



TEST REPORT

No. I15D00083-EMC

For

**Client : Suzhou Mobilead Eletronic
Technology Co.,Ltd**

Production: WCDMA wireless data terminal

Model Name : Mobilead M80

Hardware Version: V01

Software Version: M80.01.01.20150526

FCC ID: 2AFBBM80

Issued date: 2015-07-08

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 ECIT Shanghai.

Test Laboratory:

ECIT Shanghai, East China Institute of Telecommunications

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Revision Version

| Report Number | Revision | Date | Memo |
|---------------|----------|------------|---------------------------------|
| I15D00083-EMC | 00 | 2015-07-08 | Initial creation of test report |

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1. Test Laboratory

1.1. Testing Location

Company Name: ECIT Shanghai, East China Institute of Telecommunications
Address: 7F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai,
P. R. China
Postal Code: 200001
Telephone: 86-21-63843300
Fax: 86-21-63843301
FCC registration No: 489729

1.2. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 30-60%

1.3. Project data

Project Leader: Lan Ya Qin
Testing Start Date: 06-15, 2015
Testing End Date: 06-23, 2015

1.4. Signature



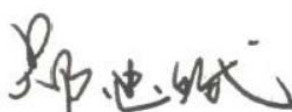
You Jinjun

(Prepared this test report)



Yu Naiping

(Reviewed this test report)



Zheng Zhongbin

Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Suzhou Mobilead Eletronic Technology Co.,Ltd
Address /Post: Room 1503, building G1, No.88, Dongchang Road, SIP, Suzhou,
PRC
Tel: 18014912125
City: /
Country: China

2.2. Manufacturer Information

Company Name: MOBIWIRE MOBILES (NINGBO) CO.,LTD
Address /Post: No.999,Dacheng East Road,Fenghua City,Zhejiang
Tel: 0574 88916450
City: /
Country: China

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

3.1. About EUT

| | |
|-----------------------|------------------------------|
| EUT Description | WCDMA wireless data terminal |
| Model name | Mobilead M80 |
| Serial Number or IMEI | 867762020000177 |
| GSM Frequency Band | GSM900/GSM1800GSM850/GSM1900 |
| WCDMA Frequency Band | WCDMA 850/1900 |
| HW Version | V01 |
| SW Version | M80.01.01.20150526 |

3.2. Internal Identification of AE used during the test

| AE ID* | Description | Model | SN |
|--------|-------------|--------------------|------------------------------|
| AE1 | Adapter | S012GM0500200 | NA |
| AE2 | Data Cable | M021B2000100 | NA |
| AE3 | Desktop PC | OptiPlex 790 DT | X8RP1 A01 APCC |
| AE4 | Notebook PC | ThinkPad Edge E430 | 0B65911 |
| AE5 | LAN Cable | NA | NA |
| AE6 | VGA Cable | NA | NA |
| AE7 | RS232 Cable | NA | NA |
| AE8 | Keyboard | KB212-B | CN-0Y88XT-65890-12I-005Q-A00 |
| AE9 | Mouse | MS111-P | CN-011D3V-71581-19J-1A64 |

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

4. Reference Documents

4.1. Reference Documents for testing

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

| Reference | Title | Version |
|---------------------------|---|-----------------|
| FCC Part 15, Subpart B | Radio frequency devices | 10-1-10 Edition |
| ANSI C63.4 | Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz | 2009 |

5. Test Results

5.1. Summary of Test Results

| Items | Test List | Clause in FCC rules | Verdict |
|-------|--------------------|---------------------|---------|
| 1 | Radiated Emission | 15.109(a) | Pass |
| 2 | Conducted Emission | 15.107(a) | Pass |

5.2. Statements

The Mobilead M80 supporting GSM/WCDMA, manufactured by MOBIWIRE MOBILES (NINGBO) CO.,LTD is a new product for testing. ECIT only performed test cases which identified with Pass/Fail/Inc result in section 5.1.

ECIT has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

6. Test Equipments Utilized

6.1 Radiated Emission Equipments list

| No. | Name | Type | Series Number | Producer | Cal. Date | Cal. interval |
|-----|-------------------------------|-------------|---------------|-------------|------------|---------------|
| 1 | Universal Radio Communication | CMU200 | 123126 | R&S | 2015-05-13 | 1 |
| 2 | Test Receiver | ESU40 | 100307 | R&S | 2015-05-13 | 1 |
| 3 | Trilog Antenna | VULB9163 | VULB9163-515 | Schwarzbeck | 2014-11-05 | 3 |
| 4 | Double Ridged Guide | ETS-3117 | 00135885 | ETS | 2014-05-06 | 3 |
| 5 | EMI Test Software | EMC32 V9.15 | NA | R&S | NA | NA |

6.1 CE Equipments list

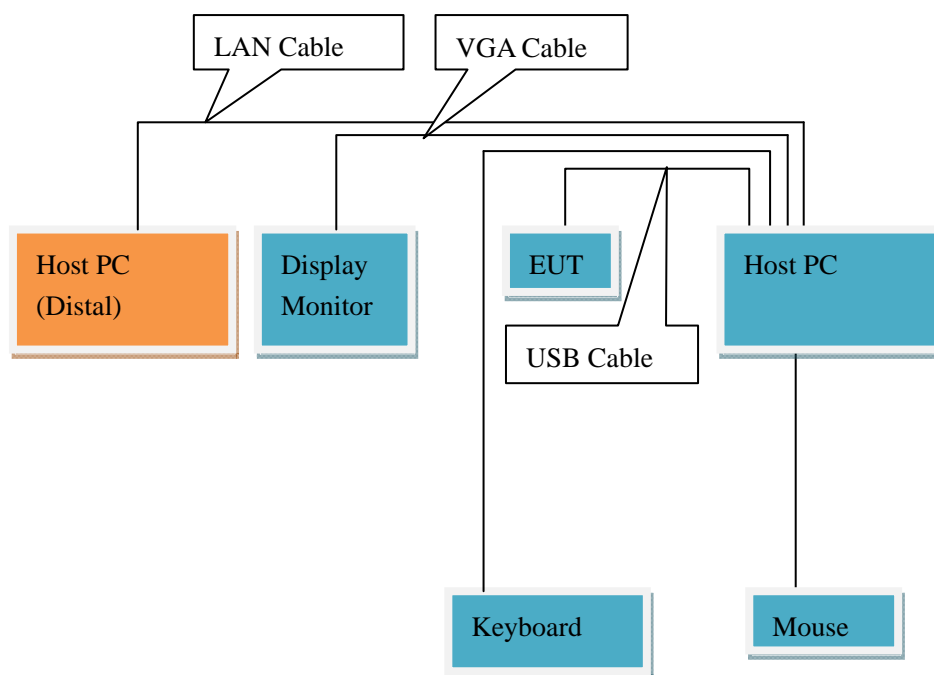
| No. | Name | Type | Series Number | Producer | Cal. Date | Cal. interval |
|-----|-------------------|-------------|---------------|----------|------------|---------------|
| 1 | Universal Radio | CMU200 | 123123 | R&S | 2015-05-13 | 1 |
| 2 | Test Receiver | ESCI | 101235 | R&S | 2015-05-13 | 1 |
| 3 | 2-Line V-Network | ENV216 | 101380 | R&S | 2015-05-13 | 1 |
| 4 | EMI Test Software | EMC32 V9.15 | NA | R&S | NA | NA |

7. System Configuration during Test

7.1 Test Mode

| Test Item | Function Type |
|---|--|
| AC Conducted Emission | Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + Earphone + MP4 + Adapter charging <Figure 2> |
| Radiated Emission | Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + Earphone + MP4 + Adapter charging <Figure 2> |
| Remark: 1. All test modes are performed, only the worst cases test data are recorded in this report. 2. Data Link with PC means data application transferred mode between EUT and PC. | |

7.2 Connection Diagram of Test System



<Figure 1>



<Figure 2>

8. Measurement Results

Only the worst test result was shown in this report.

8.1 Radiated Emission 30MHz-12.75GHz

Method of Measurement

For 30-1000MHz, the EUT was placed on the top of a rotating 0.8-m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement. Tested in accordance with the procedures of ANSI C63.4-2009, section 8.3.

For 1000-12750MHz, The maximal emission value was acquired by adjusting the antenna height, The table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

Limits for Radiated Emission at a measuring distance of 3m

| Frequency Range (MHz) | Quasi-Peak (dBuV/m) |
|-----------------------|---------------------|
| 30-88 | 40 |
| 88-216 | 43.5 |
| 216-960 | 46 |
| Above 960 | 54 |

| Frequency Range (MHz) | Peak (dBuV/m) | Average (dBuV/m) |
|-----------------------|---------------|------------------|
| Above 1000 | 74 | 54 |

Test conditions

| Frequency Range (MHz) | RBW/VBW | Sweep Time (s) |
|-----------------------|---------------|----------------|
| 30-1000 | 120KHz/300KHz | Auto |
| 1000-12750 | 1MHz/1MHz | Auto |

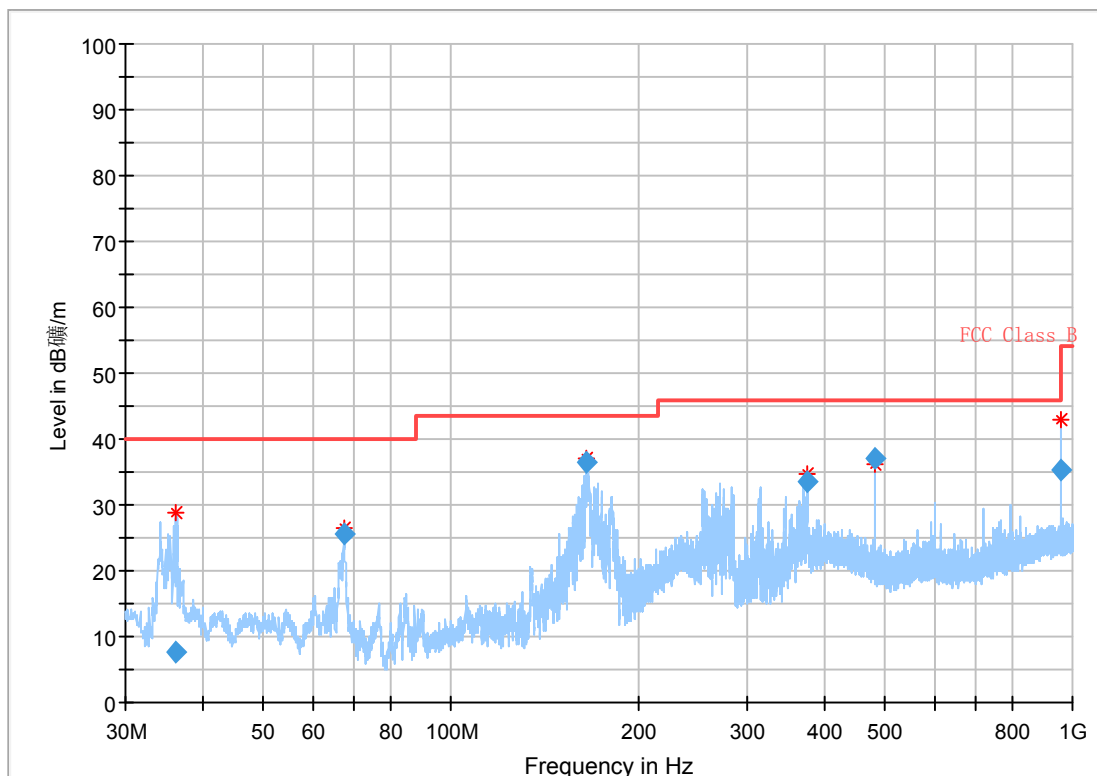
Uncertainty Measurement

The measurement uncertainty is 5.59dB (k=2).

Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range: 30MHz – 1GHz



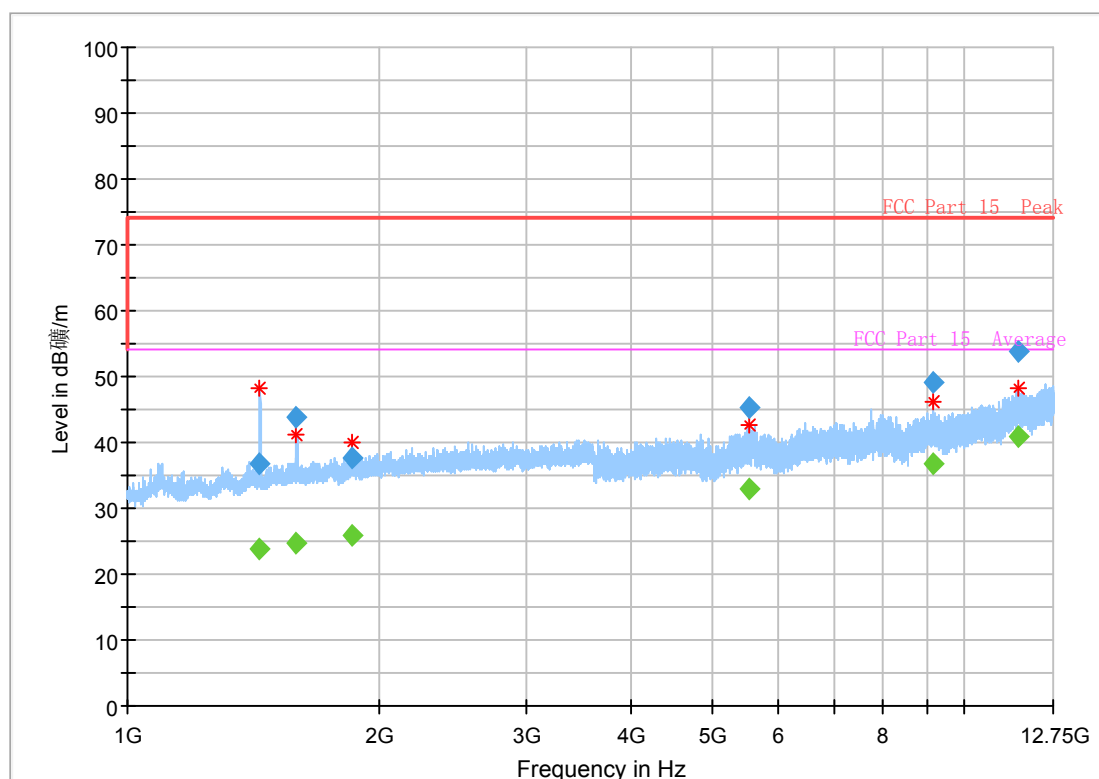
| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|--------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 36.155436 | 7.79 | 1000.0 | 120.000 | 125.0 | V | 264.0 | -25.8 | 32.21 | 40.00 |
| 67.510760 | 25.45 | 1000.0 | 120.000 | 100.0 | V | 259.0 | -27.6 | 14.55 | 40.00 |
| 165.634656 | 36.47 | 1000.0 | 120.000 | 100.0 | V | 87.0 | -26.4 | 7.03 | 43.50 |
| 373.875612 | 33.59 | 1000.0 | 120.000 | 100.0 | H | 61.0 | -17.9 | 12.41 | 46.00 |
| 479.998624 | 37.09 | 1000.0 | 120.000 | 100.0 | V | 123.0 | -15.5 | 8.91 | 46.00 |
| 959.975052 | 35.27 | 1000.0 | 120.000 | 100.0 | H | 66.0 | -7.7 | 10.73 | 46.00 |

Note:

- Emission level(QP)=Raw value by receiver + Corr(Antenna factor + cable loss - preamplifier gain)
- The raw value is used to calculate by software which is not shown in the sheet.
- Margin=limit value – emission level.

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range: 1GHz –12.75GHz



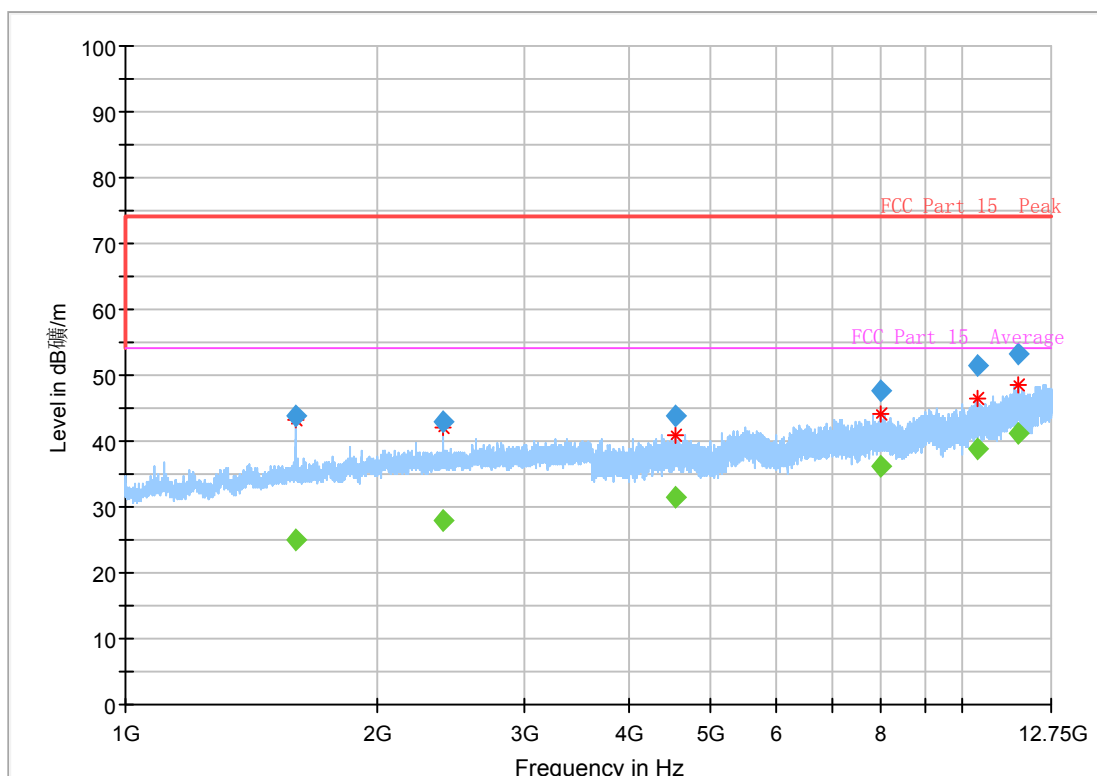
Final Result

| Frequency (MHz) | MaxPeak (dBuV/m) | Average (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|------------|-----------------|-------------|-----|---------------|
| 1439.838667 | 36.81 | --- | 74.00 | 37.19 | 50.0 | 1000.000 | 100.0 | H | 267.0 |
| 1439.838667 | --- | 23.78 | 54.00 | 30.22 | 50.0 | 1000.000 | 100.0 | H | 267.0 |
| 1593.311000 | 43.69 | --- | 74.00 | 30.31 | 50.0 | 1000.000 | 100.0 | H | 31.0 |
| 1593.311000 | --- | 24.85 | 54.00 | 29.15 | 50.0 | 1000.000 | 100.0 | H | 31.0 |
| 1854.407333 | 37.52 | --- | 74.00 | 36.48 | 50.0 | 1000.000 | 100.0 | H | 54.0 |
| 1854.407333 | --- | 25.99 | 54.00 | 28.01 | 50.0 | 1000.000 | 100.0 | H | 54.0 |
| 5517.025267 | --- | 32.97 | 54.00 | 21.03 | 50.0 | 1000.000 | 100.0 | H | 212.0 |
| 5517.025267 | 45.15 | --- | 74.00 | 28.85 | 50.0 | 1000.000 | 100.0 | H | 212.0 |
| 9143.416600 | 49.15 | --- | 74.00 | 24.85 | 50.0 | 1000.000 | 100.0 | H | 68.0 |
| 9143.416600 | --- | 36.89 | 54.00 | 17.11 | 50.0 | 1000.000 | 100.0 | H | 68.0 |
| 11601.416400 | --- | 41.00 | 54.00 | 13.00 | 50.0 | 1000.000 | 100.0 | H | 0.0 |
| 11601.416400 | 53.85 | --- | 74.00 | 20.15 | 50.0 | 1000.000 | 100.0 | H | 0.0 |

Note:

- Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
- The raw value is used to calculate by software which is not shown in the sheet.

Margin=limit value – emission level.



Final Result

| Frequency (MHz) | MaxPeak (dBuV/m) | Average (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) |
|-----------------|------------------|------------------|----------------|-------------|------------|-----------------|-------------|-----|---------------|
| 1598.058800 | 43.83 | --- | 74.00 | 30.17 | 50.0 | 1000.000 | 100.0 | V | 197.0 |
| 1598.058800 | --- | 25.03 | 54.00 | 28.97 | 50.0 | 1000.000 | 100.0 | V | 197.0 |
| 2397.744200 | --- | 27.82 | 54.00 | 26.18 | 50.0 | 1000.000 | 100.0 | V | 265.0 |
| 2397.744200 | 43.00 | --- | 74.00 | 31.00 | 50.0 | 1000.000 | 100.0 | V | 265.0 |
| 4542.303534 | --- | 31.40 | 54.00 | 22.60 | 50.0 | 1000.000 | 100.0 | V | 22.0 |
| 4542.303534 | 43.71 | --- | 74.00 | 30.29 | 50.0 | 1000.000 | 100.0 | V | 22.0 |
| 7980.813133 | 47.66 | --- | 74.00 | 26.34 | 50.0 | 1000.000 | 100.0 | V | -13.0 |
| 7980.813133 | --- | 36.06 | 54.00 | 17.94 | 50.0 | 1000.000 | 100.0 | V | -13.0 |
| 10433.085400 | --- | 38.83 | 54.00 | 15.17 | 50.0 | 1000.000 | 100.0 | V | 7.0 |
| 10433.085400 | 51.42 | --- | 74.00 | 22.58 | 50.0 | 1000.000 | 100.0 | V | 7.0 |
| 11664.328600 | --- | 41.18 | 54.00 | 12.82 | 50.0 | 1000.000 | 100.0 | V | -1.0 |
| 11664.328600 | 53.21 | --- | 74.00 | 20.79 | 50.0 | 1000.000 | 100.0 | V | -1.0 |

Note:

- Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
- The raw value is used to calculate by software which is not shown in the sheet.

| |
|--------------------------------------|
| Margin=limit value – emission level. |
|--------------------------------------|

8.2 Conducted Emission

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 with the band 150 kHz to 30MHz shall not exceed the limits. Both lines of the power mains connected to the EUT were checked for maximum conducted interference. Tested in accordance with the procedures of ANSI C63.4-2009, section 7.3

Limit of Conducted Emission

| Frequency Range (MHz) | Conducted Limit (dBuV) | |
|--|------------------------|-----------|
| | 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 | | |

Test Condition in Charging Mode

| Voltage (V) | Frequency (Hz) | RBW | Sweep Time (s) |
|-------------|----------------|-------|----------------|
| 120 | 60 | 9 KHz | Auto |

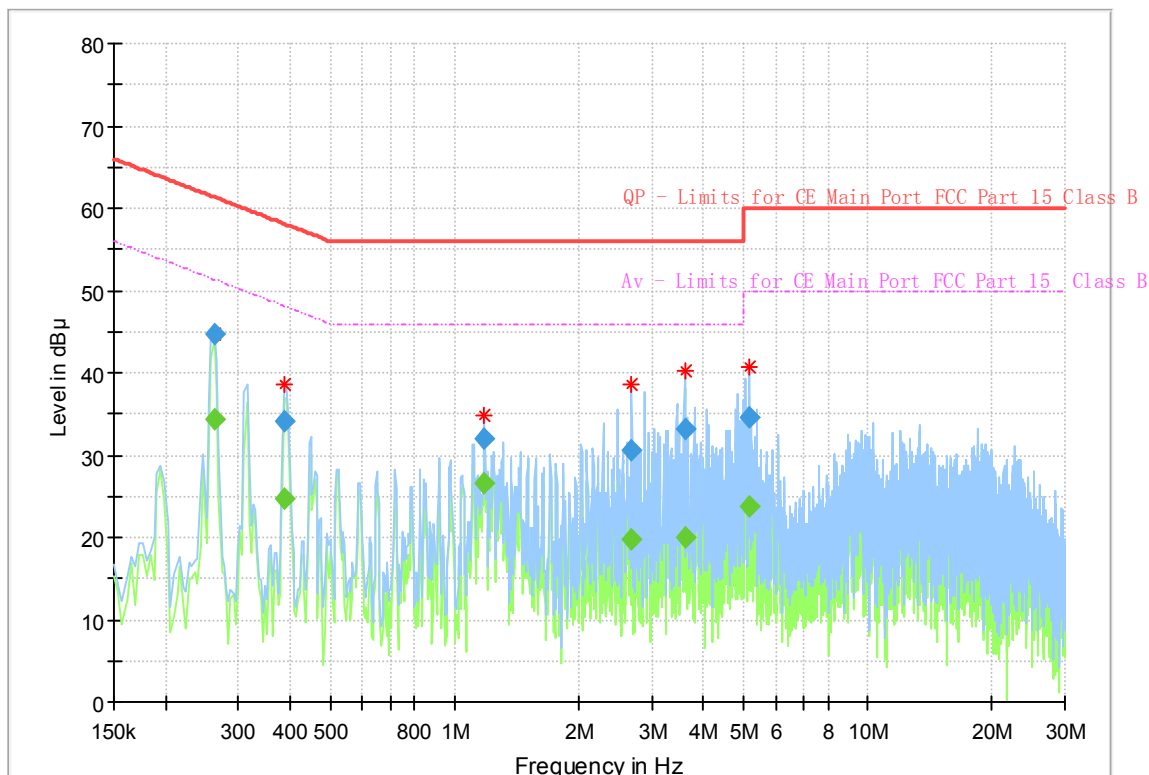
Uncertainty Measurement

The measurement uncertainty is 3.57dB (k=2).

Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range: 150kHz – 30MHz



| Frequency (MHz) | QuasiPeak (dB μ V) | Average (dB μ V) | Limit (dB μ V) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Line | Filter | Corr. (dB) |
|-----------------|------------------------|----------------------|--------------------|-------------|------------|-----------------|------|--------|------------|
| 0.261938 | --- | 34.42 | 51.37 | 16.95 | 1000.0 | 9.000 | L1 | ON | 9.9 |
| 0.261938 | 44.65 | --- | 61.37 | 16.72 | 1000.0 | 9.000 | L1 | ON | 9.9 |
| 0.388800 | --- | 24.72 | 48.09 | 23.37 | 1000.0 | 9.000 | L1 | ON | 9.8 |
| 0.388800 | 34.18 | --- | 58.09 | 23.91 | 1000.0 | 9.000 | L1 | ON | 9.8 |
| 1.179825 | 31.92 | --- | 56.00 | 24.08 | 1000.0 | 9.000 | N | ON | 9.7 |
| 1.179825 | --- | 26.49 | 46.00 | 19.51 | 1000.0 | 9.000 | N | ON | 9.7 |
| 2.683519 | --- | 19.73 | 46.00 | 26.27 | 1000.0 | 9.000 | N | ON | 9.7 |
| 2.683519 | 30.53 | --- | 56.00 | 25.47 | 1000.0 | 9.000 | N | ON | 9.7 |
| 3.601406 | --- | 20.08 | 46.00 | 25.92 | 1000.0 | 9.000 | N | ON | 9.7 |
| 3.601406 | 33.24 | --- | 56.00 | 22.76 | 1000.0 | 9.000 | N | ON | 9.7 |
| 5.172262 | 34.60 | --- | 60.00 | 25.40 | 1000.0 | 9.000 | L1 | ON | 9.7 |
| 5.172262 | --- | 23.78 | 50.00 | 26.22 | 1000.0 | 9.000 | L1 | ON | 9.7 |

Note:

1. Emission level(quasi-peak or Average peak)=Raw value by receiver + Corr(Insertion loss+ cable loss)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

*****End the Report*****