



# TEST REPORT

No.B17N00148-EMC

for

**Huawei Technologies Co.,Ltd.**

**Smart Phone**

**Model Name: TRT-LX1**

**FCC ID: QISTRTRT-LX1**

with

**Hardware Version: HL1TRTM**

**Software Version: TBD**

**Issued Date: 2017-03-01**

**Test Laboratory:**

*FCC 2.948 Listed: No.342690*

**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:**

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## **REPORT HISTORY**

| <b>Report Number</b> | <b>Revision</b> | <b>Description</b> | <b>Issue Date</b> |
|----------------------|-----------------|--------------------|-------------------|
| B17N00148-EMC        | Rev.0           | 1st edition        | 2017-03-01        |



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## 1. Test Laboratory

### 1.1. Testing Location

Address: TCL International E city No. 1001 Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong, China  
Postal Code: 518048  
Telephone: +86(755)33322000  
Fax: +86(755)33322001

### 1.2. Testing Environment

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

### 1.3. Project data

Testing Start Date: 2017-02-20  
Testing End Date: 2017-02-28

### 1.4. Signature

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Du Zhaoxuan

(Prepared this test report)

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Zhang Yunzhan

(Reviewed this test report)

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Cao Junfei

Director of the laboratory

(Approved this test report)



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Huawei Technologies Co.,Ltd.  
Address: Administration Building, Headquarters of Huawei Technologies Co.,  
Ltd., Bantian, Longgang District Shenzhen China

### **2.2. Manufacturer Information**

Company Name: Huawei Technologies Co.,Ltd.  
Address: Administration Building, Headquarters of Huawei Technologies Co.,  
Ltd., Bantian, Longgang District Shenzhen China

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

#### **3.1. About EUT**

|             |             |
|-------------|-------------|
| Description | Smart Phone |
| Model Name  | TRT-LX1     |
| FCC ID      | QISTRTR-LX1 |

The Equipment Under Test (EUT) are a model of Smart 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**

| <b>EUT ID*</b> | <b>SN or IMEI</b> |
|----------------|-------------------|
| EUT1           | 863560030055783   |
| EUT2           | 863560030053150   |
| EUT3           | 863560030055510   |

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

#### **3.3. Internal Identification of AE**

| <b>AE ID*</b>   | <b>Description</b>              | <b>SN</b> |
|-----------------|---------------------------------|-----------|
| AE1             | Battery                         | /         |
| AE2             | Travel charger                  | /         |
| AE3             | data cable                      | /         |
| <b>AE1-1</b>    |                                 |           |
| Model           | HB406689ECW                     |           |
| Manufacturer    | Sunwoda Electronic CO.,LTD      |           |
| Capacity        | 3900mAh                         |           |
| Nominal Voltage | 3.6V                            |           |
| <b>AE1-2</b>    |                                 |           |
| Model           | HB406689ECW                     |           |
| Manufacturer    | HUIZHOU DESAY BATTERY CO LTD    |           |
| Capacity        | 3900mAh                         |           |
| Nominal Voltage | 4.35V                           |           |
| <b>AE1-3</b>    |                                 |           |
| Model           | HB406689ECW                     |           |
| Manufacturer    | SCUD(FUJIAN)Electronics CO.,LTD |           |
| Capacity        | 3900mAh                         |           |
| Nominal Voltage | 3.82V                           |           |



|              |  |  |
|--------------|--|--|
| AE2-1        |  |  |
| Model        |  | HW-050200U01                             |
| Manufacturer |  | HUIZHOU BYD BATTERY CO LTD               |
| SN           |  | B78994GAP02319                           |
| AE2-2        |  |  |
| Model        |  | HW-050200U01                             |
| Manufacturer |  | SHEZHEN HUNTKEY ELECTRIC CO.,LTD         |
| SN           |  | H789K3GCT00852                           |
| AE2-3        |  |  |
| Model        |  | HW-050200U01                             |
| Manufacturer |  | Dongguan Phitek Electronics Co.,LTD      |
| SN           |  | P67715GC501770                           |
| AE3-1        |  |  |
| Model        |  | L99U2017-CS-H                            |
| Manufacturer |  | Luxshare Precision industry Co., Ltd     |
| AE3-2        |  |  |
| Model        |  | H09-000577                               |
| Manufacturer |  | SHEN ZHEN PANG NGAI INDUSTRIAL CO.,LTD   |
| AE3-3        |  |  |
| Model        |  | CD-U0405-1143                            |
| Manufacturer |  | CONNREX (SHEN ZHEN) INDUSTRIAL,LTD       |
| AE3-4        |  |  |
| Model        |  | CUBB01M-HC304-DH                         |
| Manufacturer |  | FOXCONN INTERCONNECT TECHNOLOGY 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+AE2-1+ AE3-1         | Charging mode  |
| Set.2                 | EUT2+ AE1-2+AE2-2+ AE3-2         | Charging mode  |
| Set.3                 | EUT3+ AE1-3+AE2-3+ AE3-3         | Charging mode  |
| Set.4                 | EUT1+ AE1-1+AE2-1+ AE3-4         | Charging mode  |
| Set.5                 | EUT1+ AE1-1+ AE3-1               | USB mode       |
| Set.6                 | EUT2+ AE1-2+ AE3-2               | USB mode       |
| Set.7                 | EUT3+ AE1-3+ AE3-3               | USB mode       |
| Set.8                 | EUT1+ AE1-1+ AE3-4               | 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,<br>Subpart B | Radio frequency devices  | 10-1-2015<br>Edition |
| ANSI C63.4                | Methods of Measurement of Radio-Noise Emissions from<br>Low-Voltage Electrical and Electronic Equipment in the<br>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. = 30 °C                  |
| Relative humidity                 | Min. = 35 %, Max. = 60 %                    |
| Shielding effectiveness           | 0.014MHz-1MHz,>60dB;<br>1MHz-18000MHz,>90dB |
| Electrical insulation             | > 2MΩ                                       |
| Ground system resistance          | < 4 Ω                                       |
| 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. =35 %, Max. = 60 %                     |
| Shielding effectiveness  | 0.014MHz-1MHz,>60dB;<br>1MHz-10000MHz,>90dB |
| Electrical insulation    | > 2MΩ                                       |
| Ground system resistance | < 4 Ω                                       |

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

|                                    |   |
|------------------------------------|---|
| Temperature                        | Min. = 15 °C, Max. = 30 °C                  |
| Relative humidity                  | Min. = 35 %, Max. = 60 %                    |
| Shielding effectiveness            | 0.014MHz-1MHz,>60dB;<br>1MHz-18000MHz,>90dB |
| Electrical insulation              | > 2MΩ                                       |
| Ground system resistance           | < 4 Ω                                       |
| Voltage Standing Wave Ratio (VSWR) | ≤ 6 dB, from 1 to 18 GHz, 3 m distance      |
| Uniformity of field strength       | Between 0 and 6 dB, from 80 to 3000 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                        | ESCI         | 100701        | R&S          | 2017.08.09  | 1 year     |
| 2.  | Test Receiver                        | ESR7         | 101675        | R&S          | 2017.07.21  | 1 year     |
| 3.  | Spectrum Analyzer                    | FSP 40       | 100378        | R&S          | 2017.12.15  | 1 year     |
| 4.  | BiLog Antenna                        | VULB9163     | 9163 330      | Schwarzbeck  | 2017.04.22  | 3 years    |
| 5.  | LISN                                 | ESH2-Z5      | 100196        | R&S          | 2018.01.05  | 1 year     |
| 6.  | Horn Antenna                         | 3117         | 00066585      | ETS-Lindgren | 2019.03.05  | 3 years    |
| 7.  | Universal Radio Communication Tester | E5515C       | GB44051324    | Agilent      | 2017.05.18  | 1 year     |
| 8.  | PC                                   | 2OET-A00DC D | PF-OIYDAK     | Lenovo       | /           | /          |
| 9.  | Printer                              | P1008        | VNF6C12491    | HP           | /           | /          |
| 10. | Mouse                                | MO28UOL      | 44B39412      | Lenovo       | /           | /          |
| 11. | Chamber                              | FACT5-2.0    | 4166          | ETS-Lindgren | 2018.05.13  | 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-OIYDAK. 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)

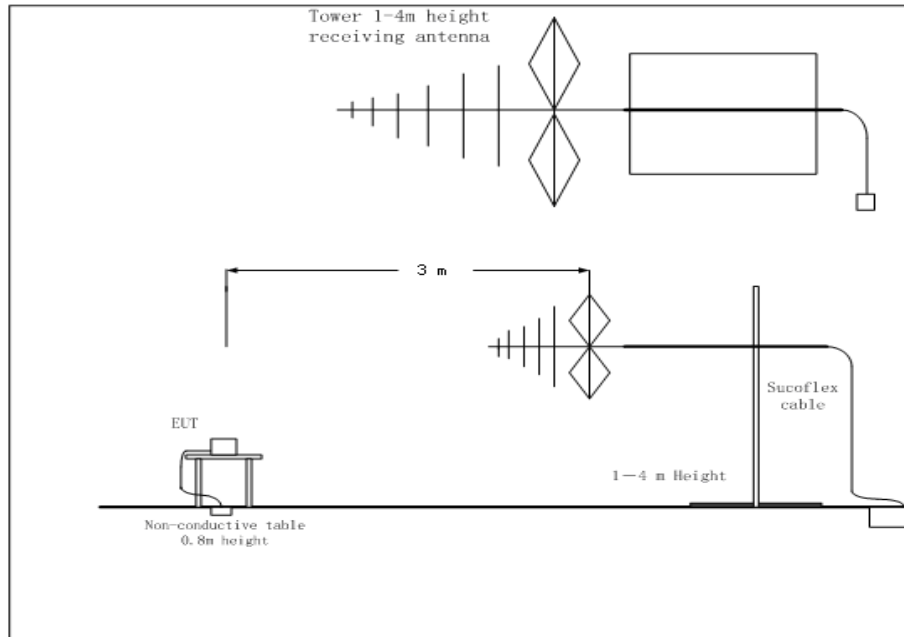
| Frequency range<br>(MHz) | Field strength limit ( $\mu\text{V}/\text{m}$ ) |         |      |
|--------------------------|---|---------|------|
|                          | Quasi-peak                                      | Average | Peak |
| 30-88                    | 100   |         |      |
| 88-216                   | 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.

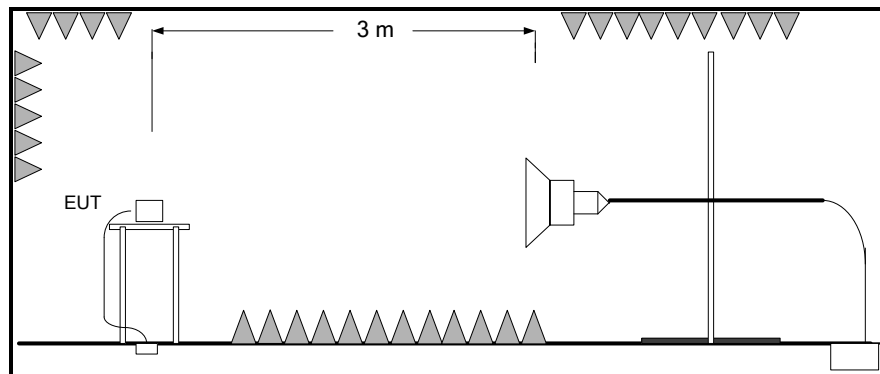
#### **A.1.4 Test Condition**

| 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:

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

Where

$G_A$ : Antenna factor of receive antenna

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

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

Note: the result contains vertical part and Horizontal part

**RE Measurement uncertainty:** 30M-1GHz: 5.12dB (k=2);  
1GHz-18GHz: 4.48 dB (k=2)

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

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 13914.500000   | 53.88          | 74.00                | 20.12      | H        | 10.9      | 42.98             |
| 14140.000000   | 55.13          | 74.00                | 18.87      | H        | 11.2      | 43.93             |
| 14744.000000   | 56.11          | 74.00                | 17.89      | H        | 11.9      | 44.21             |
| 15694.000000   | 57.14          | 74.00                | 16.86      | H        | 12.7      | 44.44             |
| 16225.500000   | 58.70          | 74.00                | 15.30      | H        | 13.1      | 45.6              |
| 16681.500000   | 57.79          | 74.00                | 16.21      | H        | 13.8      | 43.99             |

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

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 13919.000000   | 42.34          | 54.00                | 11.66      | H        | 10.8      | 31.54             |
| 14516.500000   | 43.51          | 54.00                | 10.49      | H        | 11.8      | 31.71             |
| 15180.500000   | 44.43          | 54.00                | 9.57       | H        | 12.2      | 32.23             |
| 15780.500000   | 45.82          | 54.00                | 8.18       | H        | 12.8      | 33.02             |
| 16225.500000   | 46.15          | 54.00                | 7.85       | H        | 13.1      | 33.05             |
| 16785.500000   | 46.55          | 54.00                | 7.45       | H        | 13.9      | 32.65             |

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

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14538.500000   | 54.93          | 74.00                | 19.07      | H        | 11.9      | 43.03             |
| 15152.000000   | 55.78          | 74.00                | 18.22      | H        | 12.1      | 43.68             |
| 15671.500000   | 57.25          | 74.00                | 16.75      | H        | 12.6      | 44.65             |
| 16248.500000   | 56.76          | 74.00                | 17.24      | H        | 13.2      | 43.56             |
| 16912.000000   | 57.61          | 74.00                | 16.39      | H        | 14.0      | 43.61             |
| 17373.000000   | 56.49          | 74.00                | 17.51      | H        | 14.0      | 42.49             |

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

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14532.500000   | 43.47          | 54.00                | 10.53      | H        | 11.8      | 31.67             |
| 15135.000000   | 44.17          | 54.00                | 9.83       | H        | 12.1      | 32.07             |
| 15764.500000   | 45.19          | 54.00                | 8.81       | H        | 12.8      | 32.39             |
| 16236.000000   | 45.32          | 54.00                | 8.68       | H        | 13.1      | 32.22             |
| 16827.500000   | 45.61          | 54.00                | 8.39       | H        | 13.9      | 31.71             |
| 17355.500000   | 45.23          | 54.00                | 8.77       | H        | 14.0      | 31.23             |

**Set.3 Charging mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14168.500000   | 55.13          | 74.00                | 18.87      | H        | 11.2      | 43.93             |
| 15089.000000   | 55.72          | 74.00                | 18.28      | H        | 12.1      | 43.62             |
| 15765.500000   | 57.14          | 74.00                | 16.86      | H        | 12.8      | 44.34             |
| 16353.500000   | 55.67          | 74.00                | 18.33      | H        | 13.4      | 42.27             |
| 17189.000000   | 56.36          | 74.00                | 17.64      | H        | 13.9      | 42.46             |
| 17379.500000   | 56.64          | 74.00                | 17.36      | H        | 14.0      | 42.64             |

**Set.3 Charging mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14512.500000   | 43.57          | 54.00                | 10.43      | H        | 11.8      | 31.77             |
| 15116.000000   | 43.92          | 54.00                | 10.08      | H        | 12.1      | 31.82             |
| 15754.500000   | 44.94          | 54.00                | 9.06       | H        | 12.8      | 32.14             |
| 16308.000000   | 44.75          | 54.00                | 9.25       | H        | 13.3      | 31.45             |
| 16793.500000   | 45.42          | 54.00                | 8.58       | H        | 13.9      | 31.52             |
| 17293.000000   | 44.75          | 54.00                | 9.25       | H        | 13.9      | 30.85             |



**Set.4 Charging mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14033.500000   | 55.74          | 74.00                | 18.26      | H        | 10.9      | 44.84             |
| 15030.500000   | 56.27          | 74.00                | 17.73      | H        | 12.1      | 44.17             |
| 15830.000000   | 56.19          | 74.00                | 17.81      | H        | 12.8      | 43.39             |
| 16338.500000   | 55.80          | 74.00                | 18.20      | H        | 13.4      | 42.4              |
| 16781.500000   | 57.12          | 74.00                | 16.88      | H        | 13.9      | 43.22             |
| 17308.000000   | 55.74          | 74.00                | 18.26      | H        | 13.9      | 41.84             |

**Set.4 Charging mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14513.000000   | 43.59          | 54.00                | 10.41      | H        | 11.8      | 31.79             |
| 15090.000000   | 43.88          | 54.00                | 10.12      | H        | 12.1      | 31.78             |
| 15772.500000   | 44.86          | 54.00                | 9.14       | H        | 12.8      | 32.06             |
| 16241.500000   | 44.59          | 54.00                | 9.41       | H        | 13.2      | 31.39             |
| 16770.500000   | 45.22          | 54.00                | 8.78       | H        | 13.9      | 31.32             |
| 17442.500000   | 44.69          | 54.00                | 9.31       | H        | 14.0      | 30.69             |

**Set.5 USB mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14470.000000   | 54.92          | 74.00                | 19.08      | H        | 11.7      | 43.22             |
| 15096.000000   | 55.33          | 74.00                | 18.67      | H        | 12.1      | 43.23             |
| 15786.000000   | 56.33          | 74.00                | 17.67      | H        | 12.8      | 43.53             |
| 16361.500000   | 56.23          | 74.00                | 17.77      | H        | 13.5      | 42.73             |
| 16873.500000   | 57.95          | 74.00                | 16.05      | H        | 14.0      | 43.95             |
| 17406.500000   | 55.87          | 74.00                | 18.13      | H        | 14.0      | 41.87             |

**Set.5 USB mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14548.000000   | 43.44          | 54.00                | 10.56      | H        | 11.9      | 31.54             |
| 15077.000000   | 43.81          | 54.00                | 10.19      | H        | 12.1      | 31.71             |
| 15762.500000   | 44.92          | 54.00                | 9.08       | H        | 12.8      | 32.12             |
| 16277.500000   | 44.71          | 54.00                | 9.29       | H        | 13.2      | 31.51             |
| 16786.000000   | 45.15          | 54.00                | 8.85       | H        | 13.9      | 31.25             |
| 17375.500000   | 44.34          | 54.00                | 9.66       | H        | 14.0      | 30.34             |

**Set.6 USB mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14543.000000   | 54.77          | 74.00                | 19.23      | H        | 11.9      | 42.87             |
| 15119.000000   | 55.54          | 74.00                | 18.46      | H        | 12.1      | 43.44             |
| 15749.500000   | 56.34          | 74.00                | 17.66      | H        | 12.8      | 43.54             |
| 16336.000000   | 55.37          | 74.00                | 18.63      | H        | 13.4      | 41.97             |
| 16784.000000   | 56.45          | 74.00                | 17.55      | H        | 13.9      | 42.55             |
| 17843.500000   | 55.71          | 74.00                | 18.29      | H        | 13.8      | 41.91             |

**Set.6 USB mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14533.500000   | 43.30          | 54.00                | 10.70      | H        | 11.9      | 31.4              |
| 15126.500000   | 43.77          | 54.00                | 10.23      | H        | 12.1      | 31.67             |
| 15790.500000   | 44.73          | 54.00                | 9.27       | H        | 12.8      | 31.93             |
| 16192.000000   | 44.33          | 54.00                | 9.67       | H        | 13.1      | 31.23             |
| 16755.000000   | 45.09          | 54.00                | 8.91       | H        | 13.9      | 31.19             |
| 17437.500000   | 44.31          | 54.00                | 9.69       | H        | 14.0      | 30.31             |

**Set.7 USB mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14508.500000   | 54.84          | 74.00                | 19.16      | H        | 11.8      | 43.04             |
| 15066.000000   | 56.58          | 74.00                | 17.42      | H        | 12.1      | 44.48             |
| 15753.500000   | 56.99          | 74.00                | 17.01      | H        | 12.8      | 44.19             |
| 16208.000000   | 56.48          | 74.00                | 17.52      | H        | 13.1      | 43.38             |
| 16795.000000   | 56.75          | 74.00                | 17.25      | H        | 13.9      | 42.85             |
| 17424.500000   | 55.88          | 74.00                | 18.12      | H        | 14.0      | 41.88             |

**Set.7 USB mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14530.500000   | 43.44          | 54.00                | 10.56      | H        | 11.8      | 31.64             |
| 15066.500000   | 43.80          | 54.00                | 10.20      | H        | 12.1      | 31.7              |
| 15734.000000   | 44.87          | 54.00                | 9.13       | H        | 12.7      | 32.17             |
| 16256.500000   | 44.49          | 54.00                | 9.51       | H        | 13.2      | 31.29             |
| 16793.500000   | 44.94          | 54.00                | 9.06       | H        | 13.9      | 31.04             |
| 17342.000000   | 44.37          | 54.00                | 9.63       | H        | 14.0      | 30.37             |

**Set.8 USB mode / Peak detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14053.500000   | 54.73          | 74.00                | 19.27      | H        | 11.0      | 43.73             |
| 15085.000000   | 55.25          | 74.00                | 18.75      | H        | 12.1      | 43.15             |
| 15841.000000   | 55.99          | 74.00                | 18.01      | H        | 12.9      | 43.09             |
| 16389.000000   | 55.80          | 74.00                | 18.20      | H        | 13.5      | 42.3              |
| 16780.500000   | 56.76          | 74.00                | 17.24      | H        | 13.9      | 42.86             |
| 17407.000000   | 55.67          | 74.00                | 18.33      | H        | 14.0      | 41.67             |

**Set.8 USB mode / Average detector**

| Frequency(MHz) | Result(dBuV/m) | Limit (dB $\mu$ V/m) | Margin(dB) | Polarity | ARpl (dB) | PMea (dB $\mu$ V) |
|----------------|----------------|----------------------|------------|----------|-----------|-------------------|
| 14535.500000   | 43.53          | 54.00                | 10.47      | H        | 11.9      | 31.63             |
| 15136.500000   | 43.71          | 54.00                | 10.29      | H        | 12.1      | 31.61             |
| 15783.000000   | 44.92          | 54.00                | 9.08       | H        | 12.8      | 32.12             |
| 16267.000000   | 44.56          | 54.00                | 9.44       | H        | 13.2      | 31.36             |
| 16794.000000   | 45.00          | 54.00                | 9.00       | H        | 13.9      | 31.1              |
| 17437.500000   | 44.53          | 54.00                | 9.47       | H        | 14.0      | 30.53             |

Note: The measurement result of Set.1, Set.2, Set.3, Set.4, Set.5, Set.6, Set.7 and Set.8 showed here are worst cases of combinations of different batteries and USB cables.

Charging mode: Set 1

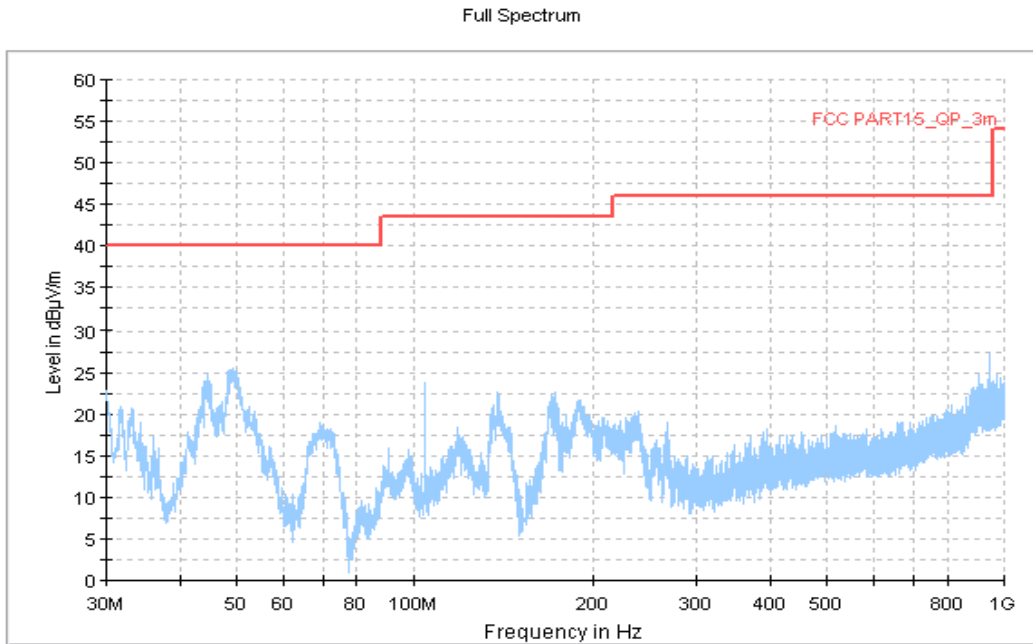


Figure A.1 Radiated Emission from 30MHz to 1GHz

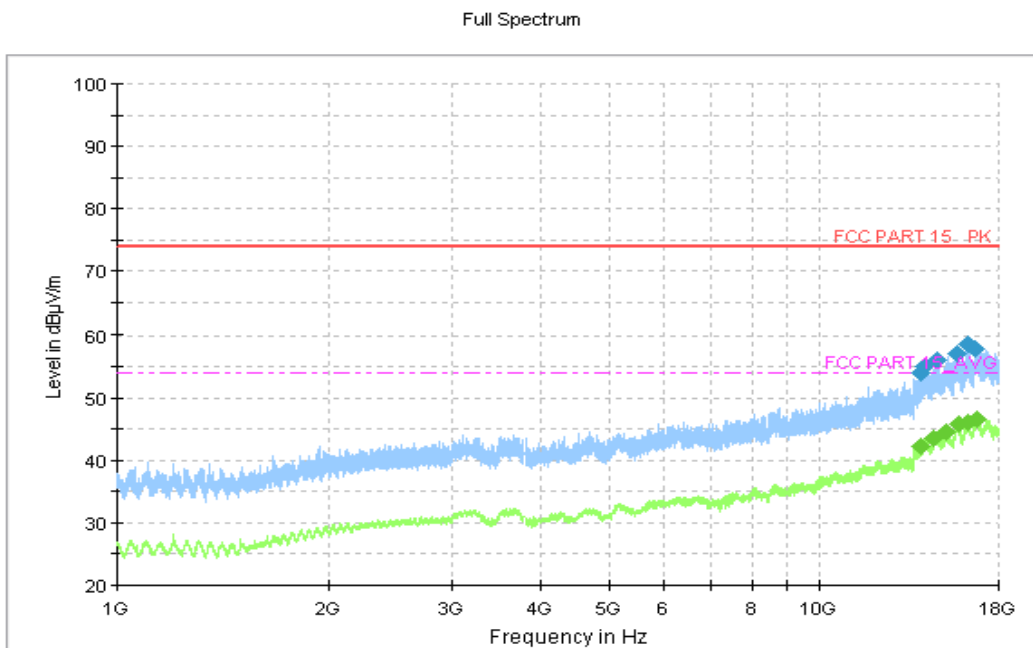
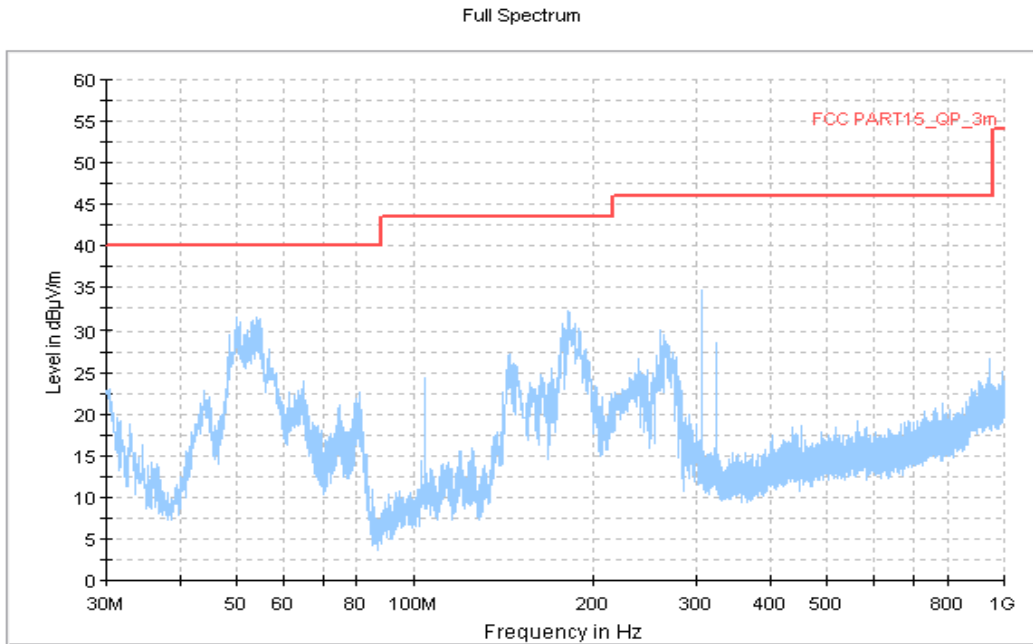
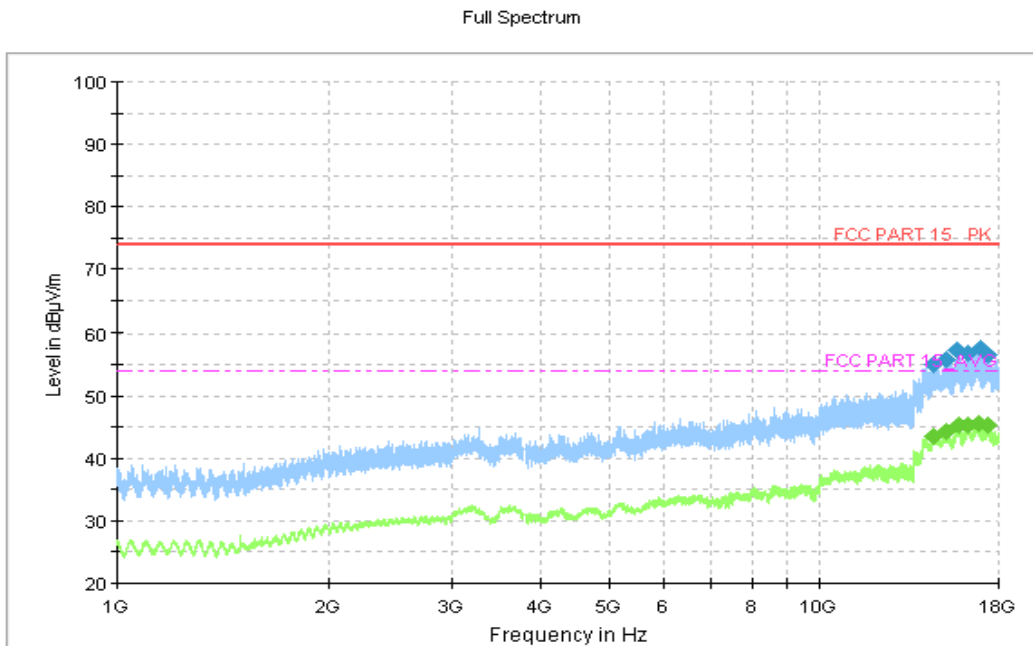


Figure A.2 Radiated Emission from 1GHz to 18GHz

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

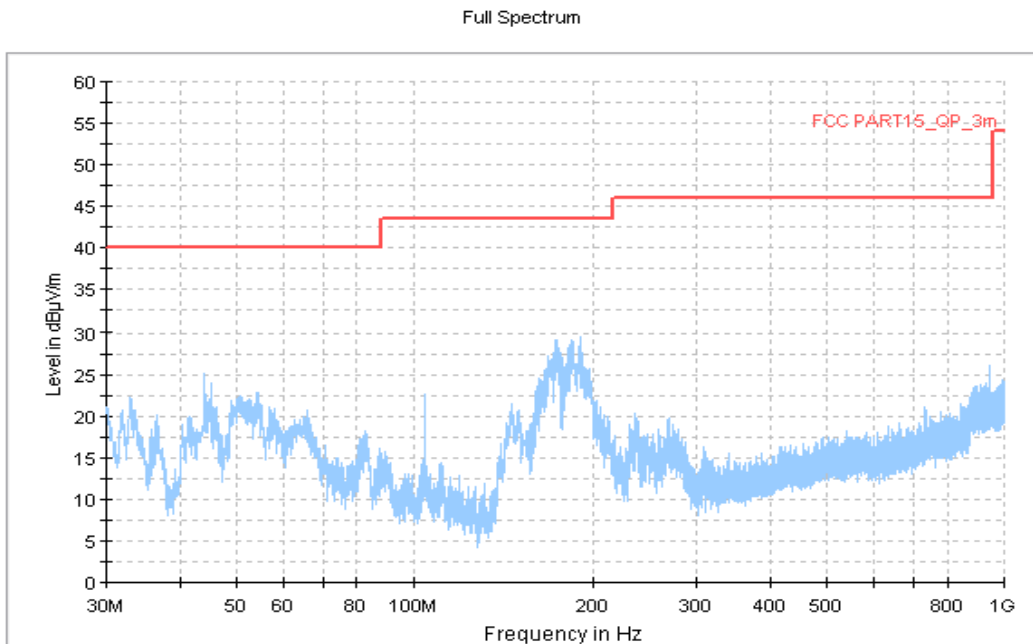


Figure A.5 Radiated Emission from 30MHz to 1GHz

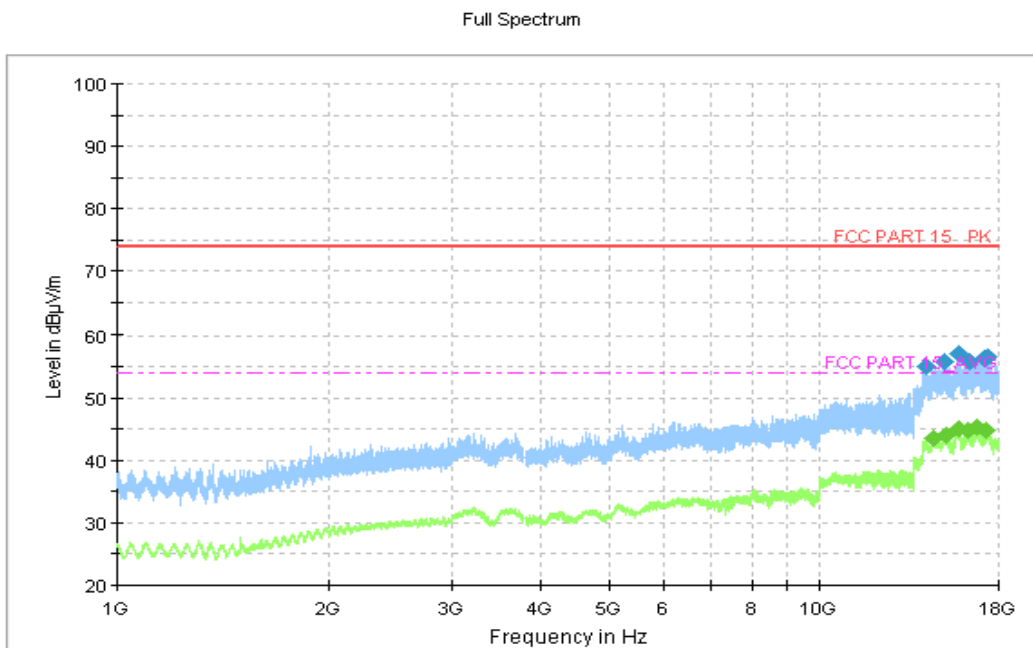


Figure A.6 Radiated Emission from 1GHz to 18GHz

Charging mode: Set 4

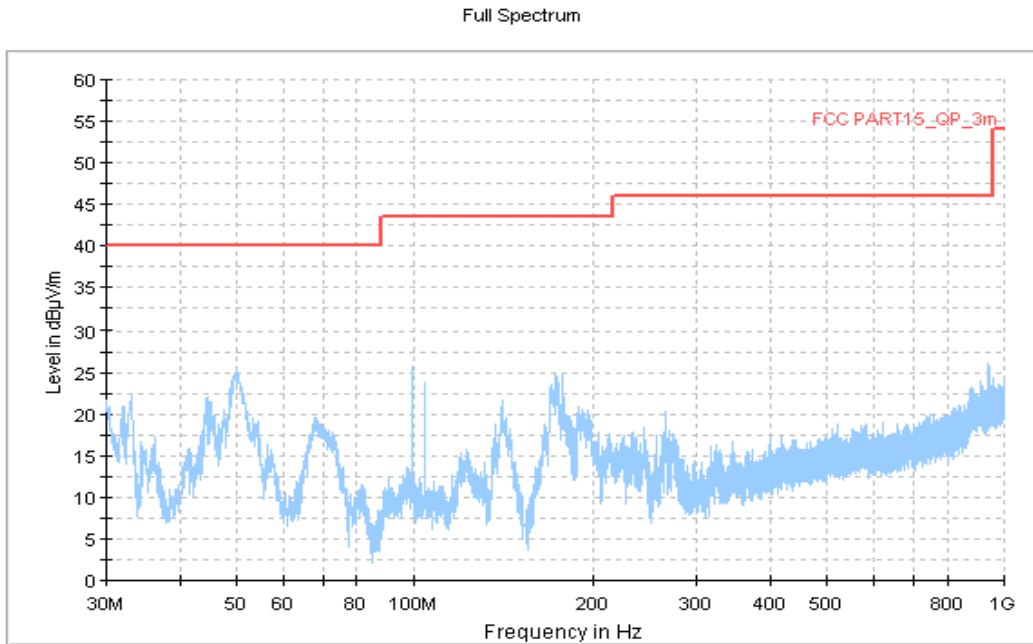


Figure A.7 Radiated Emission from 30MHz to 1GHz

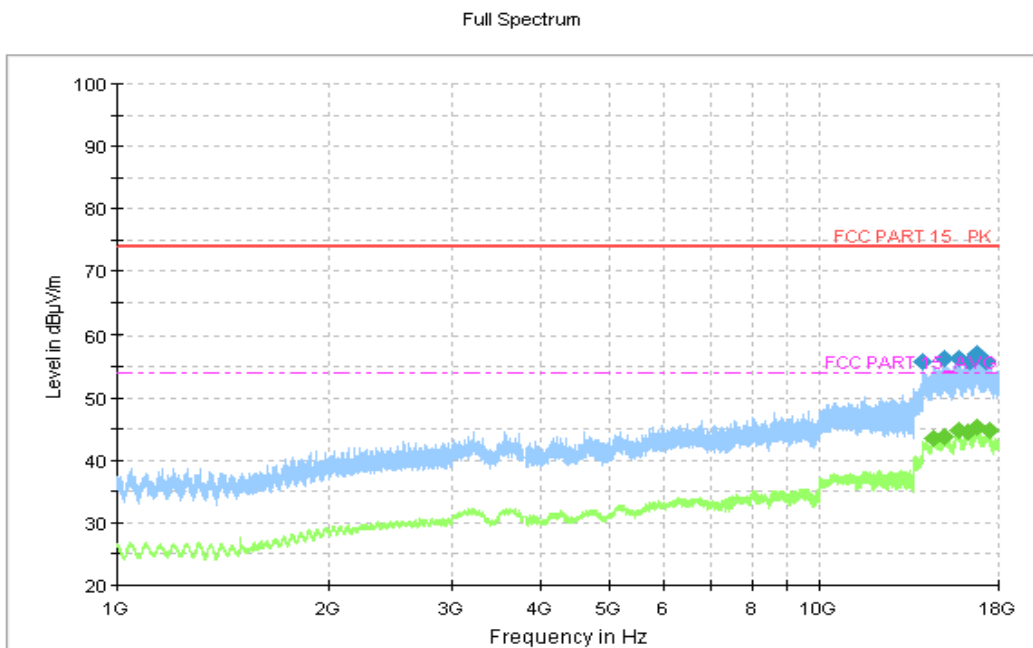


Figure A.8 Radiated Emission from 1GHz to 18GHz

USB mode: Set 5

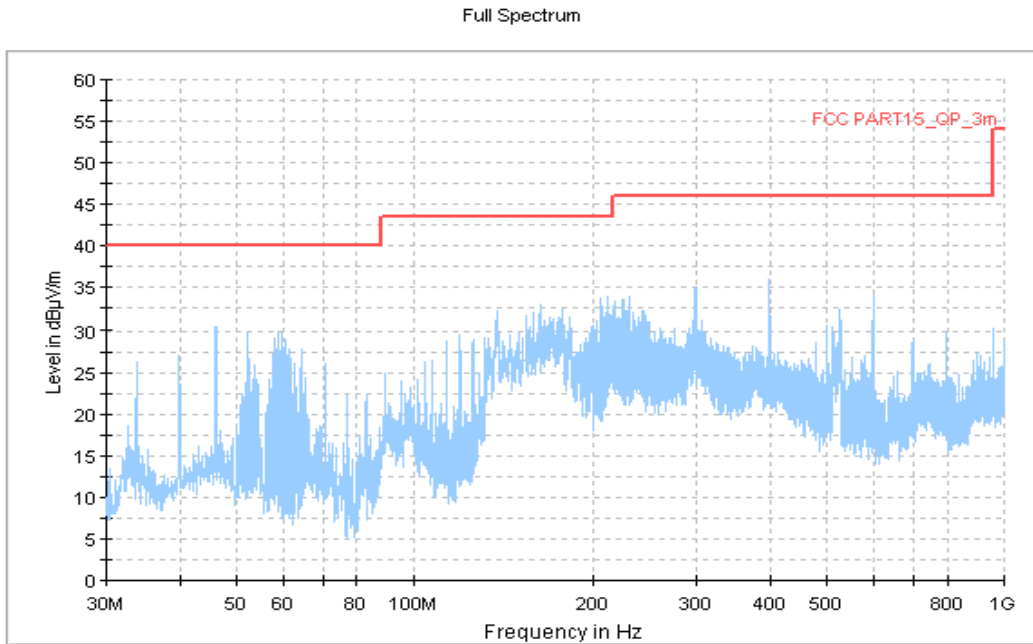


Figure A.9 Radiated Emission from 30MHz to 1GHz

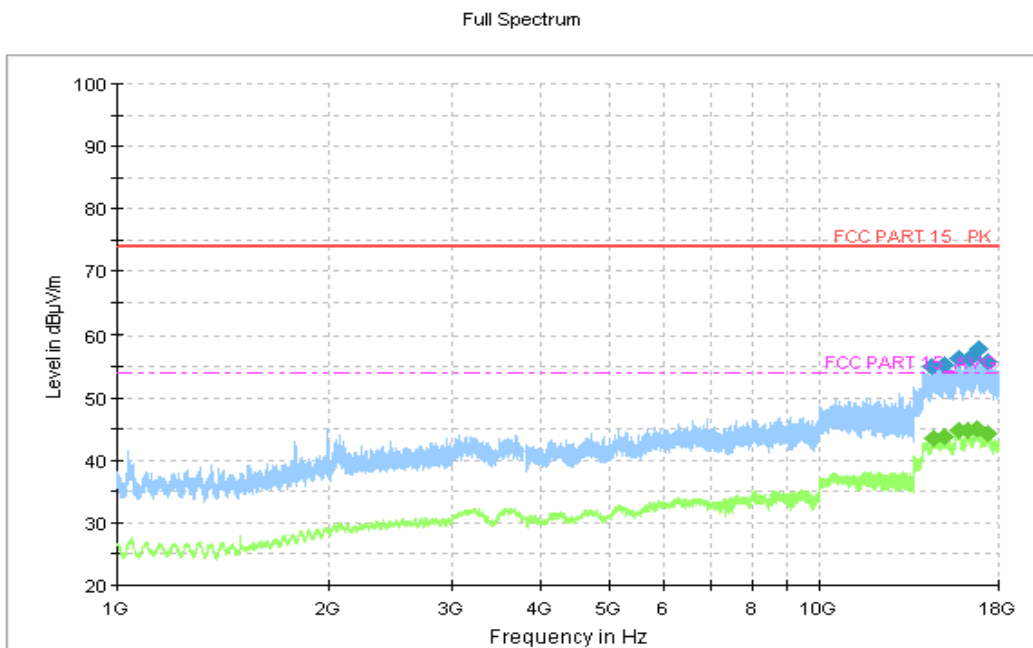


Figure A.10 Radiated Emission from 1GHz to 18GHz



USB mode: Set 6

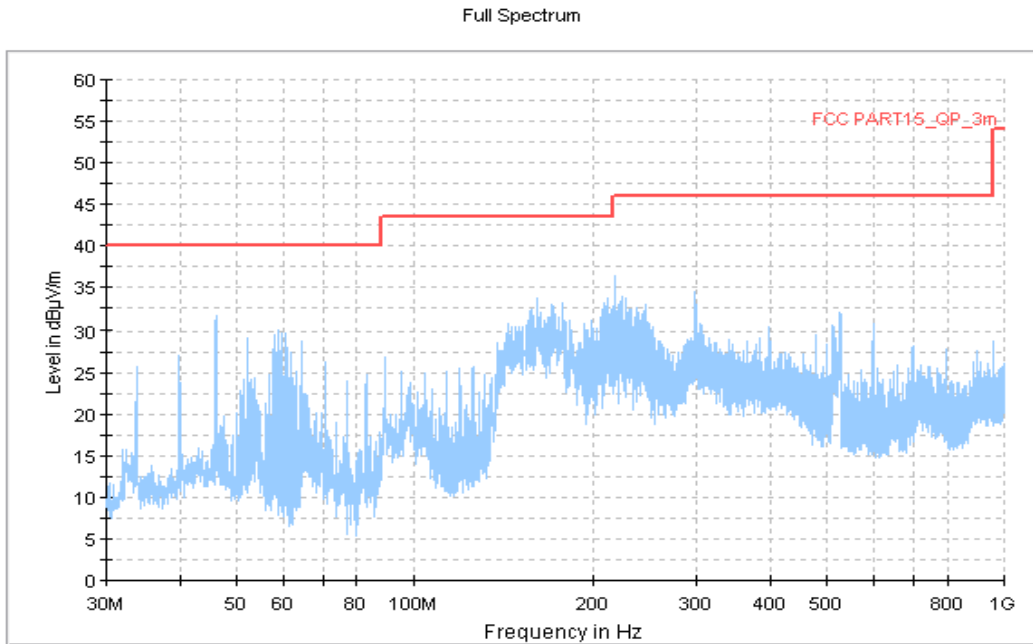


Figure A.11 Radiated Emission from 30MHz to 1GHz

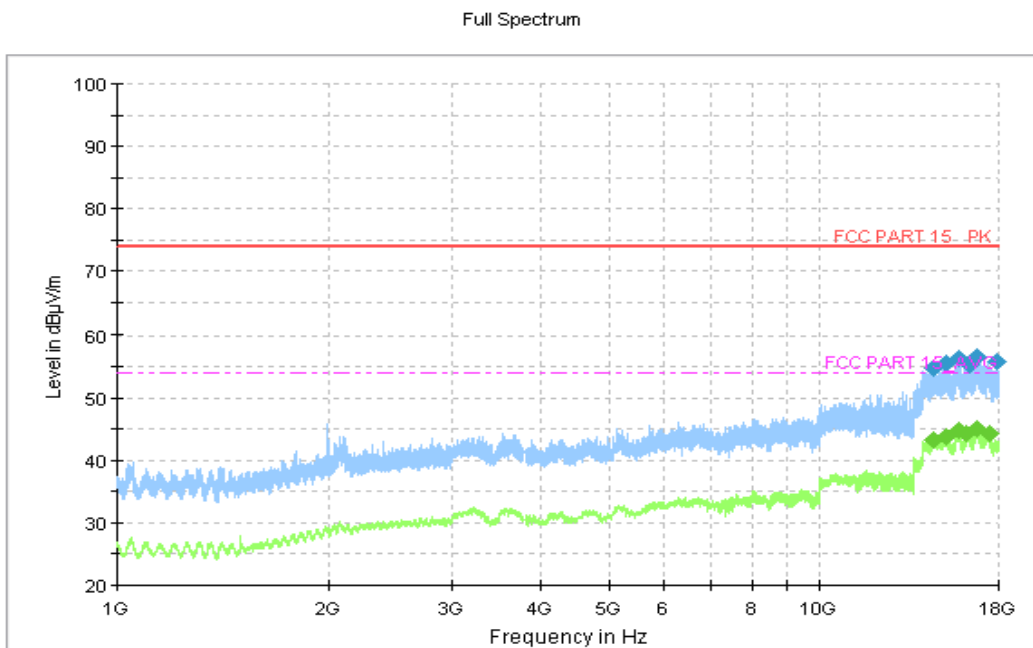


Figure A.12 Radiated Emission from 1GHz to 18GHz

USB mode: Set 7

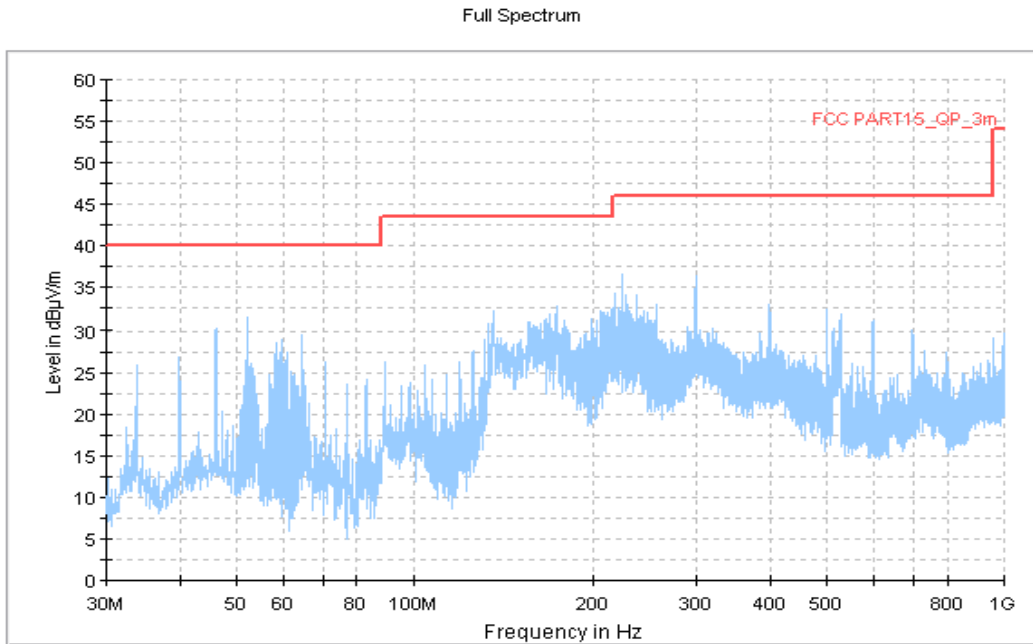


Figure A.13 Radiated Emission from 30MHz to 1GHz

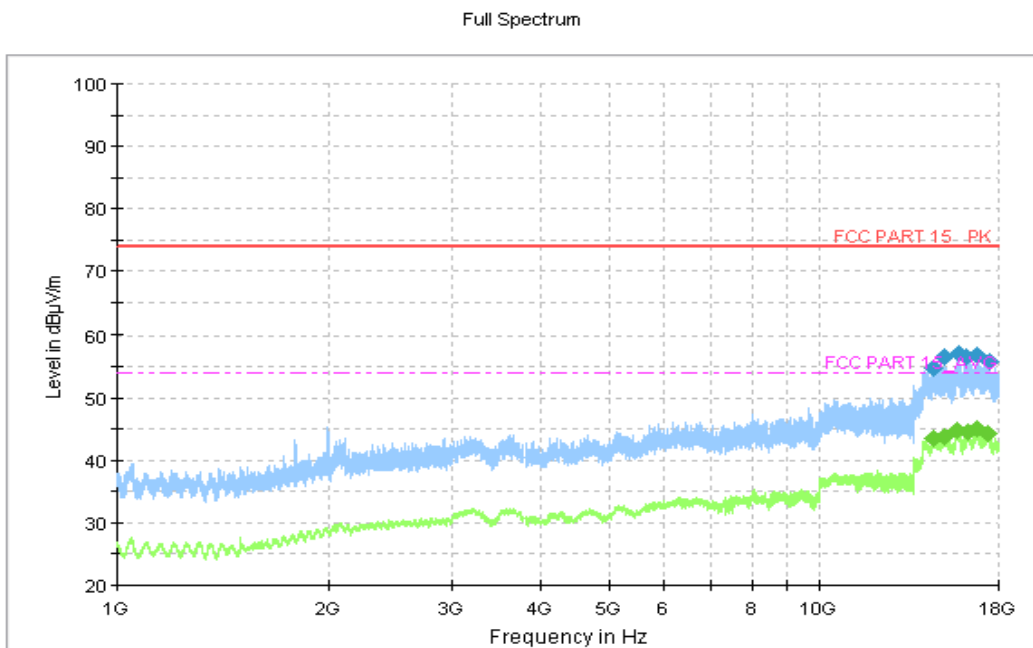


Figure A.14 Radiated Emission from 1GHz to 18GHz

USB mode: Set 8

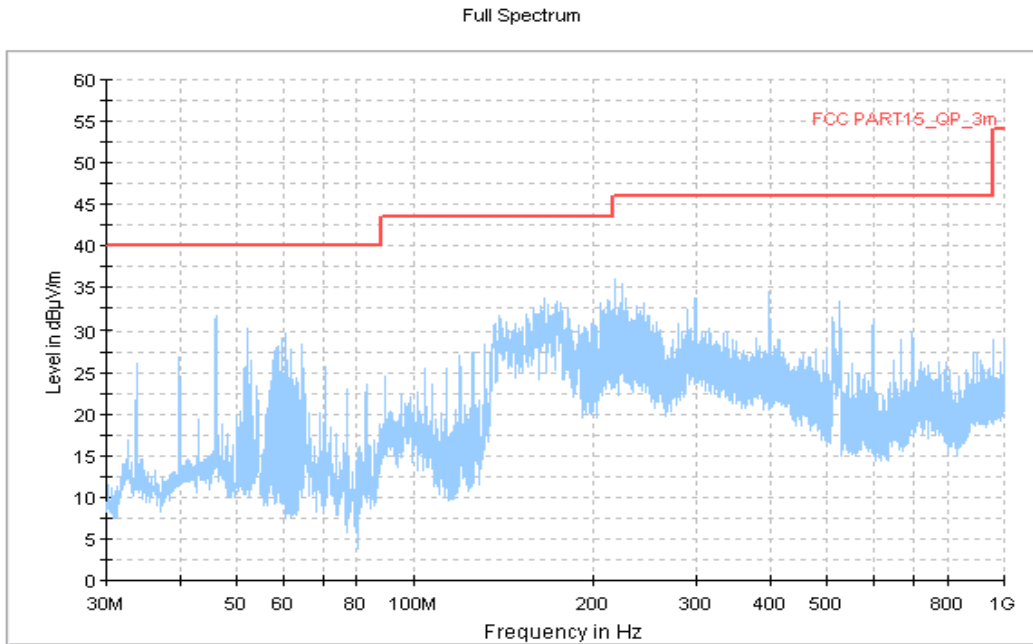


Figure A.15 Radiated Emission from 30MHz to 1GHz

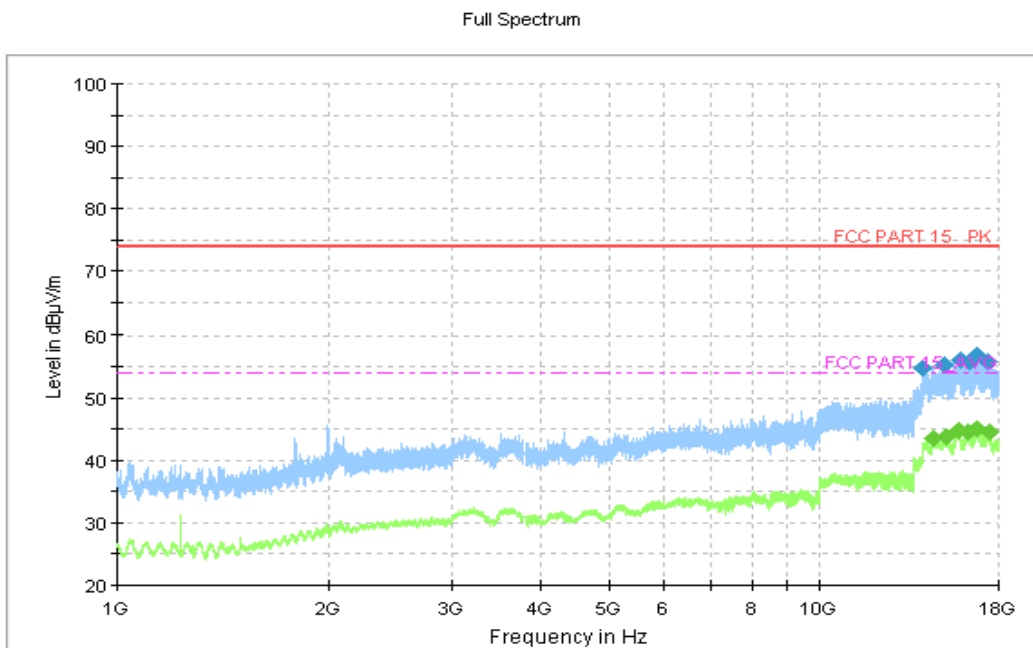


Figure A.16 Radiated Emission from 1GHz to 18GHz

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

### 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:

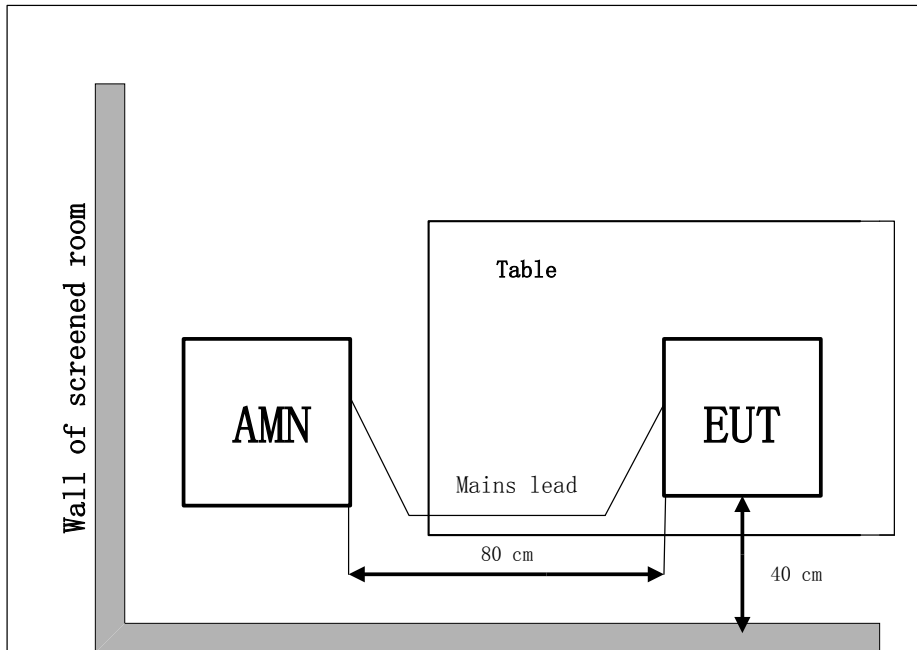
**Charging mode:** The MS is synchronized to SS, and able to respond to paging messages and incoming call. An established call has been released. The MS is connected to a charger.

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

**A.2.4 Test set-up:**



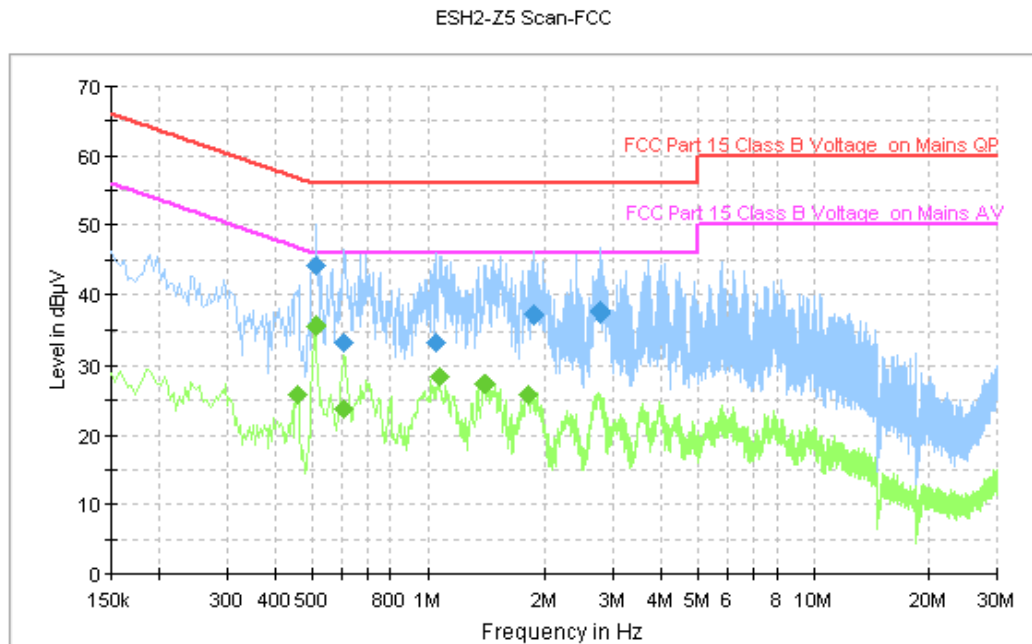
**A.2.5 Test Condition in charging mode**

| Voltage (V) | Frequency (Hz) |
|-------------|----------------|
| 120         | 60             |
| 240         | 60             |

| RBW  | Sweep Time(s) |
|------|---------------|
| 9kHz | 1             |

**CE Measurement uncertainty:** 3.06 dB (k=2)

**A.2.6 Measurement Results**  
**Charging mode:Set.1**  
**Voltage:120V**



**Figure A.17 Conducted Emission**

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.514000        | 44.1             | GND | N    | 9.7        | 11.9        | 56.0         |
| 0.602000        | 33.4             | GND | N    | 9.6        | 22.6        | 56.0         |
| 1.054000        | 33.4             | GND | N    | 9.6        | 22.6        | 56.0         |
| 1.862000        | 37.2             | GND | N    | 9.5        | 18.8        | 56.0         |
| 2.782000        | 37.3             | GND | N    | 9.6        | 18.7        | 56.0         |
| 2.790000        | 37.8             | GND | N    | 9.6        | 18.2        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.458000        | 25.9           | GND | N    | 9.7        | 20.8        | 46.7         |
| 0.510000        | 35.5           | GND | N    | 9.7        | 10.5        | 46.0         |
| 0.602000        | 23.9           | GND | N    | 9.6        | 22.1        | 46.0         |
| 1.070000        | 28.3           | GND | N    | 9.6        | 17.7        | 46.0         |
| 1.398000        | 27.4           | GND | N    | 9.6        | 18.6        | 46.0         |
| 1.802000        | 25.7           | GND | N    | 9.5        | 20.3        | 46.0         |

Charging mode:Set.2  
Voltage:120V

ESH2-Z5 Scan-FCC

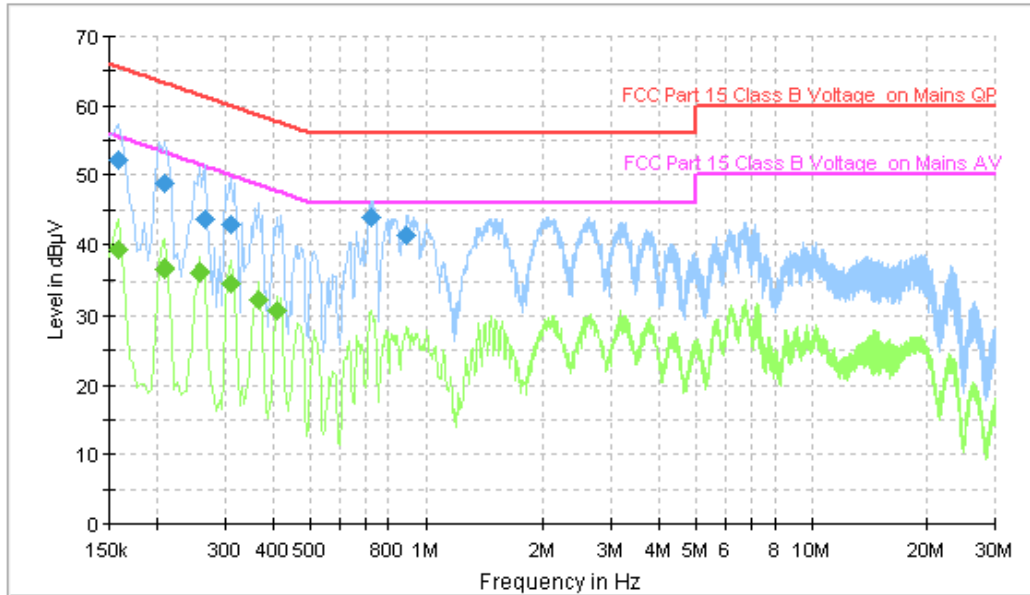


Figure A.18 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.158000        | 52.3             | GND | N    | 9.6        | 13.3        | 65.6         |
| 0.210000        | 48.9             | GND | N    | 9.6        | 14.3        | 63.2         |
| 0.266000        | 43.6             | GND | N    | 9.6        | 17.6        | 61.2         |
| 0.310000        | 42.8             | GND | N    | 9.6        | 17.1        | 60.0         |
| 0.718000        | 44.0             | GND | N    | 9.5        | 12.0        | 56.0         |
| 0.894000        | 41.3             | GND | N    | 9.6        | 14.7        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.158000        | 39.2           | GND | N    | 9.6        | 16.4        | 55.6         |
| 0.210000        | 36.7           | GND | N    | 9.6        | 16.5        | 53.2         |
| 0.258000        | 36.1           | GND | N    | 9.6        | 15.4        | 51.5         |
| 0.310000        | 34.6           | GND | N    | 9.6        | 15.3        | 50.0         |
| 0.366000        | 32.4           | GND | N    | 9.6        | 16.2        | 48.6         |
| 0.410000        | 30.8           | GND | N    | 9.7        | 16.9        | 47.6         |

Charging mode:Set.3  
Voltage:120V

ESH2-Z5 Scan-FCC

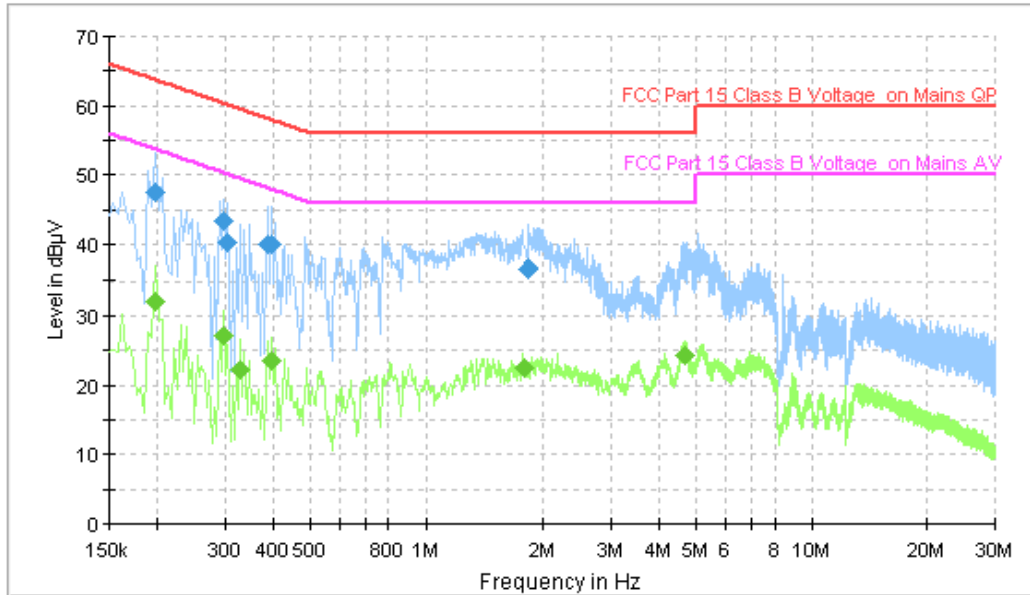


Figure A.19 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.198000        | 47.6             | GND | N    | 9.6        | 16.1        | 63.7         |
| 0.298000        | 43.5             | GND | N    | 9.6        | 16.8        | 60.3         |
| 0.306000        | 40.2             | GND | N    | 9.6        | 19.9        | 60.1         |
| 0.390000        | 40.1             | GND | N    | 9.6        | 17.9        | 58.1         |
| 0.398000        | 39.9             | GND | N    | 9.6        | 18.0        | 57.9         |
| 1.822000        | 36.7             | GND | N    | 9.5        | 19.3        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.198000        | 32.1           | GND | N    | 9.6        | 21.6        | 53.7         |
| 0.298000        | 27.1           | GND | N    | 9.6        | 23.2        | 50.3         |
| 0.330000        | 22.3           | GND | N    | 9.6        | 27.2        | 49.5         |
| 0.398000        | 23.6           | GND | N    | 9.6        | 24.3        | 47.9         |
| 1.782000        | 22.6           | GND | N    | 9.6        | 23.4        | 46.0         |
| 4.686000        | 24.2           | GND | N    | 9.6        | 21.8        | 46.0         |



Charging mode:Set.4  
Voltage:120V

ESH2-Z5 Scan-FCC

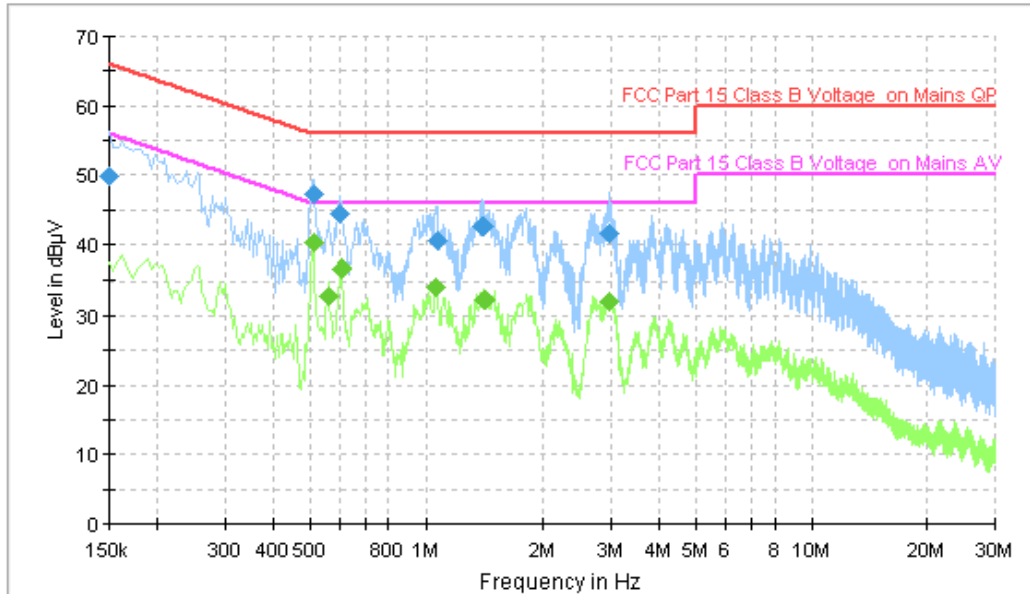


Figure A.20 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.150000        | 49.8             | GND | N    | 9.6        | 16.2        | 66.0         |
| 0.510000        | 47.4             | GND | N    | 9.7        | 8.6         | 56.0         |
| 0.598000        | 44.4             | GND | N    | 9.6        | 11.6        | 56.0         |
| 1.074000        | 40.5             | GND | N    | 9.6        | 15.5        | 56.0         |
| 1.394000        | 42.5             | GND | N    | 9.6        | 13.5        | 56.0         |
| 2.974000        | 41.5             | GND | N    | 9.6        | 14.5        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.510000        | 40.2           | GND | N    | 9.7        | 5.8         | 46.0         |
| 0.558000        | 32.7           | GND | N    | 9.7        | 13.3        | 46.0         |
| 0.602000        | 36.6           | GND | N    | 9.6        | 9.4         | 46.0         |
| 1.066000        | 34.2           | GND | N    | 9.6        | 11.8        | 46.0         |
| 1.410000        | 32.3           | GND | N    | 9.5        | 13.7        | 46.0         |
| 2.978000        | 31.9           | GND | N    | 9.6        | 14.1        | 46.0         |

USB mode:Set.5  
Voltage:120V

ESH2-Z5 Scan-FCC

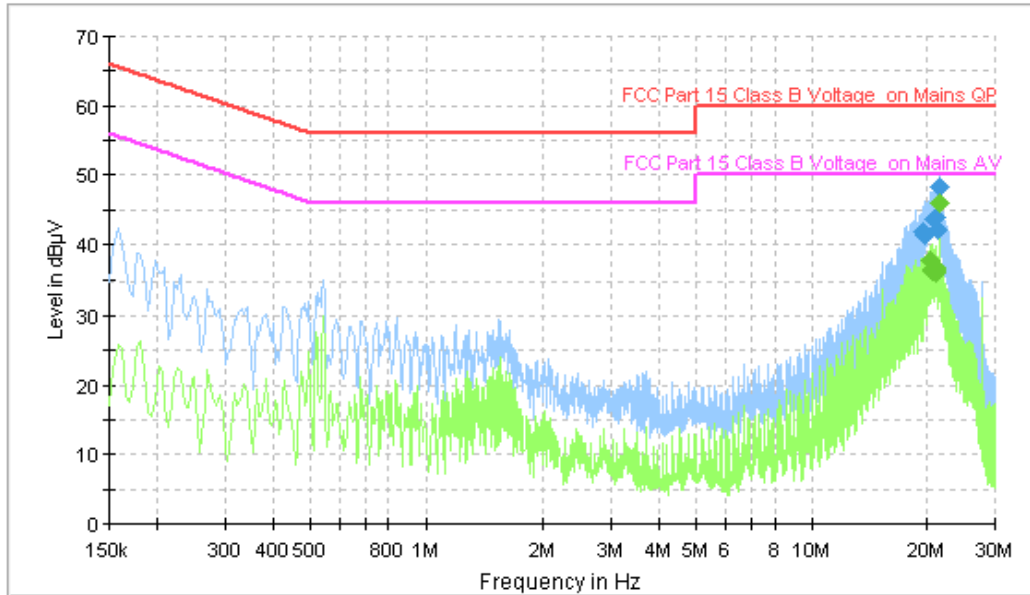


Figure A.21 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.454000       | 41.8             | GND | N    | 10.0       | 18.2        | 60.0         |
| 19.642000       | 41.4             | GND | N    | 10.0       | 18.6        | 60.0         |
| 20.738000       | 43.7             | GND | N    | 10.0       | 16.3        | 60.0         |
| 21.006000       | 43.9             | GND | N    | 10.0       | 16.1        | 60.0         |
| 21.250000       | 42.1             | GND | N    | 10.0       | 17.9        | 60.0         |
| 21.502000       | 48.3             | GND | N    | 10.0       | 11.7        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 20.402000       | 37.8           | GND | N    | 10.0       | 12.2        | 50.0         |
| 20.486000       | 36.6           | GND | N    | 10.0       | 13.4        | 50.0         |
| 20.578000       | 36.5           | GND | N    | 10.0       | 13.5        | 50.0         |
| 20.974000       | 36.8           | GND | N    | 10.0       | 13.2        | 50.0         |
| 21.058000       | 36.2           | GND | N    | 10.0       | 13.8        | 50.0         |
| 21.502000       | 45.9           | GND | N    | 10.0       | 4.1         | 50.0         |

USB mode:Set.6  
Voltage:120V

ESH2-Z5 Scan-FCC

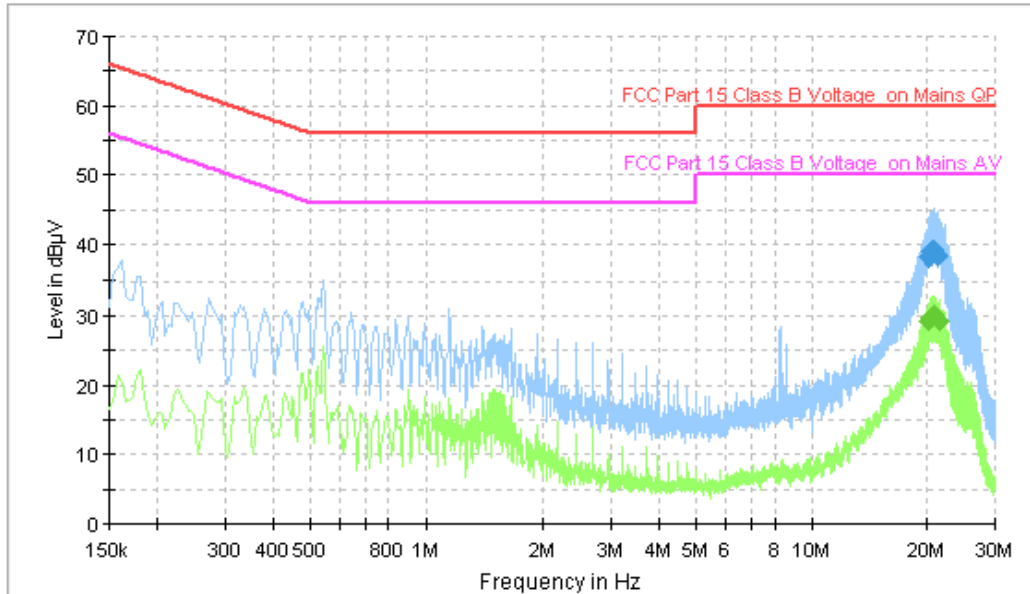


Figure A.22 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 20.134000       | 38.3             | GND | N    | 10.0       | 21.7        | 60.0         |
| 20.378000       | 39.1             | GND | N    | 10.0       | 20.9        | 60.0         |
| 20.586000       | 39.2             | GND | N    | 10.0       | 20.8        | 60.0         |
| 20.690000       | 39.0             | GND | N    | 10.0       | 21.0        | 60.0         |
| 20.874000       | 39.2             | GND | N    | 10.0       | 20.8        | 60.0         |
| 21.310000       | 38.4             | GND | N    | 10.0       | 21.6        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 20.194000       | 29.2           | GND | N    | 10.0       | 20.8        | 50.0         |
| 20.302000       | 29.8           | GND | N    | 10.0       | 20.2        | 50.0         |
| 20.554000       | 29.9           | GND | N    | 10.0       | 20.1        | 50.0         |
| 20.706000       | 29.9           | GND | N    | 10.0       | 20.1        | 50.0         |
| 20.890000       | 30.1           | GND | N    | 10.0       | 19.9        | 50.0         |
| 21.502000       | 29.2           | GND | N    | 10.0       | 20.8        | 50.0         |

USB mode:Set.7  
Voltage:120V

ESH2-Z5 Scan-FCC

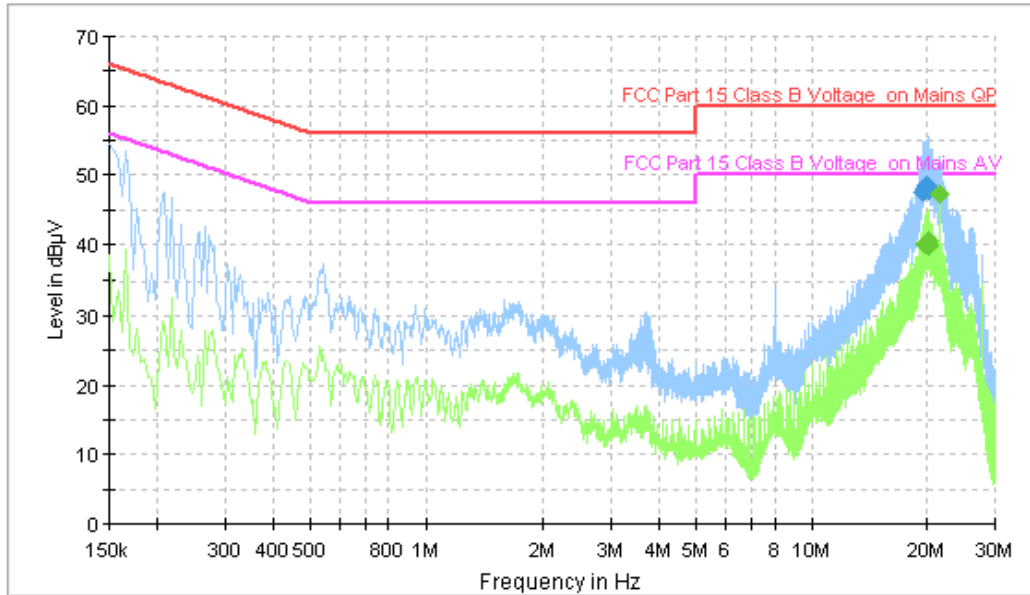


Figure A.23 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.550000       | 47.6             | GND | N    | 10.0       | 12.4        | 60.0         |
| 19.778000       | 47.9             | GND | N    | 10.0       | 12.1        | 60.0         |
| 19.878000       | 48.2             | GND | N    | 10.0       | 11.8        | 60.0         |
| 19.894000       | 48.5             | GND | N    | 10.0       | 11.5        | 60.0         |
| 20.114000       | 47.9             | GND | N    | 10.0       | 12.1        | 60.0         |
| 20.154000       | 47.9             | GND | N    | 10.0       | 12.1        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 19.778000       | 40.1           | GND | N    | 10.0       | 9.9         | 50.0         |
| 19.878000       | 40.3           | GND | N    | 10.0       | 9.7         | 50.0         |
| 20.038000       | 40.1           | GND | N    | 10.0       | 9.9         | 50.0         |
| 20.062000       | 40.5           | GND | N    | 10.0       | 9.5         | 50.0         |
| 20.146000       | 39.9           | GND | N    | 10.0       | 10.1        | 50.0         |
| 21.506000       | 47.4           | GND | N    | 10.0       | 2.6         | 50.0         |

USB mode:Set.8  
Voltage:120V

ESH2-Z5 Scan-FCC

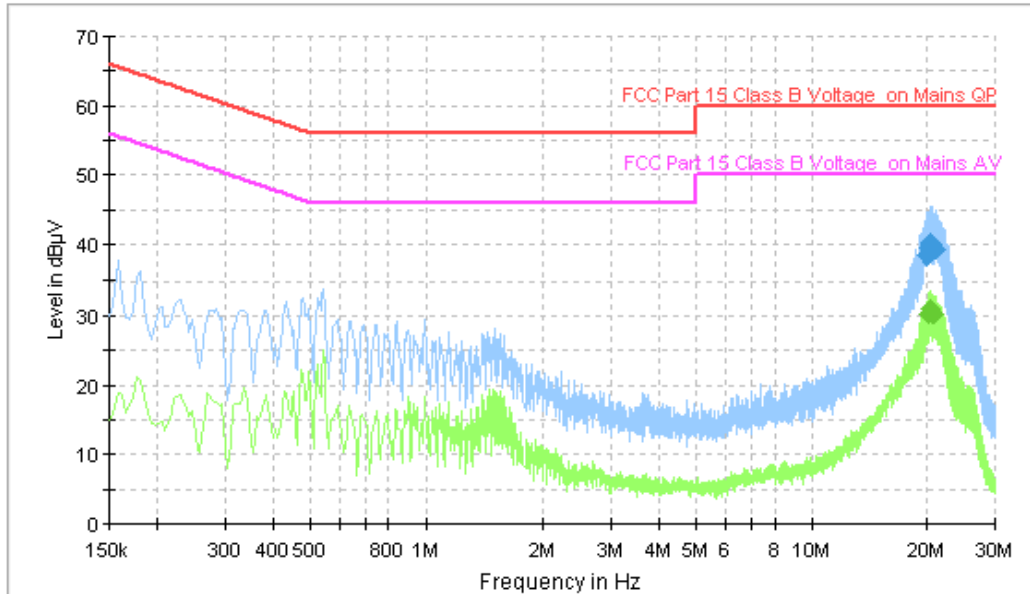


Figure A.24 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.862000       | 38.6             | GND | N    | 10.0       | 21.4        | 60.0         |
| 20.214000       | 39.5             | GND | N    | 10.0       | 20.5        | 60.0         |
| 20.342000       | 40.1             | GND | N    | 10.0       | 19.9        | 60.0         |
| 20.450000       | 40.3             | GND | N    | 10.0       | 19.7        | 60.0         |
| 20.582000       | 40.0             | GND | N    | 10.0       | 20.0        | 60.0         |
| 21.138000       | 39.2             | GND | N    | 10.0       | 20.8        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 20.222000       | 30.2           | GND | N    | 10.0       | 19.8        | 50.0         |
| 20.298000       | 30.6           | GND | N    | 10.0       | 19.4        | 50.0         |
| 20.382000       | 30.9           | GND | N    | 10.0       | 19.1        | 50.0         |
| 20.482000       | 30.9           | GND | N    | 10.0       | 19.1        | 50.0         |
| 20.702000       | 30.1           | GND | N    | 10.0       | 19.9        | 50.0         |
| 20.786000       | 30.2           | GND | N    | 10.0       | 19.8        | 50.0         |

Charging mode:Set.1  
Voltage:240V

ESH2-Z5 Scan-FCC

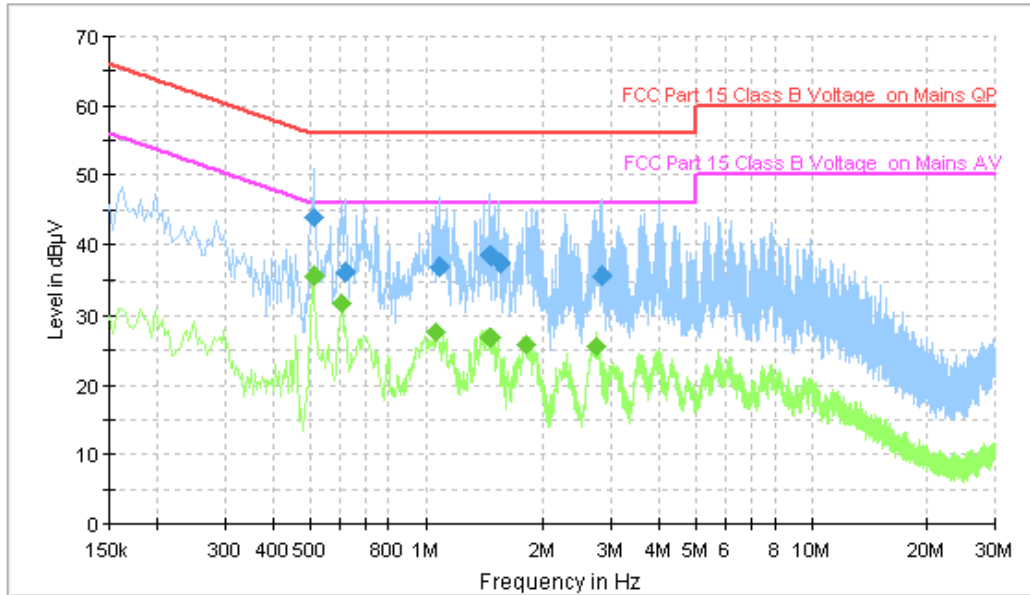


Figure A.25 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.510000        | 44.0             | GND | N    | 9.7        | 12.0        | 56.0         |
| 0.618000        | 36.3             | GND | N    | 9.6        | 19.7        | 56.0         |
| 1.090000        | 36.8             | GND | N    | 9.6        | 19.2        | 56.0         |
| 1.458000        | 38.5             | GND | N    | 9.5        | 17.5        | 56.0         |
| 1.542000        | 37.5             | GND | N    | 9.6        | 18.5        | 56.0         |
| 2.854000        | 35.6             | GND | N    | 9.6        | 20.4        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.510000        | 35.7           | GND | N    | 9.7        | 10.3        | 46.0         |
| 0.606000        | 31.7           | GND | N    | 9.6        | 14.3        | 46.0         |
| 1.066000        | 27.8           | GND | N    | 9.6        | 18.2        | 46.0         |
| 1.458000        | 26.8           | GND | N    | 9.5        | 19.2        | 46.0         |
| 1.802000        | 25.9           | GND | N    | 9.5        | 20.1        | 46.0         |
| 2.742000        | 25.6           | GND | N    | 9.6        | 20.4        | 46.0         |

Charging mode:Set.2  
Voltage:240V

ESH2-Z5 Scan-FCC

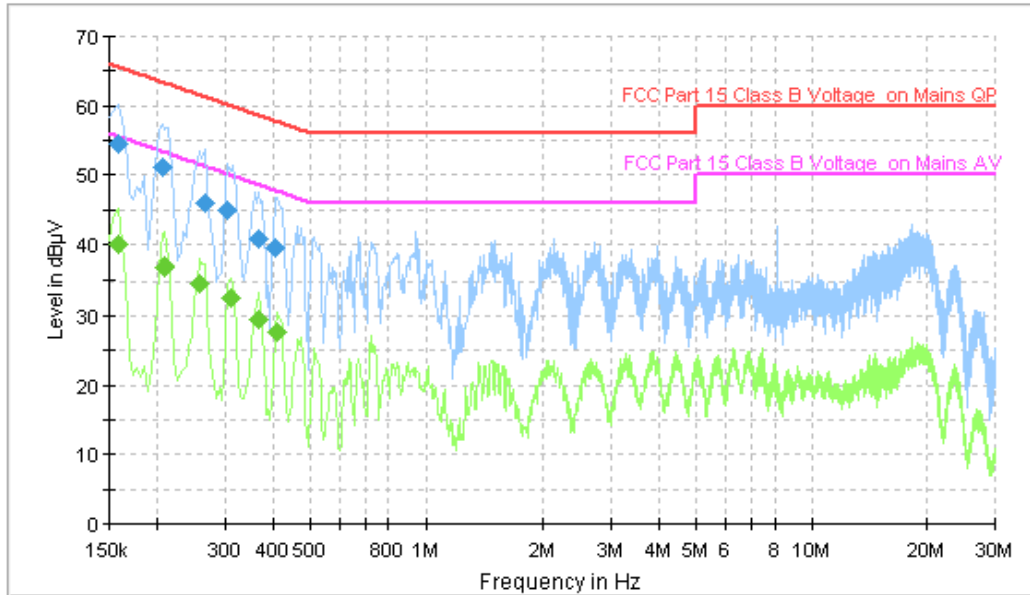


Figure A.26 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.158000        | 54.5             | GND | N    | 9.6        | 11.0        | 65.6         |
| 0.206000        | 51.1             | GND | N    | 9.6        | 12.2        | 63.4         |
| 0.266000        | 46.0             | GND | N    | 9.6        | 15.2        | 61.2         |
| 0.306000        | 45.0             | GND | N    | 9.6        | 15.0        | 60.1         |
| 0.366000        | 40.8             | GND | N    | 9.6        | 17.8        | 58.6         |
| 0.406000        | 39.4             | GND | N    | 9.7        | 18.3        | 57.7         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.158000        | 40.1           | GND | N    | 9.6        | 15.5        | 55.6         |
| 0.210000        | 36.9           | GND | N    | 9.6        | 16.3        | 53.2         |
| 0.258000        | 34.6           | GND | N    | 9.6        | 16.9        | 51.5         |
| 0.310000        | 32.5           | GND | N    | 9.6        | 17.5        | 50.0         |
| 0.366000        | 29.4           | GND | N    | 9.6        | 19.1        | 48.6         |
| 0.410000        | 27.6           | GND | N    | 9.7        | 20.0        | 47.6         |

Charging mode:Set.3  
Voltage:240V

ESH2-Z5 Scan-FCC

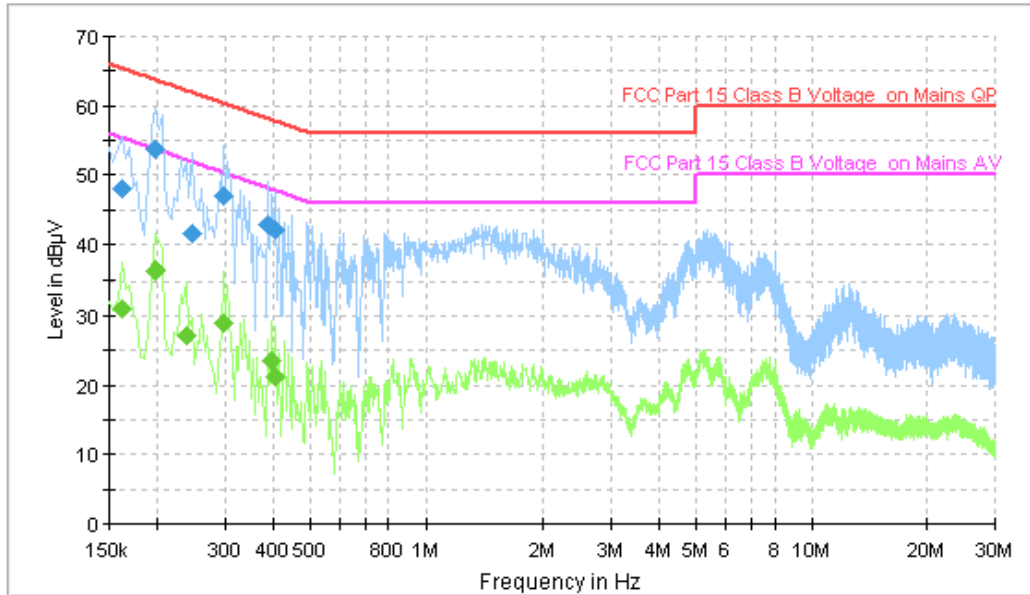


Figure A.27 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.162000        | 48.1             | GND | N    | 9.6        | 17.3        | 65.4         |
| 0.198000        | 53.7             | GND | N    | 9.6        | 10.0        | 63.7         |
| 0.246000        | 41.5             | GND | N    | 9.6        | 20.4        | 61.9         |
| 0.298000        | 47.0             | GND | N    | 9.6        | 13.3        | 60.3         |
| 0.390000        | 42.9             | GND | N    | 9.6        | 15.1        | 58.1         |
| 0.406000        | 42.0             | GND | N    | 9.7        | 15.7        | 57.7         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.162000        | 31.1           | GND | N    | 9.6        | 24.3        | 55.4         |
| 0.198000        | 36.5           | GND | N    | 9.6        | 17.2        | 53.7         |
| 0.238000        | 27.0           | GND | N    | 9.6        | 25.2        | 52.2         |
| 0.298000        | 28.9           | GND | N    | 9.6        | 21.4        | 50.3         |
| 0.398000        | 23.4           | GND | N    | 9.6        | 24.5        | 47.9         |
| 0.406000        | 21.2           | GND | N    | 9.7        | 26.6        | 47.7         |



Charging mode:Set.4  
Voltage:240V

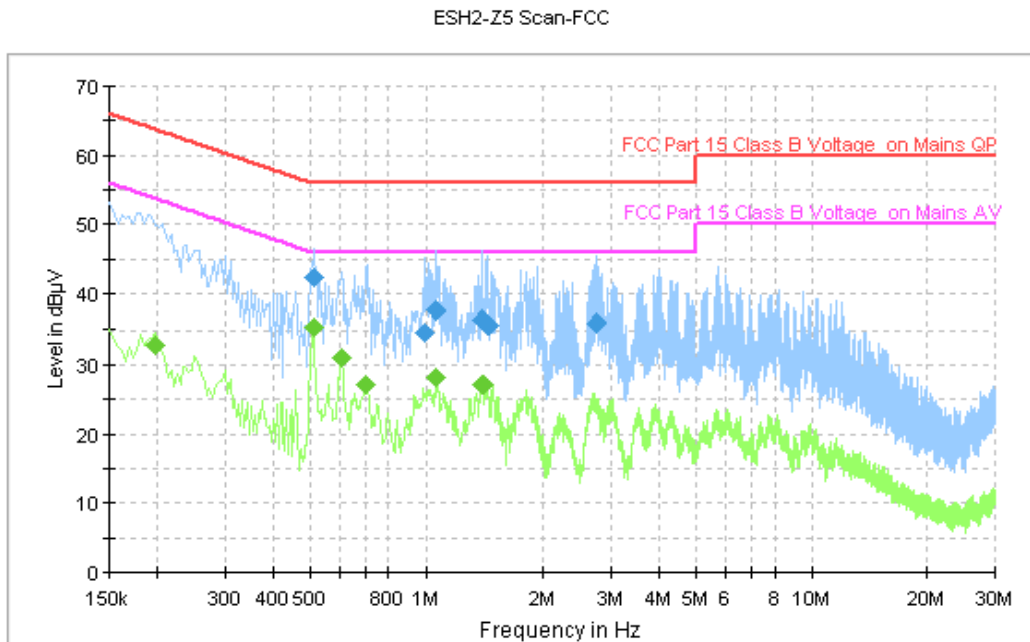


Figure A.28 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 0.514000        | 42.2             | GND | N    | 9.7        | 13.8        | 56.0         |
| 0.998000        | 34.5             | GND | N    | 9.5        | 21.5        | 56.0         |
| 1.066000        | 37.8             | GND | N    | 9.6        | 18.2        | 56.0         |
| 1.402000        | 36.4             | GND | N    | 9.6        | 19.6        | 56.0         |
| 1.454000        | 35.6             | GND | N    | 9.5        | 20.4        | 56.0         |
| 2.754000        | 35.9             | GND | N    | 9.6        | 20.1        | 56.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 0.198000        | 32.9           | GND | N    | 9.6        | 20.8        | 53.7         |
| 0.510000        | 35.4           | GND | N    | 9.7        | 10.6        | 46.0         |
| 0.602000        | 31.1           | GND | N    | 9.6        | 14.9        | 46.0         |
| 0.698000        | 27.0           | GND | N    | 9.5        | 19.0        | 46.0         |
| 1.066000        | 28.0           | GND | N    | 9.6        | 18.0        | 46.0         |
| 1.398000        | 27.1           | GND | N    | 9.6        | 18.9        | 46.0         |

USB mode:Set.5  
Voltage:240V

ESH2-Z5 Scan-FCC

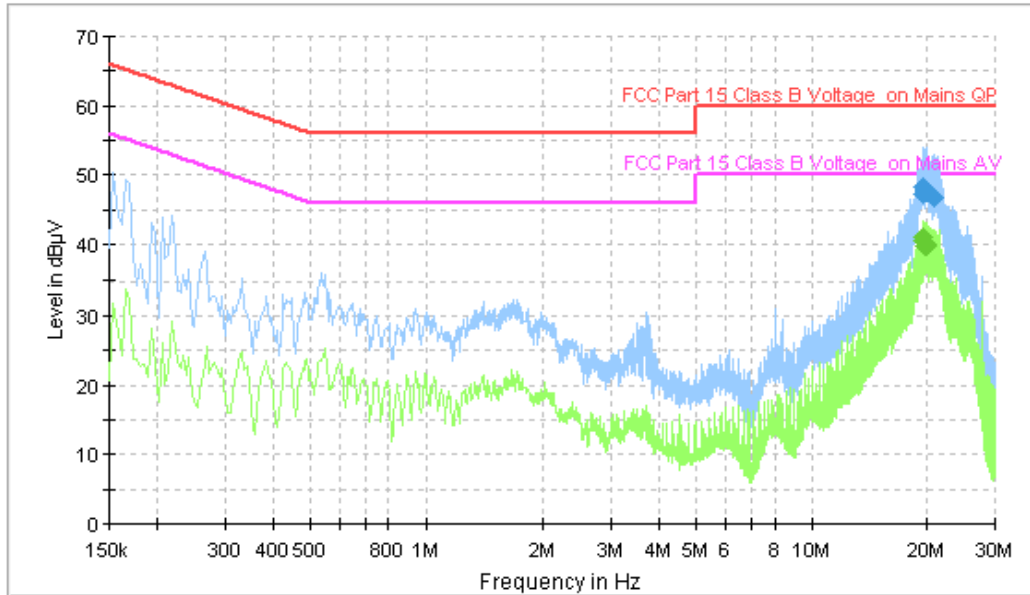


Figure A.29 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.406000       | 47.2             | GND | N    | 10.0       | 12.8        | 60.0         |
| 19.566000       | 48.3             | GND | N    | 10.0       | 11.7        | 60.0         |
| 19.642000       | 48.1             | GND | N    | 10.0       | 11.9        | 60.0         |
| 19.798000       | 47.8             | GND | N    | 10.0       | 12.2        | 60.0         |
| 20.018000       | 47.6             | GND | N    | 10.0       | 12.4        | 60.0         |
| 20.738000       | 46.9             | GND | N    | 10.0       | 13.1        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 19.414000       | 40.7           | GND | N    | 10.0       | 9.3         | 50.0         |
| 19.566000       | 41.0           | GND | N    | 10.0       | 9.0         | 50.0         |
| 19.650000       | 39.7           | GND | N    | 10.0       | 10.3        | 50.0         |
| 19.658000       | 39.8           | GND | N    | 10.0       | 10.2        | 50.0         |
| 19.834000       | 40.0           | GND | N    | 10.0       | 10.0        | 50.0         |
| 19.850000       | 39.8           | GND | N    | 10.0       | 10.2        | 50.0         |

USB mode:Set.6  
Voltage:240V

ESH2-Z5 Scan-FCC

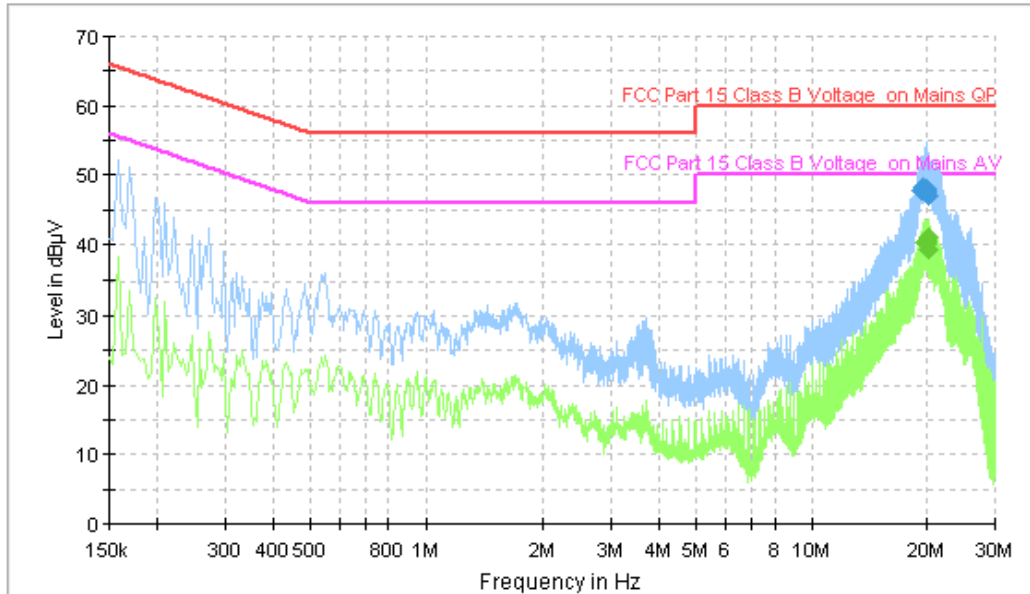


Figure A.30 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.338000       | 47.7             | GND | N    | 10.0       | 12.3        | 60.0         |
| 19.530000       | 48.2             | GND | N    | 10.0       | 11.8        | 60.0         |
| 19.858000       | 48.0             | GND | N    | 10.0       | 12.0        | 60.0         |
| 19.890000       | 47.8             | GND | N    | 10.0       | 12.2        | 60.0         |
| 20.002000       | 47.5             | GND | N    | 10.0       | 12.5        | 60.0         |
| 20.142000       | 47.1             | GND | N    | 10.0       | 12.9        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 19.674000       | 40.4           | GND | N    | 10.0       | 9.6         | 50.0         |
| 19.866000       | 40.4           | GND | N    | 10.0       | 9.6         | 50.0         |
| 19.882000       | 40.0           | GND | N    | 10.0       | 10.0        | 50.0         |
| 19.942000       | 40.4           | GND | N    | 10.0       | 9.6         | 50.0         |
| 20.134000       | 41.0           | GND | N    | 10.0       | 9.0         | 50.0         |
| 20.142000       | 39.4           | GND | N    | 10.0       | 10.6        | 50.0         |

USB mode:Set.7  
Voltage:240V

ESH2-Z5 Scan-FCC

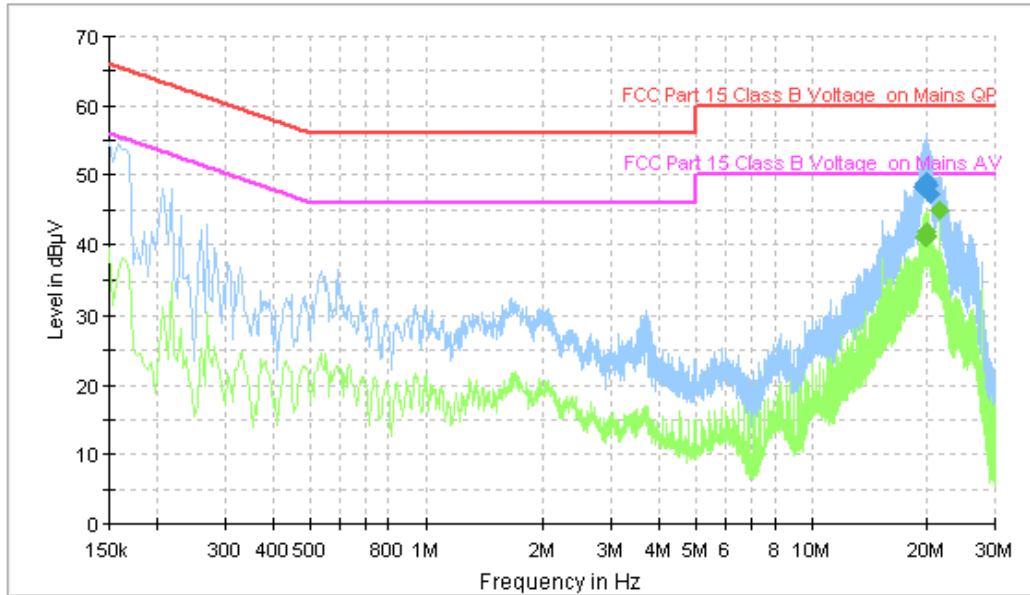


Figure A.31 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.594000       | 48.4             | GND | N    | 10.0       | 11.6        | 60.0         |
| 19.670000       | 48.9             | GND | N    | 10.0       | 11.1        | 60.0         |
| 19.822000       | 49.1             | GND | N    | 10.0       | 10.9        | 60.0         |
| 19.882000       | 49.0             | GND | N    | 10.0       | 11.0        | 60.0         |
| 20.106000       | 48.5             | GND | N    | 10.0       | 11.5        | 60.0         |
| 20.346000       | 47.3             | GND | N    | 10.0       | 12.7        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 19.738000       | 41.0           | GND | N    | 10.0       | 9.0         | 50.0         |
| 19.822000       | 41.2           | GND | N    | 10.0       | 8.8         | 50.0         |
| 19.830000       | 41.3           | GND | N    | 10.0       | 8.7         | 50.0         |
| 19.922000       | 41.0           | GND | N    | 10.0       | 9.0         | 50.0         |
| 20.022000       | 41.8           | GND | N    | 10.0       | 8.2         | 50.0         |
| 21.506000       | 45.0           | GND | N    | 10.0       | 5.0         | 50.0         |

USB mode:Set.8  
Voltage:240V

ESH2-Z5 Scan-FCC

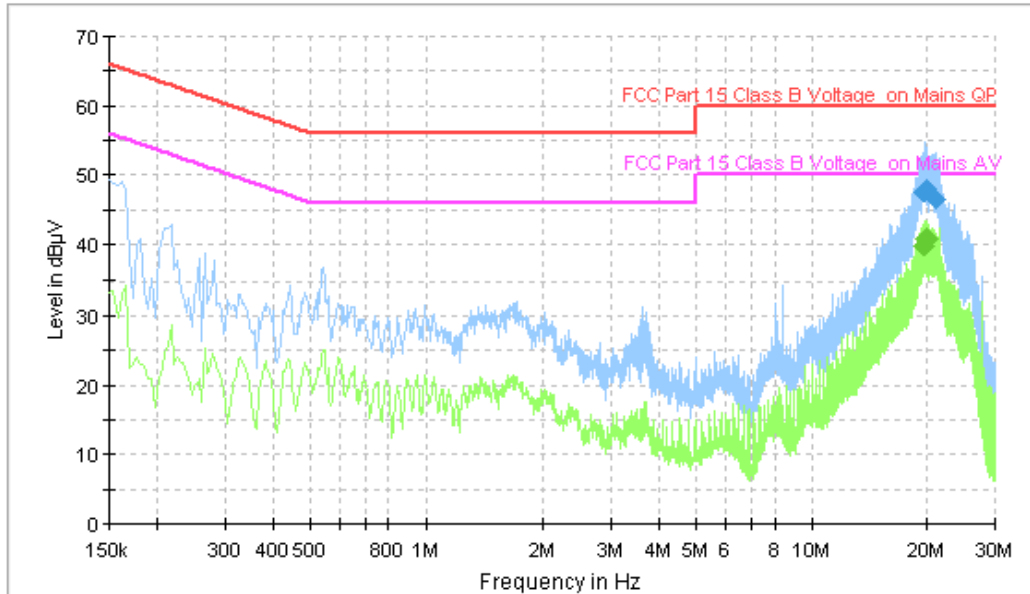


Figure A.32 Conducted Emission

**Final Measurement Detector 1**

| Frequency (MHz) | QuasiPeak (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|------------------|-----|------|------------|-------------|--------------|
| 19.430000       | 47.5             | GND | N    | 10.0       | 12.5        | 60.0         |
| 19.622000       | 47.8             | GND | N    | 10.0       | 12.2        | 60.0         |
| 19.750000       | 47.6             | GND | N    | 10.0       | 12.4        | 60.0         |
| 19.906000       | 48.1             | GND | N    | 10.0       | 11.9        | 60.0         |
| 20.874000       | 46.8             | GND | N    | 10.0       | 13.2        | 60.0         |
| 21.098000       | 46.5             | GND | N    | 10.0       | 13.5        | 60.0         |

**Final Measurement Detector 2**

| Frequency (MHz) | Average (dBµV) | PE  | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|-----------------|----------------|-----|------|------------|-------------|--------------|
| 19.422000       | 39.7           | GND | N    | 10.0       | 10.4        | 50.0         |
| 19.682000       | 40.8           | GND | N    | 10.0       | 9.2         | 50.0         |
| 19.774000       | 39.7           | GND | N    | 10.0       | 10.3        | 50.0         |
| 19.790000       | 40.8           | GND | N    | 10.0       | 9.2         | 50.0         |
| 19.906000       | 41.1           | GND | N    | 10.0       | 8.9         | 50.0         |
| 20.134000       | 40.9           | GND | N    | 10.0       | 9.1         | 50.0         |

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