

|                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                           |                                                                                                                                            |                                                                        |                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------|
| <b>Prüfbericht-Nr.:</b><br><i>Test report no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                         | <b>60443732 004</b>                                                                                                                       | <b>Auftrags-Nr.:</b><br><i>Order no.:</i>                                                                                                  | 168266574                                                              | Seite 1 von 14<br><i>Page 1 of 14</i> |
| <b>Kunden-Referenz-Nr.:</b><br><i>Client reference no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                       | <b>Auftragsdatum:</b><br><i>Order date:</i>                                                                                                | 2020-05-15                                                             |                                       |
| <b>Auftraggeber:</b><br><i>Client:</i>                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Sensitech Inc.</b><br>800 Cummings Center Suite 258X, Beverly MA 01915-6197 USA                                                        |                                                                                                                                            |                                                                        |                                       |
| <b>Prüfgegenstand:</b><br><i>Test item:</i>                                                                                                                                                                                                                                                                                                                                                                                                                | Quarterback Gateway                                                                                                                       |                                                                                                                                            |                                                                        |                                       |
| <b>Bezeichnung / Typ-Nr.:</b><br><i>Identification / Type no.:</i>                                                                                                                                                                                                                                                                                                                                                                                         | T11012860                                                                                                                                 |                                                                                                                                            |                                                                        |                                       |
| <b>Auftrags-Inhalt:</b><br><i>Order content:</i>                                                                                                                                                                                                                                                                                                                                                                                                           | FCC Test Report                                                                                                                           |                                                                                                                                            |                                                                        |                                       |
| <b>Prüfgrundlage:</b><br><i>Test specification:</i>                                                                                                                                                                                                                                                                                                                                                                                                        | CFR47 FCC Part 15: Subpart B Section 15.107<br>CFR47 FCC Part 15: Subpart B Section 15.109                                                |                                                                                                                                            |                                                                        |                                       |
| <b>Wareneingangsdatum:</b><br><i>Date of sample receipt:</i>                                                                                                                                                                                                                                                                                                                                                                                               | 2020-05-15                                                                                                                                | Please refer to photo documents                                                                                                            |                                                                        |                                       |
| <b>Prüfmuster-Nr.:</b><br><i>Test sample no.:</i>                                                                                                                                                                                                                                                                                                                                                                                                          | A002920612-002                                                                                                                            |                                                                                                                                            |                                                                        |                                       |
| <b>Prüfzeitraum:</b><br><i>Testing period:</i>                                                                                                                                                                                                                                                                                                                                                                                                             | 2020-11-02 - 2021-01-12                                                                                                                   |                                                                                                                                            |                                                                        |                                       |
| <b>Ort der Prüfung:</b><br><i>Place of testing:</i>                                                                                                                                                                                                                                                                                                                                                                                                        | Shenzhen UnionTrust Quality and Technology Co., Ltd.                                                                                      |                                                                                                                                            |                                                                        |                                       |
| <b>Prüflaboratorium:</b><br><i>Testing laboratory:</i>                                                                                                                                                                                                                                                                                                                                                                                                     | TUV Rheinland (Shenzhen) Co., Ltd.                                                                                                        |                                                                                                                                            |                                                                        |                                       |
| <b>Prüfergebnis*:</b><br><i>Test result*:</i>                                                                                                                                                                                                                                                                                                                                                                                                              | Pass                                                                                                                                      |                                                                                                                                            |                                                                        |                                       |
| <b>geprüft von:</b><br><i>tested by:</i><br><b>Datum:</b><br><i>Date:</i> 2022-06-29<br><b>Stellung / Position</b>                                                                                                                                                                                                                                                                                                                                         | Project Manager                                                                                                                           | <b>genehmigt von:</b><br><i>authorized by:</i><br><b>Ausstellungsdatum:</b><br><i>Issue date:</i> 2022-06-29<br><b>Stellung / Position</b> | Review er                                                              |                                       |
| <b>Sonstiges / Other:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  | FCC ID: SRMT11012860                                                                                                                      |                                                                                                                                            |                                                                        |                                       |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br><i>Condition of the test item at delivery:</i>                                                                                                                                                                                                                                                                                                                                                     | <b>Prüfmuster vollständig und unbeschädigt</b><br><i>Test item complete and undamaged:</i>                                                |                                                                                                                                            |                                                                        |                                       |
| <b>Legende:</b><br>1 = sehr gut<br>P(ass) = entspricht o.g. Prüfgrundlage(n)<br>Legend: 1 = very good<br>P(ass) = passed a.m. test specifications(s)                                                                                                                                                                                                                                                                                                       | 2 = gut<br>F(ail) = entspricht nicht o.g. Prüfgrundlage(n)<br>2 = good<br>3 = satisfactory<br>F(ail) = failed a.m. test specifications(s) | 3 = befriedigend<br>4 = ausreichend<br>N/A = nicht anwendbar<br>4 = sufficient<br>N/A = not applicable                                     | 5 = mangelhaft<br>N/T = nicht getestet<br>5 = poor<br>N/T = not tested |                                       |
| <b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b><br><i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i> |                                                                                                                                           |                                                                                                                                            |                                                                        |                                       |

**Prüfbericht - Nr.: 60443732 004**  
Test Report No.

Seite 2 von 14  
Page 2 of 14

## ***Test Summary***

### **5.1.1 CONDUCTED EMISSION ON AC MAINS**

**RESULT:** Pass

### **5.1.2 RADIATED EMISSIONS**

**RESULT:** Pass

## Contents

|              |                                                          |           |
|--------------|----------------------------------------------------------|-----------|
| <b>1</b>     | <b>GENERAL REMARKS.....</b>                              | <b>4</b>  |
| <b>1.1</b>   | <b>COMPLEMENTARY MATERIALS .....</b>                     | <b>4</b>  |
| <b>2</b>     | <b>TEST SITES .....</b>                                  | <b>4</b>  |
| <b>2.1</b>   | <b>TEST FACILITIES .....</b>                             | <b>4</b>  |
| <b>2.2</b>   | <b>LIST OF TEST AND MEASUREMENT INSTRUMENTS .....</b>    | <b>5</b>  |
| <b>2.3</b>   | <b>TRACEABILITY .....</b>                                | <b>5</b>  |
| <b>2.4</b>   | <b>CALIBRATION.....</b>                                  | <b>5</b>  |
| <b>2.5</b>   | <b>MEASUREMENT UNCERTAINTY .....</b>                     | <b>5</b>  |
| <b>2.6</b>   | <b>LOCATION OF ORIGINAL DATA .....</b>                   | <b>6</b>  |
| <b>2.7</b>   | <b>STATUS OF FACILITY USED FOR TESTING .....</b>         | <b>6</b>  |
| <b>3</b>     | <b>GENERAL PRODUCT INFORMATION.....</b>                  | <b>7</b>  |
| <b>3.1</b>   | <b>PRODUCT FUNCTION AND INTENDED USE.....</b>            | <b>7</b>  |
| <b>3.2</b>   | <b>RATINGS AND SYSTEM DETAILS .....</b>                  | <b>7</b>  |
| <b>3.3</b>   | <b>INDEPENDENT OPERATION MODES.....</b>                  | <b>8</b>  |
| <b>3.4</b>   | <b>NOISE GENERATING AND NOISE SUPPRESSING PARTS.....</b> | <b>8</b>  |
| <b>3.5</b>   | <b>SUBMITTED DOCUMENTS .....</b>                         | <b>8</b>  |
| <b>4</b>     | <b>TEST SET-UP AND OPERATION MODES.....</b>              | <b>9</b>  |
| <b>4.1</b>   | <b>PRINCIPLE OF CONFIGURATION SELECTION.....</b>         | <b>9</b>  |
| <b>4.2</b>   | <b>TEST OPERATION AND TEST SOFTWARE.....</b>             | <b>9</b>  |
| <b>4.3</b>   | <b>SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT.....</b>  | <b>9</b>  |
| <b>4.4</b>   | <b>COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE .....</b>   | <b>9</b>  |
| <b>4.5</b>   | <b>TEST SETUP DIAGRAM .....</b>                          | <b>10</b> |
| <b>5</b>     | <b>TEST RESULTS.....</b>                                 | <b>12</b> |
| <b>5.1</b>   | <b>TRANSMITTER REQUIREMENT &amp; TEST SUITES.....</b>    | <b>12</b> |
| <b>5.1.1</b> | <b>Conducted Emission on AC Mains.....</b>               | <b>12</b> |
| <b>5.1.2</b> | <b>Radiated Emissions .....</b>                          | <b>13</b> |
| <b>6</b>     | <b>PHOTOGRAPHS OF THE TEST SET-UP .....</b>              | <b>14</b> |
| <b>7</b>     | <b>LIST OF TABLES .....</b>                              | <b>14</b> |

# 1 General Remarks

## 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results.

# 2 Test Sites

## 2.1 Test Facilities

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No. 1,  
Longhua New District, Shenzhen, China

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

| <b>Radiated Emission</b>              |                     |                  |                        |                    |
|---------------------------------------|---------------------|------------------|------------------------|--------------------|
| <b>Equipment</b>                      | <b>Manufacturer</b> | <b>Model</b>     | <b>Serial No.</b>      | <b>Cal. until</b>  |
| 3M Chamber & Accessory Equipment      | ETS-LINDGREN        | 3M               | N/A                    | 2021-12-03         |
| Receiver                              | R&S                 | ESIB26           | 100114                 | 2021-11-22         |
| Broadband Antenna                     | ETS-LINDGREN        | 3142E            | 00201566               | 2021-11-14         |
| 6dB Attenuator                        | Talent              | RA6A5-N-18       | 18103001               | 2021-11-14         |
| Preamplifier                          | HP                  | 8447F            | 2805A02960             | 2021-11-14         |
| Horn Antenna (Pre-amplifier)          | ETS-LINDGREN        | 3117-PA          | 00201874               | 2021-05-29         |
| <b>Conducted Emission on AC Mains</b> |                     |                  |                        |                    |
| <b>Equipment</b>                      | <b>Manufacturer</b> | <b>Model No.</b> | <b>Serial No.</b>      | <b>Cali. until</b> |
| EMI Test Receiver                     | R&S                 | ESR7             | 1316.3003K07-101181-K3 | 2021-11-21         |
| Artificial Mains Network              | R&S                 | 3816/2SH         | 00201088               | 2021-11-21         |
| Artificial Mains Network              | ETS-Lindgren        | ESH2-Z5          | 860014/024             | 2021-11-21         |
| Pulse Limiter                         | R&S                 | ESH3-Z2          | 0357.8810.54           | 2021-11-21         |
| Test Software                         | Audix               | e3               | 9.160323               | N/A                |

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

| <b>Parameter</b>                                       | <b>Uncertainty</b> |
|--------------------------------------------------------|--------------------|
| Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz) | ±3.2 dB / ±2.7 dB  |
| Radiated Emission (3m SAC), 30MHz to 1000MHz           | ± 4.52 dB          |
| Radiated Emission (3m SAC), above 1000MHz              | ± 4.37 dB          |
| Temperature                                            | ±1 °C              |
| Humidity                                               | ±5 %               |

Prüfbericht - Nr.: **60443732 004**  
Test Report No.

Seite 6 von 14  
Page 6 of 14

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The Shenzhen UnionTrust Quality and Technology Co., Ltd. Test facility located at **Error! Reference source not found.** is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3 General Product Information

#### 3.1 Product Function and Intended Use

The T11012860 is a tracking device, it supports LTE-M/NB-IoT/2G GSM Quad band, 2.4GHz WiFi and 915MHz wireless technology.

This report is only for EMC requirements.

For details refer to the User Manual, Technical Description and Circuit Diagram.

#### 3.2 Ratings and System Details

Table 2: Technical Specification of EUT

| General Information of EUT | Value                                                                   |
|----------------------------|-------------------------------------------------------------------------|
| Kind of Equipment          | Quarterback Gateway                                                     |
| Type Designation           | T11012860                                                               |
| FCC ID                     | SRMT11012860                                                            |
| Operating Voltage          | 12 / 24V DC car Charger<br>AC/DC Adapter<br>Rechargeable Battery (4.2V) |
| Testing Voltage            | AC/DC Adapter<br>Rechargeable Battery (4.2V)                            |

| Technical Specification FHSS                |                                                                           |
|---------------------------------------------|---------------------------------------------------------------------------|
| Frequency Range                             | 902.306 - 922.396MHz                                                      |
| Channel Number                              | 50 channels                                                               |
| Channel Separation                          | 410 KHz                                                                   |
| Technical Specification WiFi                |                                                                           |
| Frequency Range                             | 2412-2462MHz                                                              |
| Channel Number                              | 11 channels                                                               |
| Channel Separation                          | 5MHz                                                                      |
| Technical Specification LTE-M/NB-IoT/2G GSM |                                                                           |
| Frequency Range                             | GSM 850/1900, LTE Cat M1 Band 2/4/5/12/13/26,<br>NB-IoT Band 2/5/12/13/26 |

Refer to related report for detail wireless specification.

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Normal Operation (Radio Link)
- B. Data transfer with PC

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

### 3.5 Submitted Documents

- ID Label and Location Info
- User Manual

## 4 Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

**Radio Spectrum:** The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.4: 2014.

### 4.3 Special Accessories and Auxiliary Equipment

Table 3: Auxiliary Equipment Used during Test

| Description | Manufacturer   | Model     | S/N | Rating |
|-------------|----------------|-----------|-----|--------|
| Sensor      | Sensitech Inc. | T11012860 | N/A |        |

### 4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

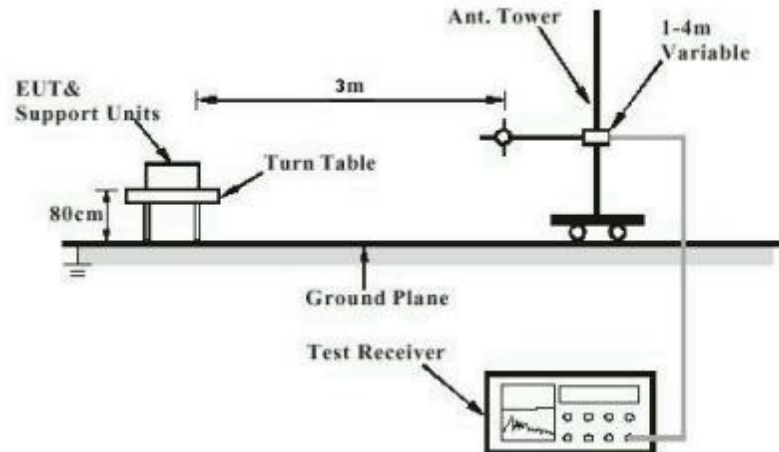
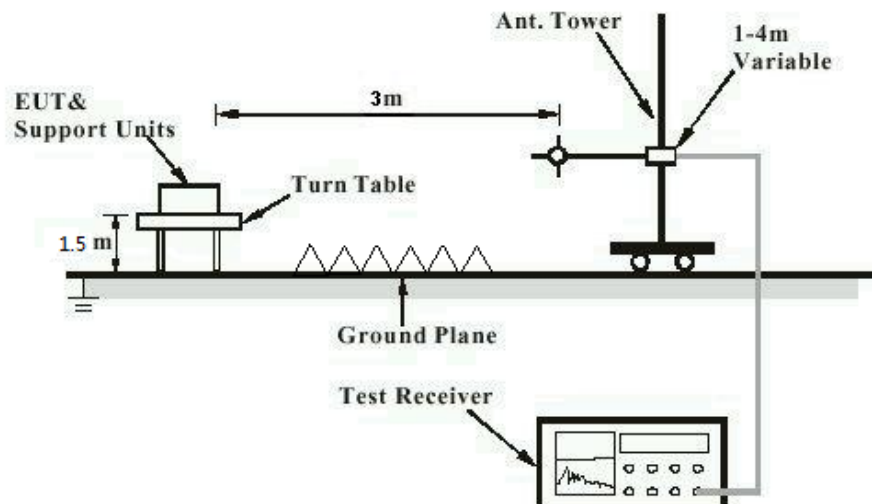
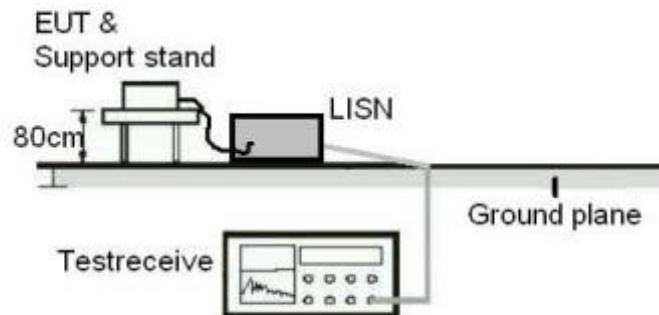


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



**Diagram of Measurement Configuration for Mains Conduction Measurement**



## 5 Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Conducted Emission on AC Mains

**RESULT:****Pass****Test Specification**

|                   |                                           |
|-------------------|-------------------------------------------|
| Test standard     | : FCC Part 15.107(a)                      |
| Basic standard    | : ANSI C63.4: 2014                        |
| Frequency range   | : 0.15 – 30MHz                            |
| Limits            | : FCC Part 15.207(a) & FCC Part 15.107(a) |
| Kind of test site | : Shielded Room                           |

**Test Setup**

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Date of testing      | : 2020-11-02 - 2021-01-12                               |
| Input voltage        | : Battery charged by AC/DC adapter with 120V/60Hz input |
| Operation mode       | : A, B                                                  |
| Earthing             | : Not connected                                         |
| Ambient temperature  | : 24.8 °C                                               |
| Relative humidity    | : 52 %                                                  |
| Atmospheric pressure | : 99.43 kPa                                             |

For the measurement records, refer to the appendix B.

Prüfbericht - Nr.: **60443732 004**  
Test Report No.Seite 13 von 14  
Page 13 of 14

## 5.1.2 Radiated Emissions

**RESULT:****Pass****Test Specification**

|                   |                                                       |
|-------------------|-------------------------------------------------------|
| Test standard     | : FCC Part 15.109(a)<br>ICES-003                      |
| Basic standard    | : ANSI C63.4: 2014                                    |
| Frequency range   | : 30MHz to 18GHz                                      |
| Classification    | : Class A                                             |
| Limits            | : FCC Part 15.109(a)                                  |
| Kind of test site | : 3m Semi-anechoic Chamber & 3m Full-anechoic Chamber |

**Test Setup**

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Date of testing      | : 2020-11-02 - 2021-01-12                               |
| Input voltage        | : Battery charged by AC/DC adapter with 120V/60Hz input |
| Operation mode       | : A, B                                                  |
| Earthing             | : Not connected                                         |
| Ambient temperature  | : 25.1 °C                                               |
| Relative humidity    | : 42 %                                                  |
| Atmospheric pressure | : 100.6 kPa                                             |

For the measurement records, refer to the appendix B.

## 6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

## 7 List of Tables

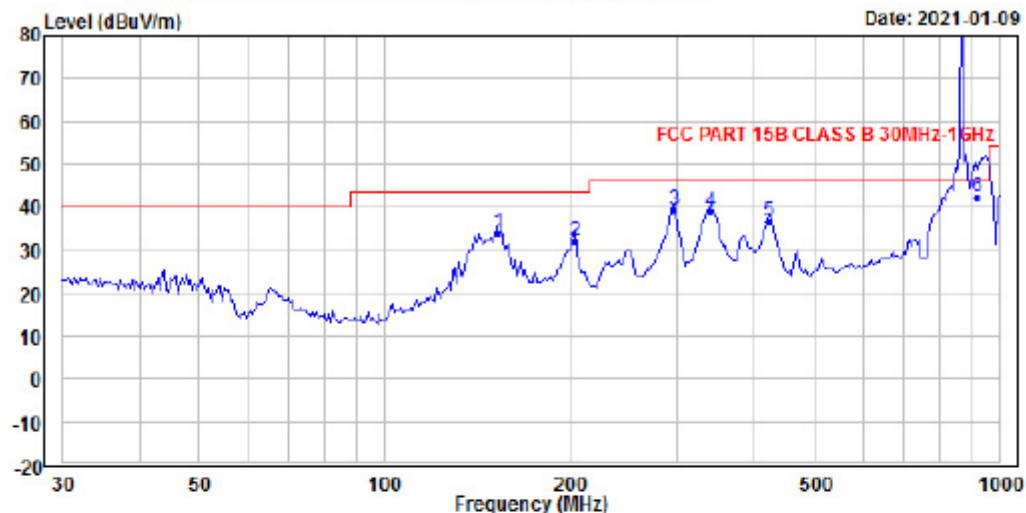
|                                                       |   |
|-------------------------------------------------------|---|
| Table 1: List of Test and Measurement Equipment ..... | 5 |
| Table 2: Technical Specification of EUT .....         | 7 |
| Table 3: Auxiliary Equipment Used during Test.....    | 9 |

## Appendix B: Test Results of Radiated Emissions

|                                                            |           |
|------------------------------------------------------------|-----------|
| <b>APPENDIX A: TEST RESULTS OF RADIATED EMISSIONS.....</b> | <b>1</b>  |
| <b>APPENDIX A.1: RADIATED EMISSIONS, BELOW 1GHz.....</b>   | <b>2</b>  |
| <b>APPENDIX A.2: RADIATED EMISSIONS, 1GHz TO 6GHz.....</b> | <b>6</b>  |
| <b>APPENDIX A.3: RADIATED EMISSIONS, ABOVE 6GHz .....</b>  | <b>10</b> |

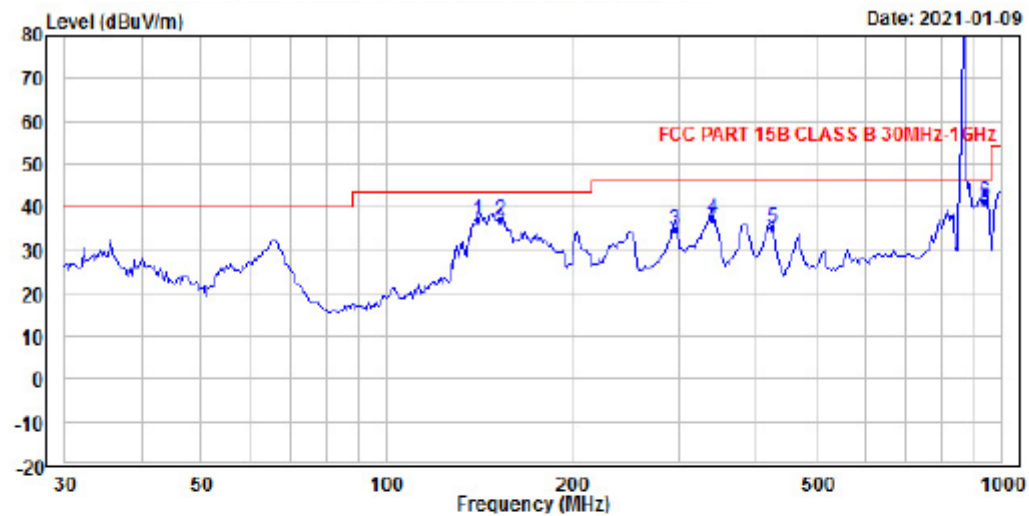
## Appendix B.1: Radiated Emissions, below 1GHz

The emissions exceed the limit is the fundamental emissions.  
All operating conditions are tested and only the worst-case mode are reported.



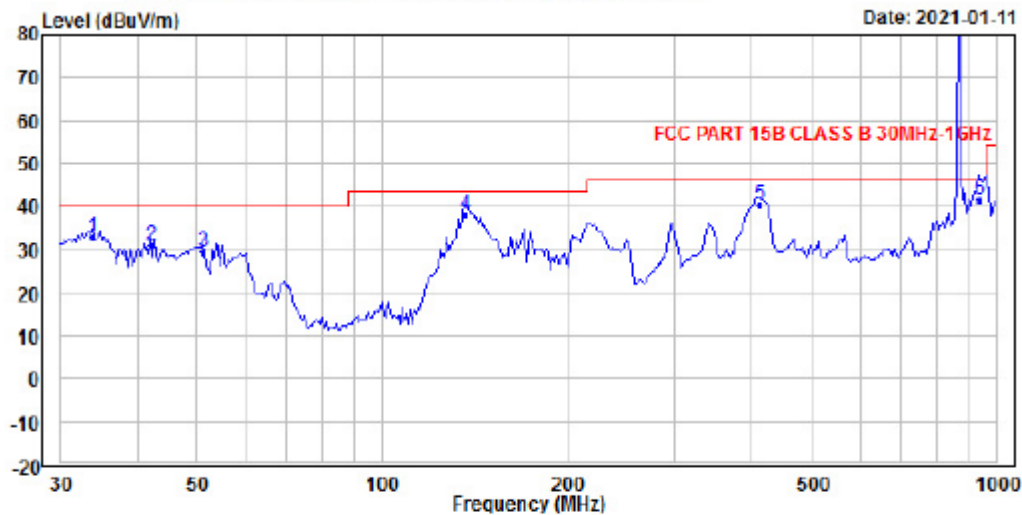
Condition : 3m Horizontal  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Lucas  
Test Mode : TM1:Adapter Charging(120V~60Hz)+Battery+GNSS Rx+GSM 850 Idle+8

|      | Read    | Ant    | Preamp | Aux    | Cable |        | Limit  | Over  |           |
|------|---------|--------|--------|--------|-------|--------|--------|-------|-----------|
| Freq | Level   | Factor | Factor | Factor | Loss  | Level  | Line   | Limit | Remark    |
| MHz  | dBuV    | dB/m   | dB     | dB     | dB    | dBuV/m | dBuV/m | dB    |           |
| 1    | 153.163 | 49.19  | 11.87  | 28.43  | 0.00  | 1.25   | 33.88  | 43.50 | -9.62 QP  |
| 2    | 204.305 | 43.14  | 15.89  | 28.21  | 0.00  | 1.44   | 32.26  | 43.50 | -11.24 QP |
| 3    | 296.502 | 46.07  | 19.63  | 27.99  | 0.00  | 1.64   | 39.35  | 46.00 | -6.65 QP  |
| 4    | 338.855 | 44.53  | 20.88  | 28.24  | 0.00  | 1.75   | 38.92  | 46.00 | -7.08 QP  |
| 5    | 421.329 | 40.86  | 22.47  | 28.78  | 0.00  | 1.93   | 36.48  | 46.00 | -9.52 QP  |
| 6 PP | 923.171 | 38.00  | 30.14  | 28.83  | 0.00  | 2.88   | 42.19  | 46.00 | -3.81 QP  |



Condition : 3m Vertical  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Lucas  
Test Mode : TM1:Adapter Charging(120V~60Hz)+Battery+GNSS Rx+GSM 850 Idle+T

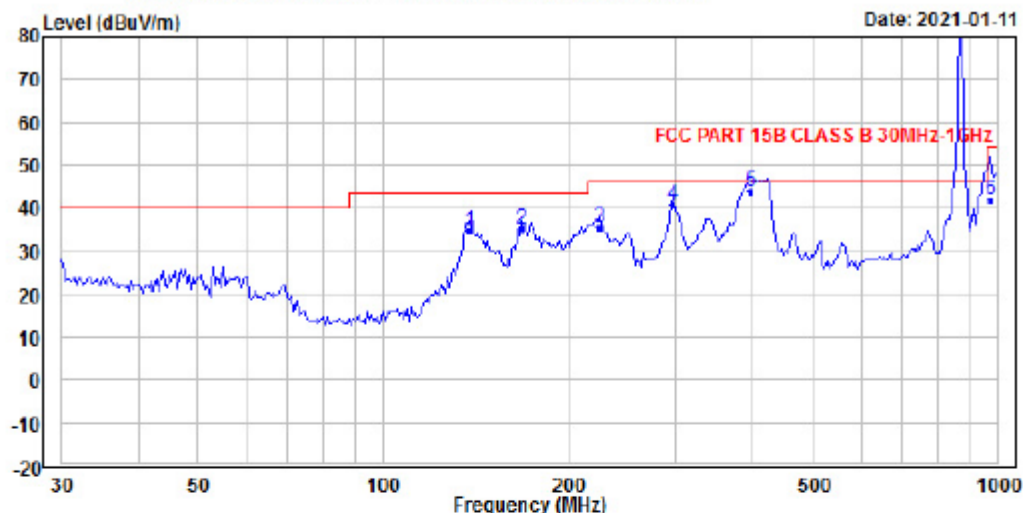
|   | Freq    | Read Level | Ant Factor | Preamp Factor | Aux Factor | Cable Loss | Level  | Limit Line | Over Limit | Remark |
|---|---------|------------|------------|---------------|------------|------------|--------|------------|------------|--------|
|   | MHz     | dBuV       | dB/m       | dB            | dB         | dB         | dBuV/m | dBuV/m     | dB         |        |
| 1 | 140.777 | 52.72      | 11.50      | 28.48         | 0.00       | 1.20       | 36.94  | 43.50      | -6.56      | QP     |
| 2 | 153.163 | 52.46      | 11.87      | 28.43         | 0.00       | 1.25       | 37.15  | 43.50      | -6.35      | QP     |
| 3 | 294.426 | 41.67      | 19.59      | 27.99         | 0.00       | 1.64       | 34.91  | 46.00      | -11.09     | QP     |
| 4 | 338.855 | 43.17      | 20.88      | 28.24         | 0.00       | 1.75       | 37.56  | 46.00      | -8.44      | QP     |
| 5 | 424.300 | 39.41      | 22.41      | 28.80         | 0.00       | 1.94       | 34.96  | 46.00      | -11.04     | QP     |



Condition : 3m Vertical  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Lucas  
Test Mode : TM6:数据交换(适配器120V充电+笔记本电脑)

|   |         | Read  | Ant    | Preamp | Aux    | Cable |        | Limit  | Over   |        |
|---|---------|-------|--------|--------|--------|-------|--------|--------|--------|--------|
|   | Freq    | Level | Factor | Factor | Factor | Loss  | Level  | Line   | Limit  | Remark |
|   | MHz     | dBuV  | dB/m   | dB     | dB     | dB    | dBuV/m | dBuV/m | dB     |        |
| 1 | 33.807  | 37.51 | 23.32  | 28.81  | 0.00   | 0.72  | 32.74  | 40.00  | -7.26  | QP     |
| 2 | 42.035  | 40.14 | 18.58  | 28.79  | 0.00   | 0.86  | 30.79  | 40.00  | -9.21  | QP     |
| 3 | 51.176  | 45.02 | 12.55  | 28.78  | 0.00   | 0.80  | 29.59  | 40.00  | -10.41 | QP     |
| 4 | 136.264 | 54.00 | 11.60  | 28.50  | 0.00   | 1.19  | 38.29  | 43.50  | -5.21  | QP     |
| 5 | 412.540 | 44.97 | 22.25  | 28.72  | 0.00   | 1.92  | 40.42  | 46.00  | -5.58  | QP     |

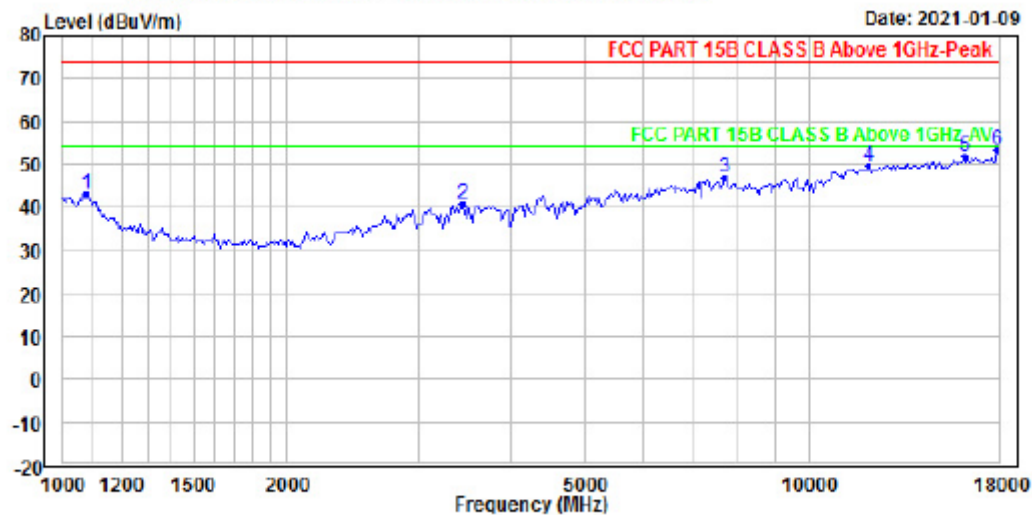
Produkte  
Products



Condition : 3m Horizontal  
 Temp.(C)/Hum.(%) : 25.1(C) / 42%  
 Press : 100.62kPa  
 Product : Gateway  
 Model No. : T11012860  
 Power Rating : AC 120V/60Hz  
 Test Engineer : Lucas  
 Test Mode : TM6:数据交换(适配器120V充电+笔记本电脑)

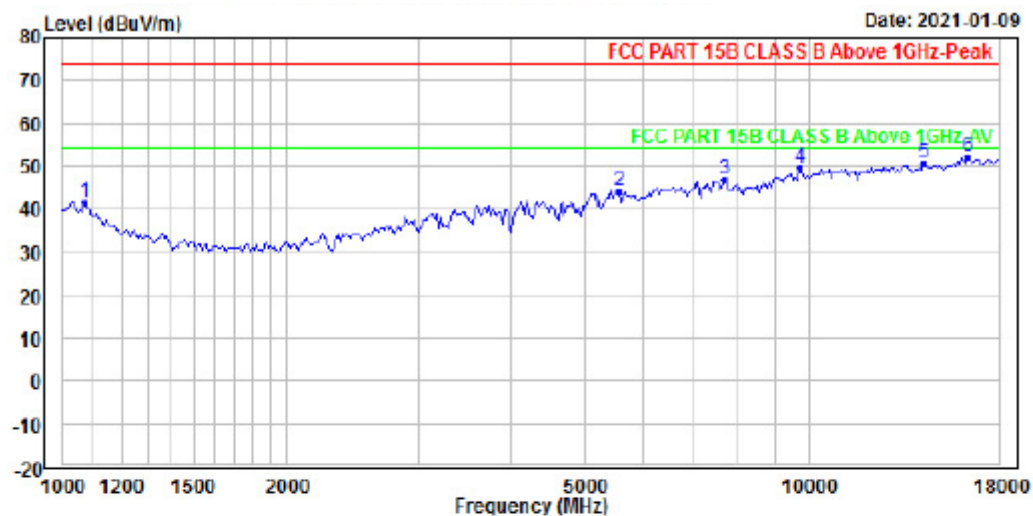
|      | Freq    | Read Level | Ant Factor | Preampl Factor | Aux Factor | Cable Loss | Level  | Limit Line | Over Limit | Remark |
|------|---------|------------|------------|----------------|------------|------------|--------|------------|------------|--------|
|      | MHz     | dBuV       | dB/m       | dB             | dB         | dB         | dBuV/m | dBuV/m     | dB         |        |
| 1    | 137.840 | 50.81      | 11.43      | 28.49          | 0.00       | 1.19       | 34.94  | 43.50      | -8.56      | QP     |
| 2    | 167.814 | 46.89      | 15.14      | 28.36          | 0.00       | 1.31       | 34.98  | 43.50      | -8.52      | QP     |
| 3    | 225.427 | 46.20      | 16.13      | 28.16          | 0.00       | 1.49       | 35.66  | 46.00      | -10.34     | QP     |
| 4    | 296.502 | 47.45      | 19.63      | 27.99          | 0.00       | 1.64       | 40.73  | 46.00      | -5.27      | QP     |
| 5 PP | 397.222 | 48.60      | 22.03      | 28.62          | 0.00       | 1.89       | 43.90  | 46.00      | -2.10      | QP     |
| 6    | 972.283 | 37.37      | 30.15      | 28.69          | 0.00       | 3.09       | 41.92  | 54.00      | -12.08     | QP     |

## Appendix B.2: Radiated Emissions, 1GHz to 6GHz



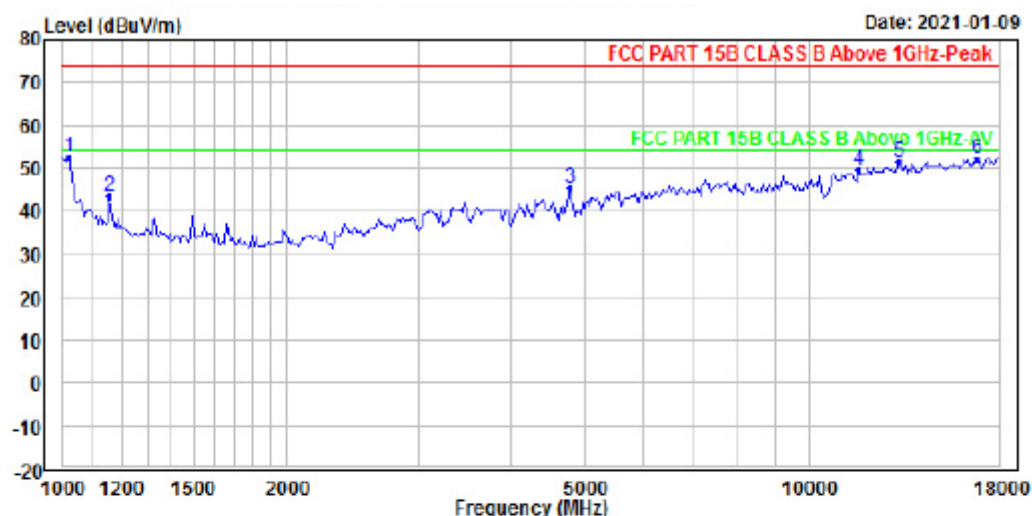
Condition : 3m Horizontal  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Lucas  
Test Mode : TM1:Adapter Charging(120V~60Hz)+Battery+GNSS Rx+GSM 850 Idle+8

|      | Read        | Ant    | Preamp | Aux    | Cable |        | Limit  | Over  |             |
|------|-------------|--------|--------|--------|-------|--------|--------|-------|-------------|
| Freq | Level       | Factor | Factor | Factor | Loss  | Level  | Line   | Limit | Remark      |
| MHz  | dBuV        | dB/m   | dB     | dB     | dB    | dBuV/m | dBuV/m | dB    |             |
| 1    | 1078.208    | 53.80  | 30.84  | 46.87  | 0.00  | 5.48   | 43.25  | 74.00 | -30.75 Peak |
| 2    | 3434.138    | 46.30  | 33.24  | 46.86  | 0.00  | 8.21   | 40.89  | 74.00 | -33.11 Peak |
| 3    | 7726.777    | 45.10  | 35.90  | 46.07  | 0.00  | 11.89  | 46.82  | 74.00 | -27.18 Peak |
| 4    | 12000.030   | 42.45  | 38.60  | 46.00  | 0.00  | 14.65  | 49.70  | 74.00 | -24.30 Peak |
| 5    | 16124.140   | 40.55  | 40.57  | 46.37  | 0.00  | 17.29  | 52.04  | 74.00 | -21.96 Peak |
| 6    | PP17896.040 | 38.55  | 41.74  | 45.17  | 0.00  | 18.24  | 53.36  | 74.00 | -20.64 Peak |



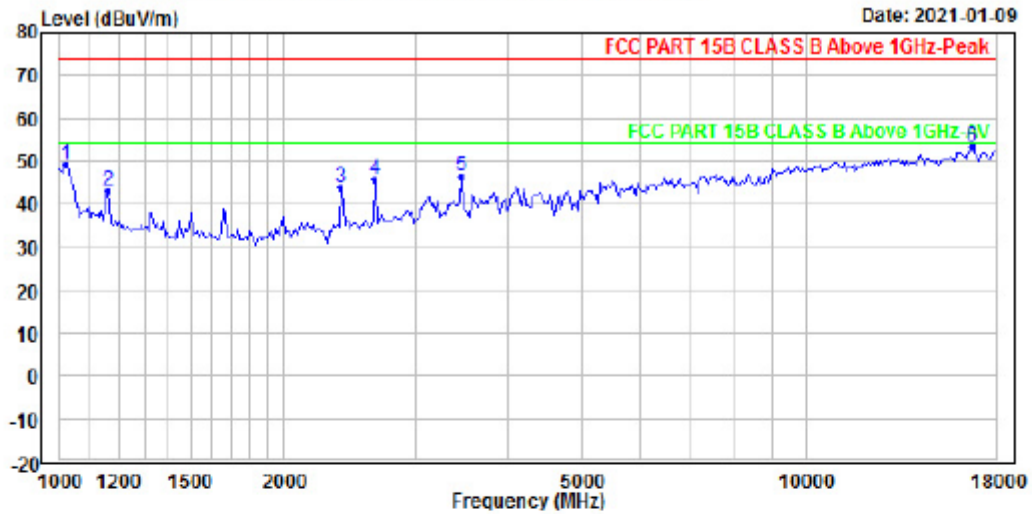
Condition : 3m Vertical  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Lucas  
Test Mode : TM1:Adapter Charging(120V~60Hz)+Battery+GNSS Rx+GSM 850 Idle+8

|   | Freq        | Read Level | Ant Factor | Preamp Factor | Aux Factor | Cable Loss | Level  | Limit  | Over Limit | Remark |
|---|-------------|------------|------------|---------------|------------|------------|--------|--------|------------|--------|
|   | MHz         | dBuV       | dB/m       | dB            | dB         | dB         | dBuV/m | dBuV/m | dB         |        |
| 1 | 1071.981    | 52.55      | 30.56      | 46.86         | 0.00       | 5.48       | 41.73  | 74.00  | -32.27     | Peak   |
| 2 | 5554.060    | 44.46      | 35.18      | 45.67         | 0.00       | 10.40      | 44.37  | 74.00  | -29.63     | Peak   |
| 3 | 7726.777    | 45.03      | 36.00      | 46.07         | 0.00       | 11.89      | 46.85  | 74.00  | -27.15     | Peak   |
| 4 | 9741.401    | 44.16      | 37.19      | 45.84         | 0.00       | 13.90      | 49.41  | 74.00  | -24.59     | Peak   |
| 5 | 14277.410   | 39.06      | 39.23      | 43.67         | 0.00       | 16.29      | 50.91  | 74.00  | -23.09     | Peak   |
| 6 | PP16312.020 | 40.34      | 41.06      | 46.49         | 0.00       | 17.37      | 52.28  | 74.00  | -21.72     | Peak   |



Condition : 3m Horizontal  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : TYPE-C 5V  
Test Engineer : Lucas  
Test Mode : TM4:数据交换(TYPE-C充电+笔记本电脑)

|   |             | Read  | Ant    | Preamp | Aux    | Cable |        | Limit  | Over   |        |
|---|-------------|-------|--------|--------|--------|-------|--------|--------|--------|--------|
|   | Freq        | Level | Factor | Factor | Factor | Loss  | Level  | Line   | Limit  | Remark |
|   | MHz         | dBuV  | dB/m   | dB     | dB     | dB    | dBuV/m | dBuV/m | dB     |        |
| 1 | PP 1017.529 | 63.06 | 30.96  | 46.74  | 0.00   | 5.49  | 52.77  | 74.00  | -21.23 | Peak   |
| 2 | 1155.818    | 54.46 | 30.69  | 47.04  | 0.00   | 5.47  | 43.58  | 74.00  | -30.42 | Peak   |
| 3 | 4777.554    | 48.36 | 34.16  | 46.56  | 0.00   | 9.49  | 45.45  | 74.00  | -28.55 | Peak   |
| 4 | 11657.470   | 43.08 | 38.26  | 46.07  | 0.00   | 14.40 | 49.67  | 74.00  | -24.33 | Peak   |
| 5 | 13241.800   | 40.98 | 38.85  | 44.17  | 0.00   | 15.77 | 51.43  | 74.00  | -22.57 | Peak   |
| 6 | 16791.350   | 40.49 | 41.27  | 46.95  | 0.00   | 17.59 | 52.40  | 74.00  | -21.60 | Peak   |

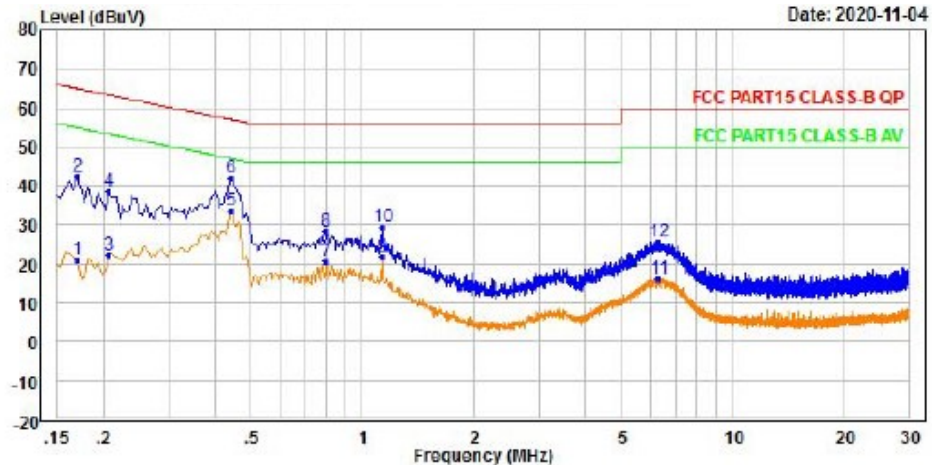


Condition : 3m Vertical  
Temp.(C)/Hum.(%): 25.1(C) / 42%  
Press : 100.62kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : TYPE-C 5V  
Test Engineer : Lucas  
Test Mode : TM4:数据交换(TYPE-C充电+笔记本电脑)

|   |             | Read  | Ant    | Preamp | Aux    | Cable |        | Limit  | Over   |        |
|---|-------------|-------|--------|--------|--------|-------|--------|--------|--------|--------|
|   | Freq        | Level | Factor | Factor | Factor | Loss  | Level  | Line   | Limit  | Remark |
|   | MHz         | dBuV  | dB/m   | dB     | dB     | dB    | dBuV/m | dBuV/m | dB     |        |
| 1 | 1017.529    | 59.56 | 30.74  | 46.74  | 0.00   | 5.49  | 49.05  | 74.00  | -24.95 | Peak   |
| 2 | 1162.532    | 54.30 | 30.25  | 47.06  | 0.00   | 5.47  | 42.96  | 74.00  | -31.04 | Peak   |
| 3 | 2384.166    | 53.18 | 31.91  | 48.03  | 0.00   | 6.89  | 43.95  | 74.00  | -30.05 | Peak   |
| 4 | 2646.164    | 54.24 | 32.28  | 48.04  | 0.00   | 7.17  | 45.65  | 74.00  | -28.35 | Peak   |
| 5 | 3454.087    | 52.19 | 33.06  | 46.81  | 0.00   | 8.24  | 46.68  | 74.00  | -27.32 | Peak   |
| 6 | PP16694.370 | 41.37 | 41.48  | 46.83  | 0.00   | 17.54 | 53.56  | 74.00  | -20.44 | Peak   |

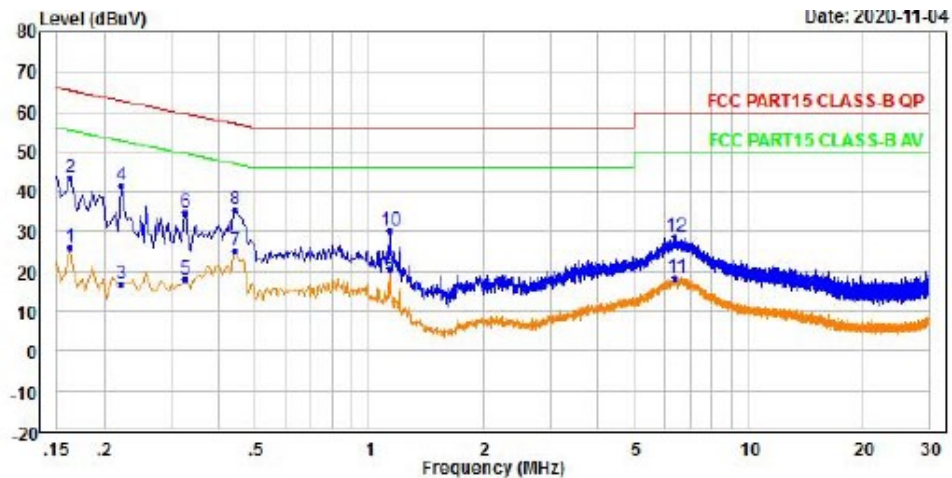
## Appendix B.3: Conducted Emissions on AC Main

Charging with wireless link



Site : Shielding Room  
Condition : Line  
Temp.(C)/Hum.(%): 24.8(C) /52%  
Press : 99.43kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Tripp  
Note :

|      | Freq   | Read Level | LISN Factor | Cable Loss | Aux Factor | Level | Limit Line | Over Limit | Remark  |
|------|--------|------------|-------------|------------|------------|-------|------------|------------|---------|
|      | MHz    | dBuV       | dB          | dB         | dB         | dBuV  | dBuV       | dB         |         |
| 1    | 0.1700 | 12.06      | -0.90       | 0.01       | 9.94       | 21.11 | 54.96      | -33.85     | Average |
| 2    | 0.1700 | 33.43      | -0.90       | 0.01       | 9.94       | 42.48 | 64.96      | -22.48     | QP      |
| 3    | 0.2060 | 13.09      | -0.86       | 0.01       | 9.93       | 22.17 | 53.37      | -31.20     | Average |
| 4    | 0.2060 | 29.41      | -0.86       | 0.01       | 9.93       | 38.49 | 63.37      | -24.88     | QP      |
| 5 PP | 0.4420 | 24.23      | -0.69       | 0.02       | 9.93       | 33.49 | 47.02      | -13.53     | Average |
| 6 QP | 0.4420 | 32.72      | -0.69       | 0.02       | 9.93       | 41.98 | 57.02      | -15.04     | QP      |
| 7    | 0.8020 | 11.38      | -0.53       | 0.02       | 9.93       | 20.80 | 46.00      | -25.20     | Average |
| 8    | 0.8020 | 19.04      | -0.53       | 0.02       | 9.93       | 28.46 | 56.00      | -27.54     | QP      |
| 9    | 1.1339 | 12.20      | -0.50       | 0.02       | 9.93       | 21.65 | 46.00      | -24.35     | Average |
| 10   | 1.1339 | 20.02      | -0.50       | 0.02       | 9.93       | 29.47 | 56.00      | -26.53     | QP      |
| 11   | 6.3056 | 6.46       | -0.21       | 0.07       | 9.76       | 16.08 | 50.00      | -33.92     | Average |
| 12   | 6.3056 | 15.95      | -0.21       | 0.07       | 9.76       | 25.57 | 60.00      | -34.43     | QP      |



Site : Shielding Room  
Condition : Neutral  
Temp.(C)/Hum.(%): 24.8(C) /52%  
Press : 99.43kPa  
Product : Gateway  
Model No. : T11012860  
Power Rating : AC 120V/60Hz  
Test Engineer : Tripp  
Note :

|      | Freq   | Read Level | LISN Factor | Cable Loss | Aux Factor | Level | Limit Line | Over Limit | Remark  |
|------|--------|------------|-------------|------------|------------|-------|------------|------------|---------|
|      | MHz    | dBuV       | dB          | dB         | dB         | dBuV  | dBuV       | dB         |         |
| 1    | 0.1620 | 16.82      | -0.91       | 0.01       | 9.94       | 25.86 | 55.36      | -29.50     | Average |
| 2    | 0.1620 | 34.45      | -0.91       | 0.01       | 9.94       | 43.49 | 65.36      | -21.87     | QP      |
| 3    | 0.2220 | 7.75       | -0.84       | 0.01       | 9.93       | 16.85 | 52.74      | -35.89     | Average |
| 4 PP | 0.2220 | 32.68      | -0.84       | 0.01       | 9.93       | 41.78 | 62.74      | -20.96     | QP      |
| 5    | 0.3260 | 8.72       | -0.76       | 0.01       | 9.93       | 17.90 | 49.55      | -31.65     | Average |
| 6    | 0.3260 | 25.48      | -0.76       | 0.01       | 9.93       | 34.66 | 59.55      | -24.89     | QP      |
| 7 AV | 0.4420 | 16.16      | -0.69       | 0.02       | 9.93       | 25.42 | 47.02      | -21.60     | Average |
| 8    | 0.4420 | 26.41      | -0.69       | 0.02       | 9.93       | 35.67 | 57.02      | -21.35     | QP      |
| 9    | 1.1339 | 11.29      | -0.50       | 0.02       | 9.93       | 20.74 | 46.00      | -25.26     | Average |
| 10   | 1.1339 | 20.73      | -0.50       | 0.02       | 9.93       | 30.18 | 56.00      | -25.82     | QP      |
| 11   | 6.4296 | 8.69       | -0.21       | 0.07       | 9.76       | 18.31 | 50.00      | -31.69     | Average |
| 12   | 6.4296 | 18.97      | -0.21       | 0.07       | 9.76       | 28.59 | 60.00      | -31.41     | QP      |