TEST REPORT

No. I15Z41840-EMC01

for

TCL Communication Ltd.

HSUPA/HSDPA/UMTS Quad-band/GSM Quad-band mobile phone

Model Name: 4028S

FCC ID: 2ACCJH027

IC number: 9238A-0044

with

Hardware Version: PIO

Software Version: v6DB2

Issued Date: 2015-07-27

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.

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: cttl_terminals@catr.cn, website: www.chinattl.com

REPORT HISTORY

Report Number	Revision	Description	Issue Date
I15Z41840-EMC01	Rev.0	1st edition	2015-07-27

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

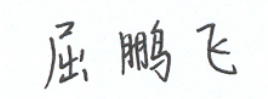
Testing Start Date: 2015-07-16

Testing End Date: 2015-07-21

1.4. Signature

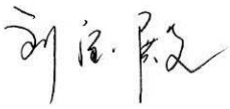
Zhang Hui

(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:	TCL Communication Ltd.
Address /Post:	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China.
City:	Shanghai
Postal Code:	201203
Country:	China
Contact Person:	Gong Zhizhou
Contact Email	zhizhou.gong@tcl.com
Telephone:	0086-21-51798260
Fax:	0086-21-61460602

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.
City:	Shanghai
Postal Code:	201203
Country:	China
Telephone:	0086-21-51798260
Fax:	0086-21-61460602

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

3.1. About EUT

Description	HSUPA/HSDPA/UMTS Quad-band/GSM Quad-band mobile phone
Model Name	4028S
FCC ID	2ACCJH027
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 Telecommunication Metrology Center of MIIT of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	352505070003431	PIO	v6DB2

*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	/	14TCT-BA-1540
AE2	Battery	/	14TCT-BA-1565
AE3	Battery	/	14TCT-BA-1810
AE4	Battery	/	15TCT-BA-0100
AE5	Battery	/	15TCT-BA-0097
AE6	Battery	/	/
AE7	Battery	/	/
AE8	Battery	/	/
AE9	Battery	/	/
AE10	Travel charger	/	14TCT-CH-1517
AE11	Travel charger	/	14TCT-CH-2458
AE12	Travel charger	/	15TCT-CH-0135
AE13	Travel charger	/	15TCT-CH-0122
AE14	Travel charger	/	15TCT-CH-0033
AE15	Travel charger	/	15TCT-CH-0027
AE16	Travel charger	/	/
AE17	Travel charger	/	/
AE18	USB cable	/	14TCT-DC-0605
AE19	USB cable	/	14TCT-DC-0551
AE20	USB cable	/	14TCT-DC-0719
AE21	USB cable	/	/
AE22	USB cable	/	/
AE23	USB cable	/	/

AE1, AE2, AE3, AE4, AE5

Model	CAB60B0000C1
Manufacturer	BYD
Capacitance	1400mAh
Nominal voltage	3.7V

AE6

Model	CAB60B0000CB
Manufacturer	OCEANSUN
Capacitance	1400mAh
Nominal voltage	3.7V

AE7

Model	CAB1400002C2
Manufacturer	SCUD
Capacitance	1400mAh
Nominal voltage	3.7V

AE8

Model	CAB60B0002C1
Manufacturer	BYD
Capacitance	1400mAh
Nominal voltage	3.7V

AE9

Model	CAB1650001C1
Manufacturer	BYD
Capacitance	1650mAh
Nominal voltage	3.7V

AE10,AE11

Model	CBA3007AG0C1
Manufacturer	BYD
Length of cable	/

AE12,AE13

Model	CBA3068AG0C1
Manufacturer	BYD
Length of cable	/

AE14,AE15

Model	CBA0066AG0C1
Manufacturer	BYD
Length of cable	121cm

AE16,AE17

Model	CBA3002AG0C5
Manufacturer	Puan
Length of cable	119cm

AE18

Model	CDA3122002C1
Manufacturer	JUWEI
Length of cable	98cm

AE19

Model	CDA3122002C2
Manufacturer	Shenghua
Length of cable	98cm

AE20

Model	CDA3122002C8
Manufacturer	PUAN
Length of cable	98cm

AE21

Model	CDA3122005C1
Manufacturer	JUWEI
Length of cable	/

AE22

Model	CDA3122005C2
Manufacturer	Shenghua
Length of cable	/

AE23

Model	CDA3122005C8
Manufacturer	PUAN
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 +AE18 +AE10	Charger
Set.2	EUT1 +AE1 +AE18 +AE12	Charger
Set.3	EUT1 +AE1 +AE14	Charger
Set.4	EUT1 +AE1 +AE16	Charger
Set.5	EUT1 +AE1 +AE18	USB
Set.6	EUT1 +AE1 +AE19	USB
Set.7	EUT1 +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	10-1-13 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	1/2/3/4	The test is performed in test location 1, 2, 3 or 4 which are described in section 1.1 of this report

Clause	List	Clause in FCC rules	Verdict	Location
1	Radiated Emission	15.109(a)	P	1
2	Conducted Emission	15.107(a)	P	1

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE	CALIBRATION INTERVAL
1	Test Receiver	ESU26	100235	R&S	2016-03-02	1 year
2	Test Receiver	ESCI 7	100948	R&S	2016-07-07	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	9163-234	Schwarzbeck	2016-09-15	3 years
6	EMI Antenna	3115	6914	ETS-Lindgren	2017-12-15	3 years
7	PC	OPTIPLEX 380	2X1YV2X	DELL	N/A	N/A
8	Monitor	E178FPc	CN-OWR979-64180 -7AJ-D2MS	DELL	N/A	N/A
9	Printer	P1606dn	VNC3L52122	HP	N/A	N/A
10	Keyboard	L100	CN0RH659658907 ATOI40	DELL	N/A	N/A
11	Mouse	M-UAE119	LZ935220ZRC	Lenovo	N/A	N/A

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

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 (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 = 4.3 dB, k=2.

Measurement results for Set.1:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17985.833	43.8	-17.7	45.6	15.900	H
17983.567	43.5	-17.7	45.6	15.600	V
17976.767	43.4	-17.7	45.6	15.500	V
17999.433	43.3	-17.7	45.6	15.400	H
17963.167	43.3	-17.7	45.6	15.400	H
17980.167	43.3	-17.7	45.6	15.400	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17986.400	54.9	-17.7	45.6	27.000	V
17973.933	54.8	-17.7	45.6	26.900	H
17945.600	54.6	-17.7	45.6	26.700	V
17962.033	54.6	-17.7	45.6	26.700	H
17842.467	54.5	-18.5	45.6	27.400	H
17971.667	54.4	-17.7	45.6	26.500	H

Measurement results for Set.2:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17973.367	44.1	-17.7	45.6	16.200	H
17992.067	43.6	-17.7	45.6	15.700	H
17983.567	43.6	-17.7	45.6	15.700	V
17979.600	43.5	-17.7	45.6	15.600	H
17994.333	43.5	-17.7	45.6	15.600	V
17978.467	43.4	-17.7	45.6	15.500	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
18000.000	55.0	-45.6	44.5	56.066	V
17973.933	54.8	-17.7	45.6	26.900	H
17939.367	54.8	-17.7	45.6	26.900	H
17994.900	54.6	-17.7	45.6	26.700	V
17958.633	54.5	-17.7	45.6	26.600	H
17983.000	54.4	-17.7	45.6	26.500	V

Measurement results for Set.3:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17993.200	43.5	-17.7	45.6	15.600	V
17986.400	43.5	-17.7	45.6	15.600	H
17983.000	43.4	-17.7	45.6	15.500	V
17976.767	43.4	-17.7	45.6	15.500	H
17996.033	43.4	-17.7	45.6	15.500	V
17999.433	43.4	-17.7	45.6	15.500	H

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17977.333	54.8	-17.7	45.6	26.900	H
17993.200	54.5	-17.7	45.6	26.600	V
17730.267	54.4	-18.9	45.6	27.700	H
17866.267	54.3	-18.5	45.6	27.200	H
17767.100	54.3	-18.5	45.6	27.200	V
17983.000	54.3	-17.7	45.6	26.400	H

Measurement results for Set.4:

Charging Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17972.233	43.6	-17.7	45.6	15.700	H
17986.967	43.6	-17.7	45.6	15.700	H
17996.600	43.4	-17.7	45.6	15.500	V
17955.800	43.4	-17.7	45.6	15.500	V
17992.633	43.4	-17.7	45.6	15.500	H
17964.300	43.4	-17.7	45.6	15.500	V

Charging Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17903.667	54.5	-18.5	45.6	27.400	V
17975.067	54.5	-17.7	45.6	26.600	H
17982.433	54.4	-17.7	45.6	26.500	H
17867.967	54.3	-18.5	45.6	27.200	H
17979.600	54.3	-17.7	45.6	26.400	V
17850.967	54.3	-18.5	45.6	27.200	H

Measurement results for Set.5:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17992.067	43.6	-17.7	45.6	15.700	V
17999.433	43.5	-17.7	45.6	15.600	H
17973.367	43.5	-17.7	45.6	15.600	H
17973.933	43.5	-17.7	45.6	15.600	H
17993.767	43.5	-17.7	45.6	15.600	V
17994.900	43.4	-17.7	45.6	15.500	H

USB Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17988.667	55.6	-17.7	45.6	27.700	V
17975.633	54.9	-17.7	45.6	27.000	H
17970.533	54.9	-17.7	45.6	27.000	V
17976.200	54.8	-17.7	45.6	26.900	V
17949.567	54.8	-17.7	45.6	26.900	H
17854.933	54.8	-18.5	45.6	27.700	H

Measurement results for Set.6:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17997.733	43.5	-17.7	45.6	15.600	V
17996.033	43.5	-17.7	45.6	15.600	H
17973.933	43.5	-17.7	45.6	15.600	H
17965.433	43.5	-17.7	45.6	15.600	V
17991.500	43.4	-17.7	45.6	15.500	V
17992.633	43.3	-17.7	45.6	15.400	H

USB Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17967.133	56.1	-17.7	45.6	28.200	V
17921.800	55.6	-17.7	45.6	27.700	H
17988.100	55.3	-17.7	45.6	27.400	V
17979.033	54.9	-17.7	45.6	27.000	H
17984.700	54.7	-17.7	45.6	26.800	H
17988.667	54.6	-17.7	45.6	26.700	V

Measurement results for Set.7:

USB Mode/Average detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17994.900	43.6	-17.7	45.6	15.700	V
17993.767	43.4	-17.7	45.6	15.500	V
17966.567	43.4	-17.7	45.6	15.500	H
17999.433	43.4	-17.7	45.6	15.500	H
17976.200	43.4	-17.7	45.6	15.500	H
17969.400	43.3	-17.7	45.6	15.400	V

USB Mode/Peak detector

Frequency(MHz)	Result(dBμV/m)	G_{PL} (dB)	G_A (dB/m)	P_{Mea}(dBμV)	Polarity
17964.300	55.1	-17.7	45.6	27.200	H
17983.567	55.0	-17.7	45.6	27.100	V
17978.467	55.0	-17.7	45.6	27.100	H
17992.633	54.6	-17.7	45.6	26.700	V
17844.733	54.4	-18.5	45.6	27.300	H
17890.633	54.3	-18.5	45.6	27.200	V

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

Charging Mode, Set.1

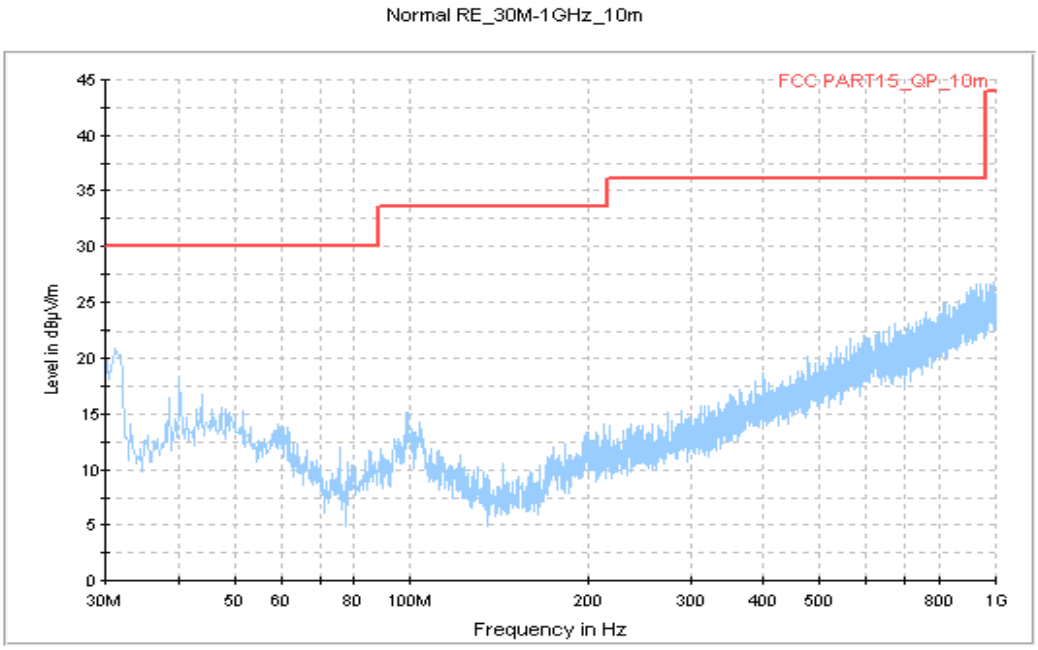


Fig.1 Radiated Emission from 30MHz to 1GHz

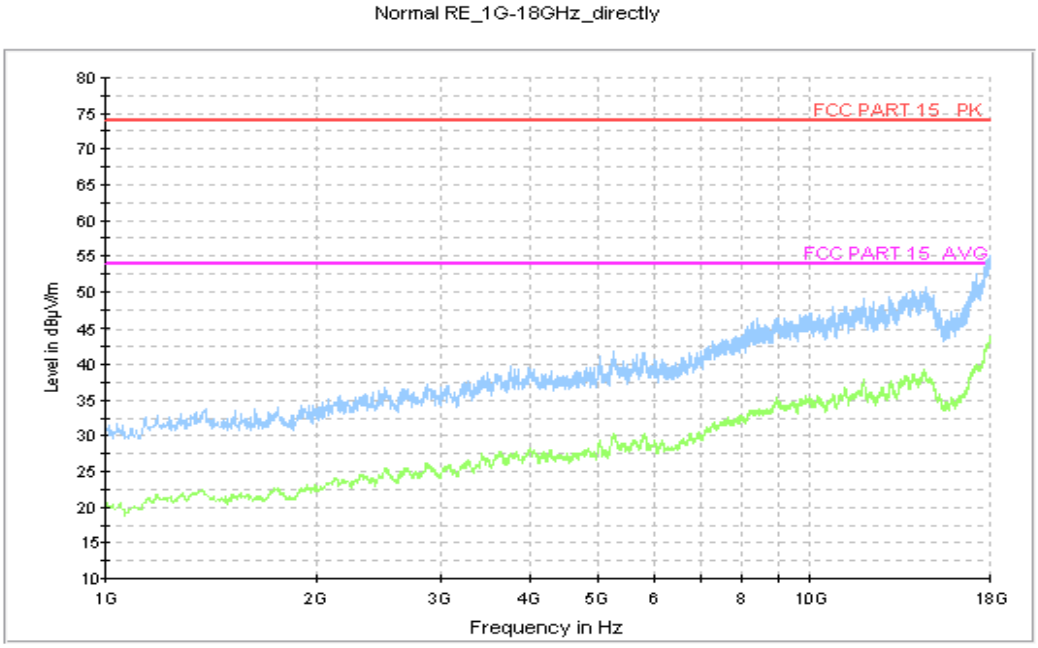


Fig.2 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.2

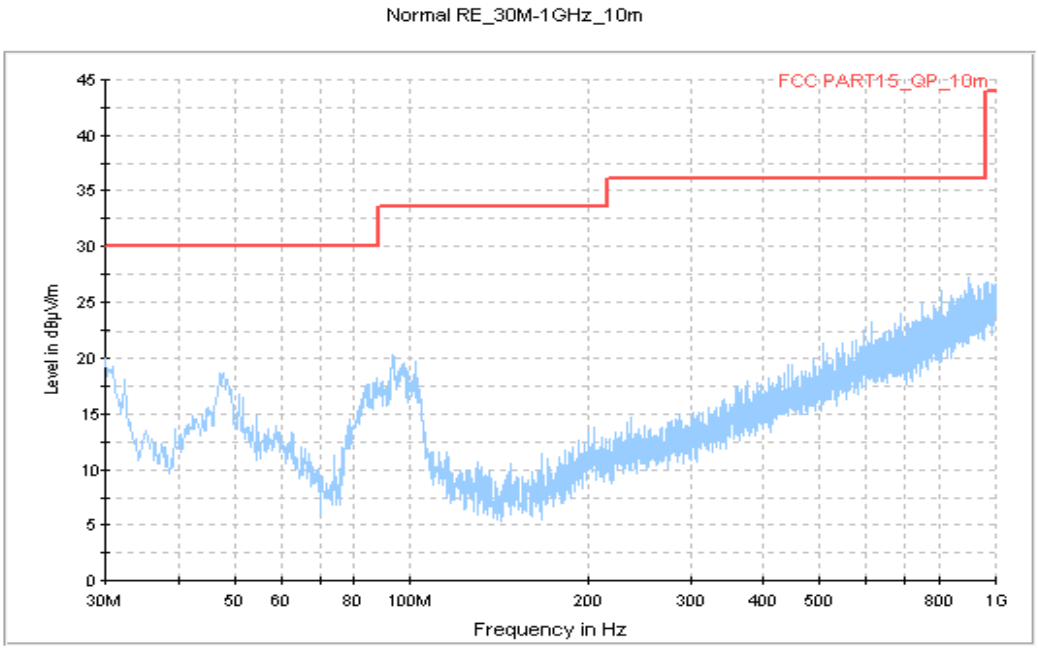


Fig.3 Radiated Emission from 30MHz to 1GHz

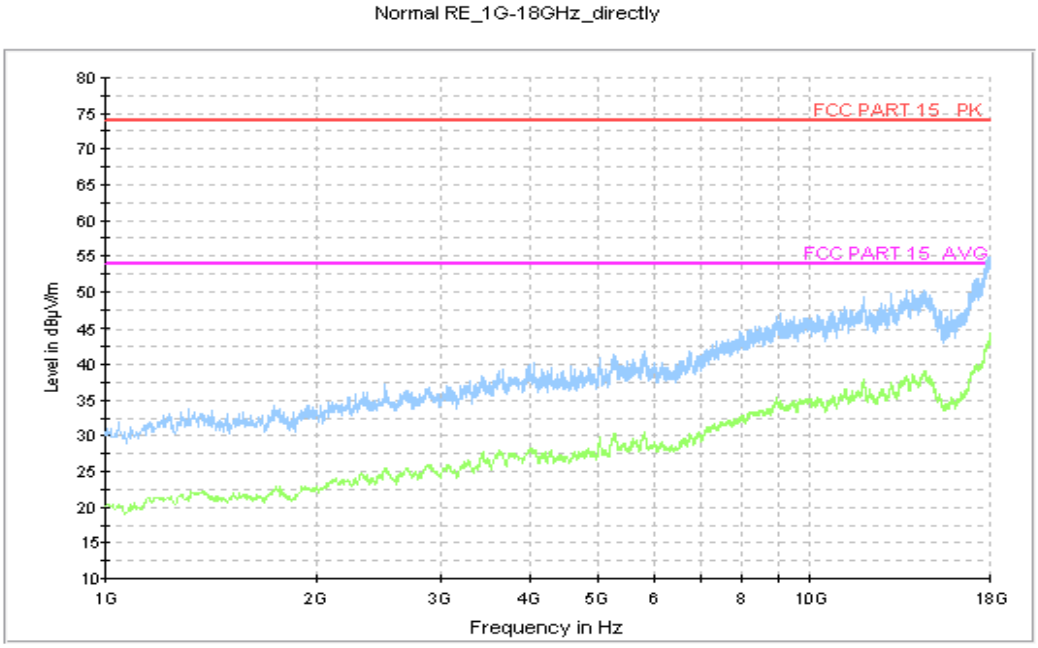


Fig.4 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.3

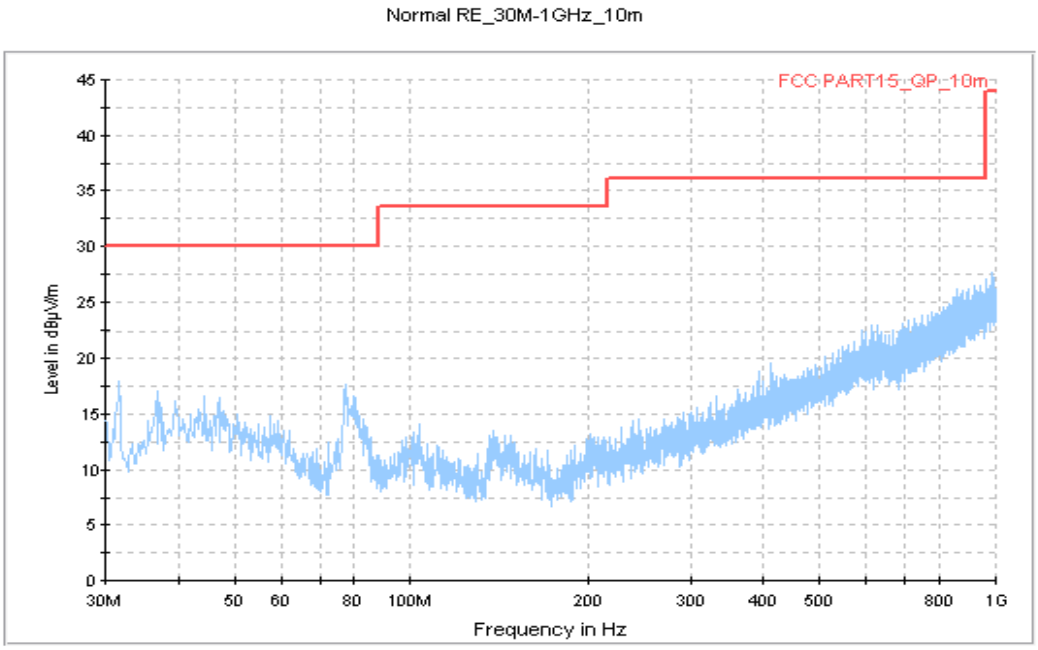


Fig.5 Radiated Emission from 30MHz to 1GHz

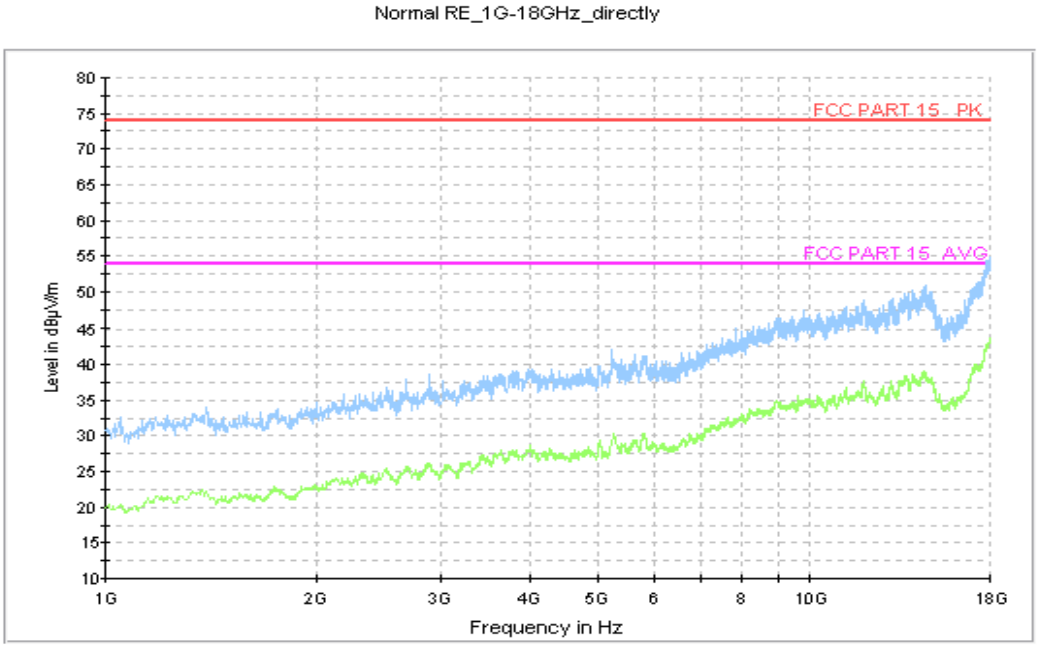


Fig.6 Radiated Emission from 1GHz to 18GHz

Charging Mode, Set.4

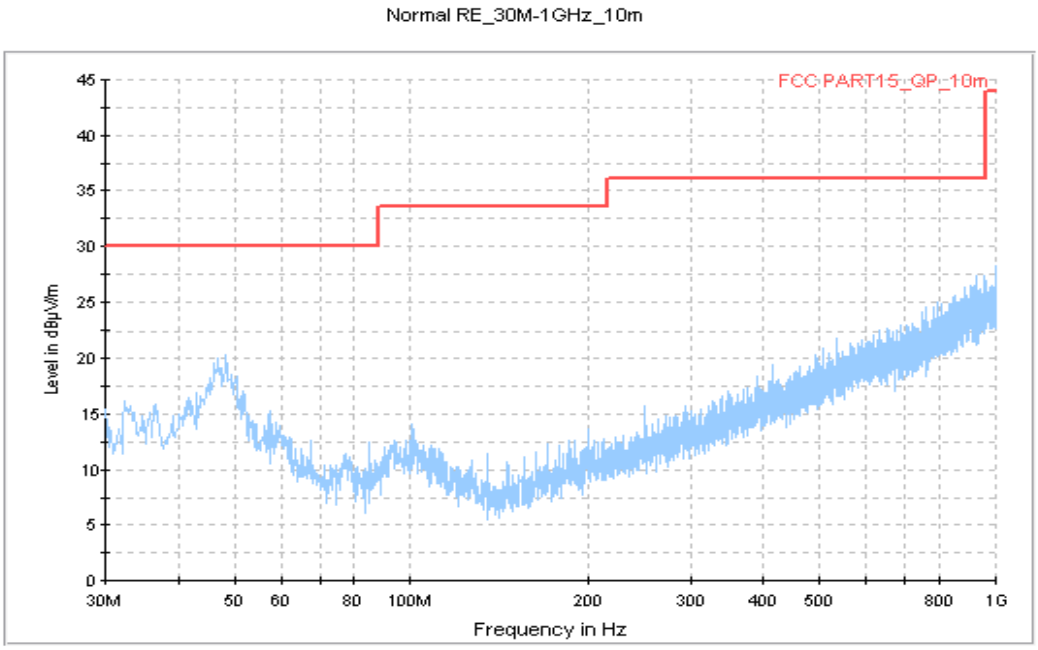


Fig.7 Radiated Emission from 30MHz to 1GHz

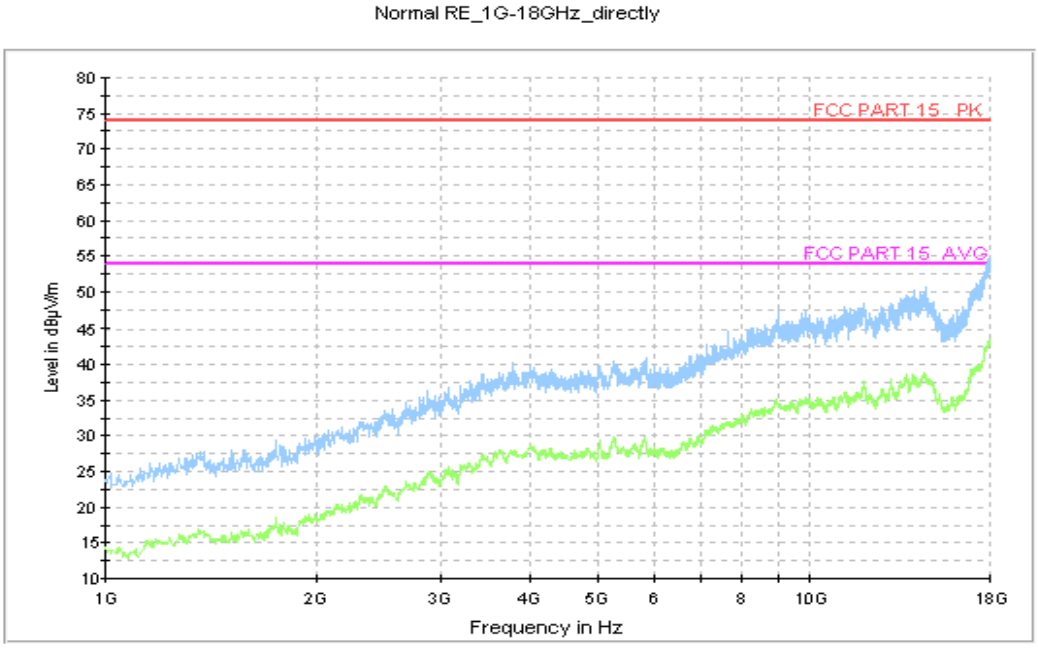


Fig.8 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.5

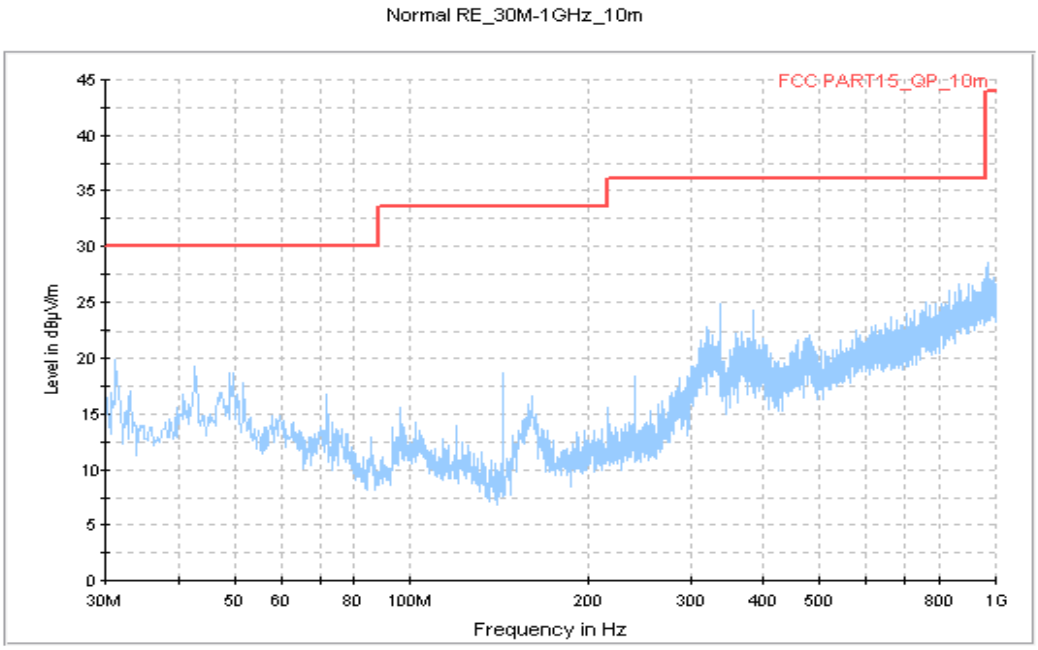


Fig.9 Radiated Emission from 30MHz to 1GHz

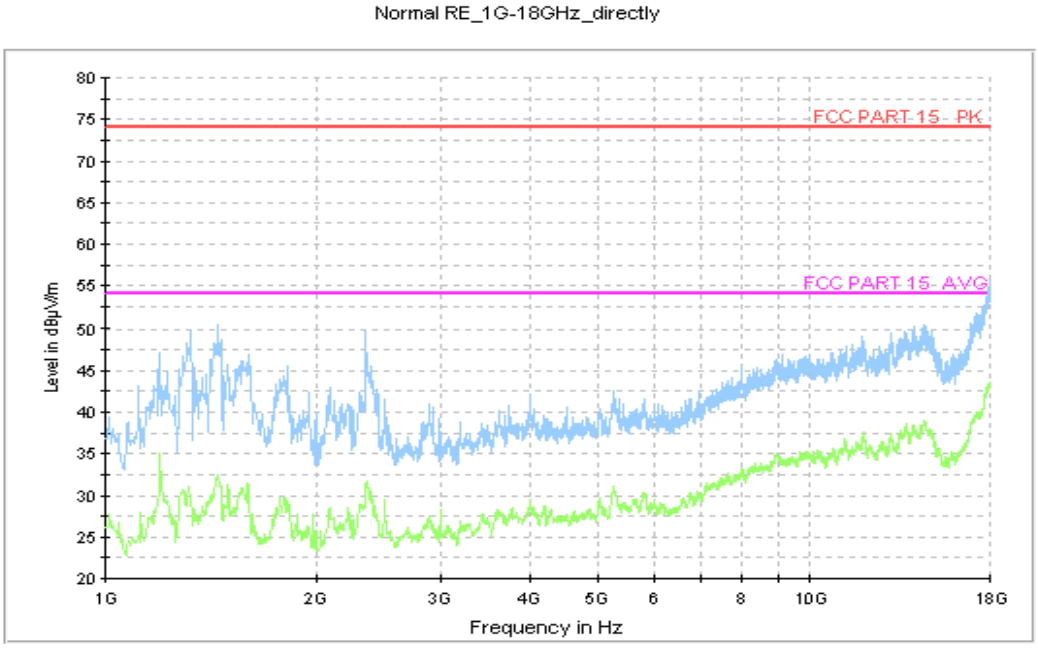


Fig.10 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.6

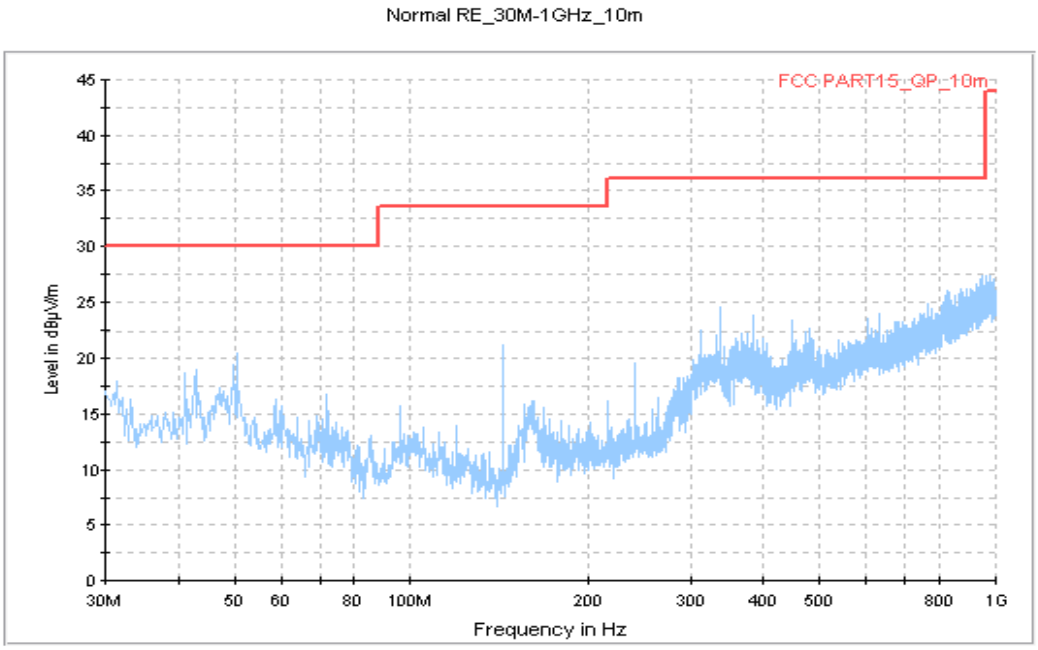


Fig.11 Radiated Emission from 30MHz to 1GHz

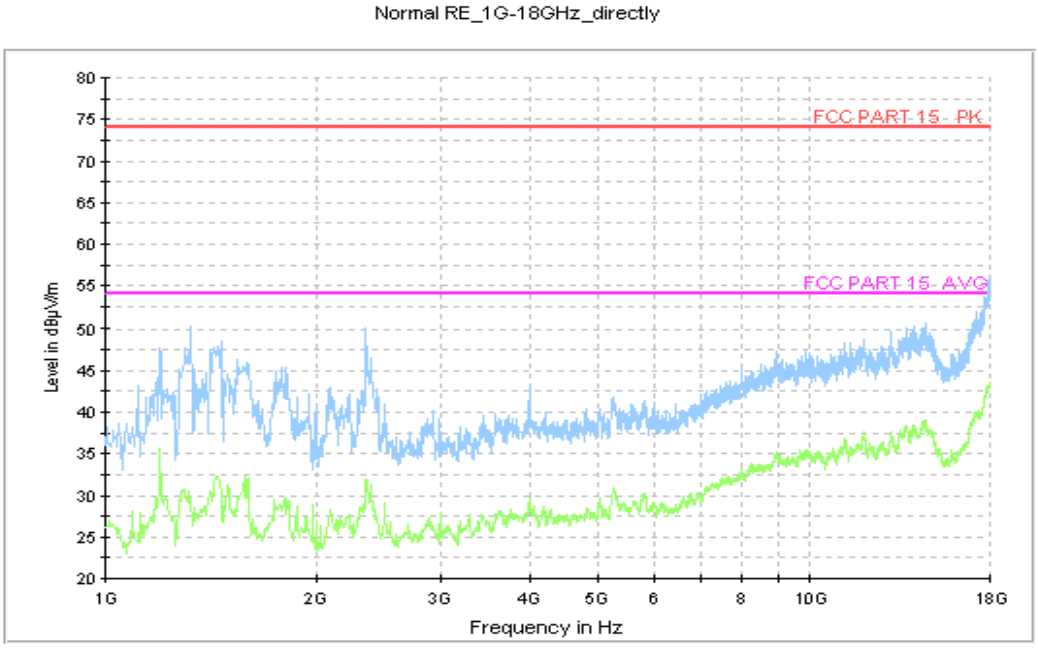


Fig.12 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.7

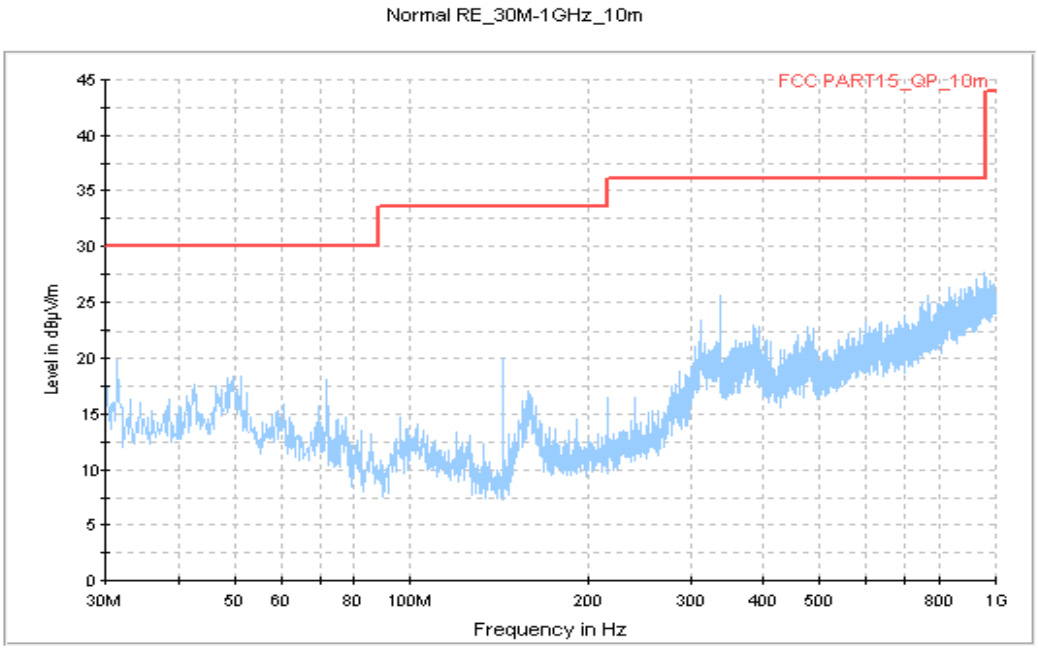


Fig.13 Radiated Emission from 30MHz to 1GHz

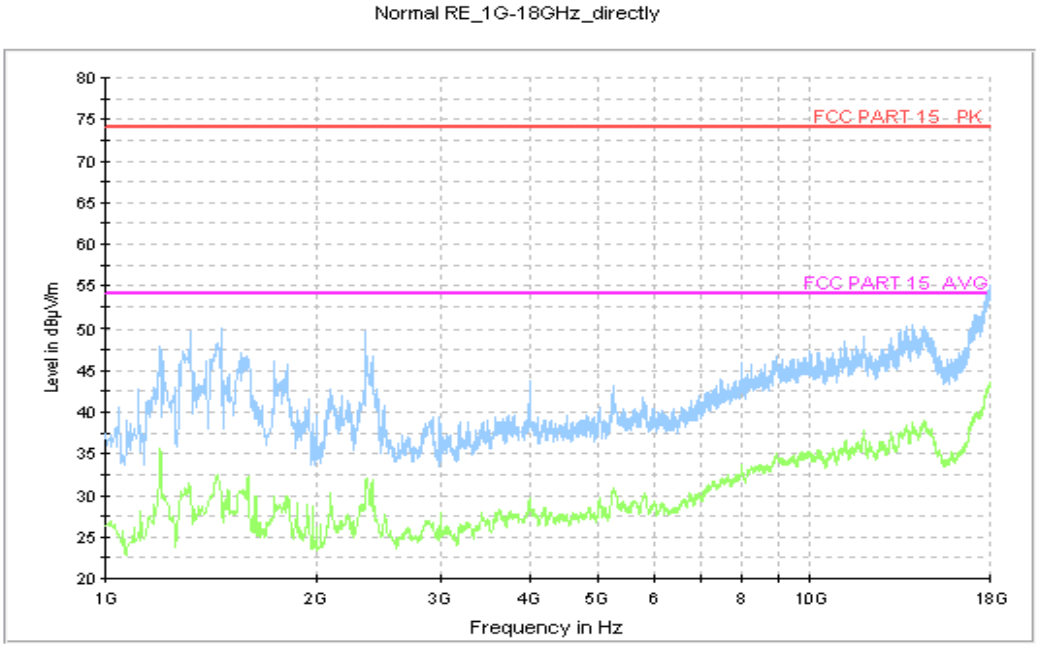


Fig.14 Radiated Emission from 1GHz to 18GHz

A.2 Conducted Emission (§15.107(a))

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 7.2.

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 dB, *k*=2.

Charging Mode, Set.1

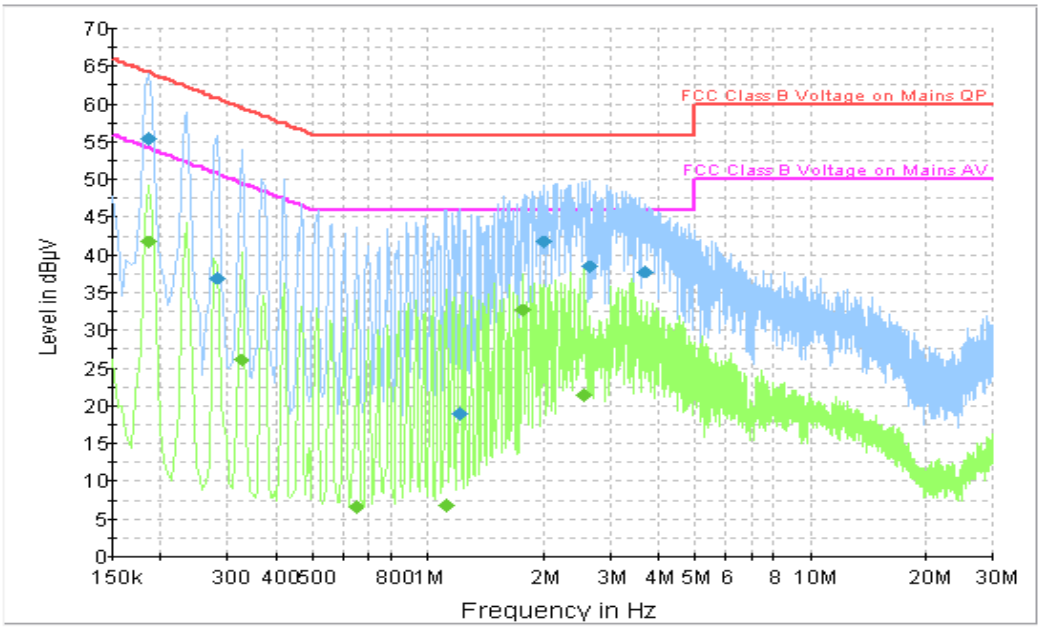


Fig.15 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	55.4	2000.0	9.000	On	L1	19.8	8.8	64.2
0.280500	36.9	2000.0	9.000	On	L1	19.7	23.9	60.8
1.207500	19.0	2000.0	9.000	On	N	19.7	37.0	56.0
2.004000	41.8	2000.0	9.000	On	L1	19.6	14.2	56.0
2.656500	38.5	2000.0	9.000	On	L1	19.7	17.5	56.0
3.678000	37.7	2000.0	9.000	On	L1	19.7	18.3	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	41.8	2000.0	9.000	On	L1	19.8	12.4	54.2
0.325500	26.2	2000.0	9.000	On	L1	19.8	23.4	49.6
0.649500	6.6	2000.0	9.000	On	N	19.8	39.4	46.0
1.113000	6.7	2000.0	9.000	On	N	19.7	39.3	46.0
1.765500	32.7	2000.0	9.000	On	N	19.6	13.3	46.0
2.557500	21.5	2000.0	9.000	On	N	19.7	24.5	46.0

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

Charging Mode, Set.2

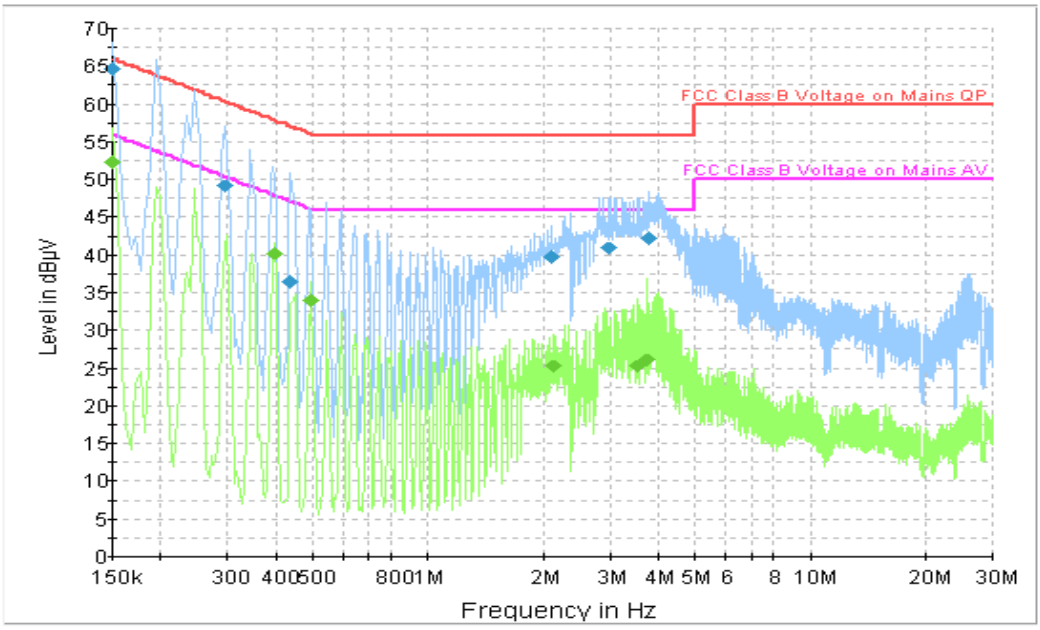


Fig.16 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	64.6	2000.0	9.000	On	L1	20.1	1.4	66.0
0.294000	49.2	2000.0	9.000	On	L1	19.7	11.2	60.4
0.438000	36.5	2000.0	9.000	On	L1	19.8	20.6	57.1
2.098500	39.7	2000.0	9.000	On	L1	19.6	16.3	56.0
2.971500	40.9	2000.0	9.000	On	L1	19.7	15.1	56.0
3.804000	42.3	2000.0	9.000	On	L1	19.7	13.7	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	52.3	2000.0	9.000	On	L1	20.1	3.7	56.0
0.397500	40.2	2000.0	9.000	On	N	19.8	7.7	47.9
0.496500	34.0	2000.0	9.000	On	N	19.8	12.1	46.1
2.121000	25.2	2000.0	9.000	On	L1	19.6	20.8	46.0
3.507000	25.2	2000.0	9.000	On	L1	19.6	20.8	46.0
3.754500	26.1	2000.0	9.000	On	L1	19.7	19.9	46.0

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

Charging Mode, Set.3

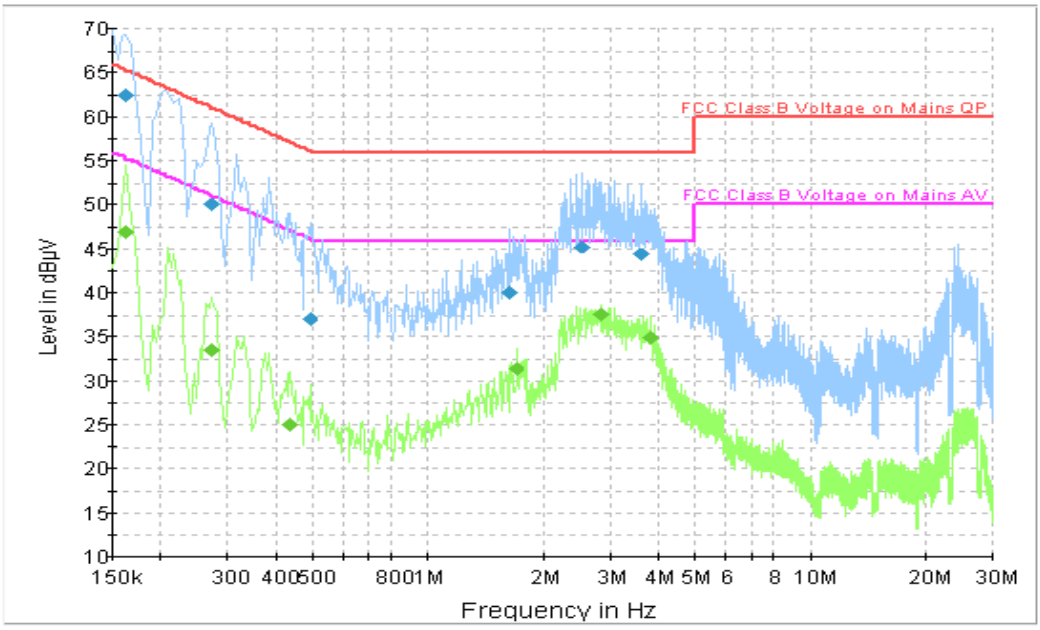


Fig.17 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	62.6	2000.0	9.000	On	L1	19.7	2.7	65.3
0.271500	50.0	2000.0	9.000	On	L1	19.8	11.1	61.1
0.492000	37.0	2000.0	9.000	On	L1	19.8	19.1	56.1
1.639500	40.0	2000.0	9.000	On	L1	19.7	16.0	56.0
2.517000	45.3	2000.0	9.000	On	L1	19.6	10.7	56.0
3.606000	44.4	2000.0	9.000	On	L1	19.7	11.6	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	47.0	2000.0	9.000	On	L1	19.7	8.3	55.3
0.271500	33.5	2000.0	9.000	On	N	19.8	17.6	51.1
0.438000	25.0	2000.0	9.000	On	L1	19.8	22.1	47.1
1.698000	31.4	2000.0	9.000	On	L1	19.7	14.6	46.0
2.850000	37.5	2000.0	9.000	On	L1	19.7	8.5	46.0
3.826500	35.0	2000.0	9.000	On	L1	19.7	11.0	46.0

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

Charging Mode, Set.4

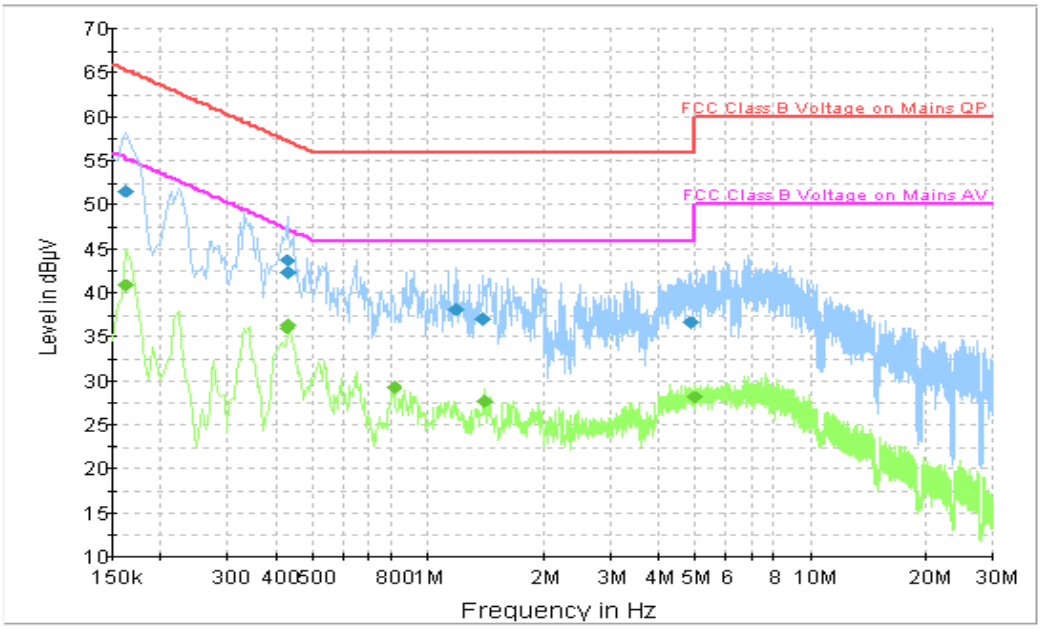


Fig.18 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	51.6	2000.0	9.000	On	L1	19.7	13.7	65.3
0.429000	43.7	2000.0	9.000	On	L1	19.8	13.6	57.3
0.433500	42.2	2000.0	9.000	On	N	19.8	14.9	57.2
1.189500	38.1	2000.0	9.000	On	L1	19.7	17.9	56.0
1.392000	37.0	2000.0	9.000	On	L1	19.7	19.0	56.0
4.857000	36.7	2000.0	9.000	On	N	19.7	19.3	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	40.9	2000.0	9.000	On	N	19.7	14.4	55.3
0.429000	36.0	2000.0	9.000	On	N	19.8	11.2	47.3
0.433500	36.4	2000.0	9.000	On	N	19.8	10.8	47.2
0.811500	29.3	2000.0	9.000	On	N	19.8	16.7	46.0
1.396500	27.7	2000.0	9.000	On	N	19.7	18.3	46.0
4.992000	28.1	2000.0	9.000	On	N	19.6	17.9	46.0

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

USB Mode, Set.5

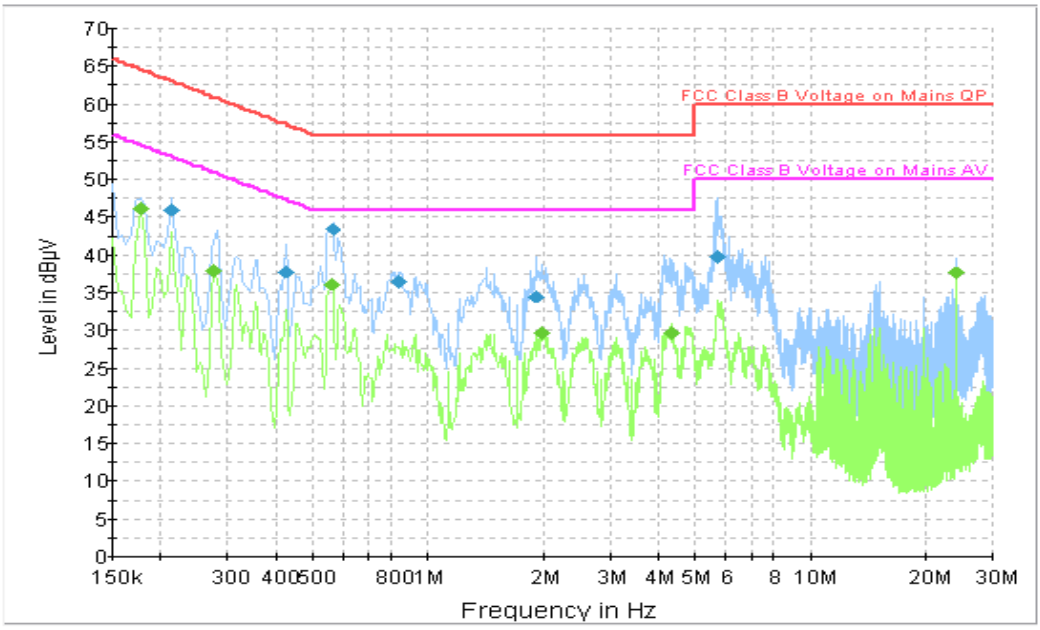


Fig.19 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.213000	46.0	2000.0	9.000	On	N	19.8	17.1	63.1
0.424500	37.7	2000.0	9.000	On	L1	19.8	19.6	57.4
0.564000	43.4	2000.0	9.000	On	L1	19.8	12.6	56.0
0.838500	36.4	2000.0	9.000	On	N	19.8	19.6	56.0
1.914000	34.6	2000.0	9.000	On	L1	19.6	21.4	56.0
5.716500	39.8	2000.0	9.000	On	L1	19.7	20.2	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	46.2	2000.0	9.000	On	N	19.7	8.4	54.6
0.276000	37.9	2000.0	9.000	On	N	19.8	13.0	50.9
0.559500	36.2	2000.0	9.000	On	L1	19.8	9.8	46.0
1.986000	29.8	2000.0	9.000	On	N	19.6	16.2	46.0
4.330500	29.8	2000.0	9.000	On	L1	19.7	16.2	46.0
24.000000	37.6	2000.0	9.000	On	L1	20.0	12.4	50.0

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

USB Mode, Set.6

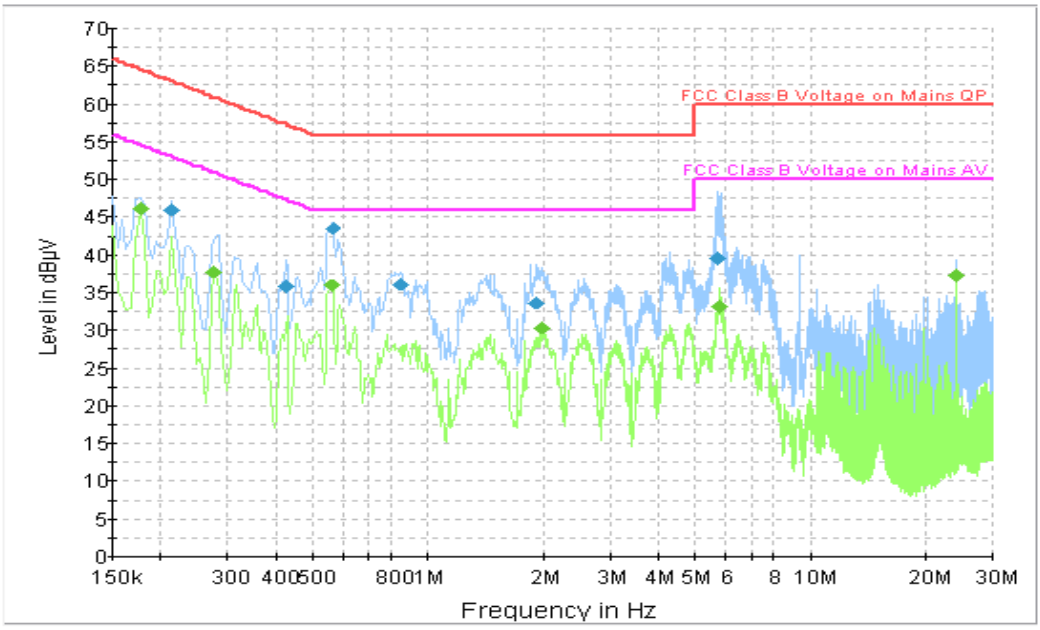


Fig.20 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.213000	46.1	2000.0	9.000	On	N	19.8	17.0	63.1
0.424500	35.8	2000.0	9.000	On	L1	19.8	21.6	57.4
0.564000	43.5	2000.0	9.000	On	L1	19.8	12.5	56.0
0.843000	36.1	2000.0	9.000	On	N	19.8	19.9	56.0
1.918500	33.7	2000.0	9.000	On	N	19.6	22.3	56.0
5.716500	39.7	2000.0	9.000	On	N	19.7	20.3	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	46.2	2000.0	9.000	On	N	19.7	8.4	54.6
0.276000	37.9	2000.0	9.000	On	N	19.8	13.1	50.9
0.559500	36.1	2000.0	9.000	On	L1	19.8	9.9	46.0
1.990500	30.3	2000.0	9.000	On	L1	19.6	15.7	46.0
5.806500	33.1	2000.0	9.000	On	L1	19.7	16.9	50.0
24.000000	37.4	2000.0	9.000	On	N	20.2	12.6	50.0

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

USB Mode, Set.7

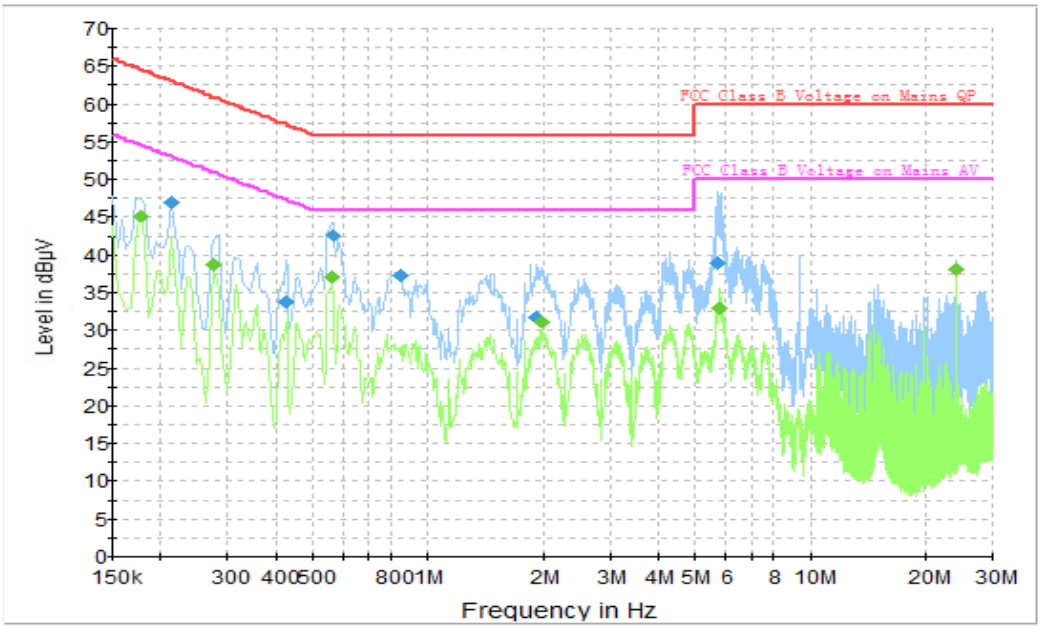


Fig.21 Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.213000	47.1	2000.0	9.000	On	N	19.8	17.0	63.1
0.424500	33.8	2000.0	9.000	On	L1	19.8	21.6	57.4
0.564000	42.5	2000.0	9.000	On	L1	19.8	12.5	56.0
0.843000	37.2	2000.0	9.000	On	N	19.8	19.9	56.0
1.918500	31.7	2000.0	9.000	On	N	19.6	22.3	56.0
5.716500	38.9	2000.0	9.000	On	N	19.7	20.3	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	45.2	2000.0	9.000	On	N	19.7	8.4	54.6
0.276000	38.9	2000.0	9.000	On	N	19.8	13.1	50.9
0.559500	37.1	2000.0	9.000	On	L1	19.8	9.9	46.0
1.990500	31.1	2000.0	9.000	On	L1	19.6	15.7	46.0
5.806500	32.9	2000.0	9.000	On	L1	19.7	16.9	50.0
24.000000	38.2	2000.0	9.000	On	N	20.2	12.6	50.0

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

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