



# TESTREPORT

No.I18N00176-EMC

for

**Meizu Technology Co., Ltd.**

**LTE Mobile Phone**

**Model Name: M810L**

**FCC ID: 2ANQ6-M810L**

**Hardware Version: V1.0**

**Software Version: Flyme 6.3.5.0G**

**Issued Date: 2018-03-19**

**Designation Number: CN1210**

**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 SAICT.

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## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
I18N00176-EMC	Rev.0	1st edition	2018-03-19

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## 1. Test Laboratory

### 1.1. Testing Location

Company Name: Shenzhen Academy of Information and Communications  
Technology  
Address: Building G, Shenzhen International Innovation Center, No.1006  
Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China  
Postal Code: 518026  
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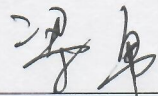
### 1.2. Testing Environment

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

### 1.3. Project data

Testing Start Date: 2018-02-02  
Testing End Date: 2018-03-07

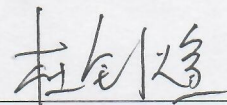
### 1.4. Signature



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Liang Yong

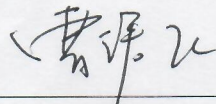
(Prepared this test report)



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Du Zhaoxuan

(Reviewed this test report)



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Cao Junfei

Director of the laboratory  
(Approved this test report)

## **2. ClientInformation**

### **2.1. Applicant Information**

Company Name: Meizu Technology Co., Ltd.

Address: Meizu Tech Bldg., Technology & Innovation Coast, Zhuhai, Guangdong  
Province, China

### **2.2. Manufacturer Information**

Company Name: Meizu Technology Co.,Ltd

Address: Meizu Tech Bldg., Technology & Innovation Coast, Zhuhai, Guangdong  
Province, China

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

#### 3.1. About EUT

Description	LTE Mobile Phone
Model Name	M810L
FCC ID	2ANQ6-M810L

The Equipment Under Test (EUT) are a model of LTE Mobile Phone with integrated antenna. The EUT supports GPRS service and EGPRS service.

Remark: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed information.

#### 3.2. Internal Identification of EUT

EUT ID*	SN or IMEI
EUT1	867865030007866

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

#### 3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Battery	/
AE2	Travel charger	/
AE3	USB cable	/
AE1-1		
Model	BA810	
Manufacturer	Sunwoda Electronic CO.,LTD.	
Capacity	3000mAh	
Nominal Voltage	3.85V	
AE1-2		
Model	BA810	
Manufacturer	DONG GUAN DER NEW ENERGY CO.,LTD.	
Capacity	3000mAh	
Nominal Voltage	3.85V	
AE1-3		
Model	BA810	
Manufacturer	Ningbo Veken Battery Co.,Ltd.	
Capacity	3000mAh	
Nominal Voltage	3.85V	
AE2		
Model	UP0520A	
Manufacturer	Salcomp(Shenzhen)Co., Ltd.	
SN	/	

AE3

Model

SYD-A064A

Manufacturer

Saibao(jiangxi) industrial company limited

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

### 3.4. EUT set-ups

<b>EUT set-up No.</b>	<b>Combination of EUT and AE</b>	<b>Remarks</b>
Set.1	EUT1+ AE1-1+AE2+AE3	Charging mode
Set.2	EUT1+ AE1-1+ AE3	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	10-1-2017 Edition
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

## 5. LABORATORY ENVIRONMENT

**Semi-anechoic chamber** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35°C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-18000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω
Normalised site attenuation (NSA)	<±4 dB, 3 m distance, from 30 to 1000 MHz

**Shield room** did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. =20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz,>60dB; 1MHz-10000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω

**Fully-anechoic chamber** 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-18000MHz,>90dB
Electrical insulation	>2MΩ
Ground system resistance	<4Ω
VoltageStandingWaveRatio (VSWR)	≤ 6 dB, from 1 to 18GHz, 3 m distance
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

## 6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

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

## 7. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CALDUE DATE	CAL PERIOD
1.	Test Receiver	ESR7	101676	R&S	2018.11.29	1 year
2.	TestReceiver	ESCI	100702	R&S	2018.06.25	1 year
3.	Spectrum Analyzer	FSV40	101192	R&S	2018.05.22	1 year
4.	BiLog Antenna	VULB9163	9163 329	SCHWARZBECK	2020.02.27	3 years
5.	LISN	ENV216	102067	R&S	2018.07.19	1 year
6.	Horn Antenna	3117	00066577	ETS-lindgren	2019.04.05	3 years
7.	Universal Radio Communication Tester	CMU200	114545	R&S	2018.05.17	1 year
8.	PC	2OET-A00DC D	PF-010TM1	Lenovo	/	/
9.	Printer	P1008	VNF6C12491	HP	/	/
10.	Mouse	MOEUUOA	44NY517	Lenovo	/	/
11.	Chamber	FACT3-2.0	1285	ETS-Lindgren	2019.11.27	3 years

## **ANNEX A: MEASUREMENT RESULTS**

### **A.1 Radiated Emission (§15.109(a))**

#### **Reference**

FCC: CFR Part 15.109(a)

#### **A.1.1 Method of measurement**

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 -2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

#### **A.1.2 EUT Operating Mode:**

**Charging mode:** The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

**USB mode:** The model of the PC is Lenovo 2OET-A00DCD, and the serial number of the PC is PF-010TM1. 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**

Limit from CFR Part 15.109(a)

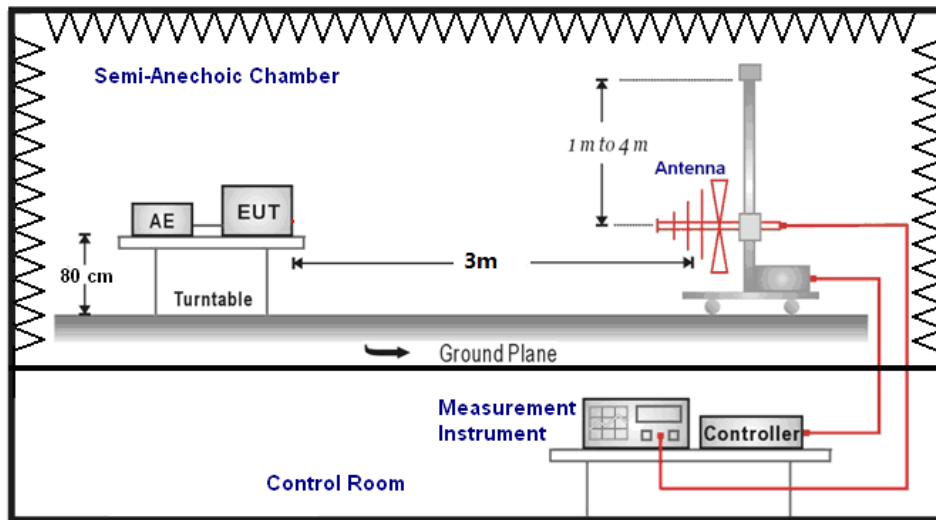
Frequency range (MHz)	Field strength limit ( $\mu\text{V}/\text{m}$ )		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

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

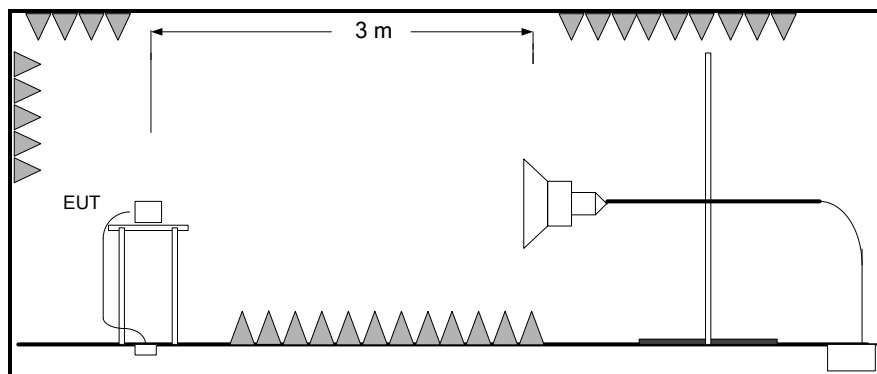
#### **A.1.4 Test Condition**

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

**A.1.5 Test set-up:  
30MHz-1GHz**



**1GHz-18GHz**



### A.1.6 Measurement Results

A "reference path loss" is established and the  $A_{Rpl}$  is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

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

Where

$G_A$ : Antenna factor of receive antenna

$G_{PL}$ : PathLoss

$P_{\text{Mea}}$ : Measurement result on receiver.

Note: the result contains vertical part and Horizontal part

**RE Measurement uncertainty:** 30M-1GHz: 4.90dB (k=2);  
1GHz-18GHz: 5.32 dB (k=2)

#### Set.1 Charging mode / Peak detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin(dB)	Polarity	ARpl (dB/m)	$P_{\text{Mea}}$ (dB $\mu$ V)
13339.5	53.33	74	20.67	H	20.3	33.03
14660.5	55	74	19	V	21.3	33.7
15573.5	60.03	74	13.97	V	23.7	36.33
15970.5	60.81	74	13.19	V	25.6	35.21
16585.5	61.74	74	12.26	H	26.4	35.34
17708	61.22	74	12.78	V	27.6	33.62

#### Set.1 Charging mode / Average detector

Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin(dB)	Polarity	ARpl (dB/m)	$P_{\text{Mea}}$ (dB $\mu$ V)
13910.5	42.72	54	11.28	V	21.1	21.62
14670.5	43.48	54	10.52	V	21.3	22.18
15574	48.34	54	5.66	H	23.7	24.64
15932.5	49.57	54	4.43	V	24.8	24.77
16600	50.38	54	3.62	V	26.3	24.08
17707.5	50.06	54	3.94	V	27.6	22.46

**Set.2 USB mode / Peak detector**

Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin(dB)	Polarity	ARpl (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)
13927	54.61	74	19.39	H	20.4	34.21
14678	56.04	74	17.96	H	21.4	34.64
15570.5	60.19	74	13.81	H	23.6	36.59
15936	61.11	74	12.89	V	24.9	36.21
16562	61.77	74	12.23	V	25.7	36.07
17721	61.78	74	12.22	V	27.7	34.08

**Set.2 USB mode / Average detector**

Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin(dB)	Polarity	ARpl (dB/m)	P <sub>Mea</sub> (dB $\mu$ V)
5760	44.41	54	9.59	H	12.5	31.91
14656	43.59	54	10.41	V	21.3	22.29
15570.5	48.31	54	5.69	H	23.6	24.71
15918.5	49.43	54	4.57	V	24.6	24.83
16596	50.52	54	3.48	V	26.3	24.22
17717.5	50.13	54	3.87	V	27.7	22.43

Note: The measurement result of Set.1 and Set.2 showed here are worst cases of combinations of different batteries and USB cables.



Charging mode: Set 1

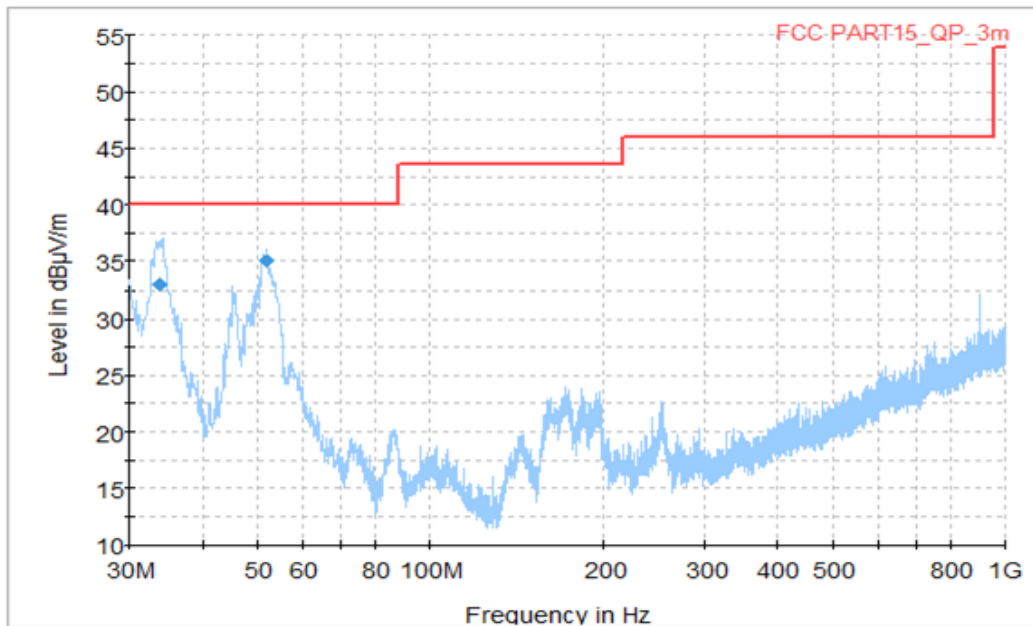


Figure A.1 Radiated Emission from 30MHz to 1GHz

Final\_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
33.963750	33.00	40.00	7.00	V	-17.0
51.783750	35.08	40.00	4.92	V	-14.9

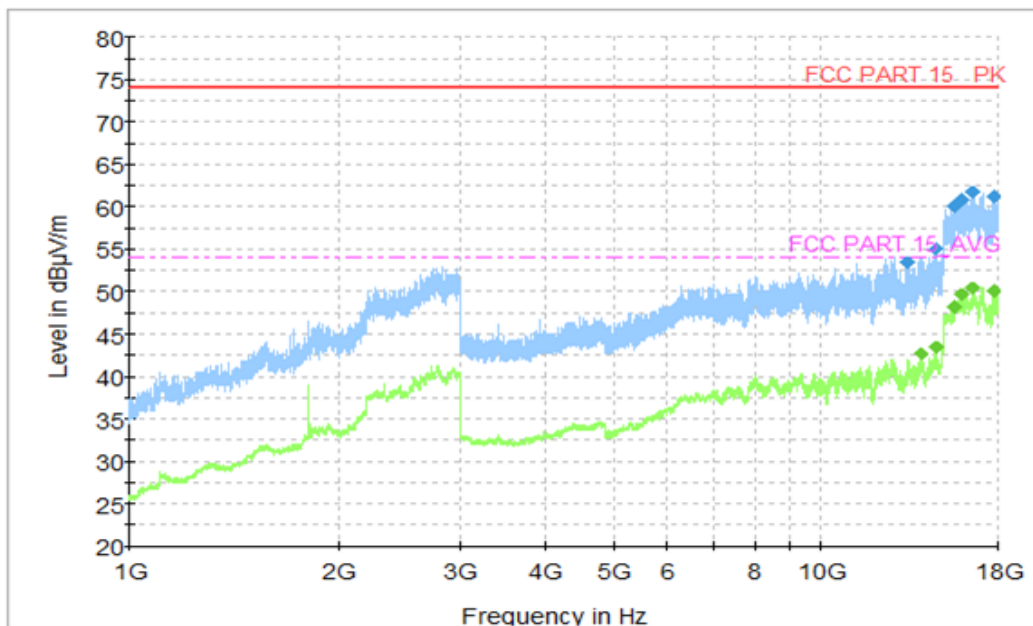


Figure A.2 Radiated Emission from 1GHz to 18GHz

USB mode: Set 2

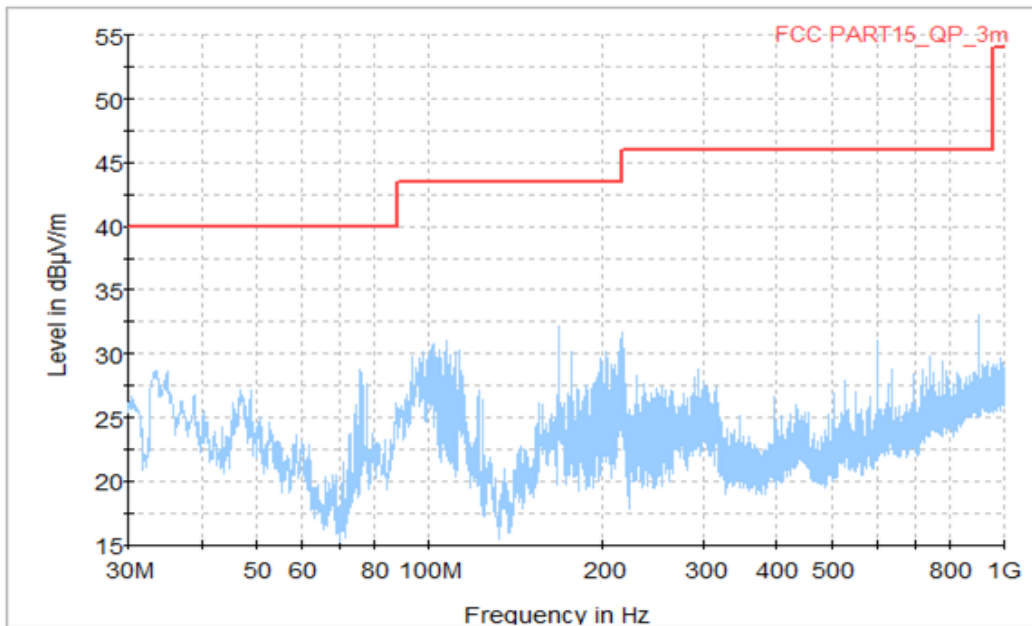


Figure A.3 Radiated Emission from 30MHz to 1GHz



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

## B.2 Conducted Emission (§15.107(a))

### Reference

FCC: CFR Part 15.107(a)

### B.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 150kHz to 30MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 -2014, section 7.3.

### B.2.2 EUT Operating Mode:

**Charging mode:** The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

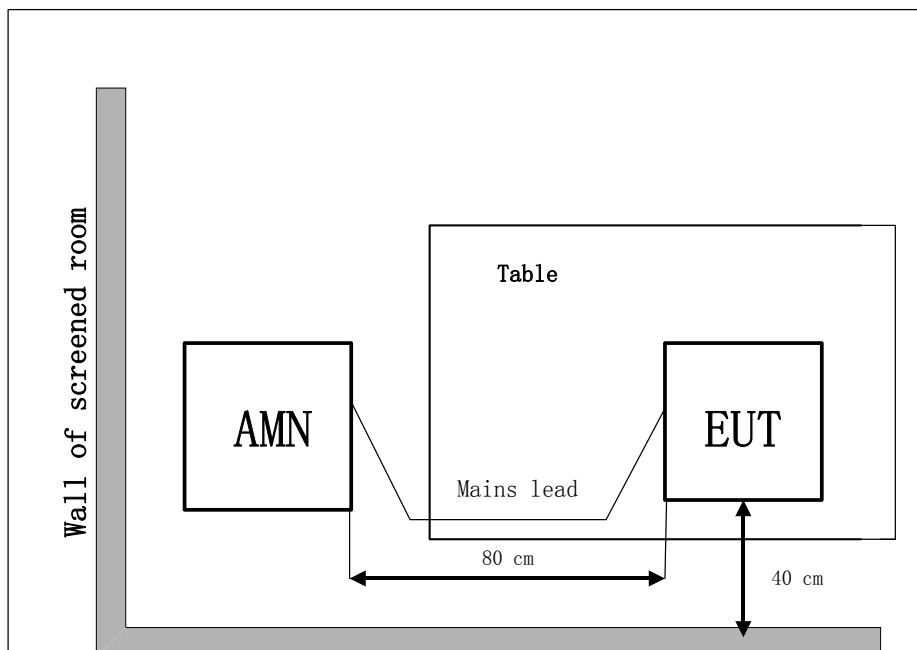
**USB mode:** The model of the PC is Lenovo 2OET-A00DCD, and the serial number of the PC is PF-010TM1. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

### B.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	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

### B.2.4 Test set-up:



**B.2.5 Test Condition in charging mode**

Voltage (V)	Frequency (Hz)
120	50
240	50

RBW	Sweep Time(s)
9kHz	1

**CE Measurement uncertainty:**2.72 dB (k=2)

**B.2.6 Measurement Results**

QuasiPeak(dB  $\mu$ V) /Average(dB  $\mu$ V) = $P_{Mea}$ +Corr

Where

Corr: PathLoss + Voltage Division Factor

$P_{Mea}$ : Measurement result on receiver.

Charging mode: Set 1

Voltage: 120V

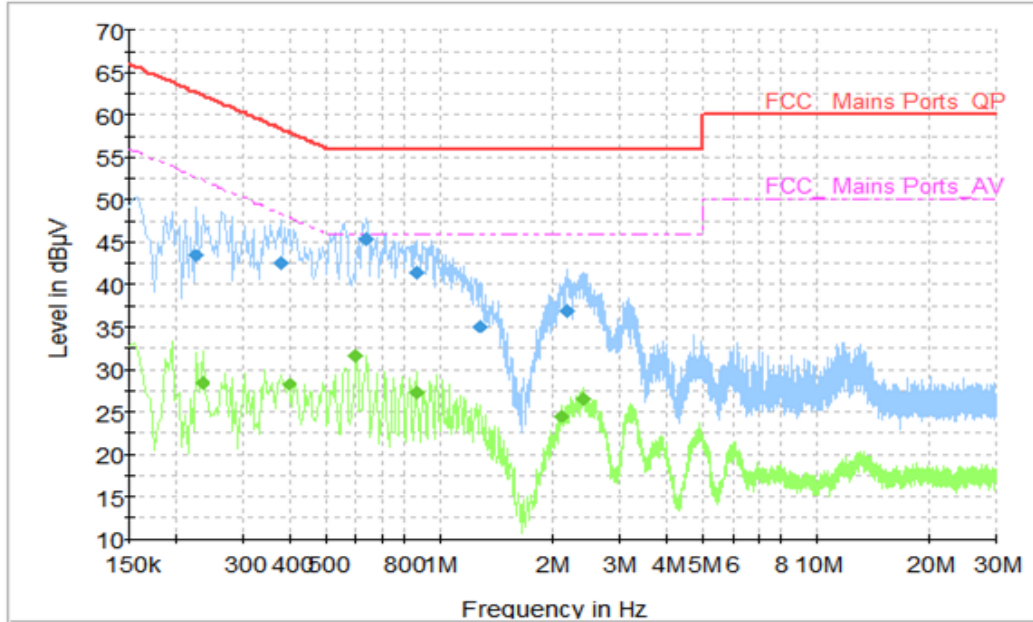


Figure B.1 Conducted Emission

**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.226	43.43	62.6	19.16	N	9.6	33.83
0.378	42.43	58.32	15.89	N	9.6	32.83
0.638	45.36	56	10.64	L1	9.7	35.66
0.866	41.41	56	14.59	L1	9.7	31.71
1.282	35.06	56	20.94	N	9.7	25.36
2.174	36.94	56	19.06	L1	9.7	27.24

**Final Measurement Detector 2**

Frequency (MHz)	Average (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.234	28.44	52.31	23.86	L1	9.7	18.74
0.398	28.26	47.9	19.64	L1	9.7	18.56
0.598	31.61	46	14.39	N	9.7	21.91
0.866	27.24	46	18.77	N	9.7	17.54
2.11	24.52	46	21.48	N	9.7	14.82
2.398	26.48	46	19.52	N	9.7	16.78

USB mode: Set 2  
Voltage: 120V

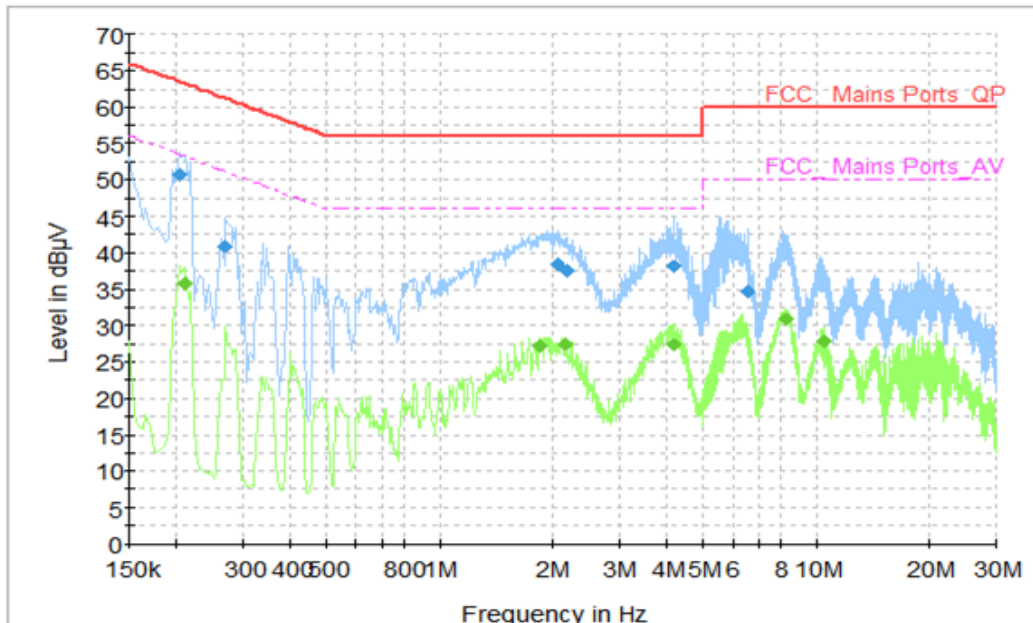


Figure B.2 Conducted Emission

**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.202	50.7	63.53	12.83	N	9.6	41.1
0.27	40.94	61.12	20.18	N	9.6	31.34
2.042	38.46	56	17.54	L1	9.7	28.76
2.182	37.54	56	18.46	L1	9.7	27.84
4.194	38.13	56	17.87	N	9.7	28.43
6.51	34.82	60	25.18	L1	9.8	25.02

**Final Measurement Detector 2**

Frequency (MHz)	Average (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.21	35.83	53.21	17.38	N	9.6	26.23
1.838	27.17	46	18.83	L1	9.7	17.47
2.166	27.45	46	18.55	L1	9.7	17.75
4.186	27.4	46	18.6	N	9.7	17.7
8.33	30.92	50	19.08	L1	9.8	21.12
10.486	27.94	50	22.06	L1	9.9	18.04

Charging mode: Set 1

Voltage: 240V

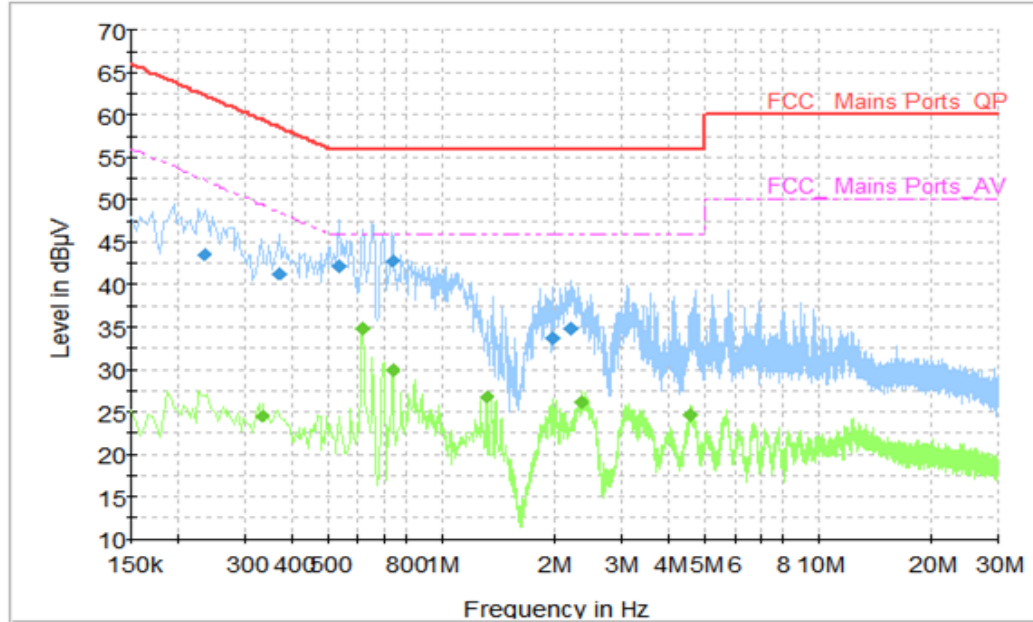


Figure B.3 Conducted Emission

**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.234	43.62	62.31	18.68	N	9.6	34.02
0.37	41.34	58.5	17.16	L1	9.7	31.64
0.534	42.13	56	13.87	L1	9.7	32.43
0.738	42.79	56	13.21	L1	9.7	33.09
1.974	33.79	56	22.21	L1	9.7	24.09
2.202	34.85	56	21.16	L1	9.7	25.15

**Final Measurement Detector 2**

Frequency (MHz)	Average (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.334	24.56	49.35	24.79	N	9.6	14.96
0.614	34.85	46	11.15	N	9.7	25.15
0.738	29.98	46	16.02	N	9.7	20.28
1.31	26.74	46	19.26	N	9.7	17.04
2.338	26.19	46	19.81	N	9.7	16.49
4.598	24.67	46	21.33	N	9.7	14.97

USB mode: Set 2  
Voltage: 240V

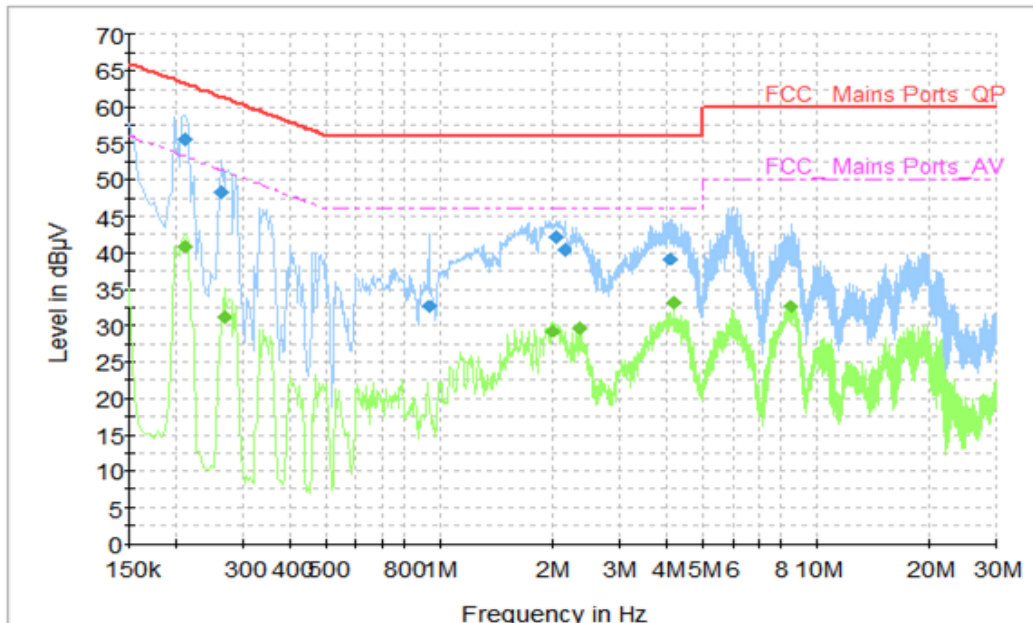


Figure B.4 Conducted Emission

**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.21	55.56	63.21	7.65	N	9.6	45.96
0.262	48.37	61.37	13	N	9.6	38.77
0.938	32.58	56	23.42	L1	9.7	22.88
2.022	42.18	56	13.82	L1	9.7	32.48
2.142	40.35	56	15.65	L1	9.7	30.65
4.07	39.08	56	16.92	L1	9.7	29.38

**Final Measurement Detector 2**

Frequency (MHz)	Average (dB µV)	Limit (dB µV)	Margin (dB)	Line	Corr. (dB)	P <sub>Mea</sub> (dBµV)
0.21	40.97	53.21	12.23	N	9.6	31.37
0.266	31.29	51.24	19.95	L1	9.7	21.59
2.002	29.2	46	16.8	L1	9.7	19.5
2.366	29.66	46	16.34	L1	9.7	19.96
4.198	33.16	46	12.84	L1	9.7	23.46
8.526	32.56	50	17.44	L1	9.8	22.76

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