



# TEST REPORT

## No. I16Z40357-EMC01

for

**TCL Communication Ltd**

**UMTS / GSM handheld station with Bluetooth technology, WiFi, and  
FM radio**

**Model Name: VFD 300**

**FCC ID: 2ACCJH053**

with

**Hardware Version: PIO**

**Software Version: v3DAI**

**Issued Date: 2016-03-09**

**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**

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## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
I16Z40357-EMC01	Rev.0	1 <sup>st</sup> edition	2016-03-09

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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

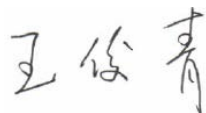
Relative Humidity: 20-75%

### 1.3. Project data

Testing Start Date: 2016-02-29

Testing End Date: 2016-03-08

### 1.4. Signature



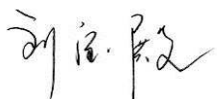
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## **2. Client Information**

### **2.1. Applicant Information**

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

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

#### 3.1. About EUT

Description	UMTS / GSM handheld station with Bluetooth technology, WiFi, and FM radio
Model Name	VFD 300
FCC ID	2ACCJH053
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
EUT1	356774070101613	PIO	v3DAI

\*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	/	1640357BA006
AE2	Battery	/	1640357BA007
AE3	Battery	/	1640357BA008
AE7	USB cable	/	/
AE8	USB cable	/	/
AE11	Travel charger	/	15TCT-CH-1208
AE12	Travel charger	/	15TCT-CH-1013
AE14	Travel charger	/	15TCT-CH-1055
AE19	Travel charger	/	15TCT-CH-0145
AE21	Travel charger	/	15TCT-CH-0530
AE22	Travel charger	/	/
AE23	Travel charger	/	/

AE1,AE2,AE3

Model	CAB1500045C1
Manufacturer	BYD
Capacitance	1500mAh
Nominal voltage	3.8V

## AE7

Model	CDA6050000C1
Manufacturer	JUWEI
Length of cable	/

## AE8

Model	CDA6050000C8
Manufacturer	PUAN
Length of cable	/

## AE11

Model	CBA0066AA0C2
Manufacturer	Tenpao
Length of cable	1.2m

## AE12

Model	CBA0066AA1C5(CBA3002AA0C5)
Manufacturer	PUAN
Length of cable	1.2m

## AE14

Model	CBA3068AA1C4(CBA3068AA0C4)
Manufacturer	AOHAI
Length of cable	/

## AE19

Model	CBA0066AA4C1(CBA0066AA0C1)
Manufacturer	BYD
Length of cable	1.5m

## AE21

Model	CBA0077AA1C1(CBA3068AA0C1)
Manufacturer	BYD
Length of cable	/

## AE22

Model	CBA3068AB1C1
Manufacturer	BYD
Length of cable	/

## AE23

Model	CBA3068AC1C1
Manufacturer	BYD
Length of cable	/

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

Note: The USB cables are shielded.

### 3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	EUT1+ AE1 + AE11	Charger
Set.2	EUT1+ AE1 + AE12	Charger
Set.3	EUT1+ AE1 + AE7+ AE14	Charger
Set.4	EUT1+ AE1 + AE19	Charger
Set.5	EUT1+ AE1 + AE7+ AE21	Charger
Set.6	EUT1+ AE1 + AE7	USB mode
Set.7	EUT1+ AE1 + AE8	USB mode



## **4. Reference Documents**

### **4.1. Reference Documents for testing**

The following documents listed in this section are referred for testing.

<b>Reference</b>	<b>Title</b>	<b>Version</b>
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

## 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	2017-03-02	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	2016-12-09	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).

#### **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.

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

#### **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

$G_{\text{PL}}$ : Path Loss

$P_{\text{Mea}}$ : 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 $\mu$ V/m)	$G_{\text{PL}}$ (dB)	$G_A$ (dB/m)	$P_{\text{Mea}}$ (dB $\mu$ V)	Polarity
17943.900	50.8	-17.7	45.6	22.900	VERTICAL
17977.050	50.2	-17.7	45.6	22.300	HORIZONTAL
17861.450	50.2	-18.5	45.6	23.100	VERTICAL
17916.700	50.1	-17.7	45.6	22.200	VERTICAL
17971.100	50.1	-17.7	45.6	22.200	HORIZONTAL
17745.000	50.1	-18.5	45.6	23.000	VERTICAL

##### Charging Mode/Peak detector

Frequency(MHz)	Result(dB $\mu$ V/m)	$G_{\text{PL}}$ (dB)	$G_A$ (dB/m)	$P_{\text{Mea}}$ (dB $\mu$ V)	Polarity
17610.700	59.8	-18.9	45.6	33.100	VERTICAL
17515.500	59.5	-19.2	45.6	33.100	HORIZONTAL
17900.550	59.3	-18.5	45.6	32.200	VERTICAL
17450.050	59.3	-19.2	41.5	37.000	HORIZONTAL
17943.900	59.2	-17.7	45.6	31.300	VERTICAL
17861.450	59.1	-18.5	45.6	32.000	HORIZONTAL

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

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17941.350	50.9	-17.7	45.6	23.000	HORIZONTAL
17957.500	50.5	-17.7	45.6	22.600	VERTICAL
17961.750	50.5	-17.7	45.6	22.600	VERTICAL
17915.850	50.5	-17.7	45.6	22.600	HORIZONTAL
17912.450	50.4	-18.5	45.6	23.300	VERTICAL
17986.400	50.4	-17.7	45.6	22.500	VERTICAL

**Charging Mode/Peak detector**

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17847.850	60.6	-18.5	45.6	33.500	VERTICAL
18000.000	60.0	-45.6	44.5	61.066	VERTICAL
17970.250	59.9	-17.7	45.6	32.000	VERTICAL
17693.150	59.9	-18.9	45.6	33.200	VERTICAL
17722.050	59.8	-18.9	45.6	33.100	VERTICAL
17791.750	59.8	-18.5	45.6	32.700	HORIZONTAL

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

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17928.600	50.4	-17.7	45.6	22.500	VERTICAL
17993.200	50.4	-17.7	45.6	22.500	VERTICAL
17976.200	50.3	-17.7	45.6	22.400	VERTICAL
17929.450	50.3	-17.7	45.6	22.400	HORIZONTAL
17915.850	50.3	-17.7	45.6	22.400	HORIZONTAL
17868.250	50.3	-18.5	45.6	23.200	VERTICAL

**Charging Mode/Peak detector**

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17746.700	60.1	-18.5	45.6	33.000	HORIZONTAL
17907.350	59.8	-18.5	45.6	32.700	HORIZONTAL
17830.000	59.8	-18.5	45.6	32.700	HORIZONTAL
17868.250	59.6	-18.5	45.6	32.500	VERTICAL
17887.800	59.6	-18.5	45.6	32.500	VERTICAL
17853.800	59.6	-18.5	45.6	32.500	HORIZONTAL

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

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17732.250	50.7	-18.9	45.6	24.000	VERTICAL
17895.450	50.6	-18.5	45.6	23.500	HORIZONTAL
17864.000	50.5	-18.5	45.6	23.400	HORIZONTAL
17977.900	50.4	-17.7	45.6	22.500	VERTICAL
17917.550	50.4	-17.7	45.6	22.500	VERTICAL
17854.650	50.3	-18.5	45.6	23.200	VERTICAL

**Charging Mode/Peak detector**

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17875.050	61.2	-18.5	45.6	34.100	HORIZONTAL
17932.850	61.1	-17.7	45.6	33.200	VERTICAL
17854.650	60.2	-18.5	45.6	33.100	VERTICAL
17957.500	60.0	-17.7	45.6	32.100	HORIZONTAL
17821.500	59.9	-18.5	45.6	32.800	HORIZONTAL
17824.900	59.9	-18.5	45.6	32.800	VERTICAL

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

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17919.250	51.0	-17.7	45.6	23.100	VERTICAL
17943.050	50.8	-17.7	45.6	22.900	VERTICAL
17896.300	50.7	-18.5	45.6	23.600	VERTICAL
17923.500	50.4	-17.7	45.6	22.500	HORIZONTAL
17870.800	50.3	-18.5	45.6	23.200	HORIZONTAL
17975.350	50.3	-17.7	45.6	22.400	VERTICAL

**Charging Mode/Peak detector**

Frequency(MHz)	Result(dB $\mu$ V/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)	Polarity
17988.100	60.5	-17.7	45.6	32.600	VERTICAL
17969.400	60.5	-17.7	45.6	32.600	HORIZONTAL
17835.950	60.4	-18.5	45.6	33.300	VERTICAL
17984.700	60.3	-17.7	45.6	32.400	VERTICAL
17954.100	60.1	-17.7	45.6	32.200	HORIZONTAL
17985.550	59.8	-17.7	45.6	31.900	HORIZONTAL



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

Frequency(MHz)	Result(dBμV/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>mea</sub> (dBμV)	Polarity
17986.400	51.6	-17.7	45.6	23.700	HORIZONTAL
17992.350	51.2	-17.7	45.6	23.300	HORIZONTAL
17955.800	51.1	-17.7	45.6	23.200	HORIZONTAL
17941.350	51.0	-17.7	45.6	23.100	VERTICAL
17943.900	50.6	-17.7	45.6	22.700	VERTICAL
17855.500	50.5	-18.5	45.6	23.400	VERTICAL

**USB Mode/ Peak detector**

Frequency(MHz)	Result(dBμV/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>mea</sub> (dBμV)	Polarity
17969.400	61.5	-17.7	45.6	33.600	VERTICAL
17918.400	60.5	-17.7	45.6	32.600	VERTICAL
17744.150	60.5	-18.5	45.6	33.400	HORIZONTAL
17977.050	60.4	-17.7	45.6	32.500	VERTICAL
17951.550	60.4	-17.7	45.6	32.500	VERTICAL
17760.300	60.4	-18.5	45.6	33.300	HORIZONTAL

**Measurement results for Set.7:**
**USB Mode/Average detector**

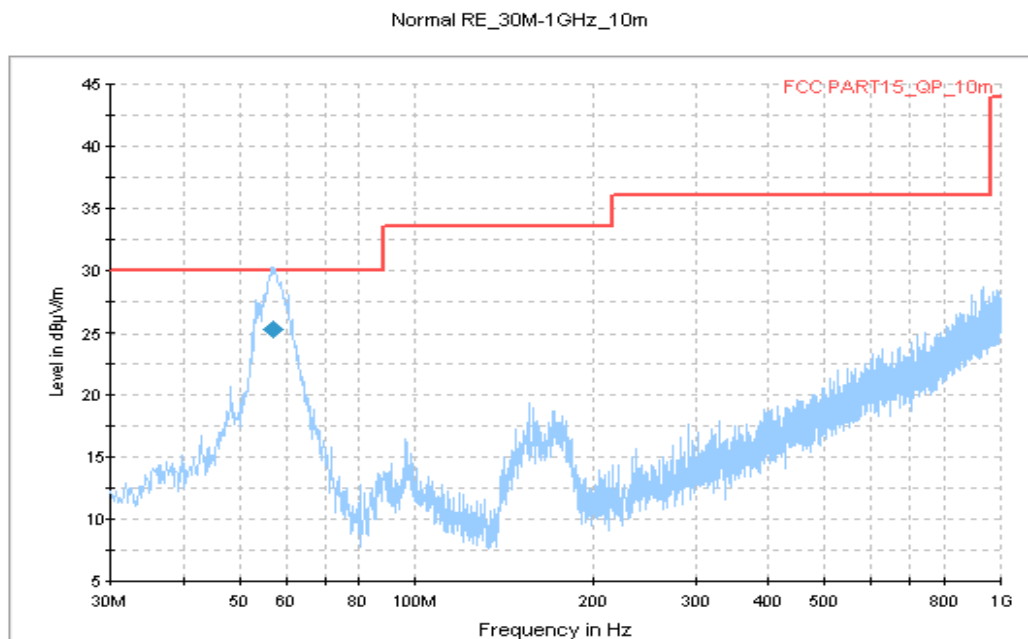
Frequency(MHz)	Result(dBμV/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>mea</sub> (dBμV)	Polarity
17835.100	50.7	-18.5	45.6	23.600	HORIZONTAL
17954.100	50.6	-17.7	45.6	22.700	VERTICAL
17985.550	50.6	-17.7	45.6	22.700	VERTICAL
17996.600	50.6	-17.7	45.6	22.700	VERTICAL
17977.900	50.5	-17.7	45.6	22.600	HORIZONTAL
17926.900	50.5	-17.7	45.6	22.600	HORIZONTAL

**USB Mode/ Peak detector**

Frequency(MHz)	Result(dBμV/m)	G <sub>PL</sub> (dB)	G <sub>A</sub> (dB/m)	P <sub>mea</sub> (dBμV)	Polarity
17990.650	61.1	-17.7	45.6	33.200	VERTICAL
17758.600	61.0	-18.5	45.6	33.900	HORIZONTAL
17996.600	60.9	-17.7	45.6	33.000	HORIZONTAL
17807.050	60.9	-18.5	45.6	33.800	VERTICAL
17963.450	60.9	-17.7	45.6	33.000	HORIZONTAL
17981.300	60.7	-17.7	45.6	32.800	VERTICAL

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 USB cables.

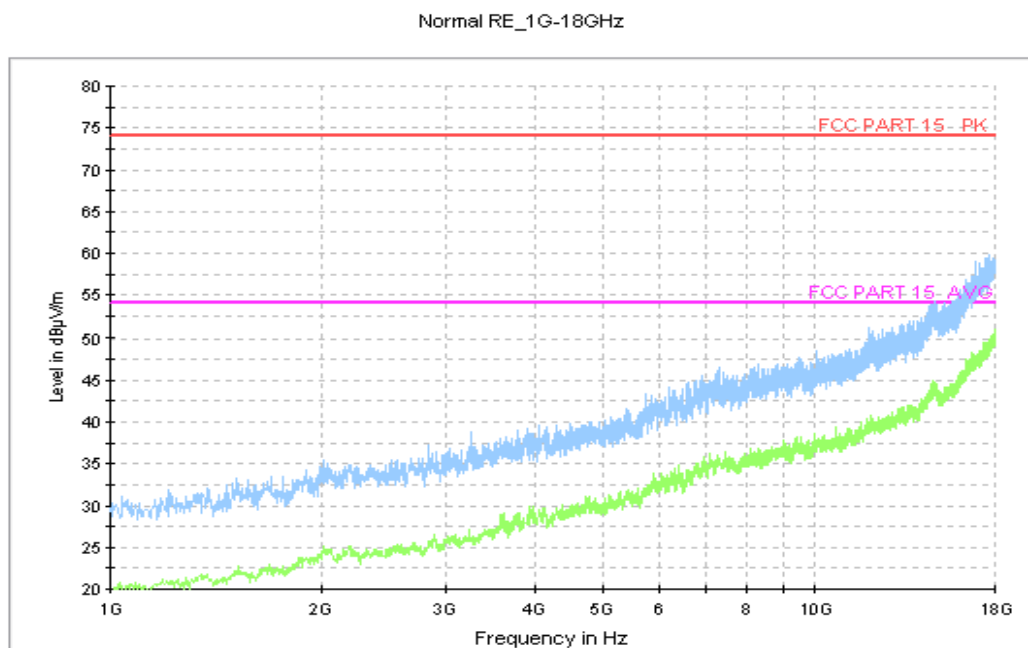
### Charging Mode, Set.1



**Figure A.1 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)
57.215000	25.3	107.0	V	98.0	-12.0	4.7	30.0



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

### Charging Mode, Set.2

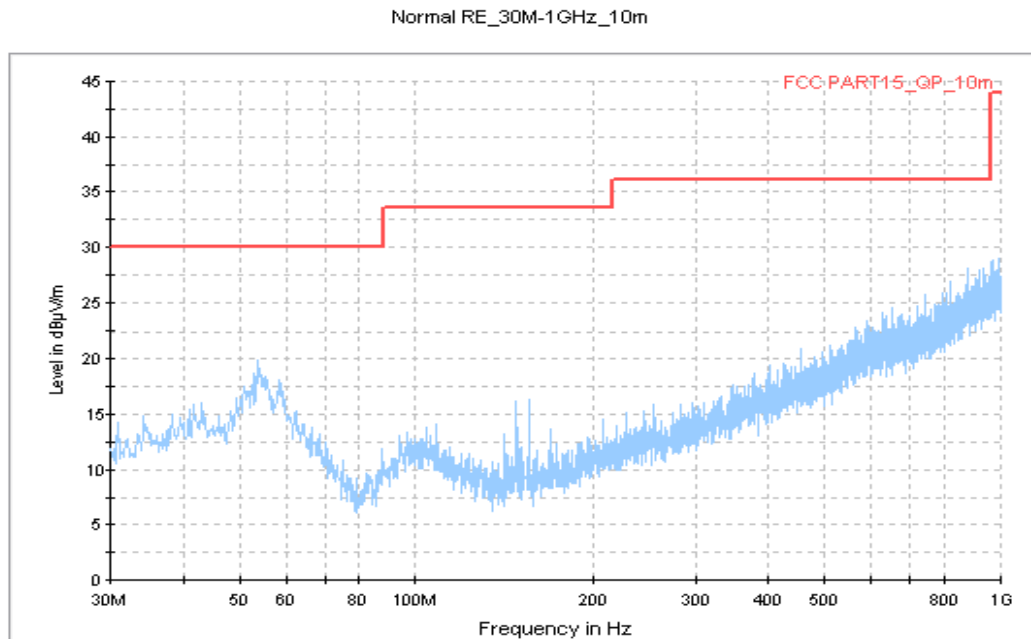


Figure A.3 Radiated Emission from 30MHz to 1GHz

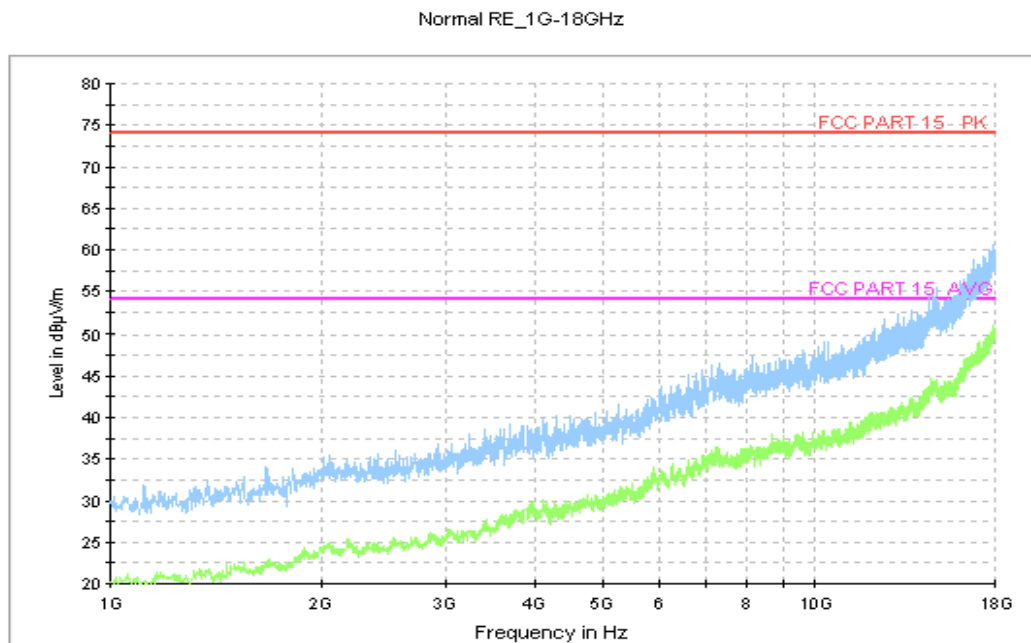


Figure A.4 Radiated Emission from 1GHz to 18GHz

### Charging Mode, Set.3

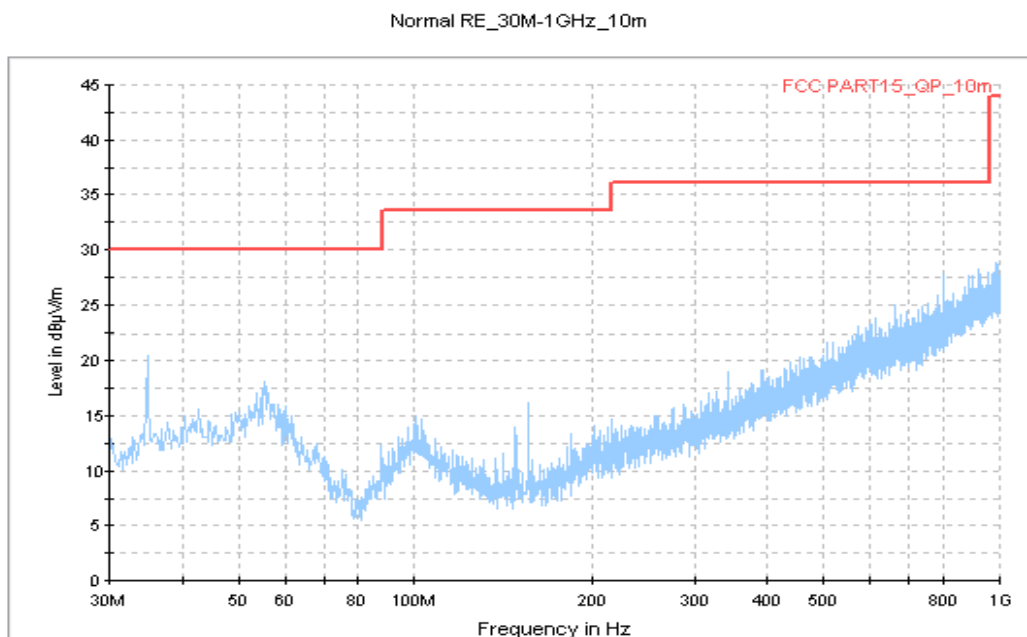


Figure A.5 Radiated Emission from 30MHz to 1GHz

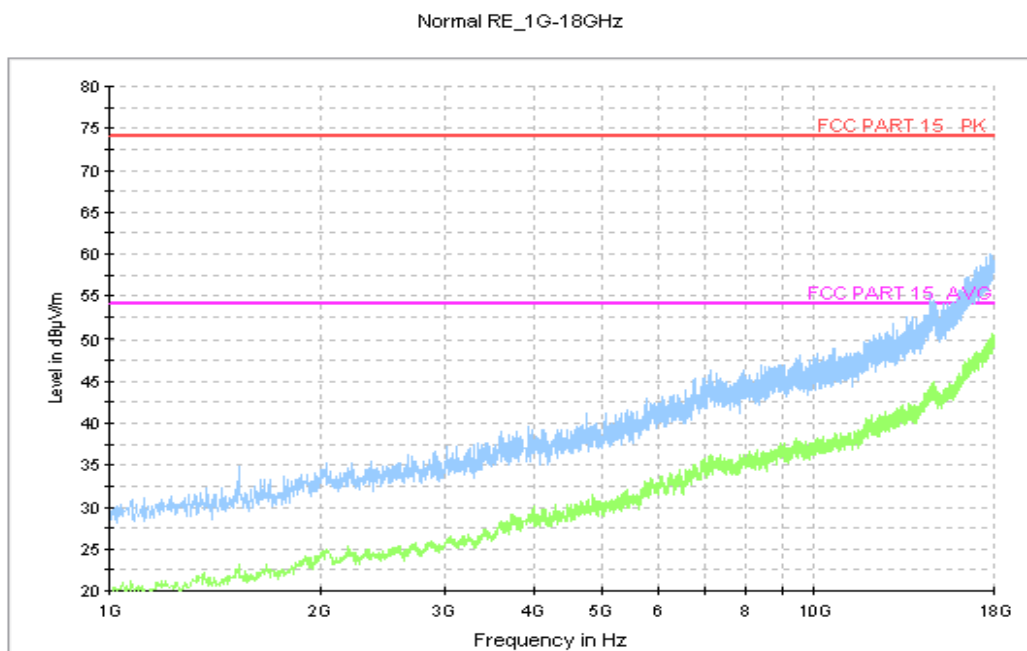


Figure A.6 Radiated Emission from 1GHz to 18GHz

#### Charging Mode, Set.4

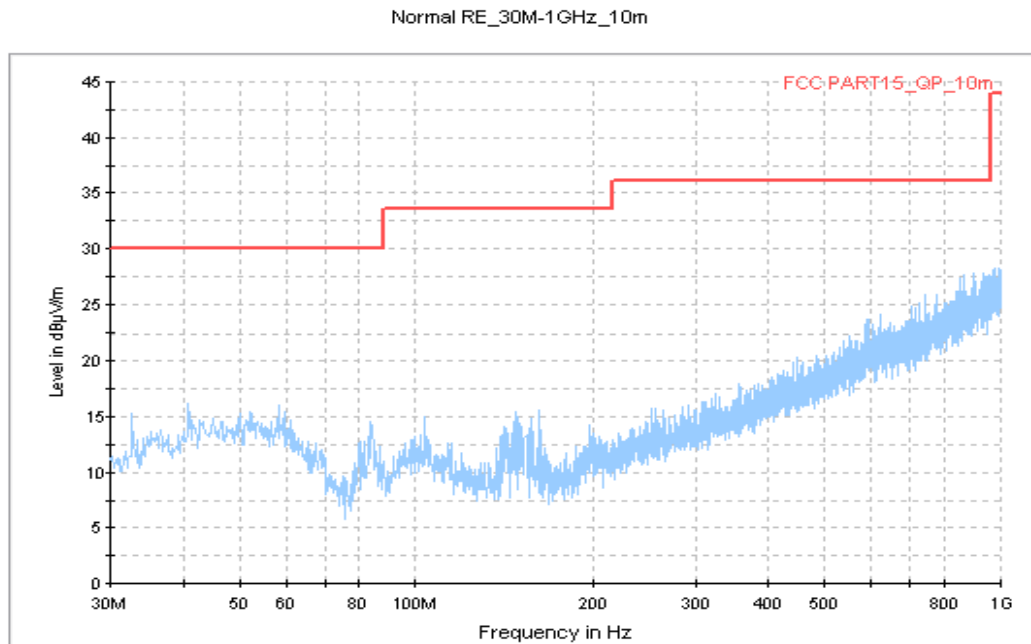


Figure A.7 Radiated Emission from 30MHz to 1GHz

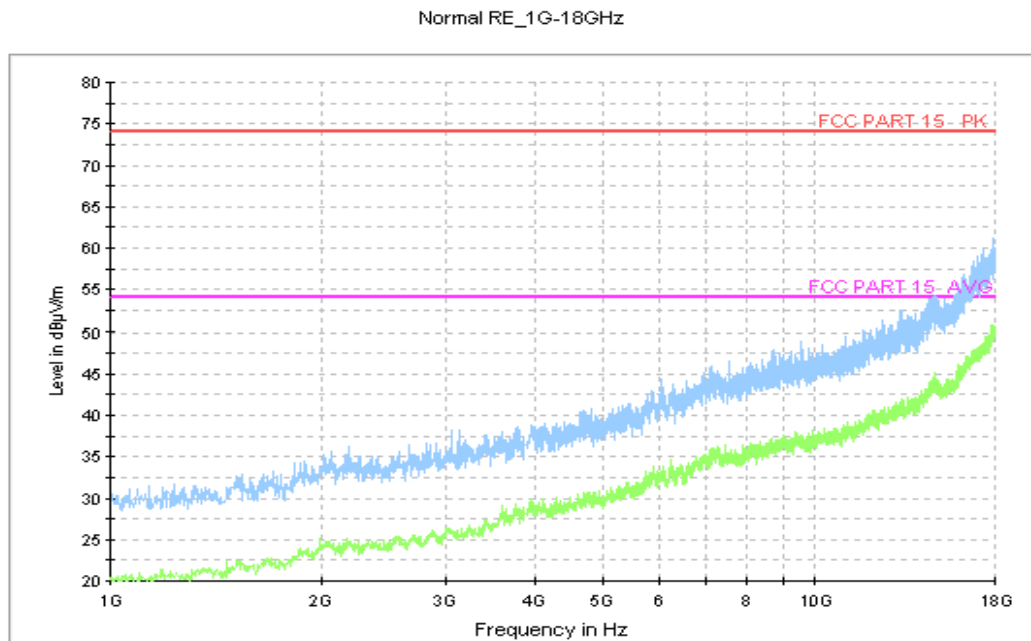


Figure A.8 Radiated Emission from 1GHz to 18GHz

### Charging Mode, Set.5

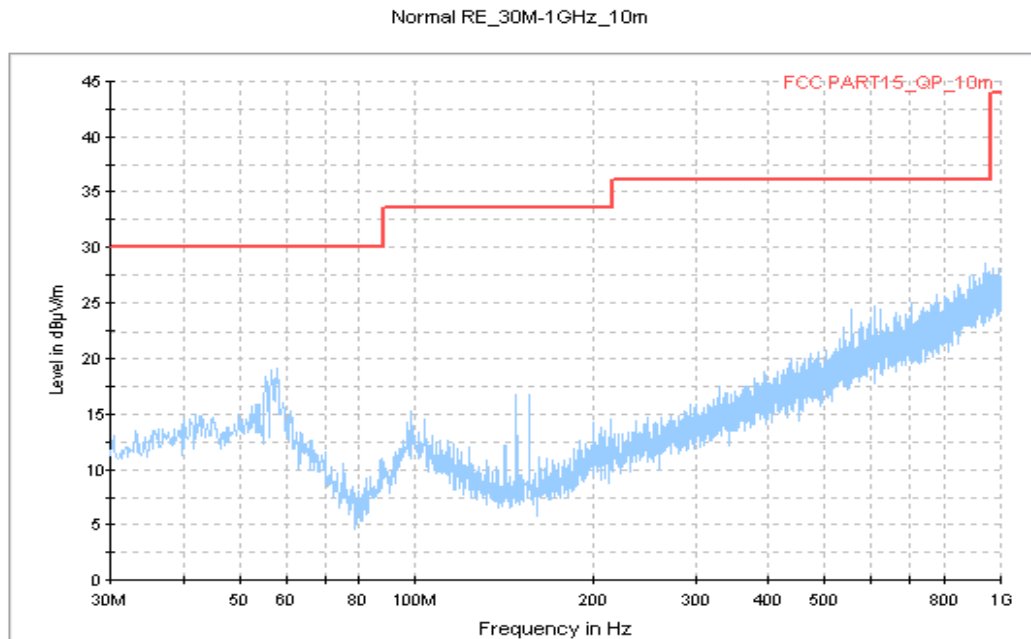


Figure A.9 Radiated Emission from 30MHz to 1GHz

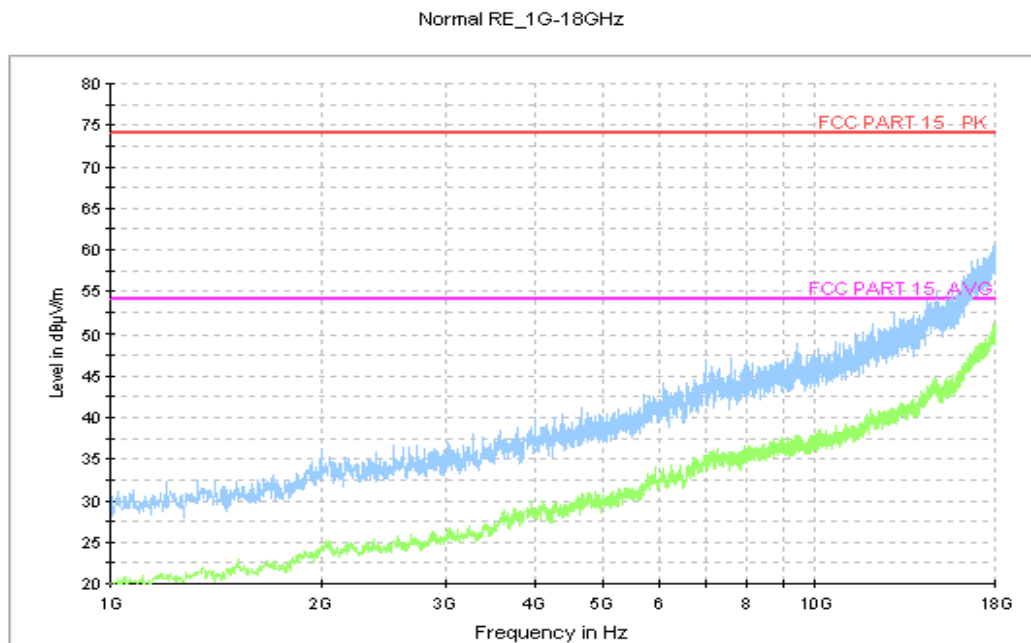


Figure A.10 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.6

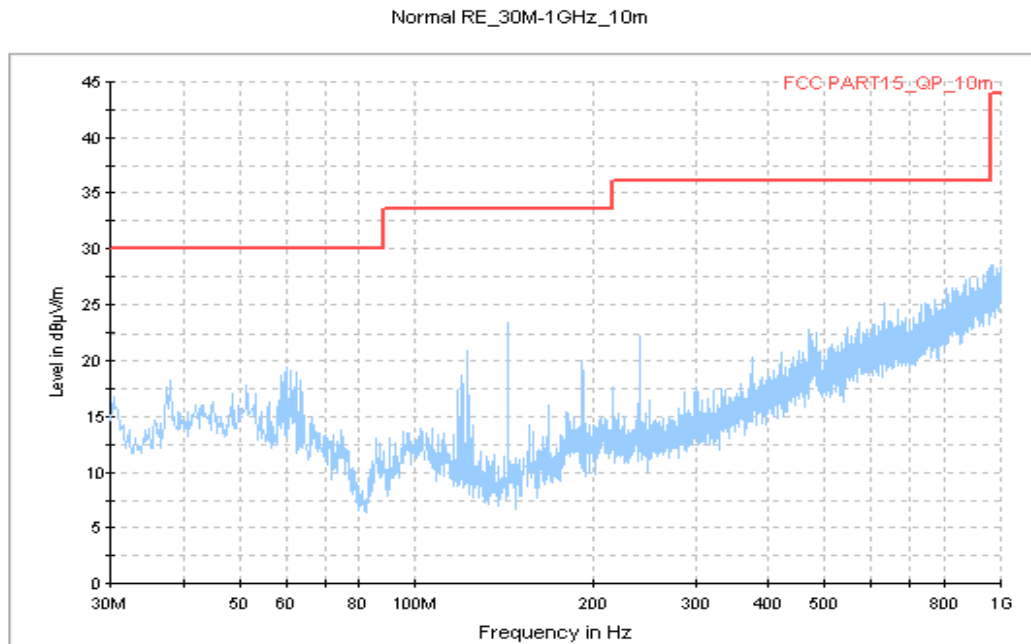


Figure A.11 Radiated Emission from 30MHz to 1GHz

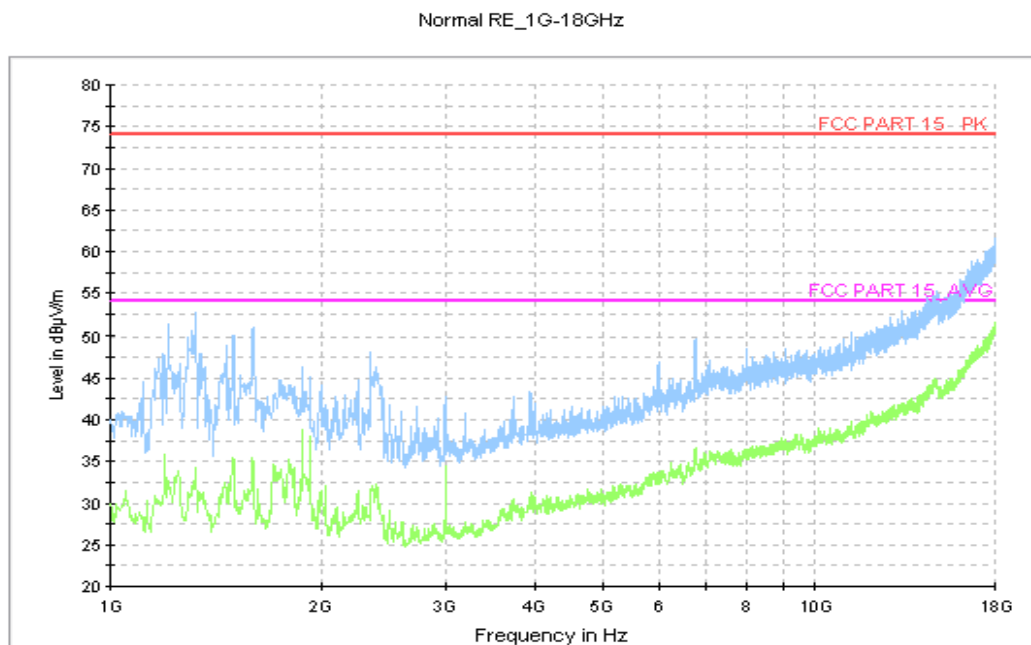


Figure A.12 Radiated Emission from 1GHz to 18GHz

USB Mode, Set.7

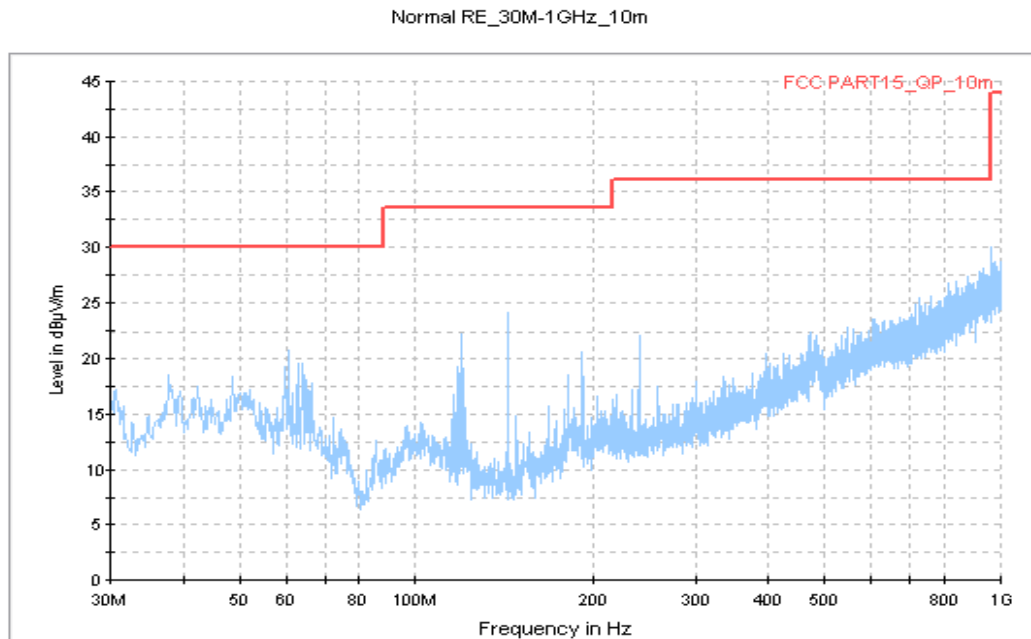


Figure A.13 Radiated Emission from 30MHz to 1GHz

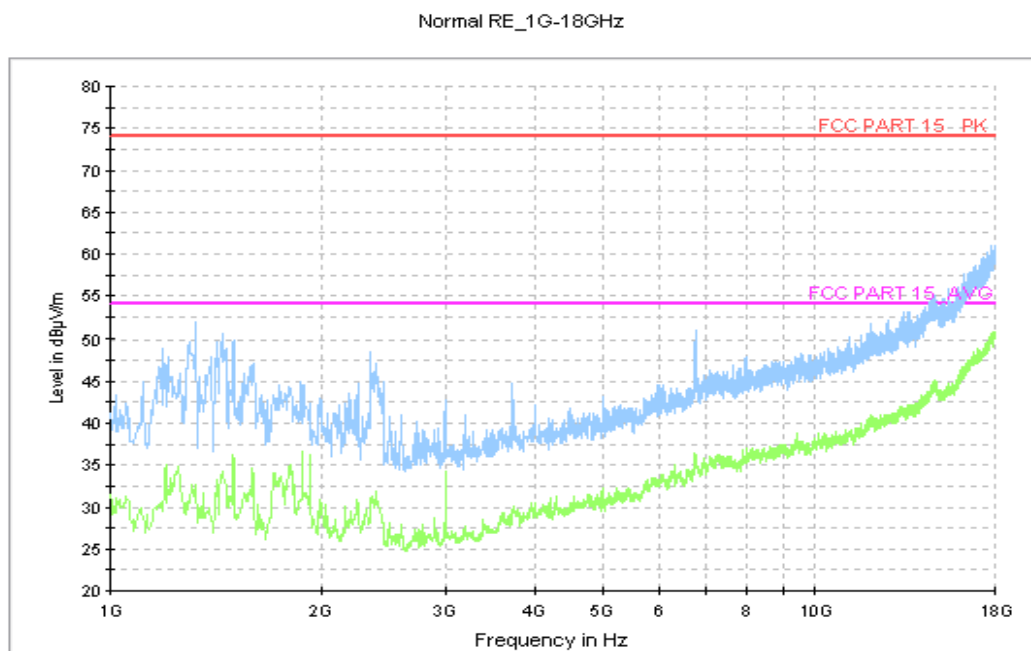


Figure A.14 Radiated Emission from 1GHz to 18GHz



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

#### Charging Mode, Set.1

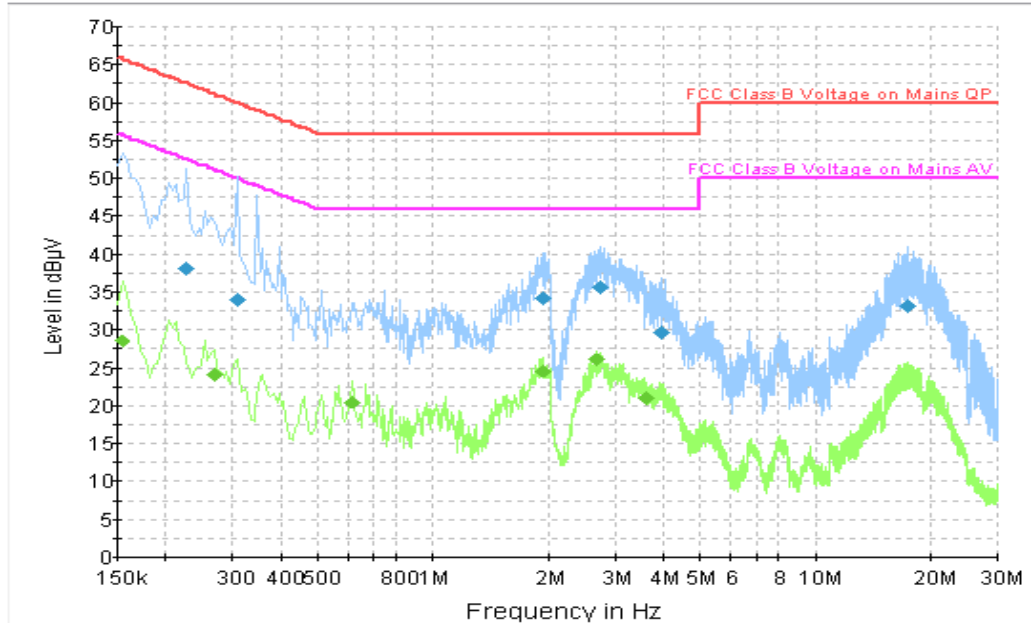


Figure A.19 Conducted Emission

#### Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.226500	38.2	2000.0	9.000	On	N	19.8	24.4	62.6
0.307500	34.0	2000.0	9.000	On	N	19.8	26.0	60.0
1.932000	34.1	2000.0	9.000	On	L1	19.7	21.9	56.0
2.733000	35.7	2000.0	9.000	On	L1	19.1	20.3	56.0
3.948000	29.7	2000.0	9.000	On	L1	19.5	26.3	56.0
17.398500	33.1	2000.0	9.000	On	L1	20.0	26.9	60.0

#### Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	28.5	2000.0	9.000	On	L1	20.0	27.2	55.8
0.267000	24.1	2000.0	9.000	On	L1	19.8	27.1	51.2
0.613500	20.5	2000.0	9.000	On	L1	19.8	25.5	46.0
1.932000	24.7	2000.0	9.000	On	L1	19.7	21.3	46.0
2.674500	26.2	2000.0	9.000	On	L1	19.4	19.8	46.0
3.615000	21.0	2000.0	9.000	On	L1	19.5	25.0	46.0

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

## Charging Mode, Set.2

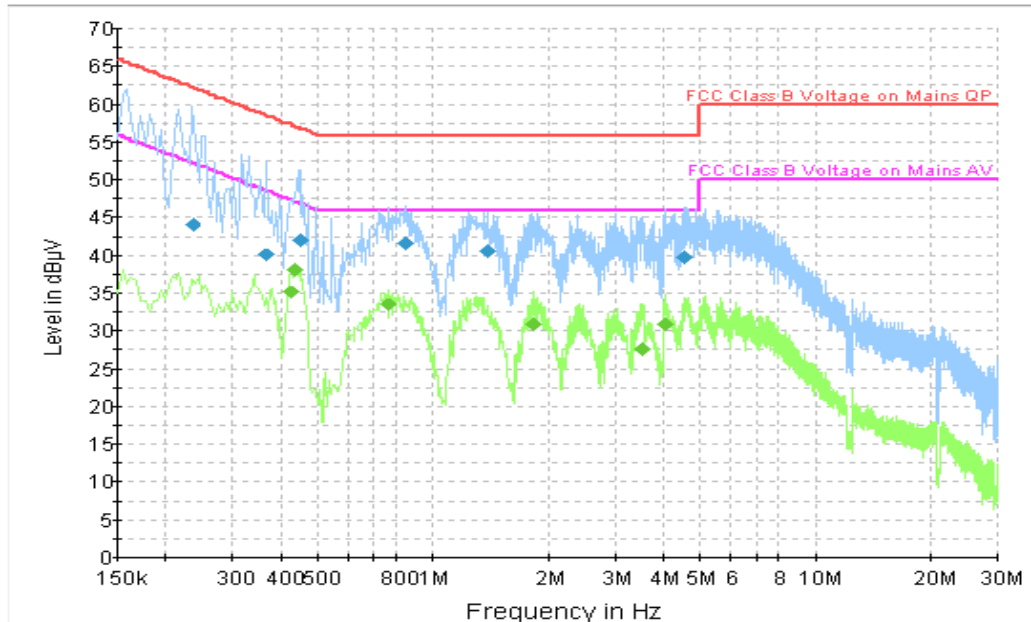


Figure A.20 Conducted Emission

### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.235500	44.1	2000.0	9.000	On	N	19.8	18.1	62.3
0.366000	40.2	2000.0	9.000	On	N	19.8	18.4	58.6
0.451500	42.1	2000.0	9.000	On	N	19.9	14.8	56.8
0.847500	41.5	2000.0	9.000	On	L1	19.8	14.5	56.0
1.392000	40.7	2000.0	9.000	On	L1	19.7	15.3	56.0
4.542000	39.8	2000.0	9.000	On	L1	19.6	16.2	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.424500	35.2	2000.0	9.000	On	L1	19.9	12.2	47.4
0.438000	38.2	2000.0	9.000	On	L1	19.9	8.9	47.1
0.762000	33.5	2000.0	9.000	On	L1	19.8	12.5	46.0
1.837500	30.9	2000.0	9.000	On	L1	19.7	15.1	46.0
3.502500	27.6	2000.0	9.000	On	L1	19.5	18.4	46.0
4.024500	30.8	2000.0	9.000	On	L1	19.5	15.2	46.0

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

### Charging Mode, Set.3

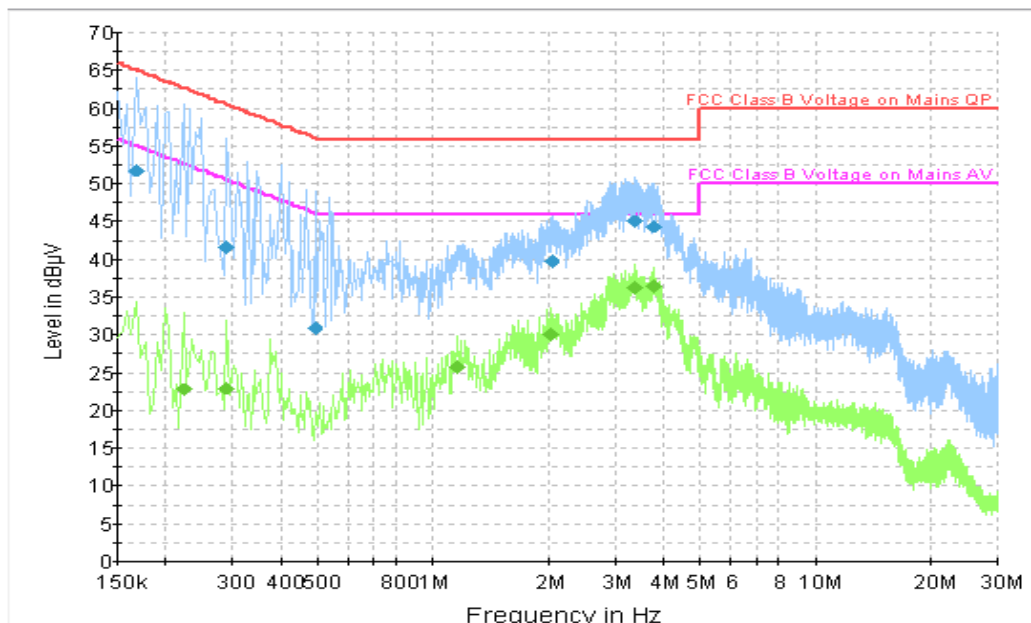


Figure A.21 Conducted Emission

### Final Result 1

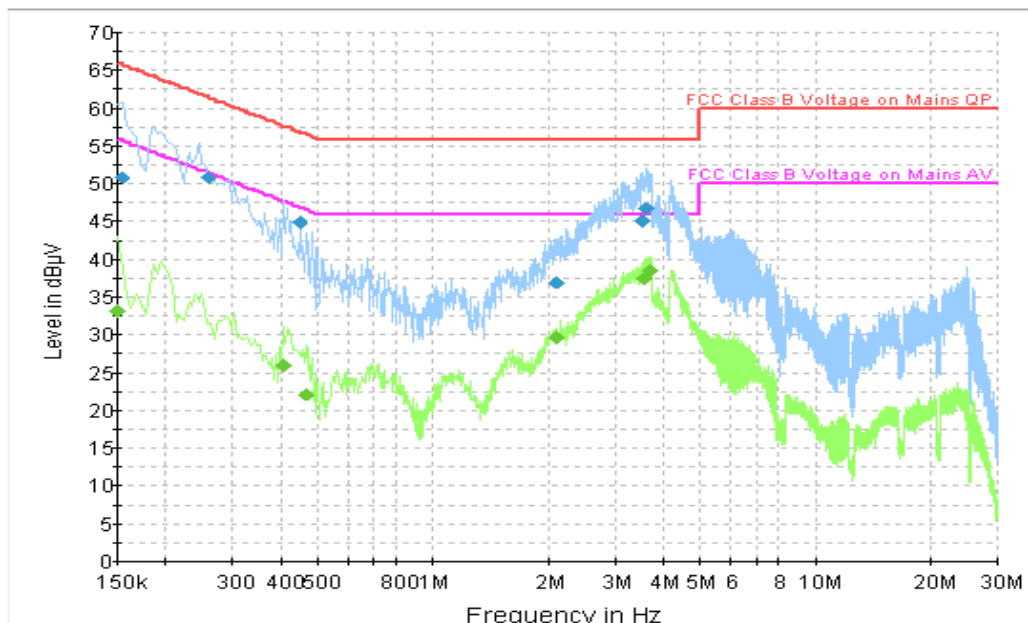
Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	51.8	2000.0	9.000	On	N	19.8	13.2	65.1
0.289500	41.6	2000.0	9.000	On	L1	19.8	18.9	60.5
0.492000	31.0	2000.0	9.000	On	L1	19.9	25.2	56.1
2.044500	39.8	2000.0	9.000	On	L1	19.7	16.2	56.0
3.372000	45.1	2000.0	9.000	On	L1	19.4	10.9	56.0
3.804000	44.4	2000.0	9.000	On	L1	19.5	11.6	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.222000	22.9	2000.0	9.000	On	L1	19.8	29.9	52.7
0.289500	22.9	2000.0	9.000	On	L1	19.8	27.6	50.5
1.153500	25.8	2000.0	9.000	On	L1	19.7	20.2	46.0
2.026500	30.0	2000.0	9.000	On	L1	19.7	16.0	46.0
3.363000	36.3	2000.0	9.000	On	L1	19.4	9.7	46.0
3.804000	36.5	2000.0	9.000	On	L1	19.5	9.5	46.0

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

### Charging Mode, Set.4



**Figure A.22 Conducted Emission**

### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	50.9	2000.0	9.000	On	L1	20.0	14.9	65.8
0.258000	50.9	2000.0	9.000	On	L1	19.8	10.6	61.5
0.447000	44.8	2000.0	9.000	On	N	19.9	12.1	56.9
2.094000	37.0	2000.0	9.000	On	L1	19.7	19.0	56.0
3.516000	45.1	2000.0	9.000	On	L1	19.5	10.9	56.0
3.628500	46.7	2000.0	9.000	On	L1	19.5	9.3	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	33.2	2000.0	9.000	On	L1	20.2	22.8	56.0
0.406500	26.0	2000.0	9.000	On	L1	19.9	21.8	47.7
0.465000	22.2	2000.0	9.000	On	L1	19.9	24.4	46.6
2.094000	29.8	2000.0	9.000	On	L1	19.7	16.2	46.0
3.579000	37.4	2000.0	9.000	On	L1	19.5	8.6	46.0
3.678000	38.6	2000.0	9.000	On	L1	19.5	7.4	46.0

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

## Charging Mode, Set.5

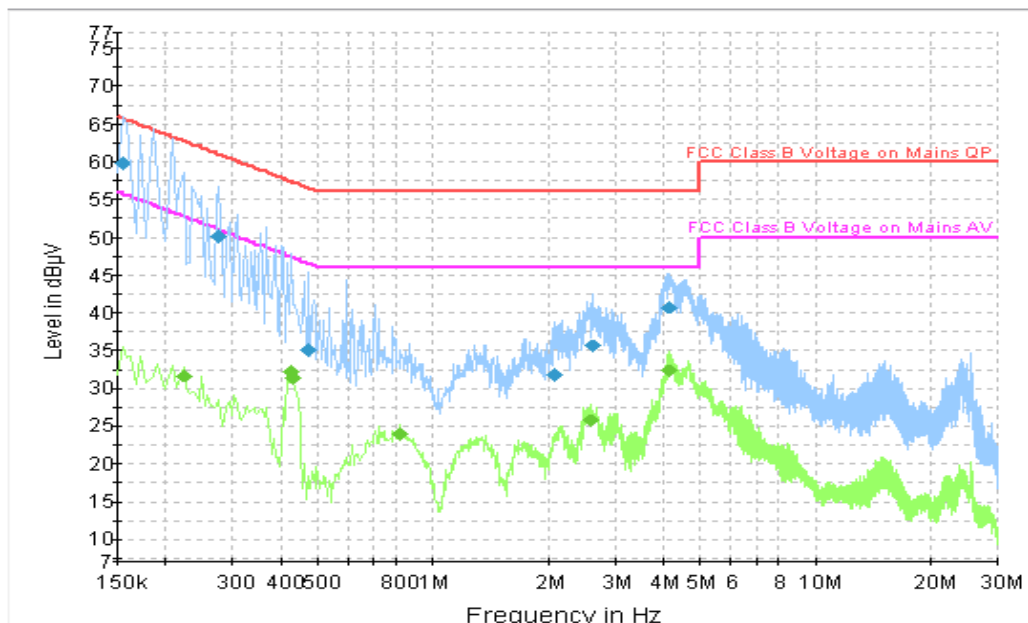


Figure A.23 Conducted Emission

### Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.154500	59.9	2000.0	9.000	On	N	20.0	5.9	65.8
0.276000	50.1	2000.0	9.000	On	L1	19.8	10.9	60.9
0.474000	35.0	2000.0	9.000	On	N	19.9	21.4	56.4
2.085000	31.7	2000.0	9.000	On	L1	19.7	24.3	56.0
2.620500	35.5	2000.0	9.000	On	L1	19.2	20.5	56.0
4.146000	40.6	2000.0	9.000	On	L1	19.6	15.4	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	31.6	2000.0	9.000	On	L1	19.8	21.2	52.7
0.424500	32.1	2000.0	9.000	On	L1	19.9	15.2	47.4
0.433500	31.2	2000.0	9.000	On	N	19.9	15.9	47.2
0.825000	23.9	2000.0	9.000	On	N	19.8	22.1	46.0
2.589000	25.7	2000.0	9.000	On	L1	19.1	20.3	46.0
4.137000	32.2	2000.0	9.000	On	L1	19.6	13.8	46.0

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

## USB Mode, Set.6

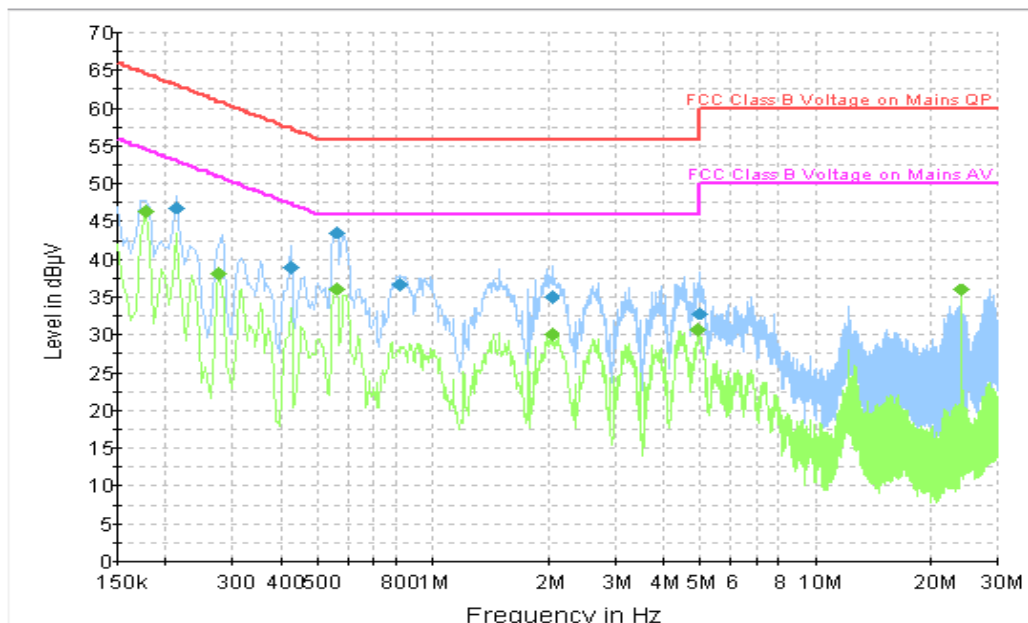


Figure A.24 Conducted Emission

### Final Result 1

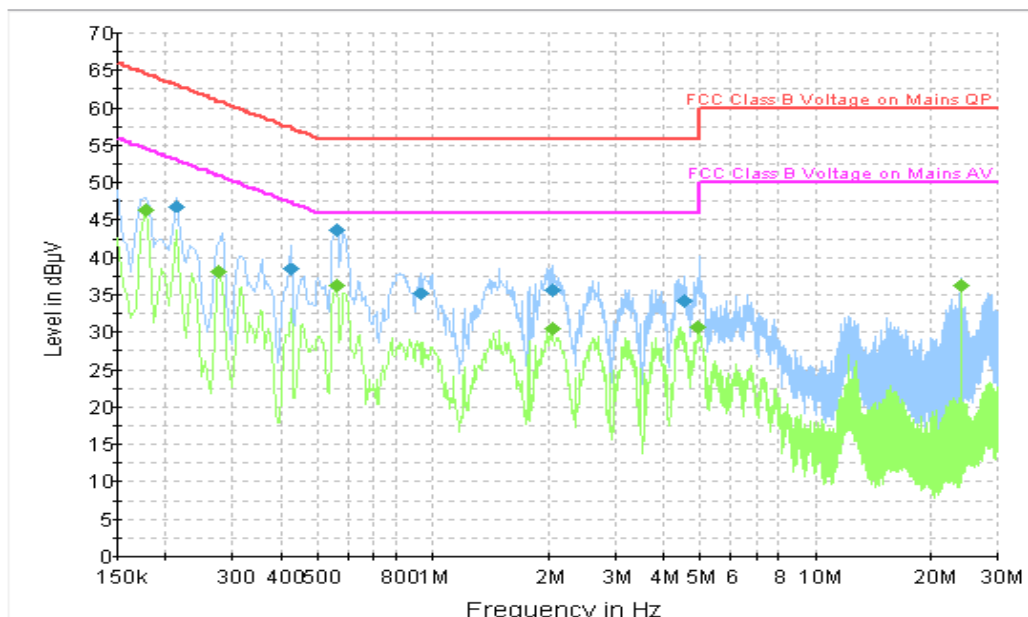
Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.213000	46.9	2000.0	9.000	On	N	19.8	16.2	63.1
0.424500	38.9	2000.0	9.000	On	L1	19.9	18.4	57.4
0.559500	43.7	2000.0	9.000	On	L1	19.9	12.3	56.0
0.820500	36.7	2000.0	9.000	On	N	19.8	19.3	56.0
2.053500	35.0	2000.0	9.000	On	N	19.7	21.0	56.0
4.983000	32.8	2000.0	9.000	On	N	19.6	23.2	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.177000	46.5	2000.0	9.000	On	N	19.8	8.2	54.6
0.276000	38.1	2000.0	9.000	On	N	19.8	12.8	50.9
0.559500	36.2	2000.0	9.000	On	L1	19.9	9.8	46.0
2.053500	30.0	2000.0	9.000	On	N	19.7	16.0	46.0
4.951500	30.7	2000.0	9.000	On	N	19.6	15.3	46.0
23.995500	35.9	2000.0	9.000	On	N	20.1	14.1	50.0

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

## USB Mode, Set.7



**Figure A.25 Conducted Emission**

### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.213000	46.9	2000.0	9.000	On	N	19.8	16.2	63.1
0.424500	38.4	2000.0	9.000	On	L1	19.9	18.9	57.4
0.559500	43.7	2000.0	9.000	On	L1	19.9	12.3	56.0
0.924000	35.2	2000.0	9.000	On	L1	19.8	20.8	56.0
2.058000	35.7	2000.0	9.000	On	L1	19.7	20.3	56.0
4.537500	34.2	2000.0	9.000	On	N	19.6	21.8	56.0

### Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time(ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	46.5	2000.0	9.000	On	N	19.8	8.2	54.6
0.276000	38.1	2000.0	9.000	On	N	19.8	12.8	50.9
0.559500	36.3	2000.0	9.000	On	L1	19.9	9.7	46.0
2.058000	30.5	2000.0	9.000	On	L1	19.7	15.5	46.0
4.951500	30.6	2000.0	9.000	On	L1	19.6	15.4	46.0
23.995500	36.4	2000.0	9.000	On	N	20.1	13.6	50.0

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

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