



TEST REPORT

No. I15Z42481-EMC01

for

Huawei Technologies Co., Ltd.

Smart Phone

Model Name: KIW-L23

FCC ID: QISKIW-L23

with

Hardware Version: HL3KIWM

Software Version: KIW-L23C900B032

Issued Date: 2015-10-15

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

IC O.A.T.S listed: No.12389A-1

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
I15Z42481-EMC01	Rev.0	1 st edition	2015-10-15

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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

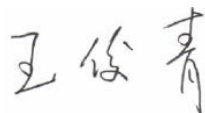
1.2. Testing Environment

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

1.3. Project data

Testing Start Date: 2015-09-29
Testing End Date: 2015-10-10

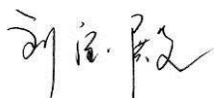
1.4. Signature



Wang Junqing
(Prepared this test report)



Qu Pengfei
(Reviewed this test report)



Liu Baodian
Deputy Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Huawei Technologies Co., Ltd.
Address /Post: Administration Building, Headquarters of Huawei Technologies Co.,
Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
City: Shenzhen
Postal Code: 518129
Country: P. R. China
Contact Person: Ma Yan
Contact Email: angel.mayan@huawei.com
Telephone: 029-89282826
Fax: /

2.2. Manufacturer Information

Company Name: Huawei Technologies Co., Ltd.
Address /Post: Administration Building, Headquarters of Huawei Technologies Co.,
Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
City: Shenzhen
Postal Code: 518129
Country: P. R. China
Telephone: 0086-21-51798260
Fax: /

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

3.1. About EUT

Description	Smart Phone
Model Name	KIW-L23
FCC ID	QISKIW-L23
Extreme vol. Limits	3.6VDC to 4.35VDC (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
EUT1	004401724259128	HL3KIWM	KIW-L23C900B032

*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	/	Inbuilt
AE2	Battery	/	Inbuilt
AE3	Travel	/	1542477CH001
AE4	Travel	/	1542477CH003
AE5	Travel	/	1542477CH002
AE6	Travel	/	1542477CH004
AE7	Travel	/	1542477CH005
AE8	USB cable	/	1542477DC001
AE9	USB cable	/	/
AE11	Travel	/	/
AE12	Travel	/	/
AE13	Travel	/	/
AE14	Travel	/	/
AE15	Travel	/	/
AE16	Travel	/	/
AE17	Travel	/	/

AE1

Model	HB396481EBC
Manufacturer	Sunwoda Electronic Co., LTD.
Capacitance	3000 mAh
Nominal voltage	3.8 V



AE2

Model	HB396481EBC
Manufacturer	SCUD (FUJIAN) Electronic CO., Ltd.
Capacitance	3000 mAh
Nominal voltage	3.8 V

AE3

Model	HW-050100U01
Manufacturer	BYD Company Limited
Length of cable	/

AE4

Model	HW-050100U01
Manufacturer	Dongguan Phitek Electronics Co., Ltd.
Length of cable	/

AE5

Model	HW-050100E01
Manufacturer	Dongguan Phitek Electronics Co., Ltd.
Length of cable	/

AE6

Model	HW-050100E01
Manufacturer	BYD Company Limited
Length of cable	/

AE7

Model	HW-050100E01
Manufacturer	SHENZHEN HUNTKEY ELECTRONIC CO., LTD.
Length of cable	/

AE8

Model	130-26654
Manufacturer	CHANGSHU HONGLIN TECHNOLOGY CO., LTD.
Length of cable	95cm

AE9

Model	CUBB01M-HC208-DH
Manufacturer	FOXCONN INTERCONNECT TECHNOLOGY LIMITED
Length of cable	/

AE11

Model	HW-050100U01
Manufacturer	SHENZHEN HUNTKEY ELECTRONIC CO., LTD.
Length of cable	/

AE12

Model	HW-050100A01
Manufacturer	Dongguan Phitek Electronics Co., Ltd.
Length of cable	/

AE13

Model	HW-050100A01
Manufacturer	BYD Company Limited
Length of cable	/

AE14

Model	HW-050100A01
Manufacturer	SHENZHEN HUNTKEY ELECTRONIC CO., LTD.
Length of cable	/

AE15

Model	HW-050100B01
Manufacturer	Dongguan Phitek Electronics Co., Ltd.
Length of cable	/

AE16

Model	HW-050100B01
Manufacturer	BYD Company Limited
Length of cable	/

AE17

Model	HW-050100B01
Manufacturer	SHENZHEN HUNTKEY ELECTRONIC CO., LTD.
Length of cable	/

*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/AE2+ AE3+ AE8/AE9	Charger
Set.2	EUT1+ AE1/AE2+ AE4+ AE8/AE9	Charger
Set.3	EUT1+ AE1/AE2+ AE5+ AE8/AE9	Charger
Set.4	EUT1+ AE1/AE2+ AE6+ AE8/AE9	Charger
Set.5	EUT1+ AE1/AE2+ AE7+ AE8/AE9	Charger
Set.6	EUT1+ AE1/AE2+ AE8/AE9	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 - Unintentional Radiators	10-1-13 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
ICES-003	Information Technology Equipment (ITE) – Limits and methods of measurement	Issue 5

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	A/B/C/D	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	Clause in IC rules	Section in this report	Verdict	Test Location
1	Radiated Emission	15.109(a)	Section 5	B.1	P	A
2	Conducted Emission	15.107(a)	Section 5	B.2	P	A

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTUR E	CAL DUE DATE	CALIBRATI ON INTERVAL
1	Test Receiver	ESU26	100235	R&S	2016-03-02	1 year
2	Universal Radio Communication Tester	CMU200	109914	R&S	2016-03-26	1 year
3	Universal Radio Communication Tester	CMW500	143008	R&S	2015-12-09	1 year
4	LISN	ENV216	101200	R&S	2016-07-07	1 year
5	EMI Antenna	VULB 9163	9163-514	Schwarzbeck	2017-11-24	3 years
6	EMI Antenna	3115	6914	ETS-Lindgren	2016-12-15	3 years
7	PC	OPTIPLEX 380	2X1YV2X	DELL	N/A	N/A
8	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
9	Keyboard	L100	CN0RH6596589 07ATOI40	DELL	N/A	N/A
10	Mouse	M-UAE119	LZ935220ZRC	Lenovo	N/A	N/A

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission

Reference

FCC: CFR Part 15.109(a).

IC: ICES-003 Section 5.

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(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. 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.

A.1.3 Measurement Limit

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 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:

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

Where

G_A : Antenna factor of receive antenna

G_{PL} : Path Loss

P_{Mea} : Measurement result on receiver.

Measurement uncertainty (worst case): $U = 4.3 \text{ dB}$, $k=2$.

Measurement results for Set.1:

Charging Mode/Average detector

Frequency(MHz)	Result(dB μ V/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea} (dB μ V)	Polarity
17992.067	43.7	-17.7	45.6	15.800	VERTICAL
17985.833	43.6	-17.7	45.6	15.700	VERTICAL
17989.233	43.5	-17.7	45.6	15.600	HORIZONTAL
17997.167	43.4	-17.7	45.6	15.500	HORIZONTAL
17997.733	43.4	-17.7	45.6	15.500	HORIZONTAL
17952.400	43.3	-17.7	45.6	15.400	VERTICAL

Charging Mode/Peak detector

Frequency(MHz)	Result(dB μ V/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea} (dB μ V)	Polarity
17995.5	55.9	-17.7	45.6	28.000	H
17962.033	55.2	-17.7	45.6	27.300	VERTICAL
17994.900	54.8	-17.7	45.6	26.900	VERTICAL
17843.600	54.8	-18.5	45.6	27.700	HORIZONTAL
17979.600	54.7	-17.7	45.6	26.800	HORIZONTAL
17990.933	54.5	-17.7	45.6	26.600	VERTICAL

Measurement results for Set.2:
Charging Mode/Average detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17992.633	43.8	-17.7	45.6	15.900	HORIZONTAL
17981.300	43.4	-17.7	45.6	15.500	HORIZONTAL
17968.267	43.4	-17.7	45.6	15.500	VERTICAL
17988.667	43.3	-17.7	45.6	15.400	HORIZONTAL
17987.533	43.2	-17.7	45.6	15.300	HORIZONTAL
17983.567	43.1	-17.7	45.6	15.200	VERTICAL

Charging Mode/Peak detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17794.300	54.8	-18.5	45.6	27.700	HORIZONTAL
17968.267	54.6	-17.7	45.6	26.700	VERTICAL
17963.733	54.5	-17.7	45.6	26.600	HORIZONTAL
17977.333	54.4	-17.7	45.6	26.500	VERTICAL
17950.133	54.4	-17.7	45.6	26.500	VERTICAL
17969.967	54.4	-17.7	45.6	26.500	HORIZONTAL

Measurement results for Set.3:
Charging Mode/Average detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17985.833	43.7	-17.7	45.6	15.800	VERTICAL
17988.667	43.5	-17.7	45.6	15.600	VERTICAL
17998.300	43.5	-17.7	45.6	15.600	HORIZONTAL
17999.433	43.4	-17.7	45.6	15.500	HORIZONTAL
17986.400	43.2	-17.7	45.6	15.300	VERTICAL
17975.633	43.2	-17.7	45.6	15.300	HORIZONTAL

Charging Mode/Peak detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17991.500	54.7	-17.7	45.6	26.800	VERTICAL
17983.000	54.7	-17.7	45.6	26.800	HORIZONTAL
17996.600	54.4	-17.7	45.6	26.500	HORIZONTAL
17900.833	54.3	-18.5	45.6	27.200	VERTICAL
17999.433	54.3	-17.7	45.6	26.400	HORIZONTAL
17794.867	54.1	-18.5	45.6	27.000	VERTICAL

Measurement results for Set.4:
Charging Mode/Average detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17985.267	43.4	-17.7	45.6	15.500	HORIZONTAL
17988.667	43.3	-17.7	45.6	15.400	HORIZONTAL
17993.767	43.2	-17.7	45.6	15.300	HORIZONTAL
17994.333	43.2	-17.7	45.6	15.300	VERTICAL
17964.867	43.2	-17.7	45.6	15.300	VERTICAL
17979.033	43.2	-17.7	45.6	15.300	VERTICAL

Charging Mode/Peak detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17954.667	54.7	-17.7	45.6	26.800	HORIZONTAL
17902.533	54.6	-18.5	45.6	27.500	HORIZONTAL
17847.000	54.4	-18.5	45.6	27.300	VERTICAL
17967.700	54.4	-17.7	45.6	26.500	HORIZONTAL
17968.267	54.3	-17.7	45.6	26.400	HORIZONTAL
17969.967	54.2	-17.7	45.6	26.300	HORIZONTAL

Measurement results for Set.5:
Charging Mode/Average detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17999.433	43.6	-17.7	45.6	15.700	HORIZONTAL
17974.500	43.5	-17.7	45.6	15.600	VERTICAL
17976.200	43.3	-17.7	45.6	15.400	VERTICAL
17989.800	43.3	-17.7	45.6	15.400	HORIZONTAL
17996.033	43.2	-17.7	45.6	15.300	VERTICAL
17997.733	43.2	-17.7	45.6	15.300	HORIZONTAL

Charging Mode/Peak detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{Mea} (dB μ V)	Polarity
17937.100	54.9	-17.7	45.6	27.000	VERTICAL
17907.633	54.6	-18.5	45.6	27.500	VERTICAL
17867.400	54.2	-18.5	45.6	27.100	VERTICAL
17805.067	54.1	-18.5	45.6	27.000	VERTICAL
17905.367	54.1	-18.5	45.6	27.000	HORIZONTAL
17816.967	54.1	-18.5	45.6	27.000	HORIZONTAL

Measurement results for Set.6:**USB Mode/Average detector**

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{mea} (dB μ V)	Polarity
17995.467	43.6	-17.7	45.6	15.700	HORIZONTAL
17990.367	43.5	-17.7	45.6	15.600	HORIZONTAL
17954.100	43.4	-17.7	45.6	15.500	HORIZONTAL
17987.533	43.4	-17.7	45.6	15.500	VERTICAL
17998.867	43.3	-17.7	45.6	15.400	HORIZONTAL
17998.300	43.3	-17.7	45.6	15.400	HORIZONTAL

USB Mode/ Peak detector

Frequency(MHz)	Result(dB μ V/m)	G _{PL} (dB)	G _A (dB/m)	P _{mea} (dB μ V)	Polarity
17985.267	54.8	-17.7	45.6	26.900	VERTICAL
17952.967	54.7	-17.7	45.6	26.800	HORIZONTAL
17997.733	54.5	-17.7	45.6	26.600	HORIZONTAL
17969.967	54.5	-17.7	45.6	26.600	VERTICAL
17946.733	54.5	-17.7	45.6	26.600	VERTICAL
17990.933	54.3	-17.7	45.6	26.400	HORIZONTAL

Charging Mode, Set.1

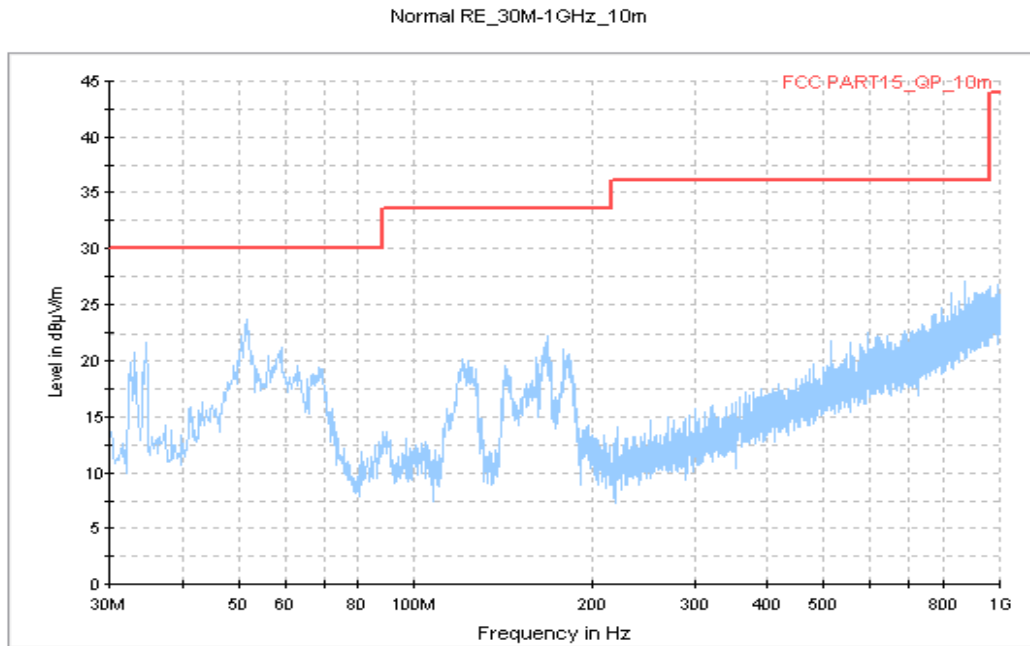


Figure A.1 Radiated Emission from 30MHz to 1GHz

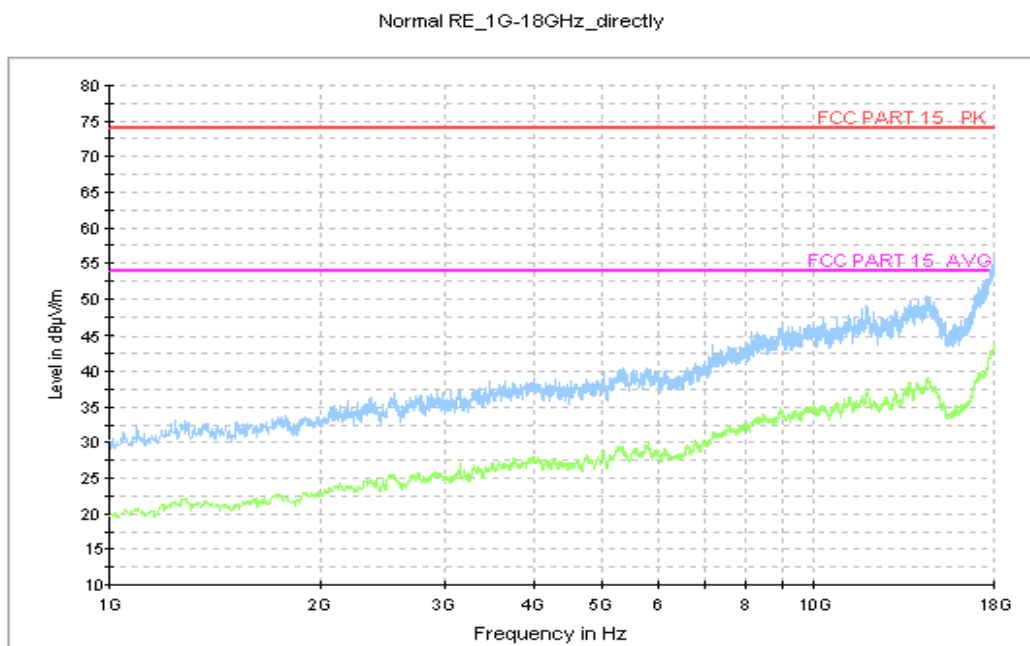


Figure A.2 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.2

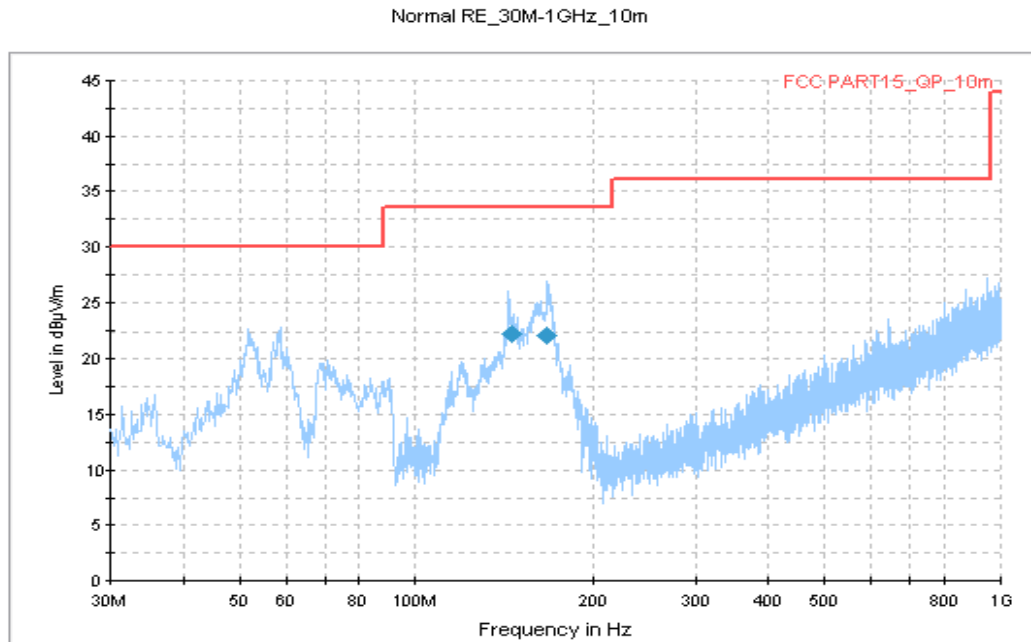


Figure A.3 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
144.980000	22.3	118.0	V	217.0	-16.3	11.2	33.5
166.670000	22.1	100.0	V	221.0	-15.4	11.4	33.5

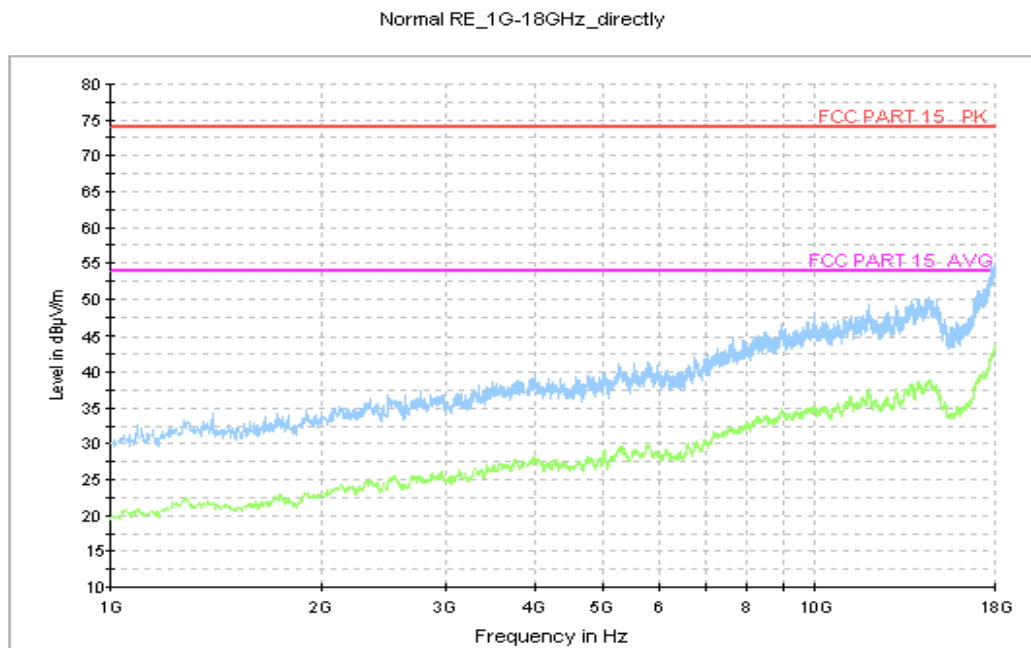


Figure A.4 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.3

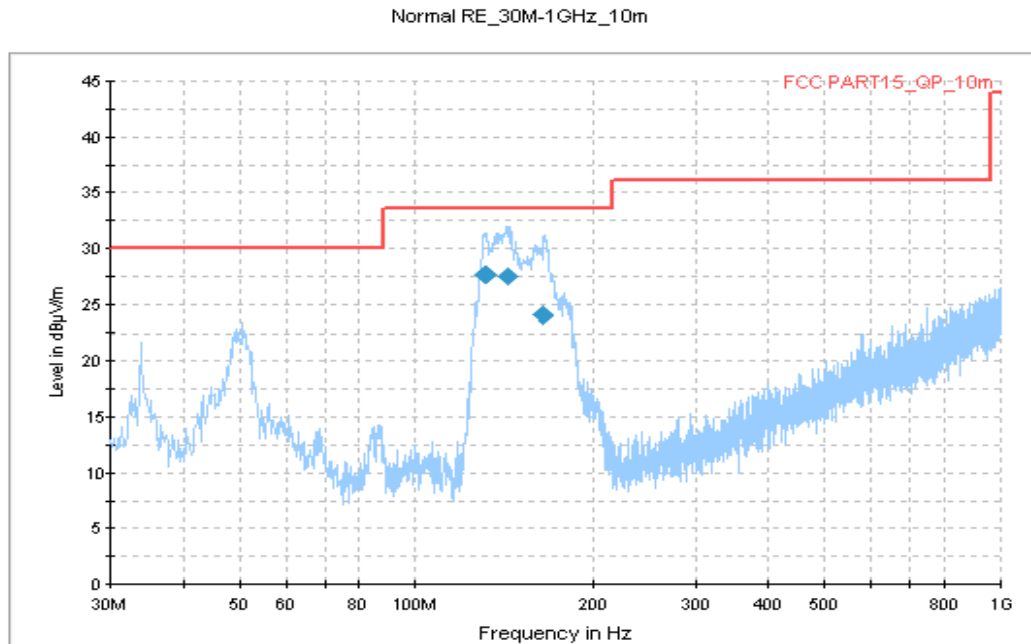


Figure A.5 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
131.822000	27.6	109.0	V	189.0	-15.8	5.9	33.5
142.502000	27.4	100.0	V	202.0	-16.4	6.1	33.5
164.327000	24.0	100.0	V	180.0	-15.5	9.5	33.5

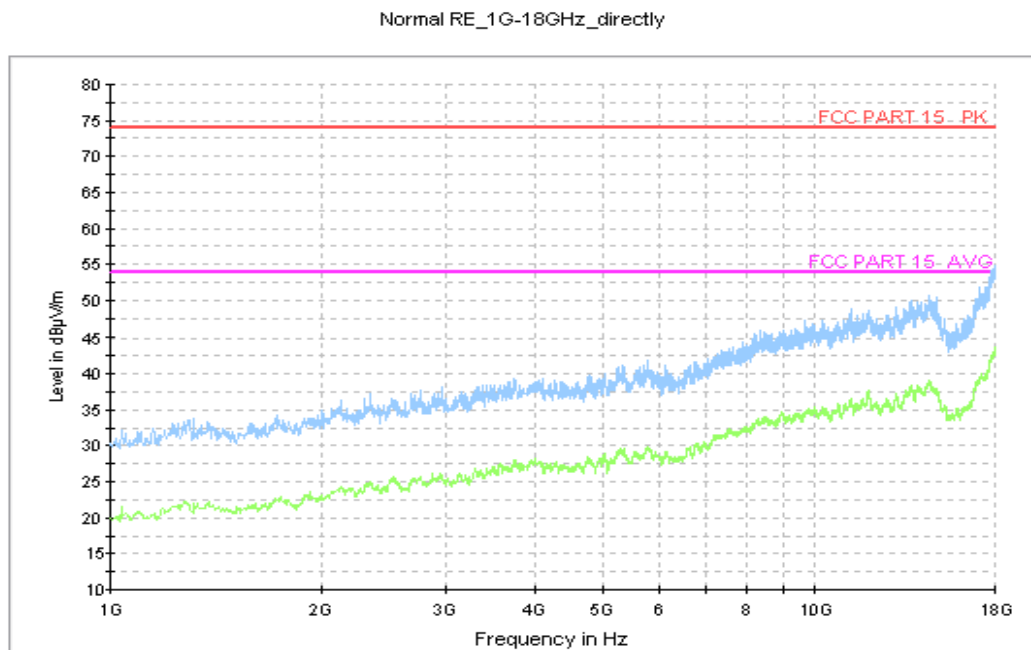


Figure A.6 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.4

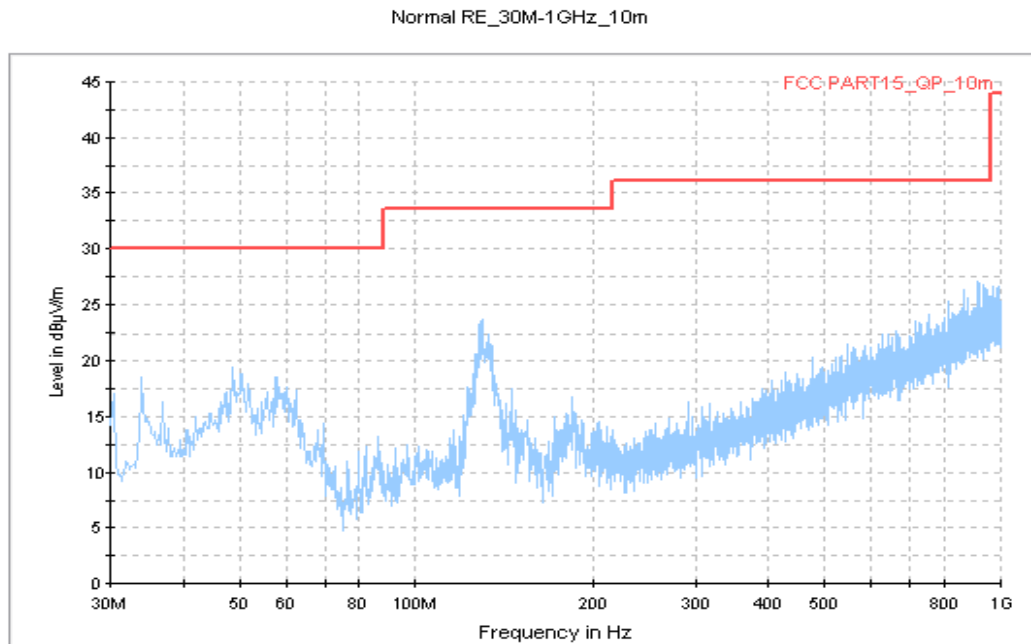


Figure A.7 Radiated Emission from 30MHz to 1GHz

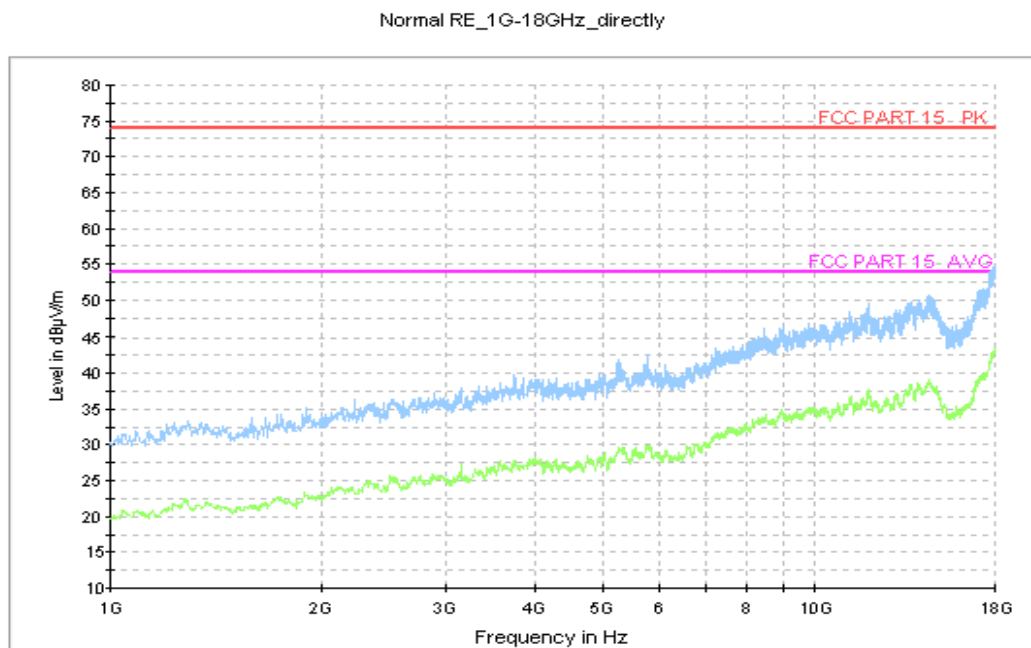


Figure A.8 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.5

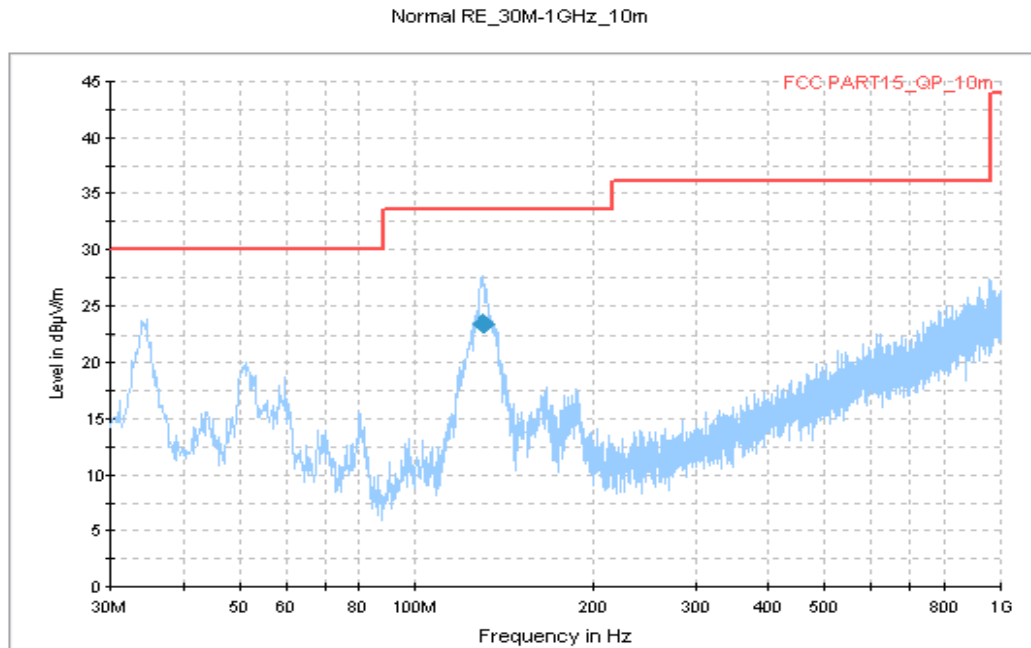


Figure A.9 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
130.561000	23.5	219.0	V	202.0	-15.7	10.0	33.5

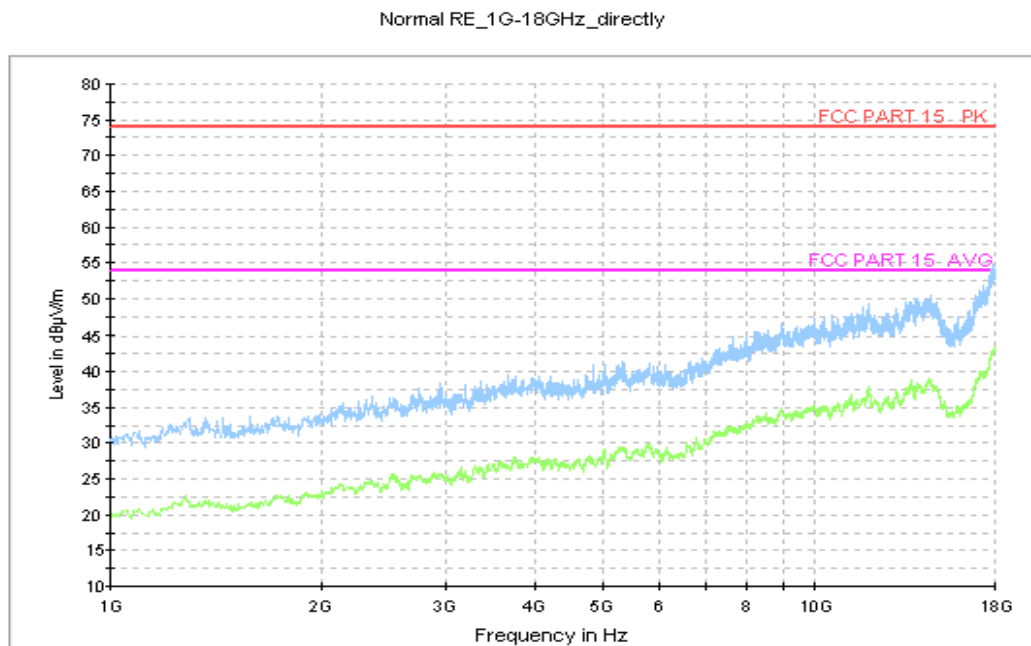


Figure A.10 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.6

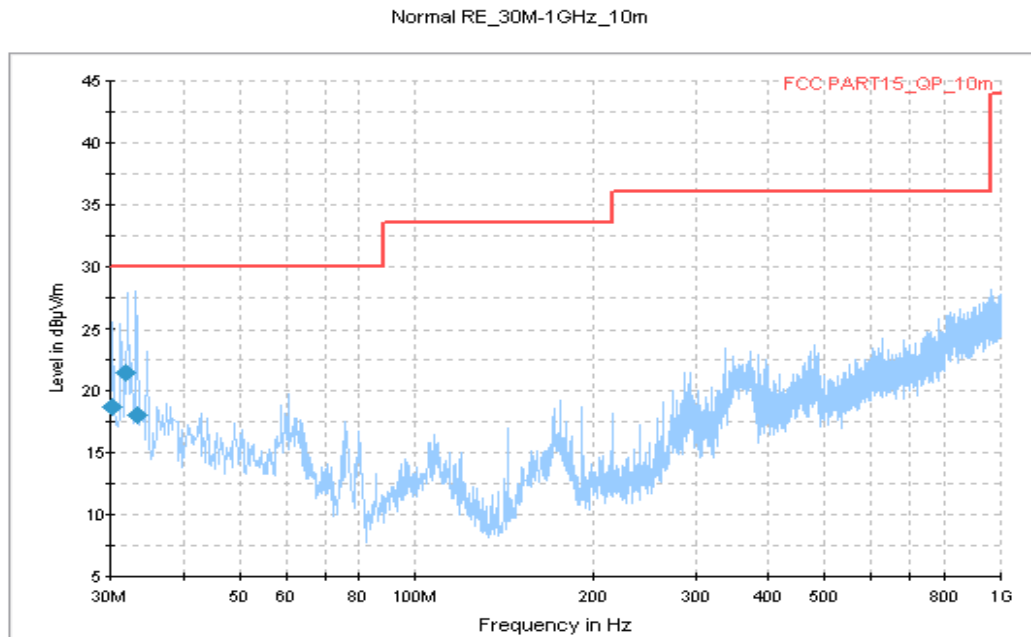


Figure A.11 Radiated Emission from 30MHz to 1GHz

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.300000	18.7	100.0	V	120.0	-13.9	11.3	30.0
31.822500	21.6	298.0	V	-28.0	-13.6	8.4	30.0
33.309500	18.1	200.0	V	15.0	-13.3	11.9	30.0

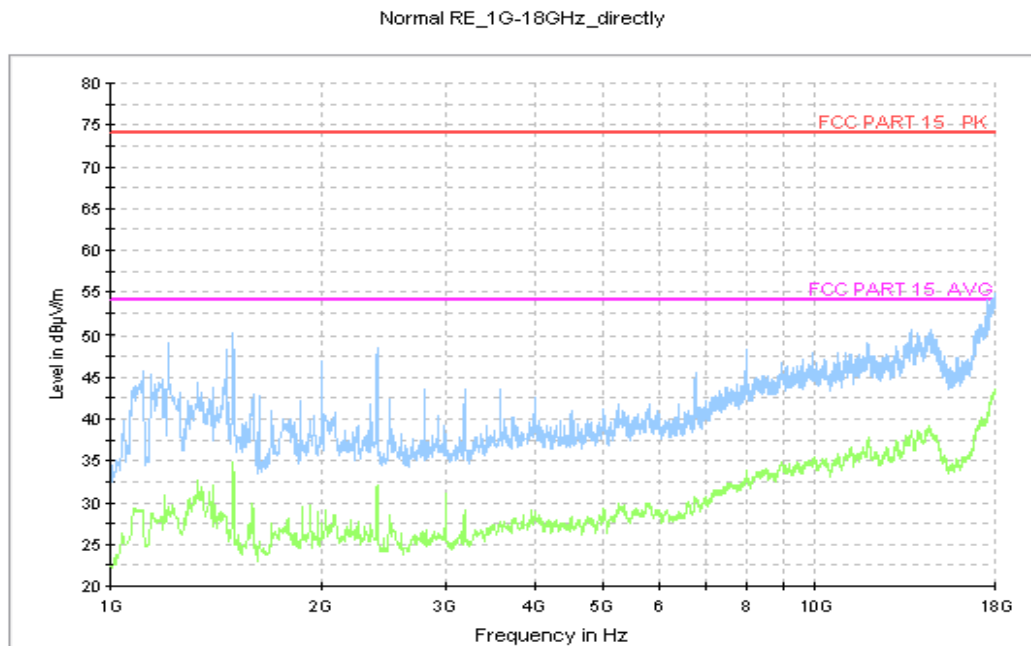


Figure A.12 Radiated Emission from 1GHz to 18GHz

A.2 Conducted Emission

Reference

FCC: CFR Part 15.107(a).

IC: ICES-003 Section 5.

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 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.

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: $U= 2.9 \text{ dB}$, $k=2$.

Charging Mode, Set.1

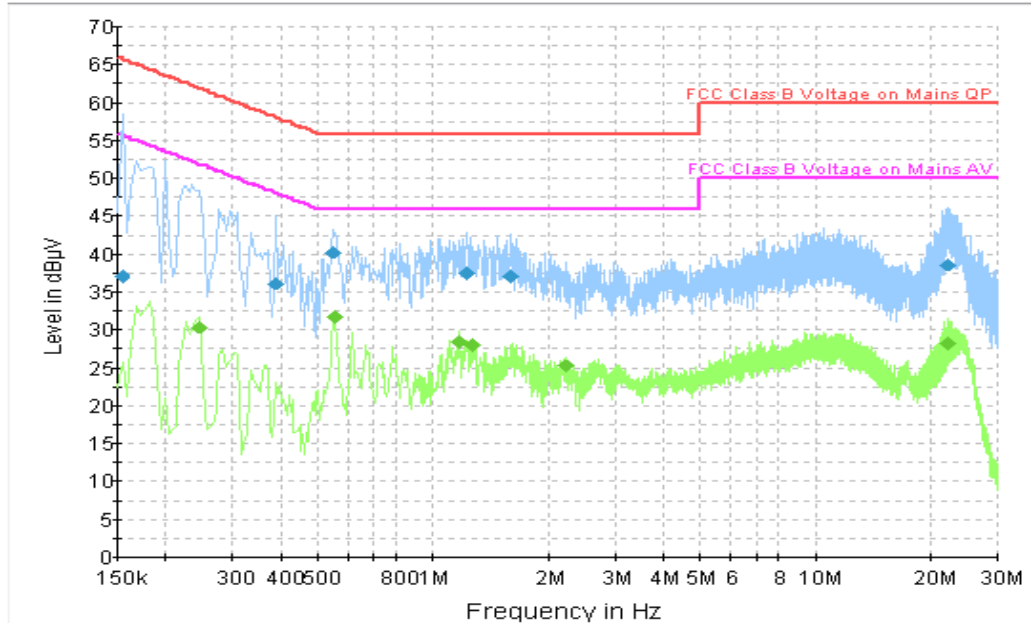


Figure A.13 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	37.1	2000.0	9.000	On	N	19.9	28.7	65.8
0.388500	36.1	2000.0	9.000	On	N	19.8	22.0	58.1
0.550500	40.3	2000.0	9.000	On	N	19.8	15.7	56.0
1.225500	37.5	2000.0	9.000	On	L1	19.7	18.5	56.0
1.594500	37.2	2000.0	9.000	On	L1	19.7	18.8	56.0
22.245000	38.7	2000.0	9.000	On	L1	20.1	21.3	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.244500	30.4	2000.0	9.000	On	L1	19.8	21.6	51.9
0.555000	31.7	2000.0	9.000	On	L1	19.8	14.3	46.0
1.167000	28.4	2000.0	9.000	On	L1	19.6	17.6	46.0
1.270500	28.0	2000.0	9.000	On	L1	19.7	18.0	46.0
2.215500	25.3	2000.0	9.000	On	L1	19.6	20.7	46.0
22.245000	28.3	2000.0	9.000	On	L1	20.1	21.7	50.0

Charging Mode, Set.2

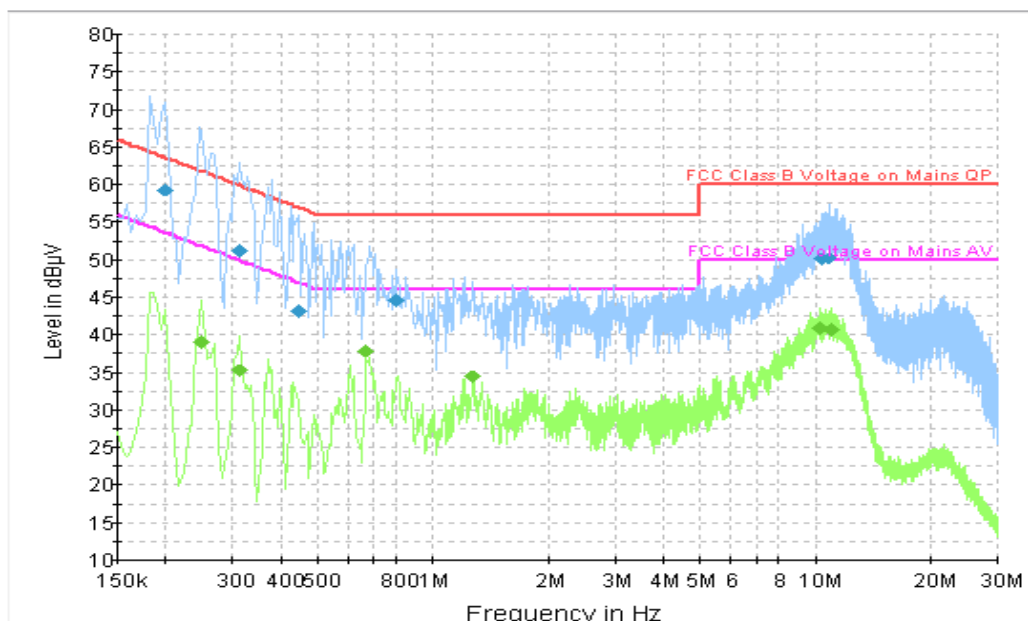


Figure A.14 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.199500	59.4	2000.0	9.000	On	L1	19.8	4.3	63.6
0.312000	51.3	2000.0	9.000	On	L1	19.7	8.6	59.9
0.442500	43.2	2000.0	9.000	On	L1	19.8	13.8	57.0
0.802500	44.7	2000.0	9.000	On	L1	19.8	11.3	56.0
10.315500	50.1	2000.0	9.000	On	L1	19.8	9.9	60.0
10.851000	50.3	2000.0	9.000	On	L1	19.8	9.7	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.249000	39.1	2000.0	9.000	On	L1	19.7	12.7	51.8
0.312000	35.3	2000.0	9.000	On	L1	19.7	14.6	49.9
0.667500	38.0	2000.0	9.000	On	L1	19.8	8.0	46.0
1.270500	34.4	2000.0	9.000	On	L1	19.7	11.6	46.0
10.266000	40.8	2000.0	9.000	On	L1	19.8	9.2	50.0
10.995000	40.8	2000.0	9.000	On	L1	19.8	9.2	50.0

Charging Mode, Set.3

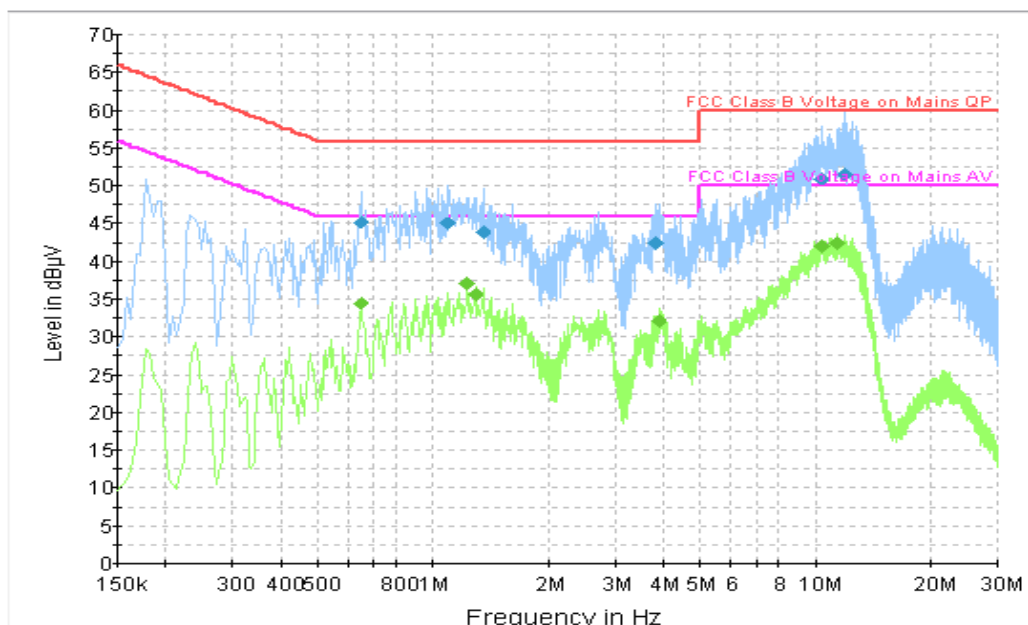


Figure A.15 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.645000	45.2	2000.0	9.000	On	L1	19.8	10.8	56.0
1.095000	45.1	2000.0	9.000	On	L1	19.7	10.9	56.0
1.351500	44.0	2000.0	9.000	On	L1	19.6	12.0	56.0
3.813000	42.5	2000.0	9.000	On	L1	19.7	13.5	56.0
10.374000	50.9	2000.0	9.000	On	L1	19.8	9.1	60.0
11.940000	51.5	2000.0	9.000	On	L1	19.8	8.5	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.645000	34.5	2000.0	9.000	On	L1	19.8	11.5	46.0
1.225500	37.2	2000.0	9.000	On	L1	19.7	8.8	46.0
1.293000	35.6	2000.0	9.000	On	L1	19.6	10.4	46.0
3.889500	32.2	2000.0	9.000	On	L1	19.7	13.8	46.0
10.392000	42.2	2000.0	9.000	On	L1	19.8	7.8	50.0
11.472000	42.5	2000.0	9.000	On	L1	19.9	7.5	50.0

Charging Mode, Set.4

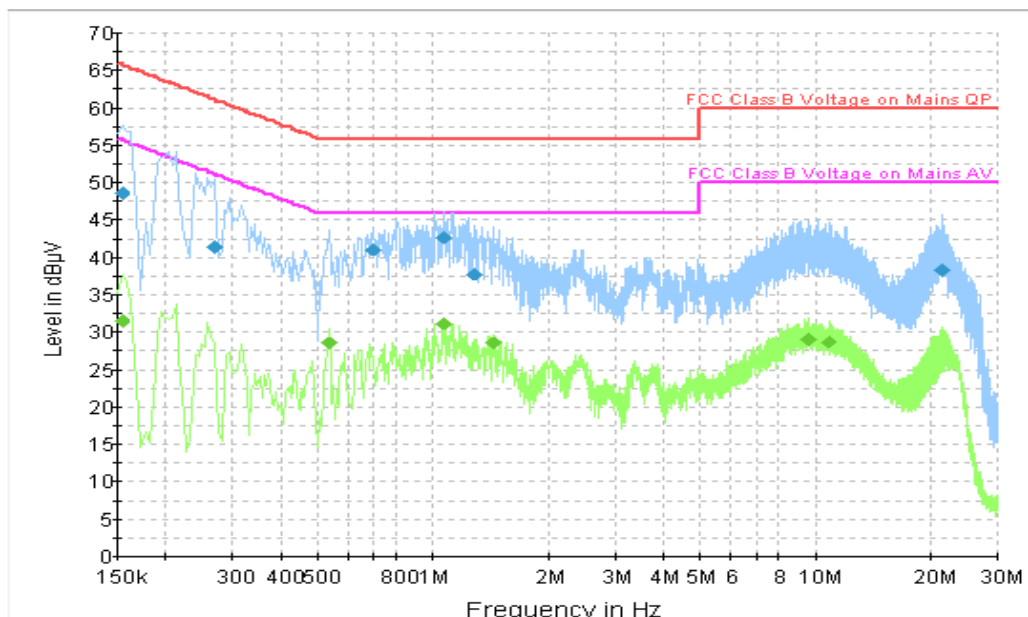


Figure A.16 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	48.8	2000.0	9.000	On	L1	19.9	17.0	65.8
0.267000	41.5	2000.0	9.000	On	L1	19.7	19.7	61.2
0.694500	41.1	2000.0	9.000	On	L1	19.8	14.9	56.0
1.068000	42.8	2000.0	9.000	On	L1	19.7	13.2	56.0
1.284000	37.8	2000.0	9.000	On	L1	19.6	18.2	56.0
21.318000	38.4	2000.0	9.000	On	L1	20.0	21.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	31.6	2000.0	9.000	On	L1	19.9	24.2	55.8
0.532500	28.5	2000.0	9.000	On	L1	19.8	17.5	46.0
1.068000	31.1	2000.0	9.000	On	L1	19.7	14.9	46.0
1.446000	28.5	2000.0	9.000	On	L1	19.7	17.5	46.0
9.546000	29.0	2000.0	9.000	On	L1	19.8	21.0	50.0
10.765500	28.8	2000.0	9.000	On	L1	19.9	21.2	50.0

Charging Mode, Set.5

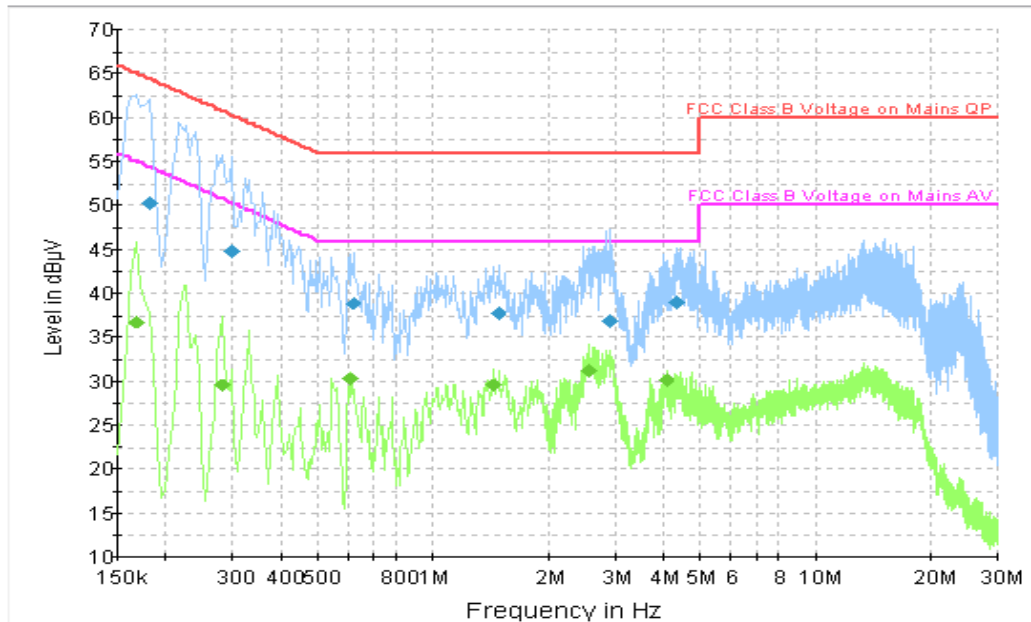


Figure A.17 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.181500	50.3	2000.0	9.000	On	L1	19.7	14.1	64.4
0.298500	44.8	2000.0	9.000	On	L1	19.8	15.5	60.3
0.618000	38.9	2000.0	9.000	On	L1	19.8	17.1	56.0
1.486500	37.7	2000.0	9.000	On	L1	19.6	18.3	56.0
2.899500	36.9	2000.0	9.000	On	L1	19.6	19.1	56.0
4.330500	39.1	2000.0	9.000	On	L1	19.7	17.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.168000	36.7	2000.0	9.000	On	L1	19.7	18.3	55.1
0.280500	29.5	2000.0	9.000	On	L1	19.7	21.3	50.8
0.609000	30.3	2000.0	9.000	On	L1	19.8	15.7	46.0
1.446000	29.5	2000.0	9.000	On	L1	19.7	16.5	46.0
2.548500	31.3	2000.0	9.000	On	L1	19.6	14.7	46.0
4.074000	30.1	2000.0	9.000	On	L1	19.6	15.9	46.0

USB Mode, Set.6

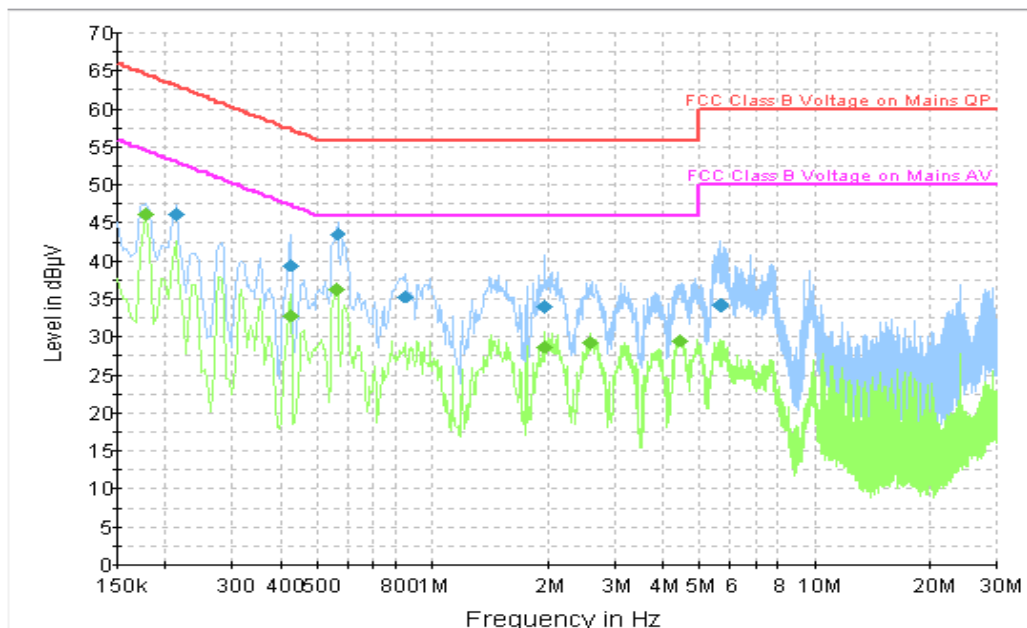


Figure A.18 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.213000	46.2	2000.0	9.000	On	N	19.8	16.9	63.1
0.424500	39.4	2000.0	9.000	On	L1	19.8	18.0	57.4
0.564000	43.5	2000.0	9.000	On	L1	19.8	12.5	56.0
0.843000	35.3	2000.0	9.000	On	L1	19.8	20.7	56.0
1.968000	34.0	2000.0	9.000	On	L1	19.6	22.0	56.0
5.694000	34.1	2000.0	9.000	On	N	19.7	25.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.177000	46.1	2000.0	9.000	On	N	19.7	8.5	54.6
0.424500	32.8	2000.0	9.000	On	L1	19.8	14.5	47.4
0.559500	36.3	2000.0	9.000	On	L1	19.8	9.7	46.0
1.968000	28.7	2000.0	9.000	On	L1	19.6	17.3	46.0
2.607000	29.3	2000.0	9.000	On	N	19.7	16.7	46.0
4.420500	29.6	2000.0	9.000	On	L1	19.7	16.4	46.0

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

END OF REPORT