1	19.9	23.8	65.5
0.258000	37.9	N	19.8	22.6	61.5
0.654000	33.1	N	19.8	22.7	56.0
0.739500	31.0	L1	19.8	25.9	56.0
3.439500	28.9	N	19.4	27.3	56.0
6.859500	24.1	N	19.6	36.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	38.9	N	20.0	16.6	55.8
0.258000	36.1	N	19.8	15.6	51.5
0.735000	31.2	N	19.8	15.4	46.0
0.811500	29.1	N	19.8	16.9	46.0
1.657500	27.1	N	19.7	19.0	46.0
2.193000	27.3	N	19.3	19.7	46.0

Note: The measurement results showed here are worst cases of the combinations of different batteries and USB cables.

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