



# EMI TEST REPORT

**Filing Type** : Supplier's Declaration of Conformity  
**Equipment** : Industrial Router  
**Brand Name** : Atop  
**Model Name** : ER5805P/ER5805  
**Applicant** : Atop Technologies, Inc.  
1F, No. 30 R&D Rd. II, Science-Based Industrial  
Park, Hsinchu 30076, Tawian , R.O.C.  
**Manufacturer** : Atop Technologies, Inc.  
1F, No. 30 R&D Rd. II, Science-Based Industrial  
Park, Hsinchu 30076, Tawian , R.O.C.  
**Standard** : 47 CFR FCC Rules and Regulations Part 15  
Subpart B Class A Digital Device

The product was received on Aug. 23, 2022, and testing was started from Nov. 02, 2022 and completed on Nov. 02, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2014 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

  
Approved by: Sin Chang

**Sporton International Inc. Hsinchu Laboratory**  
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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TEL : 886-3-656-9065  
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Report Template No.: CB-I1\_3 Ver1.1



## Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items                       | Result (PASS/FAIL) | Remark                           |
|---------------|-----------------|----------------------------------|--------------------|----------------------------------|
| 4             | 15.107          | AC Power Port Conducted Emission | PASS               | Under limit 19.63 dB at 645 kHz  |
| 5             | 15.109          | Radiated Emission below 1GHz     | PASS               | Under limit 9.73 dB at 62.56 MHz |
| 5             | 15.109          | Radiated Emission above 1GHz     | PASS               | Under limit 18.33 dB at 3.2 GHz  |

**Declaration of Conformity:**

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

**Reviewed by: Sin Chang****Report Producer: Sandy Chuang**

## 1. General Description of Equipment under Test

| Product Detail |                               |
|----------------|-------------------------------|
| Equipment Name | Industrial Router             |
| Model Name     | ER5805P/ER5805                |
| Brand Name     | Atop                          |
| Power Supply   | From PoE or DC Power (12~48V) |

### 1.1. Feature of Equipment under Test

1. The EUT's highest operating frequency is 1GHz.
2. Accessories: DC jack\*1
3. Table for Multiple Listing

| EUT | Model Name | PoE PD Function |
|-----|------------|-----------------|
| 1   | ER5805P    | V               |
| 2   | ER5805     | X               |

Note 1: From the above models, model: ER5805P (EUT 1) was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

4. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

### 1.2. Modification of EUT

Please refer to the technical specifications of EUT.

## 2. Test Configuration of Equipment under Test

### 2.1. Test Mode

The following table is a list of the test modes shown in this test report.

| Conducted Emissions  |                          |
|--|--------------------------|
| Test Mode  | Description              |
| The DC Power and PoE were performed testing, After evaluation, PoE has been evaluated to be the worst case from Radiated Emissions below 1GHz, So the measurement for Conducted Emissions test will follow this same test configuration. |                          |
| 1  | Normal Link: EUT 1 + PoE |

| Radiated Emissions  |   |
|---|---|
| Test Mode   | Description                             |
| 1   | Normal Link: EUT 1 in Y axis + DC Power |
| 2   | Normal Link: EUT 1 in Z axis + DC Power |
| Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.   |   |
| 3   | Normal Link: EUT 1 in Z axis + PoE      |
| <p>For Radiated Emission test below 1GHz:<br/> Mode 3 generated the worst test result, so it was recorded in this report.</p> <p>For Radiated Emission test above 1GHz:<br/> Mode 3 generated the worst test result for Radiated emission below 1GHz test, thus the measurement for Radiated emission above 1GHz test will follow this same test configuration.</p> |   |

Note: The PoE below is for measurement only, would not be marketed. The PoE information as below:

| Support Unit | Brand | Model Name |
|--------------|-------|------------|
| PoE          | Atop  | IJG7001    |

## 2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

### For Conducted Emissions test:

| No. | Support Unit  | Brand     | Model        | FCC ID |
|-----|---------------|-----------|--------------|--------|
| A   | PoE           | Atop      | IJG7001      | N/A    |
| B   | Micro SD Card | Transcend | TS16GUSDHC10 | N/A    |
| C   | POE IN NB     | DELL      | E6430        | N/A    |
| D   | WAN NB        | DELL      | E6430        | N/A    |
| E   | LAN1 NB       | DELL      | E6430        | N/A    |

### For Radiated Emissions test:

| No. | Support Unit  | Brand     | Model        | FCC ID |
|-----|---------------|-----------|--------------|--------|
| A   | PoE           | Atop      | IJG7001      | N/A    |
| B   | POE NB        | DELL      | E6430        | N/A    |
| C   | WAN NB        | DELL      | E6430        | N/A    |
| D   | Micro SD Card | Transcend | TS16GUSDHC10 | N/A    |
| E   | LAN NB        | DELL      | E6430        | N/A    |

## 2.3. EUT Operation Condition

During the test, the following programs under win 7 were executed:

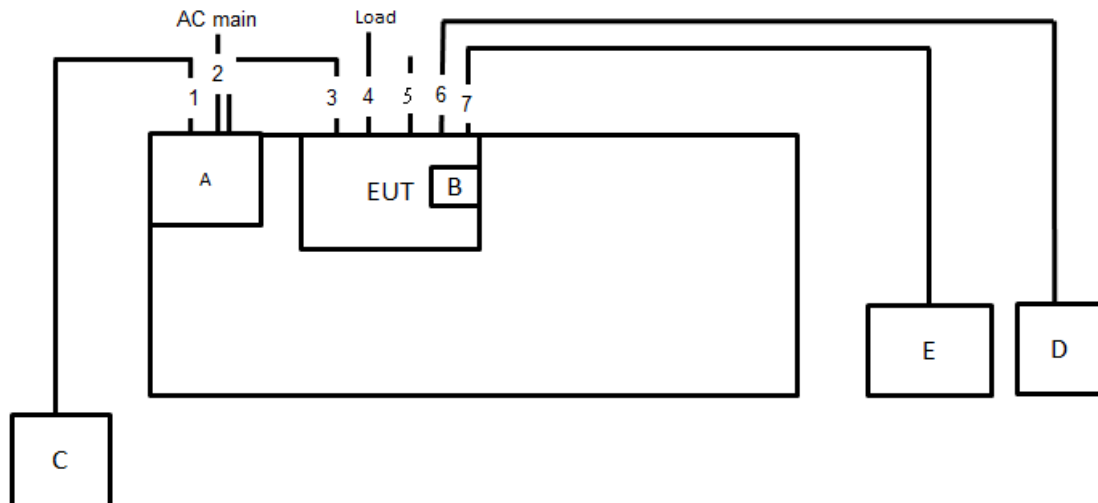
The remote notebook executed "telnet" to link with the device to perform the read-write function from SD card.

The remote notebook executed "telnet" to enable WAN & LAN function by LAN.

The remote notebook executed "ping.exe" to link with the EUT to maintain the connection by LAN and WAN.

## 2.4. Connection Diagram of Test System

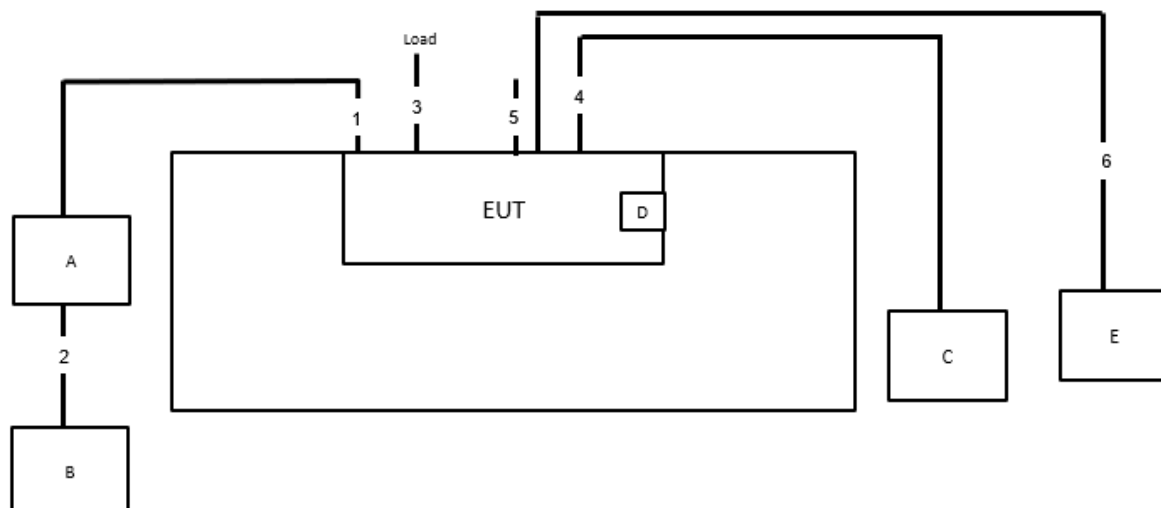
#### 2.4.1. AC Power Line Conduction Emissions Test Configuration



| Item | Connection    | Shielded | Length |
|------|---------------|----------|--------|
| 1    | Power cable   | No       | 1.8m   |
| 2    | RJ-45 cable   | No       | 10m    |
| 3    | RJ-45 cable   | No       | 1m     |
| 4    | RJ-45 cable*2 | No       | 1.5m   |
| 5    | Ground cable  | No       | 1.8m   |
| 6    | RJ-45 cable   | No       | 10m    |
| 7    | RJ-45 cable   | No       | 10m    |



#### 2.4.2. Radiation Emissions Test Configuration



| Item | Connection    | Shielded | Length |
|------|---------------|----------|--------|
| 1    | RJ-45 cable   | No       | 10m    |
| 2    | RJ-45 cable   | No       | 3m     |
| 3    | RJ-45 cable*3 | No       | 1.5m   |
| 4    | RJ-45 cable   | No       | 10m    |
| 5    | Ground cable  | No       | 1.8m   |
| 6    | RJ-45 cable   | No       | 10m    |



### 3. General Information of Test

#### 3.1. Test Facility

| EMI   |  |                     |
|---|--|---------------------|
| Test Lab. : Sporton International Inc. Hsinchu Laboratory |  |                     |
| Hsinchu   | ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) |                     |
| (TAF: 3787)   | TEL: 886-3-656-9065  | FAX: 886-3-656-9085 |

#### 3.2. Test Environment

| Test Items                       | Test Site No. | Test Engineer | Test Environment |              |                | Test Date     | Remark |
|----------------------------------|---------------|---------------|------------------|--------------|----------------|---------------|--------|
|                                  |               |               | Temp (°C)        | Humidity (%) | Pressure (kPa) |               |        |
| AC Power Port Conducted Emission | CO01-CB       | Tim Chen      | 23~24            | 58~59        | -              | Nov. 02, 2022 | -      |
| Radiated Emission below 1GHz     | 10CH01-CB     | Ryan Huang    | 22~23            | 57~58        | -              | Nov. 02, 2022 | -      |
| Radiated Emission above 1GHz     | 10CH01-CB     | Ryan Huang    | 22~23            | 57~58        | -              | Nov. 02, 2022 | -      |

#### 3.3. Test Voltage

| Power Type      | Test Voltage  |
|-----------------|---------------|
| AC Power Supply | 120 V / 60 Hz |

#### 3.4. Standard for Methods of Measurement

ANSI C63.4-2014

#### 3.5. Frequency Range Investigated

| Test Items              | Frequency Range     |
|-------------------------|---------------------|
| Conducted emission test | 150 kHz to 30 MHz   |
| Radiated emission test  | 30 MHz to 6,000 MHz |

#### 3.6. Test Distance

| Test Items  | Test Distance |
|---|---------------|
| Radiated emission test below 1 GHz (30 MHz to 1,000 MHz)    | 10 m          |
| Radiated emission test above 1 GHz (1,000 MHz to 6,000 MHz) | 3 m           |

## 4. Test of Conducted Emission

### 4.1. Limit

| Frequency (MHz) | QP Limit (dBuV) | AV Limit (dBuV) |
|-----------------|-----------------|-----------------|
| 0.15~0.5        | 79              | 66              |
| 0.5~30          | 73              | 60              |

### 4.2. Test Procedures

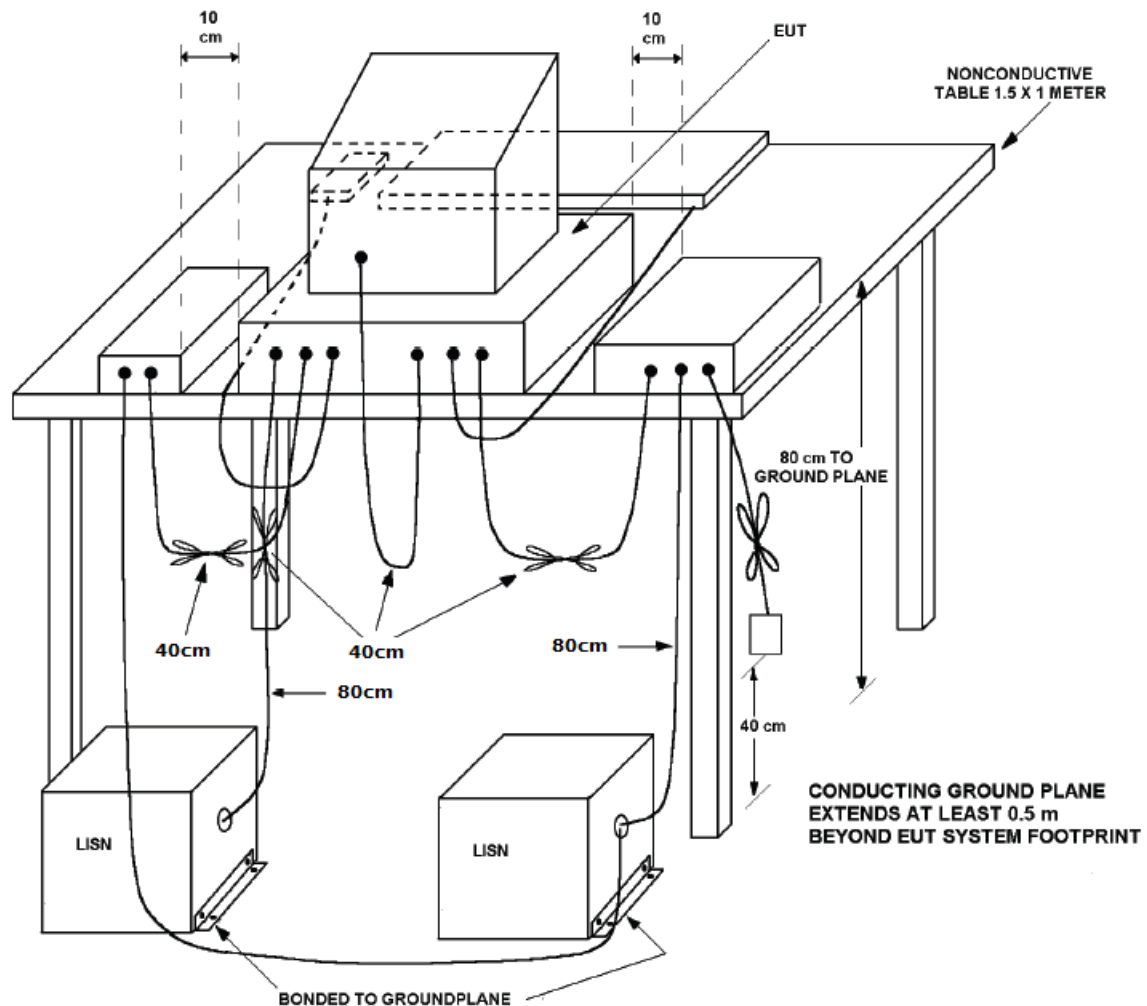
- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connect to the other LISN.
- The LISN provides 50  $\Omega$  coupling impedance for the measuring instrument.
- The FCC states that a 50  $\Omega$ , 50  $\mu$ H LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

### 4.3. Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw)  
= Level
- Margin = -Limit + Level

#### 4.4. Typical Test Setup Layout of Conducted Emission



#### 4.5. Test Result of AC Power Ports

Refer as Appendix A

## 5. Test of Radiated Emission

### 5.1. Limit

Radiated Emission below 1 GHz test at 10 m:

| Frequency (MHz) | QP (dBuV/m) |
|-----------------|-------------|
| 30~230          | 40          |
| 230~1,000       | 47          |

Radiated Emission 1~6 GHz test at 3 m:

| Frequency (MHz) | PK (dBuV/m) | AV (dBuV/m) |
|-----------------|-------------|-------------|
| 1,000 to 6,000  | 80          | 60          |

## 5.2. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 10m (below 1GHz) / 3m (1GHz-6GHz) meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

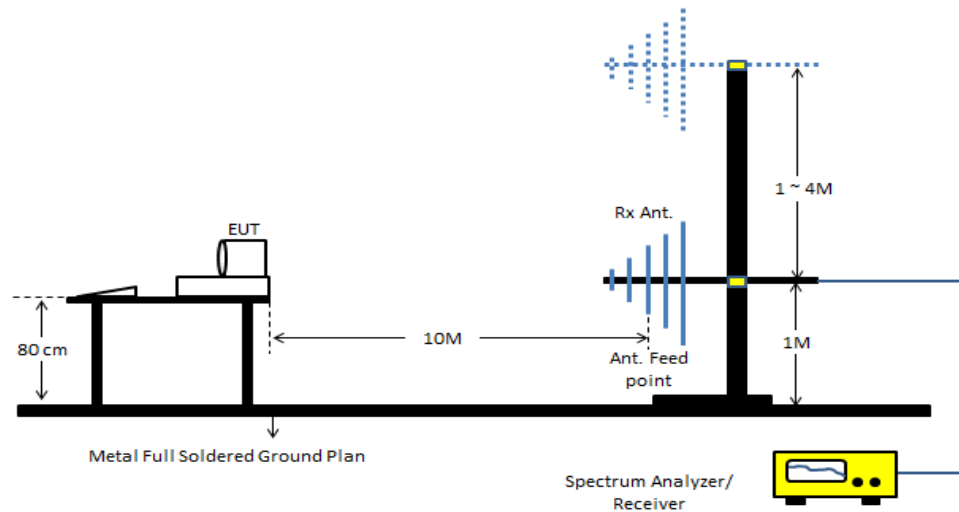
## 5.3. Measurement Results Calculation

The measured Level is calculated using:

- a. Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA) = Level
- b. Margin = -Limit + Level

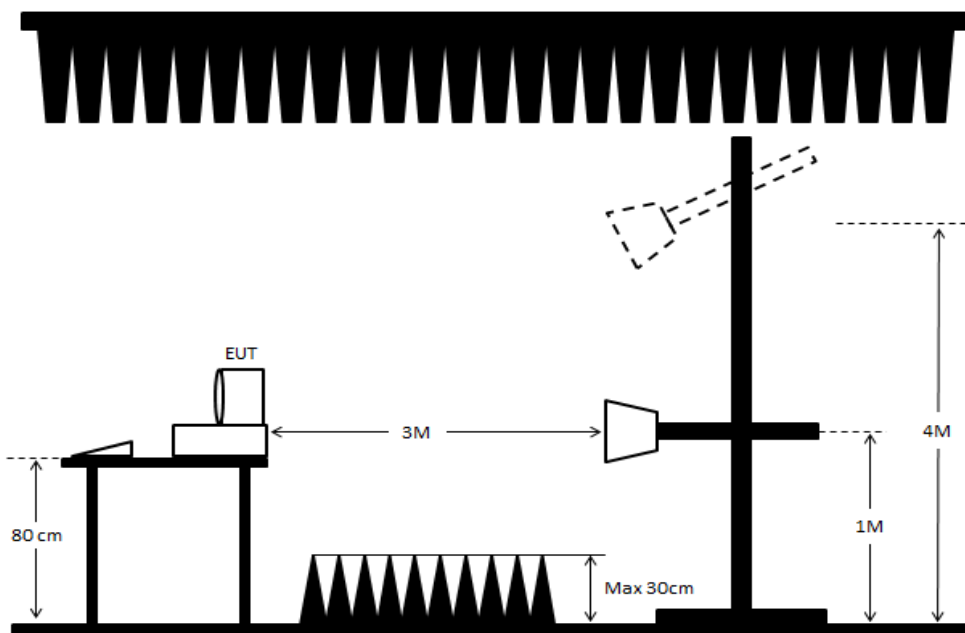
## 5.4. Typical Test Setup Layout of Radiated Emission

<Below 1 GHz>:



<Above 1 GHz>:

1,000~6,000 MHz



## 5.5. Test Result of Radiated Emission below 1 GHz

Refer as Appendix B

## 6. List of Measuring Equipment Used

| Instrument                     | Brand         | Model No.            | Serial No.     | Characteristics      | Calibration Date | Calibration Due Date | Remark                |
|--------------------------------|---------------|----------------------|----------------|----------------------|------------------|----------------------|-----------------------|
| EMI Receiver                   | Agilent       | N9038A               | My52260123     | 9kHz ~ 8.4GHz        | Feb. 22, 2022    | Feb. 21, 2023        | Conduction (CO01-CB)  |
| LISN                           | F.C.C.        | FCC-LISN-50-1<br>6-2 | 04083          | 150kHz ~ 100MHz      | Feb. 09, 2022    | Feb. 08, 2023        | Conduction (CO01-CB)  |
| LISN                           | Schwarzbeck   | NSLK 8127            | 8127647        | 9kHz ~ 30MHz         | Apr. 12, 2022    | Apr. 11, 2023        | Conduction (CO01-CB)  |
| Pulse Limiter                  | Rohde&Schwarz | ESH3-Z2              | 100430         | 9kHz ~ 30MHz         | Feb. 10, 2022    | Feb. 09, 2023        | Conduction (CO01-CB)  |
| COND Cable                     | Woken         | Cable                | Low cable-CO01 | 9kHz ~ 30MHz         | Oct. 18, 2022    | Oct. 17, 2023        | Conduction (CO01-CB)  |
| Software                       | SPORTON       | SENSE                | V5.10          | -                    | N.C.R.           | N.C.R.               | Conduction (CO01-CB)  |
| 10m Semi Anechoic Chamber NSA  | TDK           | SAC-10M              | 10CH01-CB      | 30MHz~1GHz<br>10m,3m | Jan. 27, 2022    | Jan. 26, 2023        | Radiation (10CH01-CB) |
| 10m Semi Anechoic Chamber VSWR | TDK           | SAC-10M              | 10CH01-CB      | 1GHz ~18GHz<br>3m    | Mar. 11, 2022    | Mar. 10, 2023        | Radiation (10CH01-CB) |
| Amplifier                      | Agilent       | 8447D                | 2944A10783     | 9kHz ~ 1.3GHz        | Mar. 11, 2022    | Mar. 10, 2023        | Radiation (10CH01-CB) |
| Amplifier                      | Agilent       | 8447D                | 2944A10784     | 9kHz ~ 1.3GHz        | Mar. 11, 2022    | Mar. 10, 2023        | Radiation (10CH01-CB) |
| Low Cable                      | Woken         | SUCOFLEX 104         | low cable-01   | 25MHz ~ 1GHz         | Oct. 18, 2022    | Oct. 17, 2023        | Radiation (10CH01-CB) |
| Low Cable                      | Woken         | SUCOFLEX 104         | low cable-02   | 25MHz ~ 1GHz         | Oct. 18, 2022    | Oct. 17, 2023        | Radiation (10CH01-CB) |
| Biconical Antenna              | Schwarzbeck   | VHBB 9124            | 324            | 30MHz ~ 200MHz       | Jun. 11, 2022    | Jun. 10, 2023        | Radiation (10CH01-CB) |
| Log Antenna                    | Schwarzbeck   | VUSLP 9111           | 247            | 200MHz ~ 1GHz        | Jun. 11, 2022    | Jun. 10, 2023        | Radiation (10CH01-CB) |
| EMI Test Receiver              | Rohde&Schwarz | ESCI                 | 100186         | 9kHz ~ 3GHz          | Jul. 11, 2022    | Jul. 10, 2023        | Radiation (10CH01-CB) |
| Spectrum Analyzer              | Rohde&Schwarz | FSV30                | 101026         | 9kHz ~ 30GHz         | Apr. 22, 2022    | Apr. 21, 2023        | Radiation (10CH01-CB) |
| Horn Antenna                   | ESCO          | 3117                 | 00081283       | 1GHz ~ 18GHz         | Nov. 25, 2021    | Nov. 24, 2022        | Radiation (10CH01-CB) |
| Pre-Amplifier                  | Agilent       | 8449B                | 3008A02660     | 1GHz ~ 26.5GHz       | May 19, 2022     | May 18, 2023         | Radiation (10CH01-CB) |
| High Cable                     | TITAN         | T318E                | high cable-02  | 1GHz ~ 18GHz         | Mar. 16, 2022    | Mar. 15, 2023        | Radiation (10CH01-CB) |





|          |         |       |       |   |        |        |                          |
|----------|---------|-------|-------|---|--------|--------|--------------------------|
| Software | SPORTON | SENSE | V5.10 | - | N.C.R. | N.C.R. | Radiation<br>(10CH01-CB) |
|----------|---------|-------|-------|---|--------|--------|--------------------------|

※ Calibration Interval of instruments listed above is one year.

※ N.C.R. means Non-Calibration required.



## 7. Uncertainty of Test Site

| Test Items                      | Uncertainty | Remark                   |
|---------------------------------|-------------|--------------------------|
| Conducted Emissions             | 3.4 dB      | Confidence levels of 95% |
| Radiated Emissions below 1GHz   | 4.9 dB      | Confidence levels of 95% |
| Radiated Emissions 1GHz ~ 40GHz | 4.0 dB      | Confidence levels of 95% |



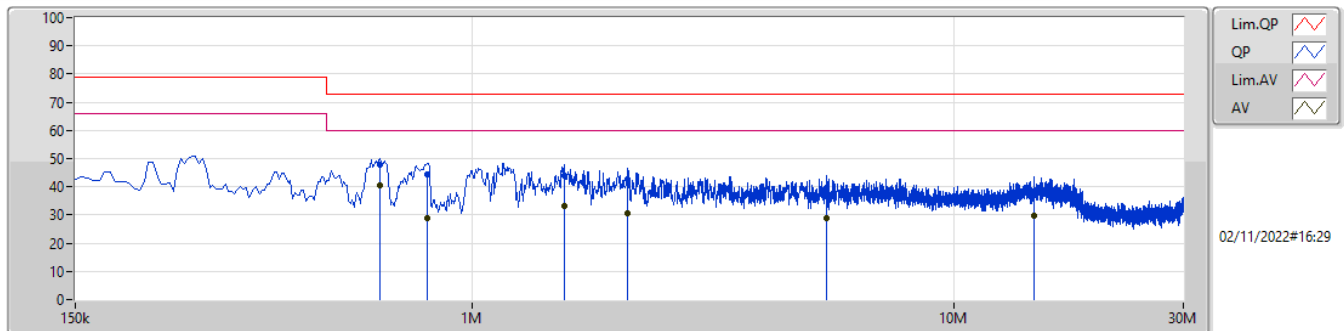
## Conducted Emissions at Powerline

## Appendix A

### Summary

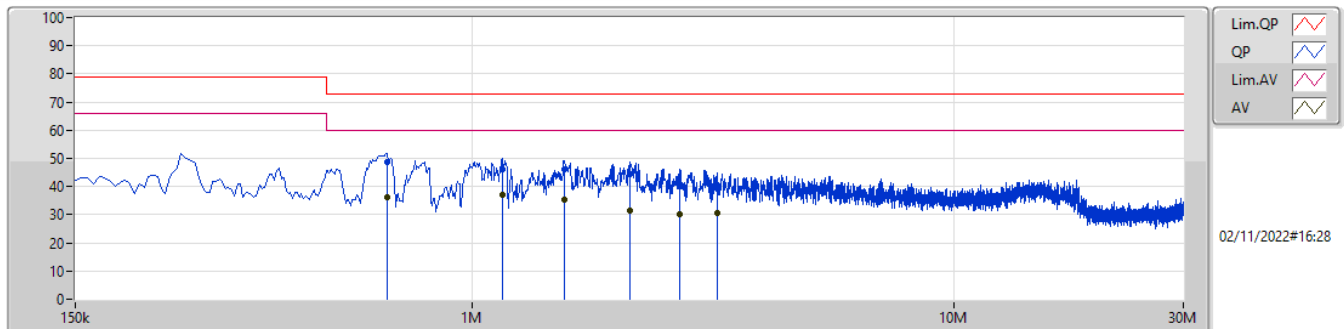
| Mode   | Result | Type | Freq<br>(Hz) | Level<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Condition |
|--------|--------|------|--------------|-----------------|-----------------|----------------|-----------|
| Mode 1 | Pass   | AV   | 645k         | 40.37           | 60.00           | -19.63         | Line      |

### Mode 1



| Type | Freq<br>(Hz) | Level<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Factor<br>(dB) | Condition | Comment | Raw<br>(dBuV) | LISN<br>(dB) | CL<br>(dB) | AT<br>(dB) |  |  |  |  |  |  |
|------|--------------|-----------------|-----------------|----------------|----------------|-----------|---------|---------------|--------------|------------|------------|--|--|--|--|--|--|
| QP   | 645k         | 47.91           | 73.00           | -25.09         | 10.01          | Line      | -       | 37.90         | 0.07         | 0.05       | 9.89       |  |  |  |  |  |  |
| AV   | 645k         | 40.37           | 60.00           | -19.63         | 10.01          | Line      | "Worst" | 30.36         | 0.07         | 0.05       | 9.89       |  |  |  |  |  |  |
| QP   | 807k         | 44.61           | 73.00           | -28.39         | 10.00          | Line      | -       | 34.61         | 0.07         | 0.04       | 9.89       |  |  |  |  |  |  |
| AV   | 807k         | 28.76           | 60.00           | -31.24         | 10.00          | Line      | -       | 18.76         | 0.07         | 0.04       | 9.89       |  |  |  |  |  |  |
| QP   | 1.554M       | 43.81           | 73.00           | -29.19         | 10.04          | Line      | -       | 33.77         | 0.08         | 0.07       | 9.89       |  |  |  |  |  |  |
| AV   | 1.554M       | 33.12           | 60.00           | -26.88         | 10.04          | Line      | -       | 23.08         | 0.08         | 0.07       | 9.89       |  |  |  |  |  |  |
| QP   | 2.108M       | 42.71           | 73.00           | -30.29         | 10.07          | Line      | -       | 32.64         | 0.09         | 0.09       | 9.89       |  |  |  |  |  |  |
| AV   | 2.108M       | 30.60           | 60.00           | -29.40         | 10.07          | Line      | -       | 20.53         | 0.09         | 0.09       | 9.89       |  |  |  |  |  |  |
| QP   | 5.442M       | 37.95           | 73.00           | -35.05         | 10.17          | Line      | -       | 27.78         | 0.15         | 0.12       | 9.90       |  |  |  |  |  |  |
| AV   | 5.442M       | 28.72           | 60.00           | -31.28         | 10.17          | Line      | -       | 18.55         | 0.15         | 0.12       | 9.90       |  |  |  |  |  |  |
| QP   | 14.658M      | 37.49           | 73.00           | -35.51         | 10.37          | Line      | -       | 27.12         | 0.26         | 0.17       | 9.94       |  |  |  |  |  |  |
| AV   | 14.658M      | 29.92           | 60.00           | -30.08         | 10.37          | Line      | -       | 19.55         | 0.26         | 0.17       | 9.94       |  |  |  |  |  |  |

### Mode 1



| Type | Freq<br>(Hz) | Level<br>(dBuV) | Limit<br>(dBuV) | Margin<br>(dB) | Factor<br>(dB) | Condition | Comment | Raw<br>(dBuV) | LISN<br>(dB) | CL<br>(dB) | AT<br>(dB) |  |  |  |  |  |  |
|------|--------------|-----------------|-----------------|----------------|----------------|-----------|---------|---------------|--------------|------------|------------|--|--|--|--|--|--|
| QP   | 667.5k       | 48.58           | 73.00           | -24.42         | 10.02          | Neutral   | -       | 38.56         | 0.08         | 0.05       | 9.89       |  |  |  |  |  |  |
| AV   | 667.5k       | 36.04           | 60.00           | -23.96         | 10.02          | Neutral   | -       | 26.02         | 0.08         | 0.05       | 9.89       |  |  |  |  |  |  |
| QP   | 1.154M       | 46.23           | 73.00           | -26.77         | 10.02          | Neutral   | -       | 36.21         | 0.08         | 0.05       | 9.89       |  |  |  |  |  |  |
| AV   | 1.154M       | 36.93           | 60.00           | -23.07         | 10.02          | Neutral   | "Worst" | 26.91         | 0.08         | 0.05       | 9.89       |  |  |  |  |  |  |
| QP   | 1.554M       | 45.93           | 73.00           | -27.07         | 10.05          | Neutral   | -       | 35.88         | 0.09         | 0.07       | 9.89       |  |  |  |  |  |  |
| AV   | 1.554M       | 35.56           | 60.00           | -24.44         | 10.05          | Neutral   | -       | 25.51         | 0.09         | 0.07       | 9.89       |  |  |  |  |  |  |
| QP   | 2.13M        | 44.55           | 73.00           | -28.45         | 10.08          | Neutral   | -       | 34.47         | 0.10         | 0.09       | 9.89       |  |  |  |  |  |  |
| AV   | 2.13M        | 31.27           | 60.00           | -28.73         | 10.08          | Neutral   | -       | 21.19         | 0.10         | 0.09       | 9.89       |  |  |  |  |  |  |
| QP   | 2.706M       | 40.10           | 73.00           | -32.90         | 10.09          | Neutral   | -       | 30.01         | 0.11         | 0.09       | 9.89       |  |  |  |  |  |  |
| AV   | 2.706M       | 30.03           | 60.00           | -29.97         | 10.09          | Neutral   | -       | 19.94         | 0.11         | 0.09       | 9.89       |  |  |  |  |  |  |
| QP   | 3.224M       | 40.33           | 73.00           | -32.67         | 10.11          | Neutral   | -       | 30.22         | 0.12         | 0.10       | 9.89       |  |  |  |  |  |  |
| AV   | 3.224M       | 30.47           | 60.00           | -29.53         | 10.11          | Neutral   | -       | 20.36         | 0.12         | 0.10       | 9.89       |  |  |  |  |  |  |



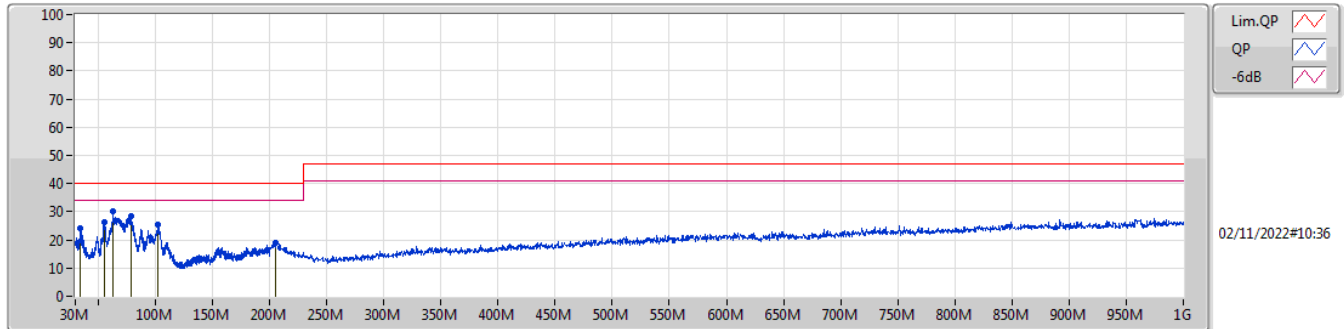
## ***Radiated Emissions below 1GHz***

## ***Appendix B.1***

### **Summary**

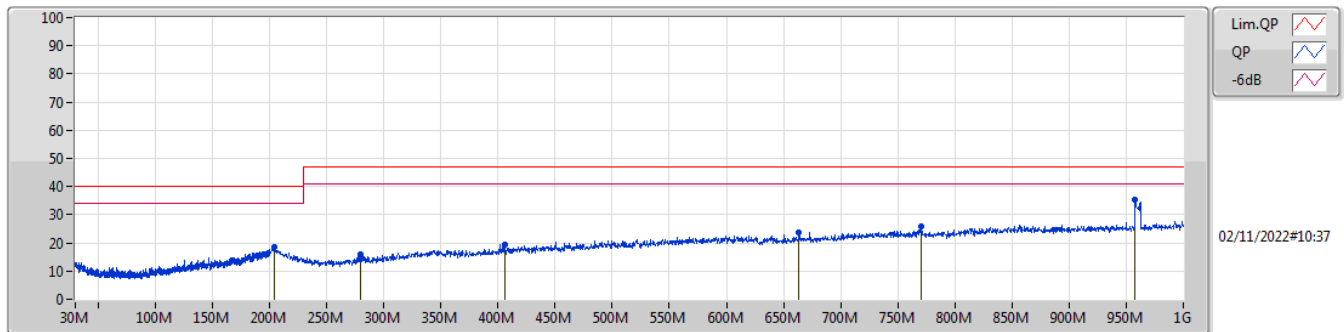
| Mode   | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Condition |
|--------|--------|------|--------------|-------------------|-------------------|----------------|-----------|
| Mode 3 | Pass   | PK   | 62.56M       | 30.27             | 40.00             | -9.73          | Vertical  |

### Mode 3



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comment | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |  |  |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|---------|---------------|------------|------------|------------|--|--|
| PK   | 34.59M       | 24.18             | 40.00             | -15.82         | -15.28         | 10          | Vertical  | 30             | 2.00          | -       | 39.46         | 12.59      | 0.89       | 28.76      |  |  |
| PK   | 55.59M       | 26.22             | 40.00             | -13.78         | -17.61         | 10          | Vertical  | 229            | 1.00          | -       | 43.83         | 9.97       | 1.09       | 28.67      |  |  |
| PK   | 62.56M       | 30.27             | 40.00             | -9.73          | -17.76         | 10          | Vertical  | 195            | 1.00          | "Worst" | 48.03         | 9.56       | 1.33       | 28.65      |  |  |
| PK   | 78.37M       | 28.32             | 40.00             | -11.68         | -17.75         | 10          | Vertical  | 331            | 2.00          | -       | 46.07         | 9.12       | 1.75       | 28.62      |  |  |
| PK   | 102.34M      | 25.27             | 40.00             | -14.73         | -16.75         | 10          | Vertical  | 352            | 4.00          | -       | 42.02         | 9.83       | 2.05       | 28.63      |  |  |
| PK   | 204.8M       | 19.14             | 40.00             | -20.86         | -7.19          | 10          | Vertical  | 15             | 1.00          | -       | 26.33         | 17.12      | 3.06       | 27.37      |  |  |

### Mode 3



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comment | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |  |  |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|---------|---------------|------------|------------|------------|--|--|
| PK   | 204M         | 18.61             | 40.00             | -21.39         | -7.19          | 10          | Horizontal | 315            | 1.00          | -       | 25.80         | 17.12      | 3.06       | 27.37      |  |  |
| PK   | 280M         | 15.74             | 47.00             | -31.26         | -10.60         | 10          | Horizontal | 0              | 2.00          | -       | 26.34         | 13.13      | 3.43       | 27.16      |  |  |
| PK   | 405.6M       | 19.53             | 47.00             | -27.47         | -7.70          | 10          | Horizontal | 322            | 1.00          | -       | 27.23         | 16.42      | 4.12       | 28.24      |  |  |
| PK   | 663.6M       | 23.74             | 47.00             | -23.26         | -3.47          | 10          | Horizontal | 1              | 4.00          | -       | 27.21         | 19.66      | 5.41       | 28.54      |  |  |
| PK   | 770M         | 26.02             | 47.00             | -20.98         | -1.48          | 10          | Horizontal | 340            | 1.00          | -       | 27.50         | 20.74      | 6.01       | 28.23      |  |  |
| PK   | 958M         | 35.50             | 47.00             | -11.50         | 1.73           | 10          | Horizontal | 227            | 1.00          | "Worst" | 33.77         | 22.37      | 6.66       | 27.30      |  |  |





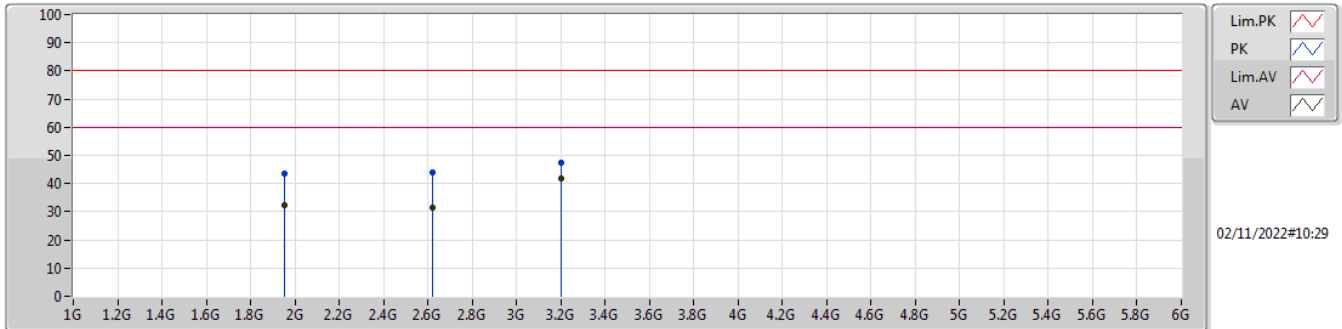
## ***Radiated Emissions above 1GHz***

## ***Appendix B.2***

### **Summary**

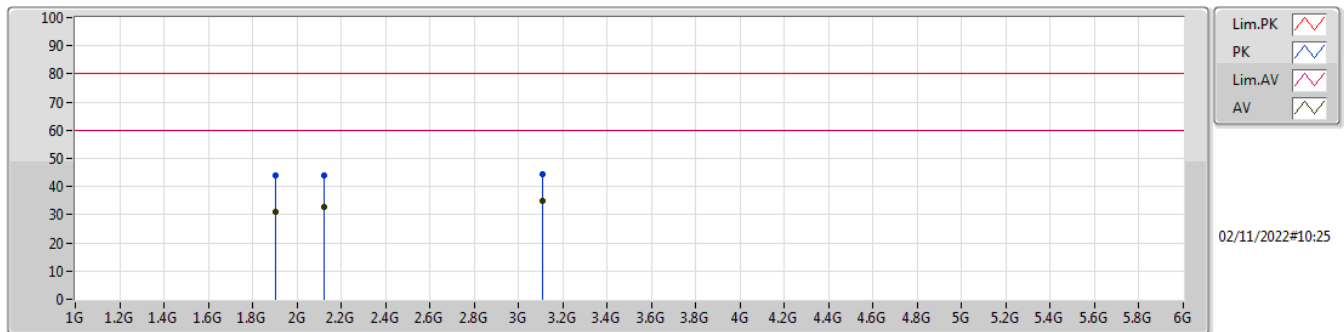
| Mode   | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Condition |
|--------|--------|------|--------------|-------------------|-------------------|----------------|-----------|
| Mode 3 | Pass   | AV   | 3.2G         | 41.67             | 60.00             | -18.33         | Vertical  |

### Mode 3



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comment | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |  |  |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|---------|---------------|------------|------------|------------|--|--|
| PK   | 1.952G       | 43.59             | 80.00             | -36.41         | 2.27           | 3           | Vertical  | 228            | 1.00          | -       | 41.32         | 31.29      | 6.23       | 35.25      |  |  |
| AV   | 1.952G       | 32.15             | 60.00             | -27.85         | 2.27           | 3           | Vertical  | 228            | 1.00          | -       | 29.88         | 31.29      | 6.23       | 35.25      |  |  |
| PK   | 2.6235G      | 44.16             | 80.00             | -35.84         | 4.28           | 3           | Vertical  | 315            | 1.00          | -       | 39.88         | 32.61      | 7.66       | 35.99      |  |  |
| AV   | 2.6235G      | 31.28             | 60.00             | -28.72         | 4.28           | 3           | Vertical  | 315            | 1.00          | -       | 27.00         | 32.61      | 7.66       | 35.99      |  |  |
| PK   | 3.2G         | 47.41             | 80.00             | -32.59         | 5.37           | 3           | Vertical  | 157            | 2.00          | -       | 42.04         | 32.90      | 8.70       | 36.23      |  |  |
| AV   | 3.2G         | 41.67             | 60.00             | -18.33         | 5.37           | 3           | Vertical  | 157            | 2.00          | "Worst" | 36.30         | 32.90      | 8.70       | 36.23      |  |  |

### Mode 3



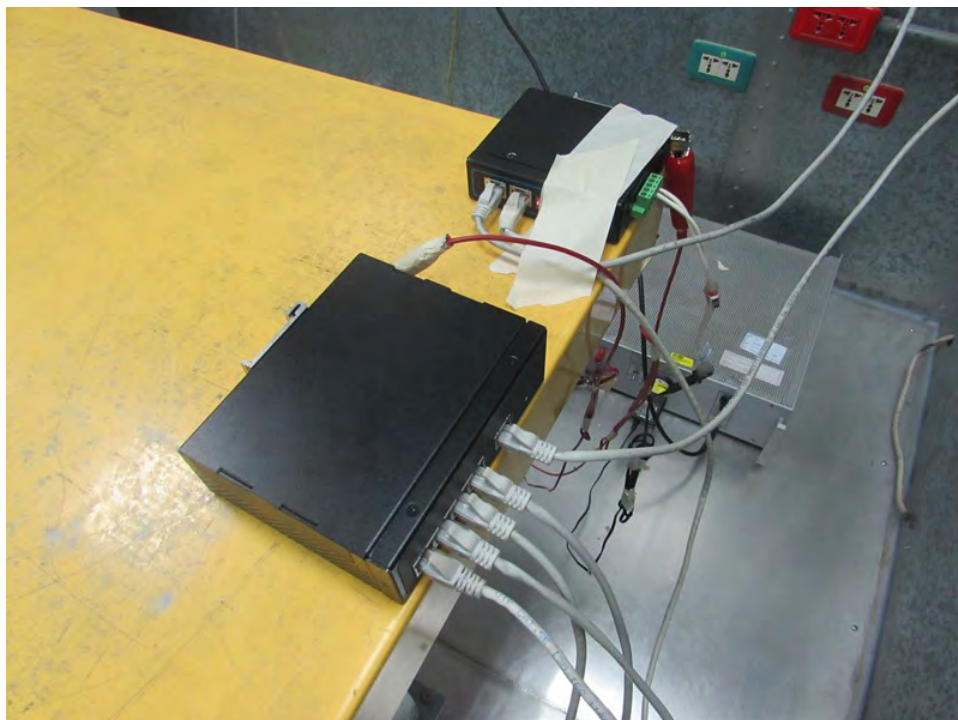
| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comment | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |  |  |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|---------|---------------|------------|------------|------------|--|--|
| PK   | 1.901G       | 44.11             | 80.00             | -35.89         | 2.16           | 3           | Horizontal | 267            | 2.00          | -       | 41.95         | 31.30      | 6.15       | 35.29      |  |  |
| AV   | 1.901G       | 31.06             | 60.00             | -28.94         | 2.16           | 3           | Horizontal | 267            | 2.00          | -       | 28.90         | 31.30      | 6.15       | 35.29      |  |  |
| PK   | 2.122G       | 43.87             | 80.00             | -36.13         | 2.76           | 3           | Horizontal | 202            | 3.00          | -       | 41.11         | 31.60      | 6.54       | 35.38      |  |  |
| AV   | 2.122G       | 32.96             | 60.00             | -27.04         | 2.76           | 3           | Horizontal | 202            | 3.00          | -       | 30.20         | 31.60      | 6.54       | 35.38      |  |  |
| PK   | 3.108G       | 44.51             | 80.00             | -35.49         | 5.27           | 3           | Horizontal | 350            | 1.00          | -       | 39.24         | 32.93      | 8.56       | 36.22      |  |  |
| AV   | 3.108G       | 35.07             | 60.00             | -24.93         | 5.27           | 3           | Horizontal | 350            | 1.00          | "Worst" | 29.80         | 32.93      | 8.56       | 36.22      |  |  |

## 1. Photographs of Conducted Emissions Test Configuration

FRONT VIEW



REAR VIEW



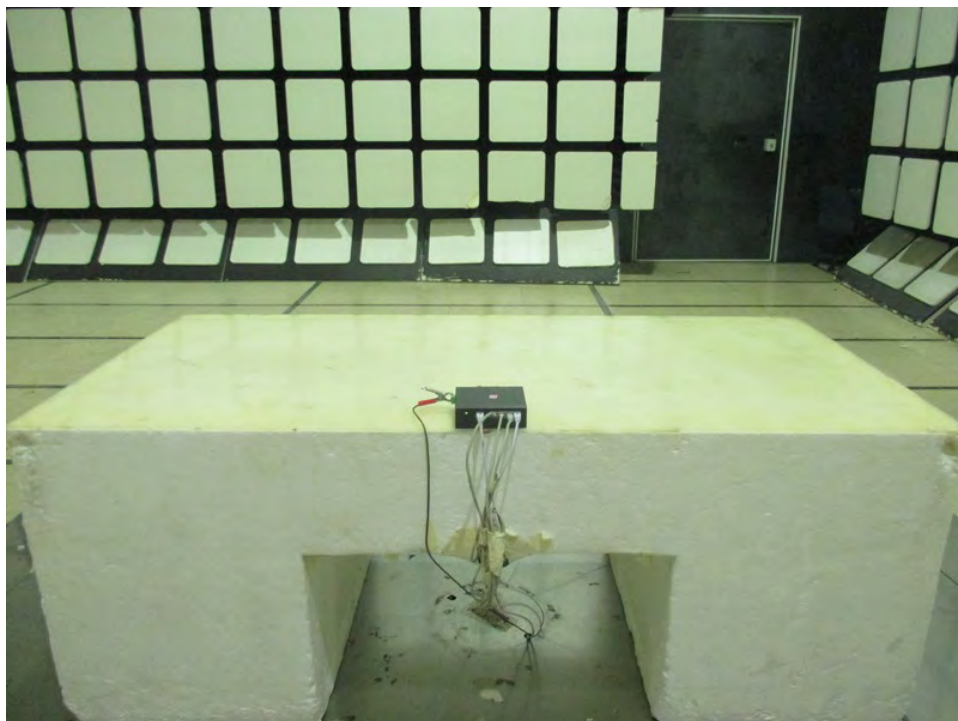
## 2. Photographs of Radiated Emissions Test Configuration

Test Configuration: 30MHz~1GHz / Test Mode: Mode 3

**FRONT VIEW**



**REAR VIEW**



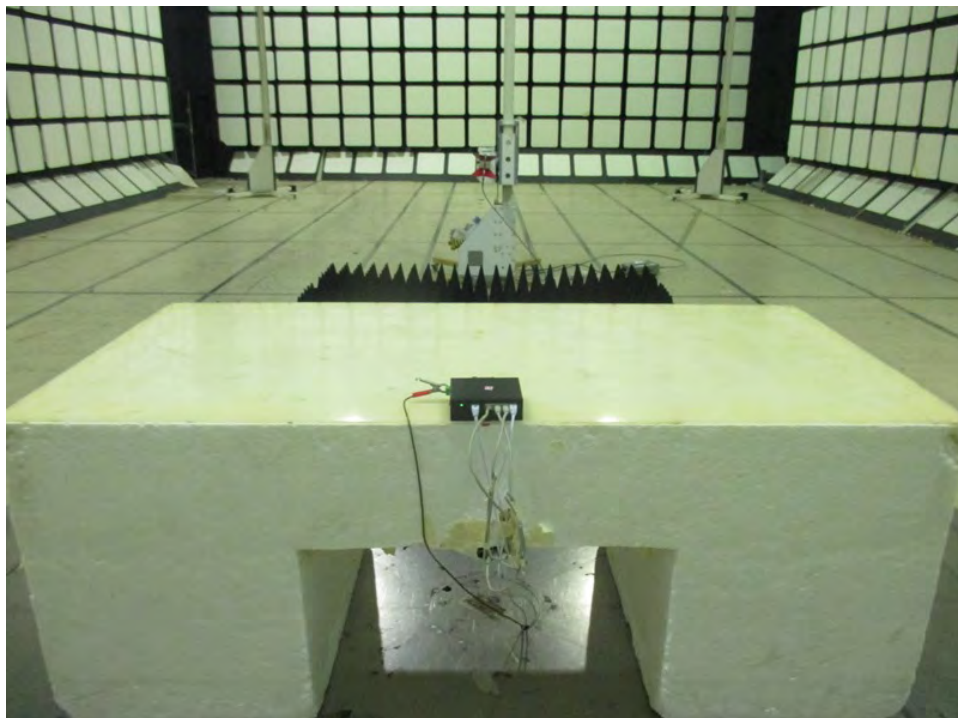


**Test Configuration: Above 1GHz / Test Mode: Mode 3**

**FRONT VIEW**



**REAR VIEW**



————THE END————