



# TEST REPORT

|                                                                                                                                                                                                                                    |                               |                                                          |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Eurofins KCTL Co.,Ltd.</b><br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>Tel: 82-31-285-0894 Fax: 82-505-299-8311<br><a href="http://www.kctl.co.kr">www.kctl.co.kr</a>                             |                               | Report No.:<br><b>KR23-SEF0014-A</b><br>Page (1) of (31) | <br><b>KCTL</b>                 |
| <b>1. Client</b> <ul style="list-style-type: none"> <li>Name : Hitachi, Ltd.</li> <li>Address : 2-1, Omika-cho 5-chome Hitachi-shi Ibaraki-ken Japan</li> <li>Date of Receipt : 2022-12-15</li> </ul>                              |                               |                                                          |                                 |
| <b>2. Use of Report</b> : -                                                                                                                                                                                                        |                               |                                                          |                                 |
| <b>3. Name of Product / Model</b> : Server / HJ-6560, HJ-7560, HJ-7565                                                                                                                                                             |                               |                                                          |                                 |
| <b>4. Manufacturer / Country of Origin</b> : Hitachi, Ltd. / Japan                                                                                                                                                                 |                               |                                                          |                                 |
| <b>5. Date of Test</b> : 2023-01-05                                                                                                                                                                                                |                               |                                                          |                                 |
| <b>6. Location of Test</b> : <input checked="" type="checkbox"/> Permanent Testing Lab <input type="checkbox"/> On Site Testing<br>(Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)                     |                               |                                                          |                                 |
| <b>7. Test method used</b> : ANSI C63.4:2014, Class A                                                                                                                                                                              |                               |                                                          |                                 |
| <b>8. FCC ID</b> : 2A2JW-HJ-6560                                                                                                                                                                                                   |                               |                                                          |                                 |
| <b>9. Test Results</b> : Refer to the test result in the test report                                                                                                                                                               |                               |                                                          |                                 |
| Affirmation                                                                                                                                                                                                                        | Tested by                     |                                                          | Technical Manager               |
|                                                                                                                                                                                                                                    | Name : Dootae Lee (Signature) |                                                          | Name : Moonseop Cho (Signature) |
| 2023-01-25                                                                                                                                                                                                                         |                               |                                                          |                                 |
| <b>Eurofins KCTL Co.,Ltd.</b>                                                                                                                                                                                                      |                               |                                                          |                                 |
| As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd. |                               |                                                          |                                 |

|                                                                                                                                                                                                        |                                                   |                                                                                     |
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|

## REPORT REVISION HISTORY

| Date       | Revision          | Page No    |
|------------|-------------------|------------|
| 2023-01-17 | Originally issued | -          |
| 2023-01-25 | Updated           | 19 p, 24 p |
|            |                   |            |
|            |                   |            |
|            |                   |            |

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Note. The report No. KR23-SEF0014 is superseded by the report No. KR23-SEF0014-A

## General remarks for test reports

### Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

#### Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ Statement not required by the standard or client used for type testing

## Contents

|                                                |           |
|------------------------------------------------|-----------|
| <b>1. Applicant information .....</b>          | <b>4</b>  |
| <b>2. Laboratory information.....</b>          | <b>5</b>  |
| <b>3. Test system configuration.....</b>       | <b>5</b>  |
| 3.1 Operation environment.....                 | 6         |
| 3.2 Measurement Uncertainty .....              | 7         |
| <b>4. Description of EUT .....</b>             | <b>9</b>  |
| 4.1 General information.....                   | 9         |
| 4.2 Product description.....                   | 12        |
| 4.3 Auxiliary equipments .....                 | 13        |
| 4.4 Test configuration .....                   | 14        |
| 4.5 Operating conditions .....                 | 16        |
| <b>5. Summary of test results .....</b>        | <b>18</b> |
| 5.1 Summary of EMI emission test results ..... | 18        |
| <b>6. Test results .....</b>                   | <b>19</b> |
| 6.1 Conducted Emissions.....                   | 19        |
| 6.2 Radiated Emission .....                    | 24        |

|                                                                                                                                                                                                        |                                                   |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Eurofins KCTL Co.,Ltd.</b><br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>Tel: 82-31-285-0894 Fax: 82-505-299-8311<br><a href="http://www.kctl.co.kr">www.kctl.co.kr</a> | Report No.:<br>KR23-SEF0014-A<br>Page (4) of (31) |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|

## 1. Applicant information

**Applicant:** Hitachi, Ltd.  
**Address:** 2-1, Omika-cho 5-chome Hitachi-shi Ibaraki-ken Japan  
  
**Manufacturer:** Hitachi, Ltd.  
**Address:** 2-1, Omika-cho 5-chome Hitachi-shi Ibaraki-ken Japan



## 2. Laboratory information

### Address

#### **Eurofins KCTL Co.,Ltd. (Suwon Lab.)**

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea

Telephone Number: 82 31 285 0894

Facsimile Number: 82 505 299 8311

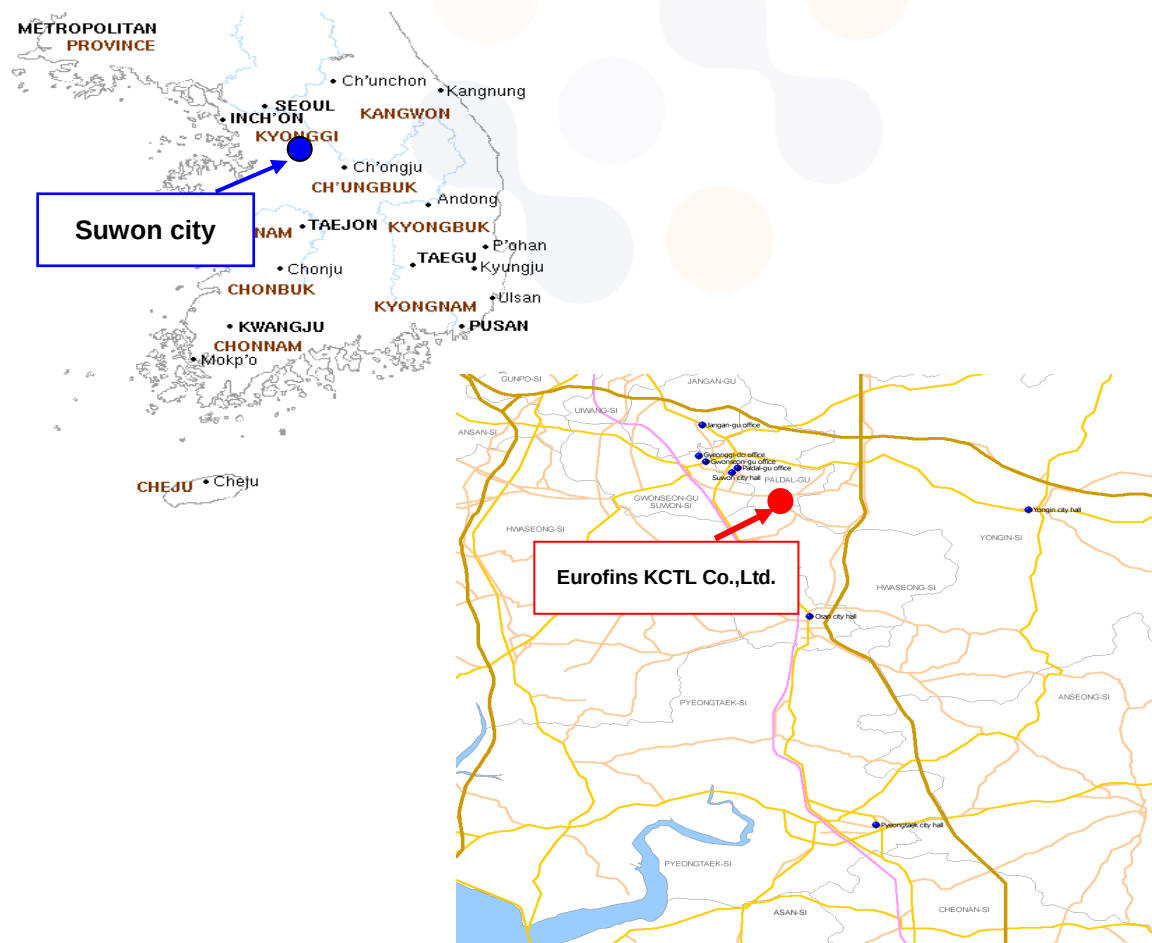
FCC Site Designation No: KR0040

VCCI Registration No.: R-20080, G-20078, C-20059, T-20056

Industry Canada Registration No. : 8035A

KOLAS NO.: KT231

### **SITE MAP**



### 3. Test system configuration

#### 3.1 Operation environment

|                   | Temperature          | Humidity                     | Pressure |
|-------------------|----------------------|------------------------------|----------|
| Chamber 10 m (RE) | 21.4 °C /<br>21.2 °C | 23.0 % R.H. /<br>22.7 % R.H. | -        |
| Shielded room(CE) | 21.2 °C              | 22.3 % R.H.                  | -        |

#### Test site

These testing items were performed following locations;

| Test item          | Test site     |
|--------------------|---------------|
| Conducted Emission | Shielded Room |
| Radiated Emission  | 10 m Chamber  |

## 3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

| Conducted Emission measurement (Confidence level about 95 %, $k = 2$ ) |                     |               |
|------------------------------------------------------------------------|---------------------|---------------|
| Shielded Room (CE#1)                                                   | 9 kHz ~ 150 kHz:    | 3.50 dB       |
|                                                                        | 150 kHz ~ 30 MHz:   | 3.06 dB       |
| Shielded Room (CE#2)                                                   | 9 kHz ~ 150 kHz:    | 3.05 dB       |
|                                                                        | 150 kHz ~ 30 MHz:   | 3.06 dB       |
| Radiated Emission measurement (Confidence level about 95 %, $k = 2$ )  |                     |               |
| 10 m Chamber (4F)                                                      | 30 MHz ~ 200 MHz    | 3 m: 4.98 dB  |
|                                                                        |                     | 10 m: 4.96 dB |
|                                                                        | 200 MHz ~ 1 000 MHz | 3 m: 4.28 dB  |
|                                                                        |                     | 10 m: 4.28 dB |
|                                                                        | 1 GHz ~ 6 GHz       | 3 m: 5.08 dB  |
|                                                                        | 6 GHz ~ 18 GHz      | 3 m: 5.38 dB  |
|                                                                        | 18 GHz ~ 30 GHz     | 3 m: 5.22 dB  |
| 10 m Chamber (2F)                                                      | 30 MHz ~ 200 MHz    | 3 m: 4.50 dB  |
|                                                                        |                     | 10 m: 4.48 dB |
|                                                                        | 200 MHz ~ 1 000 MHz | 3 m: 3.72 dB  |
|                                                                        |                     | 10 m: 3.70 dB |
|                                                                        | 1 GHz ~ 6 GHz       | 3 m: 5.08 dB  |

### 3.3 Measurement Program

These test items were performed by software programs;

| Test item          | Measurement Program    |                                   | Used                                |
|--------------------|------------------------|-----------------------------------|-------------------------------------|
| Conducted Emission | EP5/CE_Ver 5.4.0(TOYO) |                                   | <input checked="" type="checkbox"/> |
| Radiated Emission  | 2F                     | EP10/RE_Ver 2021.01.000<br>(TOYO) | <input checked="" type="checkbox"/> |
|                    | 4F                     | EP5/RE_Ver 5.11.10(TOYO)          |                                     |



## 4. Description of EUT

### 4.1 General information

#### Basic Model: HJ-6560

##### Common specifications

| Item                                         |             | Specifications                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                        |             | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Processor                                    |             | Intel® Core™ i3-8100                                                                                                                                                                                                                                                                                                                                                                 |
| Main memory                                  |             | 8GB/16GB/32GB                                                                                                                                                                                                                                                                                                                                                                        |
| Display resolution and color depth           |             | See “(6) Supported resolutions”.                                                                                                                                                                                                                                                                                                                                                     |
| Built-in file device                         | DVD         | DVD-RW drive (*1)                                                                                                                                                                                                                                                                                                                                                                    |
|                                              | HDD/SSD     | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Interface                                    | Display     | Digital (DVI-D 24 pins) × 2                                                                                                                                                                                                                                                                                                                                                          |
|                                              |             | Digital (DisplayPort 20 pins) (*2) (*3) (*4)                                                                                                                                                                                                                                                                                                                                         |
|                                              | USB         | USB2.0/1.1 × 2 (front × 2)                                                                                                                                                                                                                                                                                                                                                           |
|                                              |             | USB3.0/2.0/1.1 × 6 (rear × 6)                                                                                                                                                                                                                                                                                                                                                        |
|                                              | Serial      | RS-232C (D-sub 9 pins) × 1, Option × 1                                                                                                                                                                                                                                                                                                                                               |
|                                              | LAN         | 1000BASE-T/100BASE-TX/10BASE-T by auto-negotiation × 2 (RJ45, Wake on LAN supported)                                                                                                                                                                                                                                                                                                 |
|                                              | Audio       | LINE IN × 1, LINE OUT × 1                                                                                                                                                                                                                                                                                                                                                            |
| External control                             |             | Option × 1                                                                                                                                                                                                                                                                                                                                                                           |
| Extended slot                                | PCI Express | SLOT1 : PCIe (x8) Full height Short size (*5)<br>SLOT2 : PCIe (x4) Full height Short size<br>SLOT3 : PCIe (x4) Full height Short size<br>SLOT3 : PCIe (x16) Full height Short size<br>SLOT4 : PCIe (x4) Full height Short size (*6)                                                                                                                                                  |
|                                              | PCI         | SLOT6 : PCI Full height Long size (5V 32bit / 33MHz)<br>SLOT7 : PCI Full height Long size (5V 32bit / 33MHz)                                                                                                                                                                                                                                                                         |
| External Dimensions (Width × Depth × Height) |             | 400 × 450 × 150 mm<br>(rubber feet and rack-mounting metal fittings not included)                                                                                                                                                                                                                                                                                                    |
| RAS features                                 |             | Hardware status monitoring (fan failure, temperature failure, SMART, drive operating time, and others), OS deadlock monitoring, watchdog monitoring, alarm notification when failure is detected (pop up notification, Digital LEDs for Status indication, remote notification, and others), memory dump collection, maintenance operation support commands, and simulation function |
| Weight                                       |             | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Inrush current                               |             | 60 A or less (115 VAC), 120A or less (230 VAC)                                                                                                                                                                                                                                                                                                                                       |
| Leakage current                              |             | 3.5 mA or less                                                                                                                                                                                                                                                                                                                                                                       |
| Rated current AC100V/AC240V                  |             | 3.5A/1.5A                                                                                                                                                                                                                                                                                                                                                                            |
| Power                                        | Voltage     | 100 - 240 VAC ± 10% (wide range input)                                                                                                                                                                                                                                                                                                                                               |
|                                              | Frequency   | 50/60 Hz ± 3 Hz                                                                                                                                                                                                                                                                                                                                                                      |
| Keyboard and mouse                           |             | Option                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                                                                                                                                                        |                                                    |                                                                                     |
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|

### Individual specifications

| Item                            |                     | Specifications                                                         |                                                                   |
|---------------------------------|---------------------|------------------------------------------------------------------------|-------------------------------------------------------------------|
| Model                           |                     | HF-W6500 model 60                                                      |                                                                   |
| Order Model Specifications (*1) |                     | HJ-6560                                                                |                                                                   |
| Built-in file device (*2) (*3)  |                     | A model : HJ-6560 -xxyA<br>B model : HJ-6560 -xxyB                     | S model : HJ-6560 -xxyS<br>T model : HJ-6560 -xxyT                |
| HDD/SSD Drive bay 1             | HDD/SSD Drive bay 1 | SATA HDD 1TB or 2TB                                                    | SATA SSD 480GB                                                    |
|                                 | HDD/SSD Drive bay2  | SATA HDD 1TB or 2TB<br>(B model : Required option<br>A model : Option) | SATA SSD 480GB<br>(T model : Required option<br>S model : Option) |
|                                 | HDD/SSD Drive bay3  | SATA HDD 1TB or 2TB<br>(Option)                                        | SATA SSD 480GB<br>(Option)                                        |
| Weight                          |                     | About 13.3 kg                                                          | About 11.5 kg                                                     |

### Pre-installed OS model

| OS type | Pre-installed OS                                                                     |
|---------|--------------------------------------------------------------------------------------|
| WF      | Microsoft® Windows® 10 IoT Enterprise 2019 LTSC (64bit) (Embedded licensing version) |

### Accessories

| Item       | Specifications                                |
|------------|-----------------------------------------------|
| Power cord | 7 A 125 V two-prong plug with ground pole     |
| Manual     | SAFETY INSTRUMENTS (Manual number WIN-B-0004) |

### Option specifications

| Item                  | Specifications                                                                                                                        |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| LAN adapter           | 1000BASE-T/100BASE-TX/10BASE-T by auto-negotiation × 2<br>(For details, see “(8) Optional LAN adapter specifications (HJ-F6560-20)”.) |
| External control port | B contact, including RS232C × 1 port (D-sub 9 pins)<br>(For details, see “5.9.2 External control specifications”.)                    |
|                       | A contact, including RS232C × 1 port (D-sub 9 pins)<br>(For details, see “5.9.2 External control specifications”.)                    |
| Service menu          | General Q and A service (10 incidents per year)                                                                                       |
|                       | Failure analysis support service (5 incidents per year)                                                                               |
|                       | Failure analysis support service (1 incident)                                                                                         |
| Optional tool         | System failure monitoring tool “RunWatcher® R2”                                                                                       |

|                                                                                                                                                                                                        |                                                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|

## Variant Model: HJ-7560, HJ-7565

### Common specifications

| Item                                         |             | Specifications                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                        |             | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Processor                                    |             | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Main memory                                  |             | 16GB/32GB/64GB                                                                                                                                                                                                                                                                                                                                                                       |
| Display resolution and color depth           |             | See “(6) Supported resolutions”.                                                                                                                                                                                                                                                                                                                                                     |
| Built-in file device                         | DVD         | DVD-RW drive (*1)                                                                                                                                                                                                                                                                                                                                                                    |
|                                              | HDD         | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Interface                                    | Display     | Digital (DVI-D 24 pins) × 2                                                                                                                                                                                                                                                                                                                                                          |
|                                              |             | Digital (DisplayPort 20 pins) (*2) (*3) (*4)                                                                                                                                                                                                                                                                                                                                         |
|                                              | USB         | USB2.0/1.1 × 2 (front × 2)                                                                                                                                                                                                                                                                                                                                                           |
|                                              |             | USB3.0/2.0/1.1 × 6 (rear × 6)                                                                                                                                                                                                                                                                                                                                                        |
|                                              | Serial      | RS-232C (D-sub 9 pins) × 1, Option × 1                                                                                                                                                                                                                                                                                                                                               |
|                                              | LAN         | 1000BASE-T/100BASE-TX/10BASE-T by auto-negotiation × 2 (RJ45, Wake on LAN supported)                                                                                                                                                                                                                                                                                                 |
|                                              | Audio       | LINE IN × 1, LINE OUT × 1                                                                                                                                                                                                                                                                                                                                                            |
| External control                             |             | Option × 1                                                                                                                                                                                                                                                                                                                                                                           |
| Extended slot                                | PCI Express | SLOT1 : PCIe (x8) Full height Short size (*5) (*6)<br>SLOT2 : PCIe (x4) Full height Short size<br>SLOT3 : PCIe (x4) Full height Short size<br>SLOT4 : PCIe (x16) Full height Short size<br>SLOT5 : PCIe (x4) Full height Short size (*7)                                                                                                                                             |
|                                              | PCI         | SLOT6 : PCI Full height Long size (5V 32bit / 33MHz)<br>SLOT7 : PCI Full height Long size (5V 32bit / 33MHz)                                                                                                                                                                                                                                                                         |
| External Dimensions (Width × Depth × Height) |             | 400 × 450 × 150 mm<br>(rubber feet and rack-mounting metal fittings not included)                                                                                                                                                                                                                                                                                                    |
| RAS features                                 |             | Hardware status monitoring (fan failure, temperature failure, SMART, drive operating time, and others), OS deadlock monitoring, watchdog monitoring, alarm notification when failure is detected (pop up notification, Digital LEDs for Status indication, remote notification, and others), memory dump collection, maintenance operation support commands, and simulation function |
| Weight                                       |             | See “(2) Individual specifications”.                                                                                                                                                                                                                                                                                                                                                 |
| Inrush current                               |             | 60 A or less (115 VAC), 120A or less (230 VAC)                                                                                                                                                                                                                                                                                                                                       |
| Leakage current                              |             | 3.5 mA or less                                                                                                                                                                                                                                                                                                                                                                       |
| Rated current AC100V/AC240V                  |             | 3.5A/1.5A                                                                                                                                                                                                                                                                                                                                                                            |
| Power                                        | Voltage     | 100 - 240 VAC ± 10% (wide range input)                                                                                                                                                                                                                                                                                                                                               |
|                                              | Frequency   | 50/60 Hz ± 3 Hz                                                                                                                                                                                                                                                                                                                                                                      |
| Keyboard and mouse                           |             | Option                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                                                                                                                                                        |                                                    |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|

### Individual specifications

| Item                           |                     | Specifications                          |                        |
|--------------------------------|---------------------|-----------------------------------------|------------------------|
|                                |                     | HF-W7500 model 65                       | HF-W7500 model 60      |
| Model                          |                     | HJ-7565                                 | HJ-7560                |
| Order Model Specifications(*1) |                     | D model : HJ-7565-xxxD                  | D model : HJ-7560-xxxD |
| Processor                      |                     | Intel® Xeon® E-2226GE                   | Intel® Xeon® E-2124G   |
| Built-in file device (*2) (*3) | HDD/SSD Drive bay 1 | SATA HDD 2TB or SATA SSD 480GB          |                        |
|                                | HDD/SSD Drive bay2  | SATA HDD 2TB or SATA SSD 480GB          |                        |
|                                | HDD/SSD Drive bay3  | SATA HDD 2TB or SATA SSD 480GB (Option) |                        |
| Weight                         |                     | About 13.5 kg                           |                        |

### Pre-installed OS model

| OS type | Pre-installed OS                                                                     |
|---------|--------------------------------------------------------------------------------------|
| WF      | Microsoft® Windows® 10 IoT Enterprise 2019 LTSC (64bit) (Embedded licensing version) |
| SE      | Microsoft® Windows Server® IoT 2019 Standard (64bit) (Embedded licensing version)    |
| NO      | NO OS                                                                                |

### Accessories

| Item       | Specifications                                |
|------------|-----------------------------------------------|
| Power cord | 7 A 125 V two-prong plug with ground pole     |
| Manual     | SAFETY INSTRUMENTS (Manual number WIN-B-0004) |

### Option specifications

| Item                  | Specifications                                                                                                                        |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| LAN adapter           | 1000BASE-T/100BASE-TX/10BASE-T by auto-negotiation × 2<br>(For details, see “(8) Optional LAN adapter specifications (HJ-F7560-20)”.) |
| External control port | B contact, including RS232C × 1 port (D-sub 9 pins)<br>(For details, see “5.9.2 External control specifications”.)                    |
|                       | A contact, including RS232C × 1 port (D-sub 9 pins)<br>(For details, see “5.9.2 External control specifications”.)                    |
| Service menu          | General Q and A service (10 incidents per year)                                                                                       |
|                       | Failure analysis support service (5 incidents per year)                                                                               |
|                       | Failure analysis support service (1 incident)                                                                                         |
| Optional tool         | System failure monitoring tool “RunWatcher® R2”                                                                                       |

## 4.2 Product description

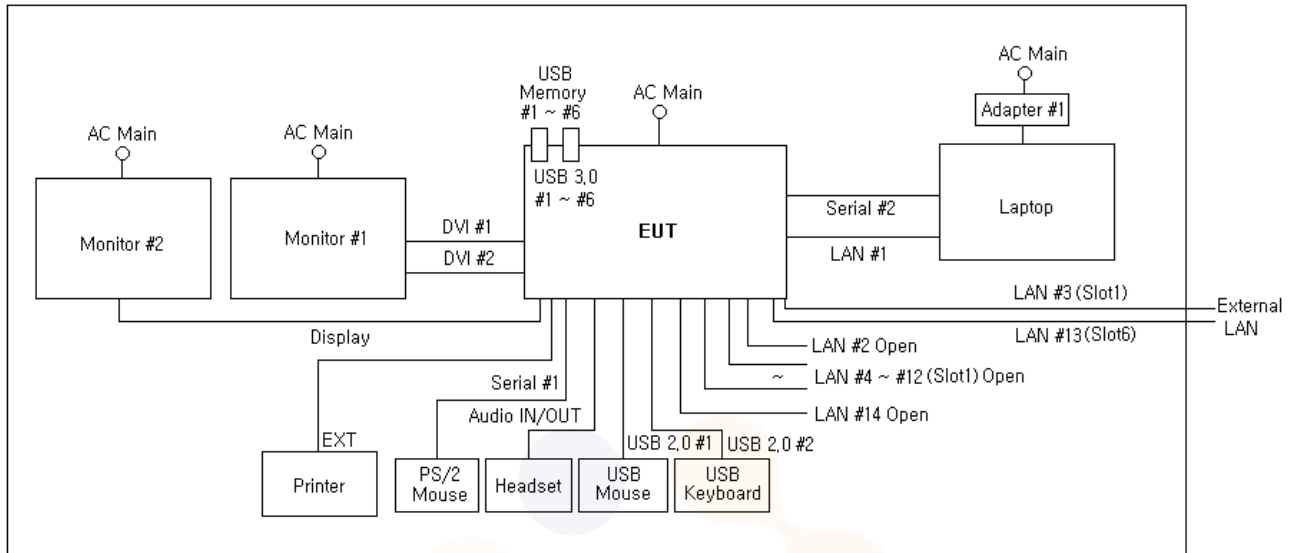
|                          |                                                                                                                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of product          | Server                                                                                                                                                                                                              |
| Model name (Basic)       | HJ-6560                                                                                                                                                                                                             |
| Model name (Variant)     | HJ-7560, HJ-7565                                                                                                                                                                                                    |
| Difference               | Basic Model: HJ-6560<br>(CPU: Inter® Core™ i3-8100(3.6 GHz-4Core))<br>Variant Model: HJ-7560<br>(CPU: Inter® Xeon® E-2124G(3.4 GHz-4Core))<br>Variant Model: HJ-7565<br>(CPU: Inter® Xeon® E-2226GE(3.4 GHz-6Core)) |
| Serial no                | -                                                                                                                                                                                                                   |
| Testing voltage          | 100 V – 240 V, 50/60 Hz                                                                                                                                                                                             |
| Input rating             | 120 V, 60 Hz                                                                                                                                                                                                        |
| Internal clock frequency | Basic Model: HJ-6560 (3.6 GHz)<br>Variant Model: HJ-7560, HJ-7565 (3.4 GHz)                                                                                                                                         |
| Note                     | -Tested with Worst Case, Display, through EMI(Radiated Emission) pre-scan of DVI and Display, connected to Monitor #1.                                                                                              |

## 4.3 Auxiliary equipments

| Type                          | Model / Part #    | S/N                           | Manufacturer |
|-------------------------------|-------------------|-------------------------------|--------------|
| Laptop                        | NT500R5S          | 0HN391CGB00313Z               | SAMSUNG      |
| Adapter #1                    | PA-1400-14        | CN60BA4400266AD2VH4<br>B4054Q | SAMSUNG      |
| Printer                       | -                 | -                             | -            |
| PS/2 Mouse                    | SML-210PB         | E-C011-05-3543                | SAMSUNG      |
| USB Mouse                     | MSU0939           | -                             | -            |
| USB Keyboard                  | KU-1777           | -                             | -            |
| Headset                       | IR-H70V           | -                             | IRIVER       |
| Monitor #1                    | P2214Hb           | CN-0C02R1-74261-5AK-<br>8GKL  | DELL         |
| Monitor #2                    | P2215Hb           | CN-PC02R1-74261-5AK-<br>8J3L  | DELL         |
| USB Memory<br>#1 ~ #6 (16 GB) | SanDisk Ultra Fit | -                             | SanDisk      |

## 4.4 Test configuration

[Test #1]

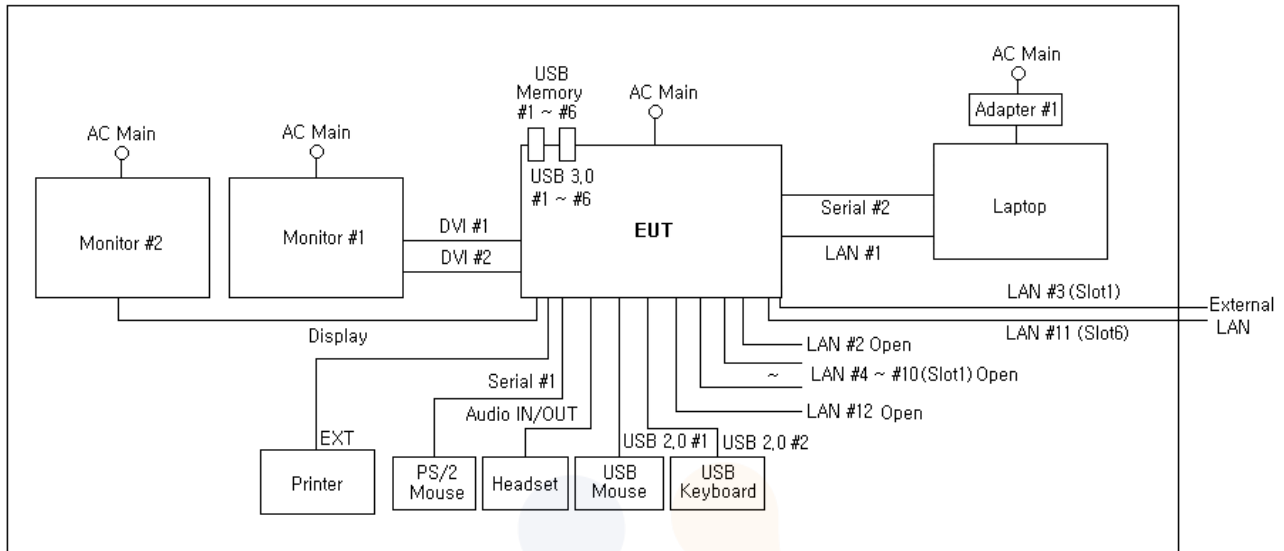


|    | Start |                 | End                |          | Cable      |          |
|----|-------|-----------------|--------------------|----------|------------|----------|
|    | Name  | I/O port        | Name               | I/O port | Length (m) | Spec.    |
| 1  | EUT   | Power           | AC Main            | USB      | 1.2        | Unshield |
| 2  |       | USB 2.0 #1      | USB Mouse          | -        | 1.7        | Unshield |
| 3  |       | USB 2.0 #2      | USB Keyboard       | -        | 1.5        | Unshield |
| 4  |       | Audio IN/OUT    | Headset            | -        | 1.7        | Unshield |
| 5  |       | Display         | Monitor #1         | Display  | 1.5        | Shield   |
| 6  |       | DVI #1          | Monitor #1         | DVI      | 1.5        | Shield   |
| 7  |       | DVI #2          | Monitor #2         | DVI      | 1.5        | Shield   |
| 8  |       | Serial #1       | PS/2 Mouse         | PS/2     | 1.6        | Shield   |
| 9  |       | Serial #2       | Laptop             | USB      | 1.6        | Shield   |
| 10 |       | USB 3.0 #1 ~ #6 | USB Memory #1 ~ #6 | -        | Direct     | -        |
| 11 |       | EXT             | Printer            | EXT      | 1.2        | Unshield |
| 12 |       | LAN #1          | Laptop             | LAN      | 3.0        | Unshield |
| 13 |       | LAN #2          | Open               | -        | 3.0        | Unshield |
| 14 |       | LAN #3 (Slot1)  | External LAN       | LAN      | 3.0        | Unshield |

|    |        |                            |              |     |     |          |
|----|--------|----------------------------|--------------|-----|-----|----------|
| 15 |        | LAN<br>#4 ~ #12<br>(Slot1) | Open         | -   | 3.0 | Unshield |
| 16 |        | LAN #13<br>(Slot6)         | External LAN | LAN | 3.0 | Unshield |
| 17 |        | LAN #14                    | Open         | -   | 3.0 | Unshield |
| 18 | Laptop | Power                      | Adapter #1   | -   | 1.5 | Unshield |



[Test #2, Test #3]



|    | Start |                      | End                |          | Cable      |          |
|----|-------|----------------------|--------------------|----------|------------|----------|
|    | Name  | I/O port             | Name               | I/O port | Length (m) | Spec.    |
| 1  | EUT   | Power                | AC Main            | USB      | 1.2        | Unshield |
| 2  |       | USB 2.0 #1           | USB Mouse          | -        | 1.7        | Unshield |
| 3  |       | USB 2.0 #2           | USB Keyboard       | -        | 1.5        | Unshield |
| 4  |       | Audio IN/OUT         | Headset            | -        | 1.7        | Unshield |
| 5  |       | Display              | Monitor #1         | Display  | 1.5        | Shield   |
| 6  |       | DVI #1               | Monitor #1         | DVI      | 1.5        | Shield   |
| 7  |       | DVI #2               | Monitor #2         | DVI      | 1.5        | Shield   |
| 8  |       | Serial #1            | PS/2 Mouse         | PS/2     | 1.6        | Shield   |
| 9  |       | Serial #2            | Laptop             | USB      | 1.6        | Shield   |
| 10 |       | USB 3.0 #1 ~ #6      | USB Memory #1 ~ #6 | -        | Direct     | -        |
| 11 |       | EXT                  | Printer            | EXT      | 1.2        | Unshield |
| 12 |       | LAN #1               | Laptop             | LAN      | 3.0        | Unshield |
| 13 |       | LAN #2               | Open               | -        | 3.0        | Unshield |
| 14 |       | LAN #3 (Slot1)       | External LAN       | LAN      | 3.0        | Unshield |
| 15 |       | LAN #4 ~ #10 (Slot1) | Open               | -        | 3.0        | Unshield |

|    |        |                    |              |     |     |          |
|----|--------|--------------------|--------------|-----|-----|----------|
| 16 |        | LAN #11<br>(Slot6) | External LAN | LAN | 3.0 | Unshield |
| 17 |        | LAN #12            | Open         | -   | 3.0 | Unshield |
| 18 | Laptop | Power              | Adapter #1   | -   | 1.5 | Unshield |

## 4.5 Operating conditions

The EUT was configured as normal intended use.

| Test mode                                                                                                          | Normal operating                                                                           |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Test #1<br>[ Basic Model: HJ-6560]<br>Test #2<br>[ Variant Model: HJ-7560]<br>Test #3<br>[ Variant Model: HJ-7565] | Test by playing 'H-Pattern' on the EUT's connected Monitor.<br>[Resolution: 1 920 x 1 080] |

## 5. Summary of test results

### 5.1 Summary of EMI emission test results

| Applied                             | Test items         | Test method                                       | Result |
|-------------------------------------|--------------------|---------------------------------------------------|--------|
| <input checked="" type="checkbox"/> | Conducted Emission | ANSI C63.4:2014, Class A<br>FCC Part 15 Subpart B | Pass   |
| <input checked="" type="checkbox"/> | Radiated Emission  | ANSI C63.4:2014, Class A<br>FCC Part 15 Subpart B | Pass   |



## 6. Test results

### 6.1 Conducted Emissions

|                  |                      |                   |             |
|------------------|----------------------|-------------------|-------------|
| Testing voltage  | 120 V, 60 Hz         |                   |             |
| Test facility    | Shielded room (CE#1) |                   |             |
| Date             | 2023-01-05           |                   |             |
| Temperature (°C) | 21.2 °C              | Humidity (% R.H.) | 22.3 % R.H. |
| Remarks          | Pass                 |                   |             |

#### 6.1.1 Limits of conducted emissions measurement

| Frequency [MHz] | Resolution Bandwidth [kHz] | Class A (dB( $\mu$ V)) |         | Class B (dB( $\mu$ V)) |                       |
|-----------------|----------------------------|------------------------|---------|------------------------|-----------------------|
|                 |                            | Quasi-peak             | Average | Quasi-peak             | Average               |
| 0.15 ~ 0.5      | 9                          | 79                     | 66      | 66 ~ 56 <sup>1)</sup>  | 56 ~ 46 <sup>1)</sup> |
| 0.5 ~ 5         | 9                          | 73                     | 60      | 56                     | 46                    |
| 5 ~ 30          | 9                          | 73                     | 60      | 60                     | 50                    |

<sup>1)</sup> The limit decreases linearly with the logarithm of frequency

### 6.1.2 Measurement procedure

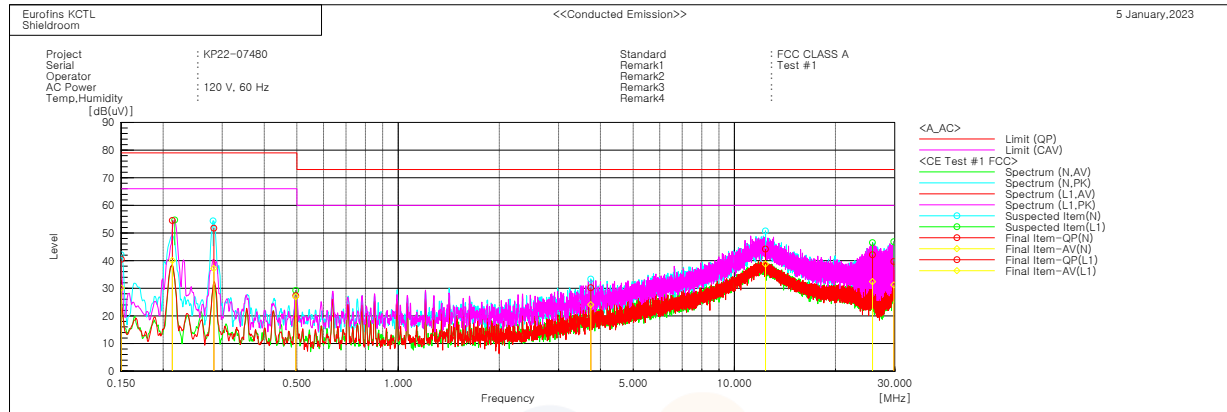
The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground plane. The LISN power was filtered. Each EUT power lead, except ground (safety) lead was individually connected through a LISN to input power source. EUT signal cables that hung closer than 0.4 m to the Horizontal metal ground 0.3 m ~ 0.4 m long. The power cord was bundles in the center. All peripheral equipment was powered from a sub LISN. The LISN and ISN were positioned 0.8 m from the EUT. Peak and Average detection were used in preliminary testing and Quasi-peak and Average detections were used at final measurement.

### 6.1.3 Used equipments

| Equipment          | Model no.          | Serial no.     | Makers      | Next Cal. Date | Used                                |
|--------------------|--------------------|----------------|-------------|----------------|-------------------------------------|
| EMI TEST RECEIVER  | ESCI 3             | 101408         | R&S         | 2023.08.18     | <input checked="" type="checkbox"/> |
| TWO-LINE V-NETWORK | ENV216             | 101358         | R&S         | 2023.09.29     | <input checked="" type="checkbox"/> |
| TWO-LINE V-NETWORK | ENV216             | 101352         | R&S         | 2023.03.29     | <input checked="" type="checkbox"/> |
| 8-WIRE ISN CAT5    | NTFM 8158 CAT5     | CAT5-8158-0071 | SCHWARZBECK | 2023.08.22     | <input checked="" type="checkbox"/> |
| 8-WIRE ISN CAT5    | NTFM 8158 ISN CAT5 | CAT5 8158 #138 | SCHWARZBECK | 2023.10.14     | <input checked="" type="checkbox"/> |

## 6.1.4 Conducted emissions measurement result

### AC Main



#### Final Result

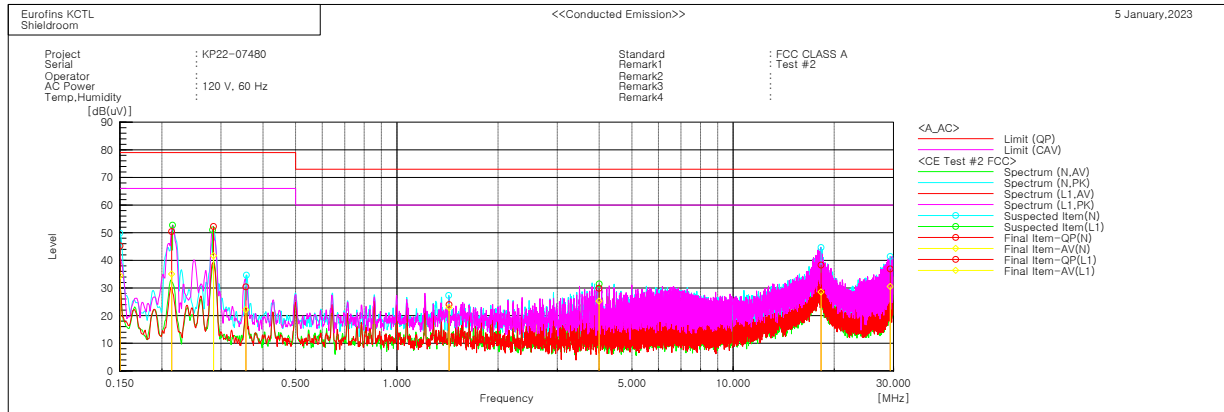
##### --- N Phase ---

| No. | Frequency [MHz] | Reading QP [dB(uV)] | Reading CAV [dB(uV)] | c. f [dB] | Result QP [dB(uV)] | Result CAV [dB(uV)] | Limit QP [dB(uV)] | Limit AV [dB(uV)] | Margin QP [dB] | Margin CAV [dB] |
|-----|-----------------|---------------------|----------------------|-----------|--------------------|---------------------|-------------------|-------------------|----------------|-----------------|
| 1   | 0.15019         | 30.8                | 20.4                 | 9.7       | 40.5               | 30.1                | 79.0              | 66.0              | 38.5           | 35.9            |
| 2   | 0.28313         | 42.1                | 27.6                 | 9.6       | 51.7               | 37.2                | 79.0              | 66.0              | 27.3           | 28.8            |
| 3   | 3.74067         | 20.5                | 14.3                 | 9.7       | 30.2               | 24.0                | 73.0              | 60.0              | 42.8           | 36.0            |
| 4   | 12.37365        | 34.3                | 28.8                 | 9.9       | 44.2               | 38.7                | 73.0              | 60.0              | 28.8           | 21.3            |

##### --- L1 Phase ---

| No. | Frequency [MHz] | Reading QP [dB(uV)] | Reading CAV [dB(uV)] | c. f [dB] | Result QP [dB(uV)] | Result CAV [dB(uV)] | Limit QP [dB(uV)] | Limit AV [dB(uV)] | Margin QP [dB] | Margin CAV [dB] |
|-----|-----------------|---------------------|----------------------|-----------|--------------------|---------------------|-------------------|-------------------|----------------|-----------------|
| 1   | 0.21301         | 44.7                | 30.3                 | 9.8       | 54.5               | 40.1                | 79.0              | 66.0              | 24.5           | 25.9            |
| 2   | 0.49634         | 17.5                | 17.1                 | 9.8       | 27.3               | 26.9                | 79.0              | 66.0              | 51.7           | 39.1            |
| 3   | 25.75784        | 32.2                | 22.4                 | 10.0      | 42.2               | 32.4                | 73.0              | 60.0              | 30.8           | 27.6            |
| 4   | 29.80004        | 29.9                | 21.4                 | 9.8       | 39.7               | 31.2                | 73.0              | 60.0              | 33.3           | 28.8            |

## AC Main

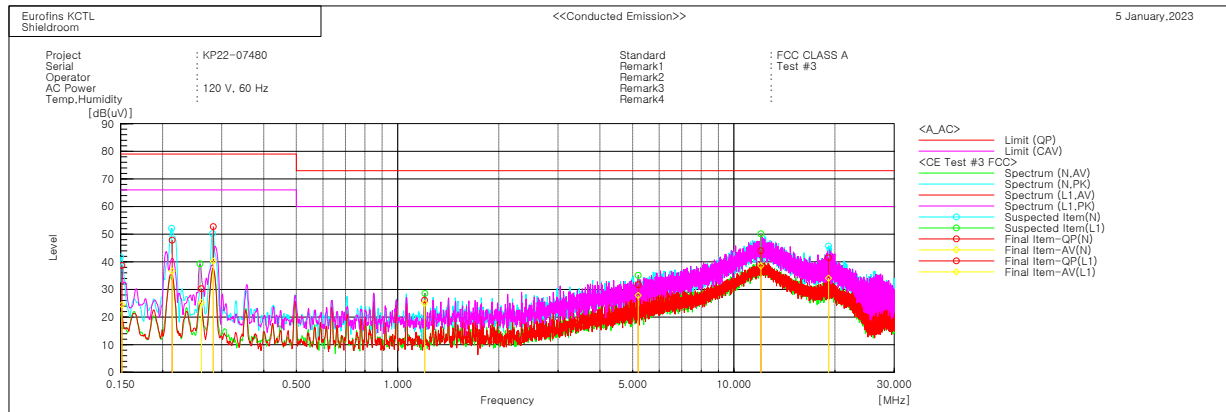


### Final Result

| --- N Phase --- |                 |                     |                      |           |                    |                     |                   |                   |                |
|-----------------|-----------------|---------------------|----------------------|-----------|--------------------|---------------------|-------------------|-------------------|----------------|
| No.             | Frequency [MHz] | Reading QP [dB(μV)] | Reading CAV [dB(μV)] | c. f [dB] | Result QP [dB(μV)] | Result CAV [dB(μV)] | Limit QP [dB(μV)] | Limit AV [dB(μV)] | Margin QP [dB] |
| 1               | 0.15011         | 35.5                | 24.8                 | 9.7       | 45.2               | 34.5                | 79.0              | 66.0              | 33.8           |
| 2               | 0.35533         | 20.6                | 12.3                 | 9.8       | 30.4               | 22.1                | 79.0              | 66.0              | 48.6           |
| 3               | 1.42924         | 14.3                | 13.2                 | 9.7       | 24.0               | 22.9                | 73.0              | 60.0              | 49.0           |
| 4               | 18.27931        | 28.3                | 18.6                 | 9.9       | 38.2               | 28.5                | 73.0              | 60.0              | 34.8           |
| 5               | 29.32301        | 27.0                | 20.6                 | 9.9       | 36.9               | 30.5                | 73.0              | 60.0              | 36.1           |

| --- L1 Phase --- |                 |                     |                      |           |                    |                     |                   |                   |                |
|------------------|-----------------|---------------------|----------------------|-----------|--------------------|---------------------|-------------------|-------------------|----------------|
| No.              | Frequency [MHz] | Reading QP [dB(μV)] | Reading CAV [dB(μV)] | c. f [dB] | Result QP [dB(μV)] | Result CAV [dB(μV)] | Limit QP [dB(μV)] | Limit AV [dB(μV)] | Margin QP [dB] |
| 1                | 0.2138          | 40.6                | 25.2                 | 9.8       | 50.4               | 35.0                | 79.0              | 66.0              | 28.6           |
| 2                | 0.28497         | 42.7                | 32.0                 | 9.6       | 52.3               | 41.6                | 79.0              | 66.0              | 26.7           |
| 3                | 3.99461         | 20.2                | 15.5                 | 9.7       | 29.9               | 25.2                | 73.0              | 60.0              | 43.1           |

## AC Main



### Final Result

| --- N Phase --- |           |            |             |      |           |            |          |          |           |
|-----------------|-----------|------------|-------------|------|-----------|------------|----------|----------|-----------|
| No.             | Frequency | Reading QP | Reading CAV | c.f  | Result QP | Result CAV | Limit QP | Limit AV | Margin    |
|                 | [MHz]     | [dB(uV)]   | [dB(uV)]    | [dB] | [dB(uV)]  | [dB(uV)]   | [dB(uV)] | [dB(uV)] | QP CAV    |
| 1               | 0.15134   | 29.0       | 14.8        | 9.7  | 38.7      | 24.5       | 79.0     | 66.0     | 40.3 41.5 |
| 2               | 0.21352   | 38.0       | 26.8        | 9.8  | 47.8      | 36.6       | 79.0     | 66.0     | 31.2 29.4 |
| 3               | 0.28292   | 43.1       | 30.6        | 9.6  | 52.7      | 40.2       | 79.0     | 66.0     | 26.3 25.8 |
| 4               | 19.1256   | 31.6       | 24.1        | 9.9  | 41.5      | 34.0       | 73.0     | 60.0     | 31.5 26.0 |

| --- L1 Phase --- |           |            |             |      |           |            |          |          |           |
|------------------|-----------|------------|-------------|------|-----------|------------|----------|----------|-----------|
| No.              | Frequency | Reading QP | Reading CAV | c.f  | Result QP | Result CAV | Limit QP | Limit AV | Margin    |
|                  | [MHz]     | [dB(uV)]   | [dB(uV)]    | [dB] | [dB(uV)]  | [dB(uV)]   | [dB(uV)] | [dB(uV)] | QP CAV    |
| 1                | 0.26104   | 20.7       | 15.6        | 9.6  | 30.3      | 25.2       | 79.0     | 66.0     | 48.7 40.8 |
| 2                | 1.20247   | 16.4       | 15.3        | 9.7  | 26.1      | 25.0       | 73.0     | 60.0     | 46.9 35.0 |
| 3                | 5.19424   | 22.0       | 18.1        | 9.7  | 31.7      | 27.8       | 73.0     | 60.0     | 41.3 32.2 |
| 4                | 12.04236  | 34.2       | 28.7        | 9.8  | 44.0      | 38.5       | 73.0     | 60.0     | 29.0 21.5 |

## 6.2 Radiated Emission

|                 |                  |                   |                   |             |
|-----------------|------------------|-------------------|-------------------|-------------|
| Testing voltage |                  | 120 V, 60 Hz      |                   |             |
| Test facility   |                  | 10 m Chamber (4F) |                   |             |
| Test distance   |                  | 10 m, 3 m         |                   |             |
| Date            |                  | 2023-01-05        |                   |             |
| 10 m            | Temperature (°C) | 21.4 °C           | Humidity (% R.H.) | 23.0 % R.H. |
| 3 m             |                  | 21.2 °C           |                   | 22.7 % R.H. |
| Remarks         |                  | Pass              |                   |             |

### 6.2.1 Limits of radiated emission measurement

| Frequency [MHz] | Resolution Bandwidth [kHz] | FCC <sup>1)</sup>            | ISED (ICES Issue 7) | FCC <sup>1)</sup>           | ISED (ICES Issue 7) |
|-----------------|----------------------------|------------------------------|---------------------|-----------------------------|---------------------|
|                 |                            | Class A at 10 m QP(dB(μV/m)) |                     | Class B at 3 m QP(dB(μV/m)) |                     |
| 30-88           | 120                        | 39.1                         | 40.0                | 40.0                        | 40.0                |
| 88-216          | 120                        | 43.5                         | 43.5                | 43.5                        | 43.5                |
| 216-230         | 120                        | 46.4                         | 46.4                | 46.0                        | 46.0                |
| 230-960         | 120                        | 46.4                         | 47.0                | 46.0                        | 47.0                |
| Above 960       | 120                        | 49.5                         | 49.5                | 54.0                        | 54.0                |

- <sup>1)</sup>: Alternative standard: CISPR, Pub. 22

- Test data in this section has been taken against the FCC 15.109(a) or (B) Limit as it is the most stringent limit.

By complying with more restrictive FCC 15.109 Limit compliance with the ICES-003 Issue 7 limit also demonstrated.

- Limits above 1 GHz's Resolution Bandwidth: 1 MHz

### 6.2.2 Measurement procedure

The test was done at a 10 m chamber with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane.

Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

### 6.2.3 Used equipments

| Equipment                  | Model no.    | Serial no. | Makers        | Next Cal. Date | Used                                |
|----------------------------|--------------|------------|---------------|----------------|-------------------------------------|
| EMI TEST RECEIVER          | ESR7         | 101078     | R&S           | 2023.08.18     | <input checked="" type="checkbox"/> |
| Bilog Antenna              | CBL 6112D    | 37876      | TESEQ         | 2024.09.07     | <input checked="" type="checkbox"/> |
| AMPLIFIER                  | 310N         | 293004     | SONOMA        | 2023.08.18     | <input checked="" type="checkbox"/> |
| ATTENUATOR                 | 8491B        | MY39270292 | AGILENT       | -              | <input checked="" type="checkbox"/> |
| Antenna Mast               | MA4640-XP-ET | -          | Innco Systems | -              | <input checked="" type="checkbox"/> |
| Turn Table                 | DT3000-2t    | -          | Innco Systems | -              | <input checked="" type="checkbox"/> |
| DOUBLE RIDGED HORN ANTENNA | 3117         | 00161083   | ETS-LINDGREN  | 2023.01.21     | <input checked="" type="checkbox"/> |
| BROADBAND PREAMPLIFIER     | BBV 9718C    | 00138      | SCHWARZBECK   | 2023.10.19     | <input checked="" type="checkbox"/> |

### 6.2.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

$$\text{Result} = \text{M.R} + \text{C.F}(\text{A.F} + \text{C.L} + 6 \text{ dB Att} - \text{A.G})$$

M.R = Meter Reading

C.F = Correction Factor

A.F = Antenna Factor

C.L = Cable Loss

A.G = Amplifier Gain

6 dB Att = 6 dB Attenuator

If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 6 dB, A.G 35 dB

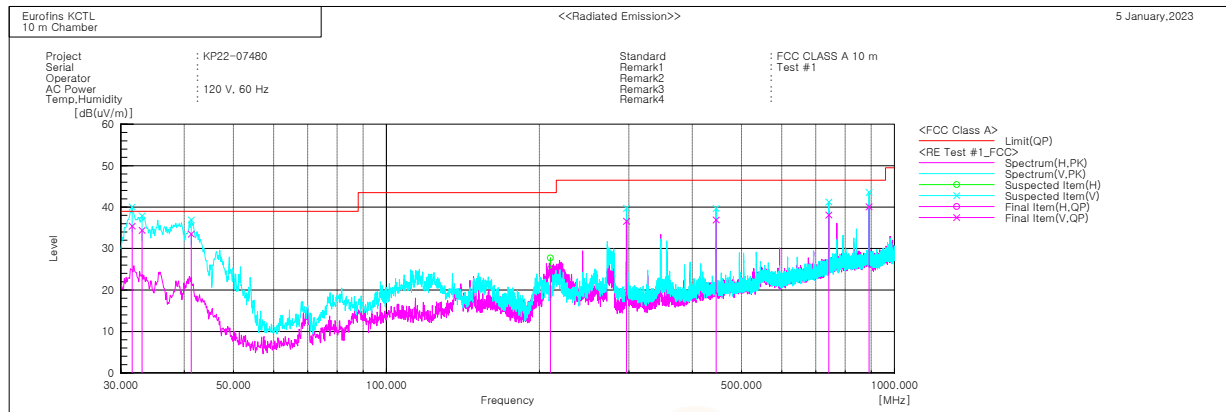
The result is  $30 + 12 + 5 + 6 - 35 = 18 \text{ dB } (\mu\text{V/m})$

Bilog Antenna and ATTENUATOR (6 dB) were calibrated together.

AV = CAV : Abbreviation of CISPR Average

## 6.2.5 Radiated emission measurement result

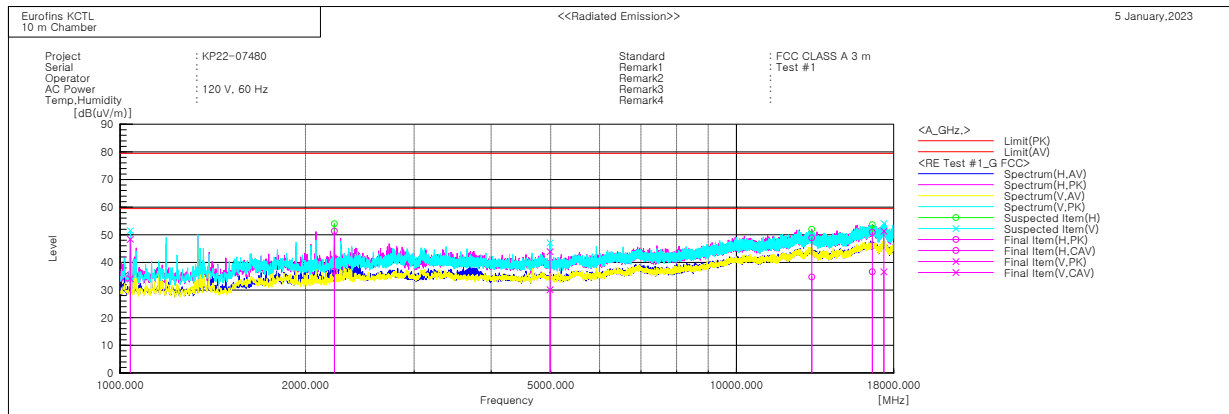
30 MHz ~ 1 GHz



### Final Result

| No. | Frequency [MHz] | (P) | Reading QP [dB(uV)] | c.f [dB(1/m)] | Result QP [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|---------------|----------------------|---------------------|----------------|-------------|-------------|
| 1   | 31.576          | V   | 41.3                | -5.9          | 35.4                 | 39.0                | 3.6            | 105.0       | 101.0       |
| 2   | 33.031          | V   | 41.0                | -6.6          | 34.4                 | 39.0                | 4.6            | 193.0       | 8.0         |
| 3   | 41.276          | V   | 44.4                | -10.9         | 33.5                 | 39.0                | 5.5            | 210.0       | 234.0       |
| 4   | 210.299         | H   | 36.4                | -11.3         | 25.1                 | 43.5                | 18.4           | 390.0       | 172.0       |
| 5   | 296.993         | V   | 42.5                | -5.9          | 36.6                 | 46.5                | 9.9            | 144.0       | 152.0       |
| 6   | 445.524         | V   | 37.3                | -0.4          | 36.9                 | 46.5                | 9.6            | 102.0       | 317.0       |
| 7   | 742.586         | V   | 31.3                | 6.8           | 38.1                 | 46.5                | 8.4            | 244.0       | 265.0       |
| 8   | 891.118         | V   | 30.5                | 9.6           | 40.1                 | 46.5                | 6.4            | 170.0       | 310.0       |

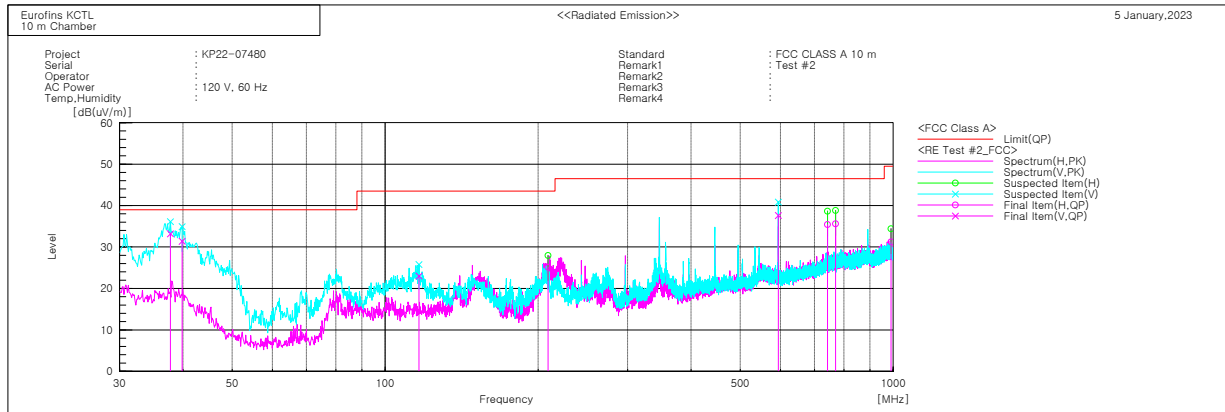
## 1 GHz ~ 18 GHz



### Final Result

| No. | Frequency [MHz] | (P) | Reading PK [dB(uV)] | Reading CAV [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Result CAV [dB(uV/m)] | Limit PK [dB(uV/m)] | Limit AV [dB(uV/m)] | Margin PK [dB] | Margin CAV [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|----------------------|---------------|----------------------|-----------------------|---------------------|---------------------|----------------|-----------------|-------------|-------------|
| 1   | 1039.102        | V   | 55.8                | 41.5                 | -7.4          | 48.4                 | 34.1                  | 79.5                | 59.5                | 31.1           | 25.4            | 142.0       | 324.0       |
| 2   | 2227.461        | H   | 52.2                | 37.7                 | -0.9          | 51.3                 | 36.8                  | 79.5                | 59.5                | 28.2           | 22.7            | 294.0       | 40.0        |
| 3   | 4984.999        | V   | 39.0                | 25.2                 | 4.9           | 43.9                 | 30.1                  | 79.5                | 59.5                | 35.6           | 29.4            | 163.0       | 9.0         |
| 4   | 13253.360       | H   | 31.9                | 17.7                 | 17.0          | 48.9                 | 34.7                  | 79.5                | 59.5                | 30.6           | 24.8            | 201.0       | 115.0       |
| 5   | 16619.530       | H   | 31.5                | 17.2                 | 19.4          | 50.9                 | 36.6                  | 79.5                | 59.5                | 28.6           | 22.9            | 188.0       | 225.0       |
| 6   | 17346.320       | V   | 31.2                | 16.5                 | 20.1          | 51.3                 | 36.6                  | 79.5                | 59.5                | 28.2           | 22.9            | 112.0       | 325.0       |

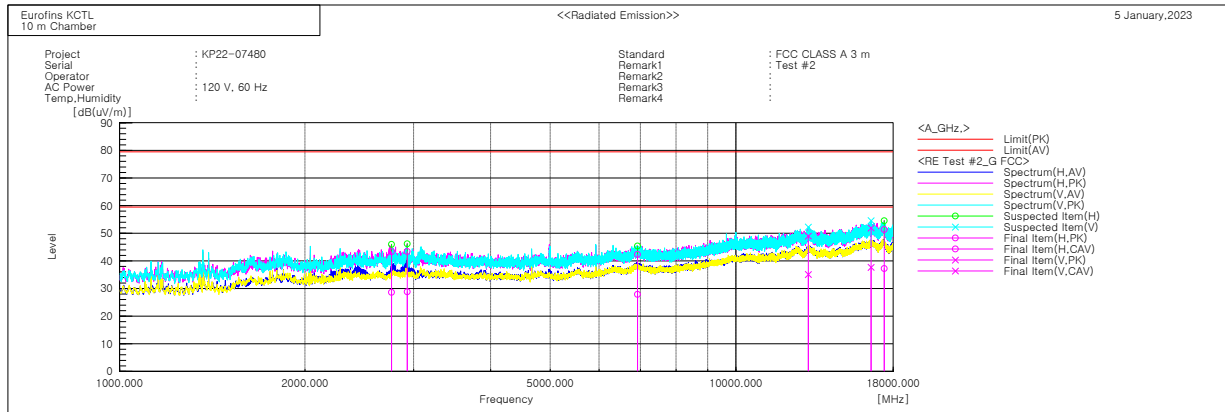
## 30 MHz ~ 1 GHz



### Final Result

| No. | Frequency [MHz] | (P) | Reading QP [dB(uV)] | c.f [dB(1/m)] | Result QP [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|---------------|----------------------|---------------------|----------------|-------------|-------------|
| 1   | 37.760          | V   | 42.3                | -9.1          | 33.2                 | 39.0                | 5.8            | 102.0       | 42.0        |
| 2   | 39.821          | V   | 41.7                | -10.3         | 31.4                 | 39.0                | 7.6            | 293.0       | 42.0        |
| 3   | 116.573         | V   | 33.4                | -10.4         | 23.0                 | 43.5                | 20.5           | 107.0       | 202.0       |
| 4   | 209.208         | H   | 36.3                | -11.2         | 25.1                 | 43.5                | 18.4           | 390.0       | 174.0       |
| 5   | 594.055         | V   | 34.6                | 3.0           | 37.6                 | 46.5                | 8.9            | 215.0       | 325.0       |
| 6   | 742.586         | H   | 28.6                | 6.8           | 35.4                 | 46.5                | 11.1           | 372.0       | 78.0        |
| 7   | 770.110         | H   | 27.9                | 7.7           | 35.6                 | 46.5                | 10.9           | 400.0       | 298.0       |
| 8   | 990.179         | H   | 20.1                | 11.1          | 31.2                 | 49.5                | 18.3           | 396.0       | 78.0        |

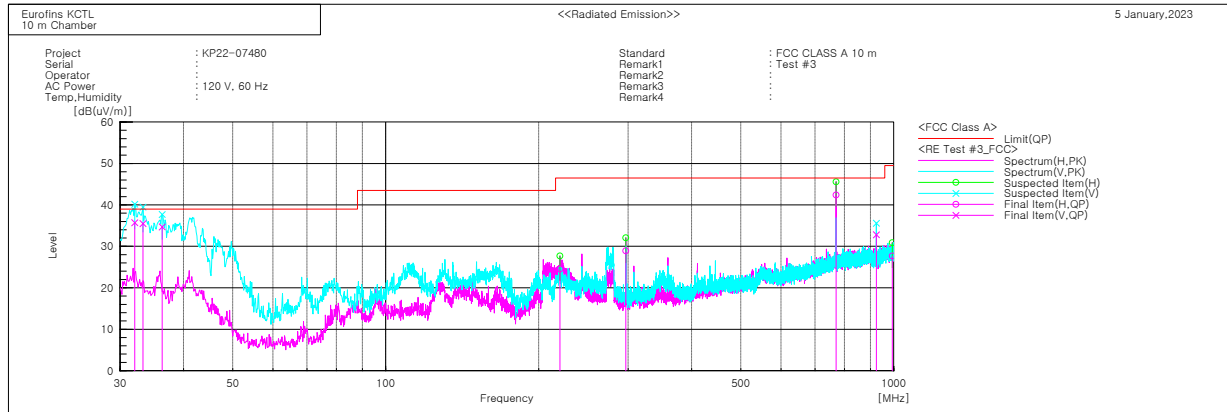
## 1 GHz ~ 18 GHz



### Final Result

| No. | Frequency [MHz] | (P) | Reading PK [dB(uV)] | Reading CAV [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Result CAV [dB(uV/m)] | Limit PK [dB(uV/m)] | Limit AV [dB(uV/m)] | Margin PK [dB] | Margin CAV [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|----------------------|---------------|----------------------|-----------------------|---------------------|---------------------|----------------|-----------------|-------------|-------------|
| 1   | 2762.982        | H   | 42.8                | 28.1                 | 0.5           | 43.3                 | 28.6                  | 79.5                | 59.5                | 36.2           | 30.9            | 212.0       | 352.0       |
| 2   | 2929.593        | H   | 42.7                | 28.1                 | 0.7           | 43.4                 | 28.8                  | 79.5                | 59.5                | 36.1           | 30.7            | 185.0       | 55.0        |
| 3   | 6923.946        | H   | 32.9                | 18.5                 | 9.4           | 42.3                 | 27.9                  | 79.5                | 59.5                | 37.2           | 31.6            | 120.0       | 258.0       |
| 4   | 13105.450       | V   | 32.4                | 18.5                 | 16.6          | 49.0                 | 35.1                  | 79.5                | 59.5                | 30.5           | 24.4            | 110.0       | 4.0         |
| 5   | 16569.380       | V   | 32.6                | 18.4                 | 19.3          | 51.9                 | 37.7                  | 79.5                | 59.5                | 27.6           | 21.8            | 128.0       | 4.0         |
| 6   | 17403.280       | H   | 31.3                | 17.2                 | 20.0          | 51.3                 | 37.2                  | 79.5                | 59.5                | 28.2           | 22.3            | 290.0       | 186.0       |

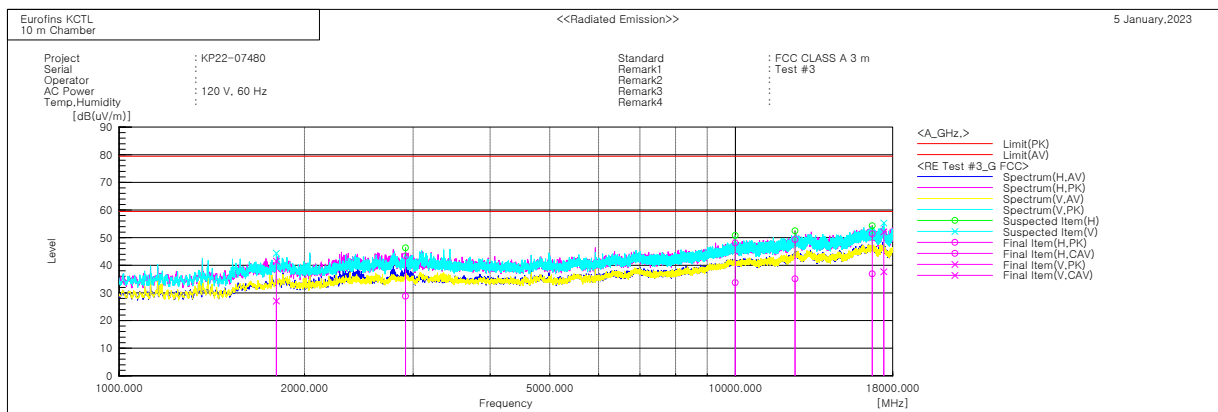
30 MHz ~ 1 GHz



Final Result

| No. | Frequency [MHz] | (P) | Reading QP [dB(uV)] | c.f [dB(1/m)] | Result QP [dB(uV/m)] | Limit QP [dB(uV/m)] | Margin QP [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|---------------|----------------------|---------------------|----------------|-------------|-------------|
| 1   | 32.061          | V   | 42.0                | -6.3          | 35.7                 | 39.0                | 3.3            | 180.0       | 98.0        |
| 2   | 33.274          | V   | 42.2                | -6.7          | 35.5                 | 39.0                | 3.5            | 109.0       | 69.0        |
| 3   | 36.305          | V   | 43.1                | -8.4          | 34.7                 | 39.0                | 4.3            | 332.0       | 42.0        |
| 4   | 220.241         | H   | 35.3                | -10.8         | 24.5                 | 46.5                | 22.0           | 385.0       | 184.0       |
| 5   | 296.993         | H   | 34.8                | -5.9          | 28.9                 | 46.5                | 17.6           | 140.0       | 98.0        |
| 6   | 770.110         | H   | 34.7                | 7.7           | 42.4                 | 46.5                | 4.1            | 293.0       | 210.0       |
| 7   | 924.098         | V   | 23.4                | 9.4           | 32.8                 | 46.5                | 13.7           | 108.0       | 352.0       |
| 8   | 993.210         | H   | 16.5                | 11.2          | 27.7                 | 49.5                | 21.8           | 398.0       | 277.0       |

## 1 GHz ~ 18 GHz



### Final Result

| No. | Frequency [MHz] | (P) | Reading PK [dB(uV)] | Reading CAV [dB(uV)] | c.f [dB(1/m)] | Result PK [dB(uV/m)] | Result CAV [dB(uV/m)] | Limit PK [dB(uV/m)] | Limit AV [dB(uV/m)] | Margin PK [dB] | Margin CAV [dB] | Height [cm] | Angle [deg] |
|-----|-----------------|-----|---------------------|----------------------|---------------|----------------------|-----------------------|---------------------|---------------------|----------------|-----------------|-------------|-------------|
| 1   | 1799.898        | V   | 43.9                | 29.5                 | -2.4          | 41.5                 | 27.1                  | 79.5                | 59.5                | 38.0           | 32.4            | 115.0       | 174.0       |
| 2   | 2915.996        | H   | 42.7                | 28.1                 | 0.7           | 43.4                 | 28.8                  | 79.5                | 59.5                | 36.1           | 30.7            | 380.0       | 37.0        |
| 3   | 9994.299        | H   | 35.6                | 21.2                 | 12.5          | 48.1                 | 33.7                  | 79.5                | 59.5                | 31.4           | 25.8            | 293.0       | 57.0        |
| 4   | 12501.070       | H   | 32.8                | 18.6                 | 16.5          | 49.3                 | 35.1                  | 79.5                | 59.5                | 30.2           | 24.4            | 218.0       | 134.0       |
| 5   | 16669.680       | H   | 31.9                | 17.4                 | 19.5          | 51.4                 | 36.9                  | 79.5                | 59.5                | 28.1           | 22.6            | 150.0       | 318.0       |
| 6   | 17404.970       | V   | 32.1                | 17.7                 | 20.0          | 52.1                 | 37.7                  | 79.5                | 59.5                | 27.4           | 21.8            | 142.0       | 155.0       |