



# TEST REPORT

|                                                                                                                                                                                                         |                                                        |                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------|
| <b>Eurofins KCTL Co.,Ltd.</b><br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>Tel: 82-70-5008-1021 Fax: 82-505-299-8311<br><a href="http://www.kctl.co.kr">www.kctl.co.kr</a> | Report No.:<br><b>KR23-SEF0090</b><br>Page (1) of (25) | <div style="float: right; text-align: right;"> <b>KCTL</b> </div> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------|

1. Client
  - Name : Samsung Electronics Co., Ltd.
  - Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
  - Date of Receipt : 2023-03-23
2. Use of Report : Certification
3. Name of Product / Model : Smart wearable / SM-R965U
4. Manufacturer / Country of Origin : Samsung Electronics Co., Ltd. / Vietnam
5. Date of Test : 2023-05-15 to 2023-05-16
6. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing  
 (Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)
7. Test method used : 47 CFR Part 15, Subpart B, Class B / ANSI C63.4-2014
8. FCC ID : A3LSMR965
9. Test Results : Refer to the test result in the test report

|             |                                                   |                                                          |
|-------------|---------------------------------------------------|----------------------------------------------------------|
| Affirmation | Tested by<br><br>Name : Byunghwan Min (Signature) | Technical Manager<br><br>Name : Moonseop Cho (Signature) |
|-------------|---------------------------------------------------|----------------------------------------------------------|

2023-05-19

**Eurofins KCTL Co.,Ltd.**

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|                                                                                                                                                                                                        |                                                 |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|
| <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-SEF0090<br>Page (2) of (25) |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|

## REPORT REVISION HISTORY

| Date       | Revision          | Page No |
|------------|-------------------|---------|
| 2023-05-19 | Originally issued | -       |
|            |                   |         |
|            |                   |         |
|            |                   |         |
|            |                   |         |

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## 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

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

## 1. Applicant information

**Applicant:** Samsung Electronics Co., Ltd.  
**Address:** 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,  
 16677, Rep. of Korea

**Manufacturer:** Samsung Electronics Co., Ltd.  
**Address:** 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,  
 16677, Rep. of Korea

**Factory #1:** AG TECH CO.,LTD  
**Address:** Lot G3, Que Vo Industrial Park(Expanded Area), Nam son Ward,  
 Bac Ninh Province, Vietnam

**Factory #2:** ALMUS VINA  
**Address:** Lot CN07A, Phu Ha Industrial Park, Ha Thach Commune,  
 Phu Tho Town, Phu Tho Province, Vietnam

## 2. Laboratory information

### Address

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

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

Telephone Number: 82 70 5008 1021

Facsimile Number: 82 505 299 8311

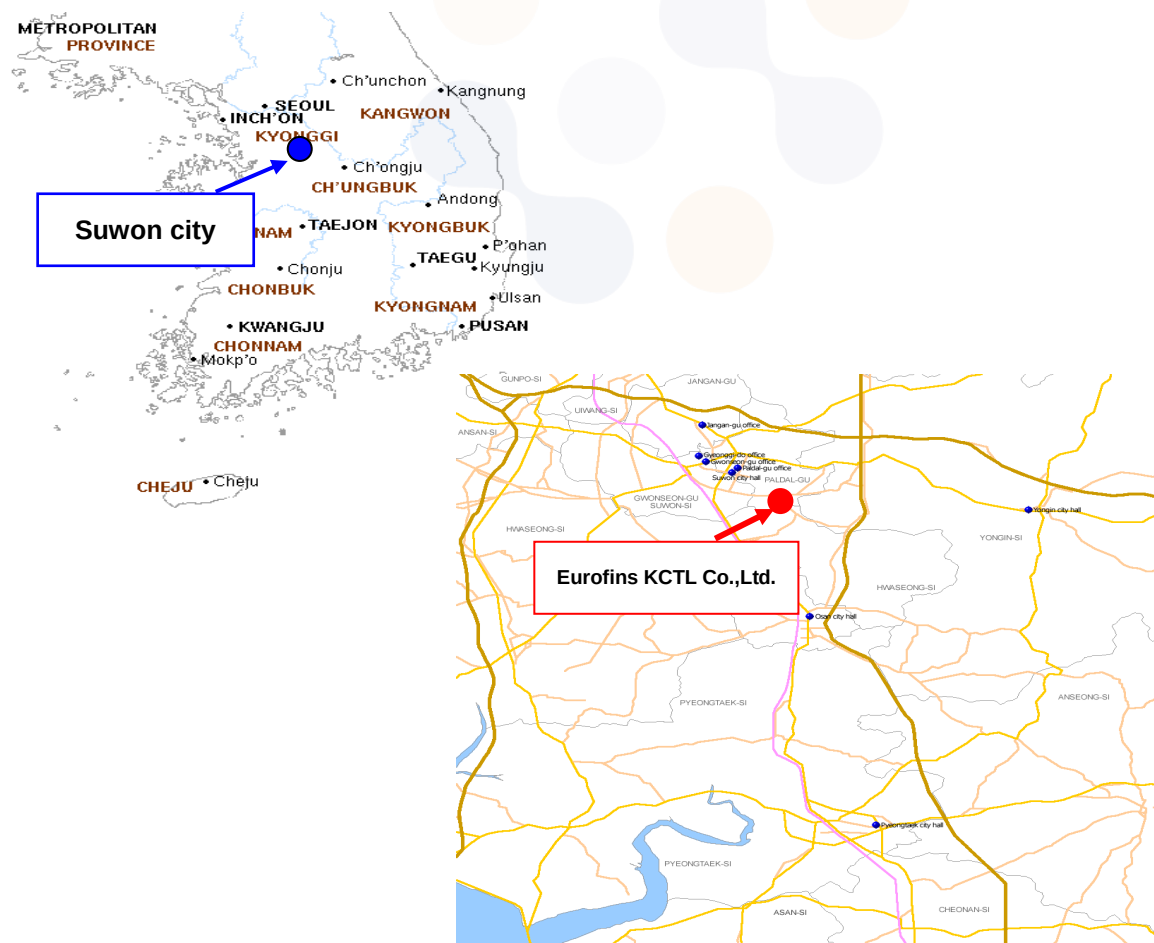
FCC Site Designation No: KR0040

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) | 22.5 °C     | 31.7 % R.H. | -        |
| Shielded room(CE) | 22.8 °C     | 32.6 % 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:    | 3.58 dB       |
|                                                                        | 150 kHz ~ 30 MHz:   | 3.16 dB       |
| Shielded Room (CE#2)                                                   | 9 kHz ~ 150 kHz:    | 3.58 dB       |
|                                                                        | 150 kHz ~ 30 MHz:   | 3.16 dB       |
| Radiated Emission measurement (Confidence level about 95 %, $k = 2$ )  |                     |               |
| 10 m Chamber (4F)                                                      | 30 MHz ~ 300 MHz    | 3 m: 4.96 dB  |
|                                                                        |                     | 10 m: 4.96 dB |
|                                                                        | 300 MHz ~ 1 000 MHz | 3 m: 4.08 dB  |
|                                                                        |                     | 10 m: 4.06 dB |
|                                                                        | 1 GHz ~ 6 GHz       | 3 m: 5.52 dB  |
|                                                                        | 6 GHz ~ 18 GHz      | 3 m: 6.18 dB  |
|                                                                        | 18 GHz ~ 30 GHz     | 3 m: 5.00 dB  |
|                                                                        | 30 GHz ~ 40 GHz     | 3 m: 4.50 dB  |
| 10 m Chamber (2F)                                                      | 30 MHz ~ 300 MHz    | 3 m: 4.50 dB  |
|                                                                        |                     | 10 m: 4.50 dB |
|                                                                        | 300 MHz ~ 1 000 MHz | 3 m: 3.50 dB  |
|                                                                        |                     | 10 m: 3.48 dB |
|                                                                        | 1 GHz ~ 6 GHz       | 3 m: 5.04 dB  |
|                                                                        | 6 GHz ~ 18 GHz      | 3 m: 6.10 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

|                           |                                              |
|---------------------------|----------------------------------------------|
| Declared Hardware Version | REV1.0                                       |
| Declared Software Version | SM-R965U_R965U.001, SM-R965F_R965F.001       |
| Operating Band(s)         | WCDMA 2/4/5<br>LTE 2/4/5/7/12/13/25/26/66/71 |



## 4.2 Product description

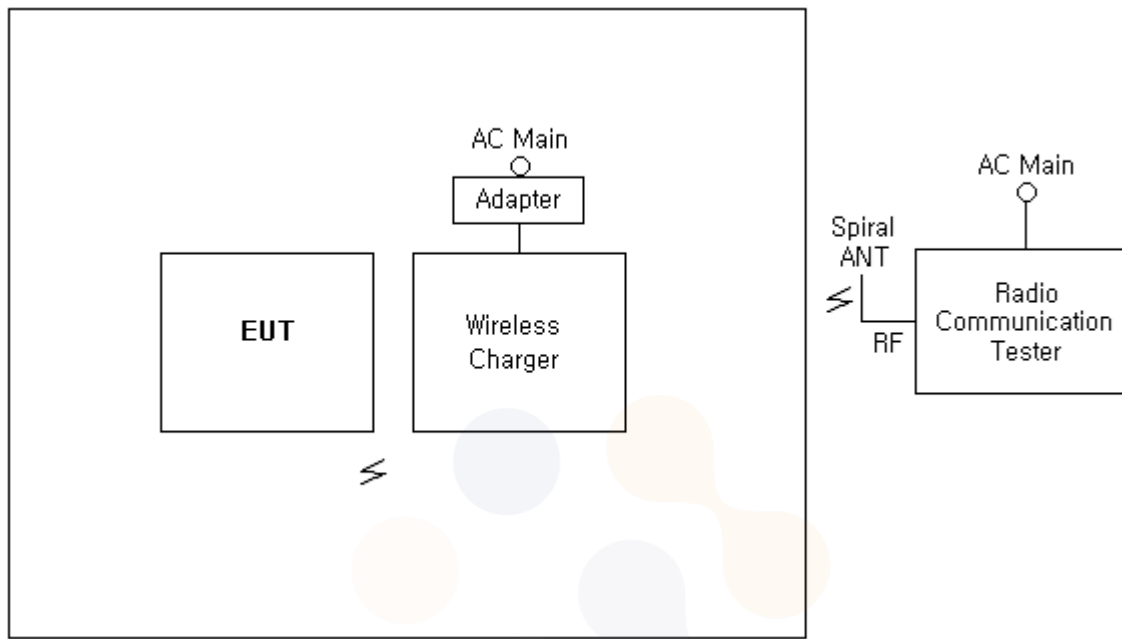
|                          |                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of product          | Smart wearable                                                                                                                                                                                 |
| Model name (Basic)       | SM-R965U                                                                                                                                                                                       |
| Model name (Variant)     | SM-R965F                                                                                                                                                                                       |
| Difference               | SW Difference                                                                                                                                                                                  |
| Serial no                | -                                                                                                                                                                                              |
| Testing voltage          | 120 V, 60 Hz / DC 3.88 V                                                                                                                                                                       |
| Input/Output rating      | 120 V, 60 Hz (Power supplied from Wireless Charger Adapter)<br>DC 3.88 V (Built in Battery)                                                                                                    |
| Internal clock frequency | Above 108 MHz                                                                                                                                                                                  |
| RF Frequency             | LTE Band 5_869 MHz ~ 894 MHz<br>LTE Band 12_729 MHz ~ 746 MHz<br>LTE Band 13_746 MHz ~ 756 MHz<br>LTE Band 26_859 MHz ~ 894 MHz<br>LTE Band 71_617 MHz ~ 652 MHz<br>WCDMA 5: 869 MHz ~ 894 MHz |
| Note                     | -The following accessory was provided by the manufacturer.<br>1) Wireless Charger (EP-OR900)<br>- FCC ID & IC: A3LEPOR900 / 649E-EPOR900                                                       |

## 4.3 Auxiliary equipments

| Type                          | Model / Part # | S/N | Manufacturer                     |
|-------------------------------|----------------|-----|----------------------------------|
| Wireless Charger              | EP-OR900       | -   | SAMSUNG                          |
| Adapter                       | EP-TA800       | -   | DONGYANG E&P<br>VIETNAM CO.,LTD. |
| Radio<br>Communication Tester | CMW500         | -   | R&S                              |
| Spiral ANT                    | -              | -   | -                                |

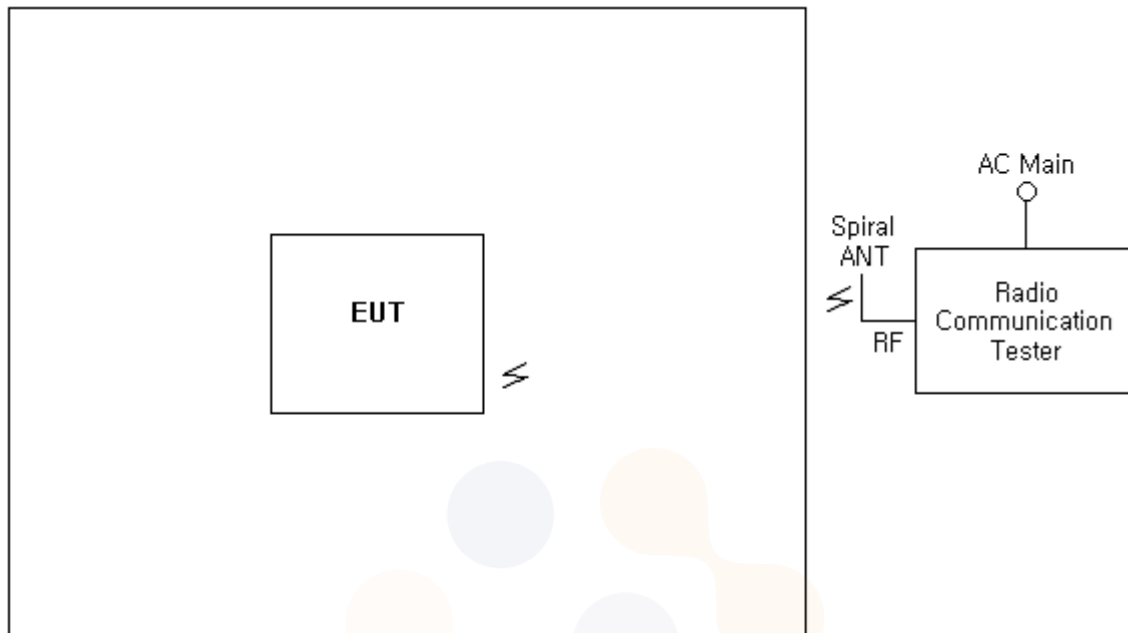
## 4.4 Test configuration

[Test #1]



|   | Start                      |          | End        |          | Cable      |          |
|---|----------------------------|----------|------------|----------|------------|----------|
|   | Name                       | I/O port | Name       | I/O port | Length (m) | Spec.    |
| 1 | <b>EUT</b>                 | -        | -          | -        | -          | -        |
| 2 | Wireless Charger           | USB      | Adapter    | -        | 0.9        | Unshield |
| 3 | Radio Communication Tester | RF       | Spiral ANT | -        | 3.0        | Shield   |

[Test #2]



|   | Start                      |          | End        |          | Cable      |        |
|---|----------------------------|----------|------------|----------|------------|--------|
|   | Name                       | I/O port | Name       | I/O port | Length (m) | Spec.  |
| 1 | <b>EUT</b>                 | -        | -          | -        | -          | -      |
| 2 | Radio Communication Tester | RF       | Spiral ANT | -        | 3.0        | Shield |

## 4.5 Operating conditions

The EUT was configured as normal intended use.

| Test mode | Normal operating                                          |
|-----------|-----------------------------------------------------------|
| Test #1   | Wireless Charging(w/TA) + Cellular receiver (WCDMA 5_Low) |
| Test #2   | Battery + Cellular receiver (WCDMA 5_Low)                 |

Note 1. All cellular RX bands operating below 960 MHz, including WCDMA and LTE have been investigated with low/middle/high channels. Among the bands, WCDMA 5\_Low is the worst mode.

Note 2. It means this device needs to be tested with 3 orientations (x, y and z) and at least the worst case orientation shall be set for final test.

It was determined that Z orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in Z orientation.

## 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 | 47 CFR Part 15, Subpart B, Class B / ANSI C63.4-2014 | Pass   |
| <input checked="" type="checkbox"/> | Radiated Emission  | 47 CFR Part 15, Subpart B, Class B / ANSI C63.4-2014 | Pass   |



## 6. Test results

### 6.1 Conducted Emissions

|                  |                      |                   |             |
|------------------|----------------------|-------------------|-------------|
| Testing voltage  | 120 V, 60 Hz         |                   |             |
| Test facility    | Shielded room (CE#1) |                   |             |
| Date             | 2023-05-15           |                   |             |
| Temperature (°C) | 22.8 °C              | Humidity (% R.H.) | 32.6 % R.H. |
| Remarks          | Pass                 |                   |             |

#### 6.1.1 Limits of conducted emissions measurement

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

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

### 6.1.2 Measurement procedure

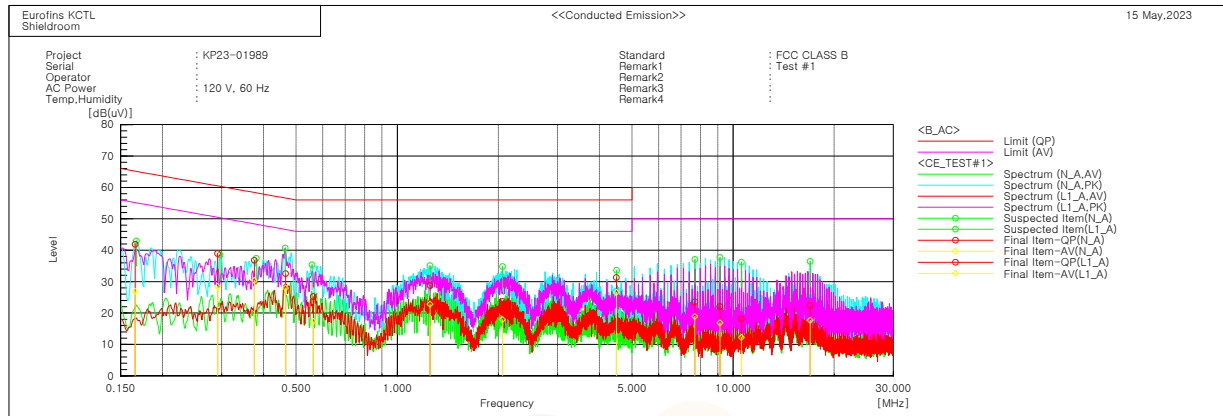
The measurements were performed in a shielded room. EUT was setup as shown in photograph and placed on a non-metallic table height of 0.8 m above the reference ground plane. The rear of table was located 0.4 m to the vertical conducted plane. EUT was power through the LISN, which was bonded to the ground 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    | 2024.03.28     | <input type="checkbox"/>            |

## 6.1.4 Conducted emissions measurement result

### AC Main



#### Final Result

| --- N_A 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                  | 0.16575         | 31.7                | 16.7                 | 10.2     | 41.9               | 26.9                | 65.2              | 55.2              | 23.3           | 28.3            |
| 2                  | 0.29154         | 29.1                | 18.7                 | 9.8      | 38.9               | 28.5                | 60.5              | 50.5              | 21.6           | 22.0            |
| 3                  | 0.37527         | 26.9                | 20.5                 | 9.9      | 36.8               | 30.4                | 58.4              | 48.4              | 21.6           | 18.0            |
| 4                  | 0.56223         | 15.2                | 7.3                  | 10.0     | 25.2               | 17.3                | 56.0              | 46.0              | 30.8           | 28.7            |
| 5                  | 1.25182         | 19.0                | 13.0                 | 9.8      | 28.8               | 22.8                | 56.0              | 46.0              | 27.2           | 23.2            |
| 6                  | 2.05929         | 13.8                | 8.1                  | 9.8      | 23.6               | 17.9                | 56.0              | 46.0              | 32.4           | 28.1            |
| 7                  | 4.49386         | 21.4                | 16.7                 | 9.9      | 31.3               | 26.6                | 56.0              | 46.0              | 24.7           | 19.4            |
| 8                  | 7.68658         | 13.4                | 8.8                  | 10.1     | 23.5               | 18.9                | 60.0              | 50.0              | 36.5           | 31.1            |
| 9                  | 9.13576         | 11.8                | 6.7                  | 10.2     | 22.0               | 16.9                | 60.0              | 50.0              | 38.0           | 33.1            |
| 10                 | 10.58527        | 7.9                 | 2.0                  | 10.2     | 18.1               | 12.2                | 60.0              | 50.0              | 41.9           | 37.8            |
| 11                 | 16.97005        | 11.7                | 7.0                  | 10.7     | 22.4               | 17.7                | 60.0              | 50.0              | 37.6           | 32.3            |
| --- L1_A 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                  | 0.46512         | 22.7                | 18.0                 | 9.9      | 32.6               | 27.9                | 56.6              | 46.6              | 24.0           | 18.7            |

## 6.2 Radiated Emission

|                  |                          |                   |             |
|------------------|--------------------------|-------------------|-------------|
| Testing voltage  | 120 V, 60 Hz / DC 3.88 V |                   |             |
| Test facility    | 10 m Chamber (4F)        |                   |             |
| Test distance    | 3 m                      |                   |             |
| Date             | 2023-05-16               |                   |             |
| Temperature (°C) | 22.5 °C                  | Humidity (% R.H.) | 31.7 % R.H. |
| Remarks          | Pass                     |                   |             |

### 6.2.1 Limits of radiated emission measurement

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

### 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          | ESCI 7              | 100872     | R&S             | 2024.01.18     | <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    | 2024.01.27     | <input checked="" type="checkbox"/> |
| AMPLIFIER                  | BBV9718C            | 00138      | SCHWARZBECK     | 2023.10.14     | <input checked="" type="checkbox"/> |
| Horn Antenna               | 3116C               | 00218560   | ETS-LINDGREN    | 2024.03.27     | <input checked="" type="checkbox"/> |
| Amplifier                  | JS44-18004000-33-8P | 2055879    | L-3 Narda-MITEQ | 2024.03.28     | <input checked="" type="checkbox"/> |
| PXA SIGNAL ANALYZER        | N9030A              | MY54170575 | KEYSIGHT        | 2024.03.17     | <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

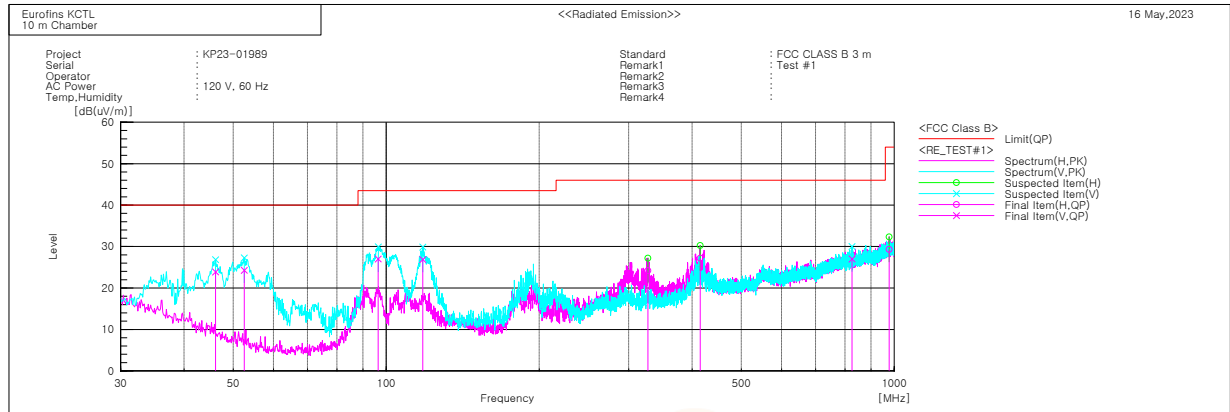
The result is  $30 + 12 + 5 + 6 - 35 = 18 \text{ dB } (\mu\text{V/m})$

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

AV = CAV : Abbreviation of CISPR Average

## 6.2.5 Radiated emission measurement result

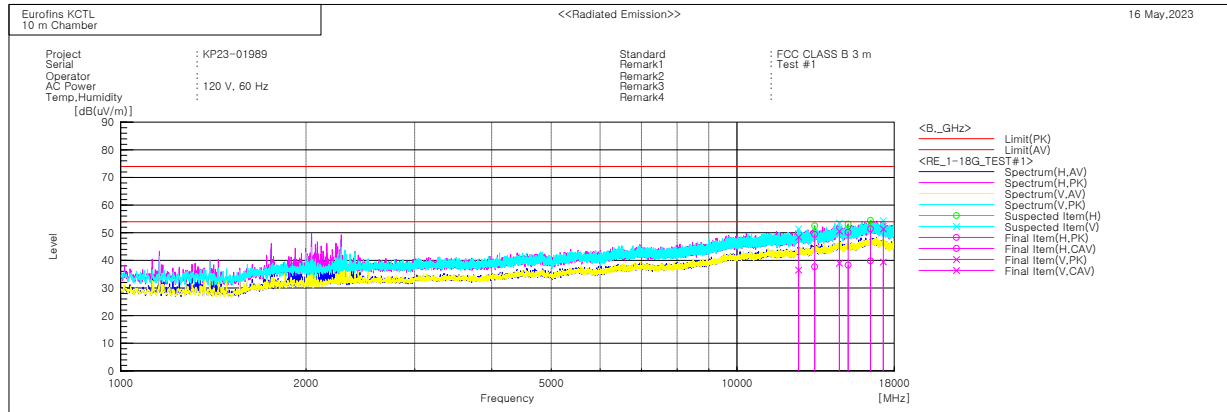
30 MHz ~ 1 GHz



### 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   | 46.116          | V   | 37.8                | -13.9         | 23.9                 | 40.0                | 16.1           | 192.0       | 342.0       |
| 2   | 52.542          | V   | 40.9                | -16.6         | 24.3                 | 40.0                | 15.7           | 142.0       | 27.0        |
| 3   | 96.401          | V   | 39.7                | -12.7         | 27.0                 | 43.5                | 16.5           | 123.0       | 124.0       |
| 4   | 118.020         | V   | 37.4                | -10.5         | 26.9                 | 43.5                | 16.6           | 126.0       | 289.0       |
| 5   | 327.380         | H   | 29.0                | -4.8          | 24.2                 | 46.0                | 21.8           | 220.0       | 268.0       |
| 6   | 415.077         | H   | 28.2                | -1.0          | 27.2                 | 46.0                | 18.8           | 279.0       | 348.0       |
| 7   | 825.629         | V   | 18.2                | 8.8           | 27.0                 | 46.0                | 19.0           | 100.0       | 234.0       |
| 8   | 976.892         | H   | 17.0                | 12.3          | 29.3                 | 54.0                | 24.7           | 333.0       | 247.0       |

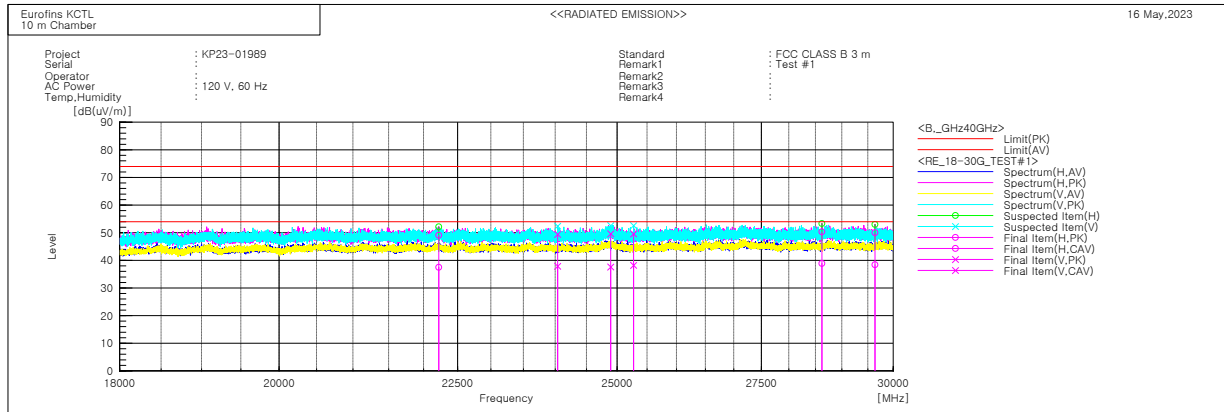
## 1 GHz ~ 18 GHz



### 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   | 12592.870       | V   | 31.8                | 19.9                 | 16.6          | 48.4                 | 36.5                  | 74.0                | 54.0                | 25.6           | 17.5            | 135.0       | 101.0       |
| 2   | 13368.970       | H   | 32.4                | 20.7                 | 17.0          | 49.4                 | 37.7                  | 74.0                | 54.0                | 24.6           | 16.3            | 149.0       | 200.0       |
| 3   | 14662.700       | V   | 33.5                | 21.9                 | 17.1          | 50.6                 | 39.0                  | 74.0                | 54.0                | 23.4           | 15.0            | 245.0       | 114.0       |
| 4   | 15155.740       | H   | 33.6                | 21.8                 | 16.5          | 50.1                 | 38.3                  | 74.0                | 54.0                | 23.9           | 15.7            | 127.0       | 261.0       |
| 5   | 16469.080       | H   | 32.6                | 21.0                 | 18.8          | 51.4                 | 39.8                  | 74.0                | 54.0                | 22.6           | 14.2            | 139.0       | 72.0        |
| 6   | 17275.740       | V   | 32.9                | 20.9                 | 18.5          | 51.4                 | 39.4                  | 74.0                | 54.0                | 22.6           | 14.6            | 150.0       | 257.0       |

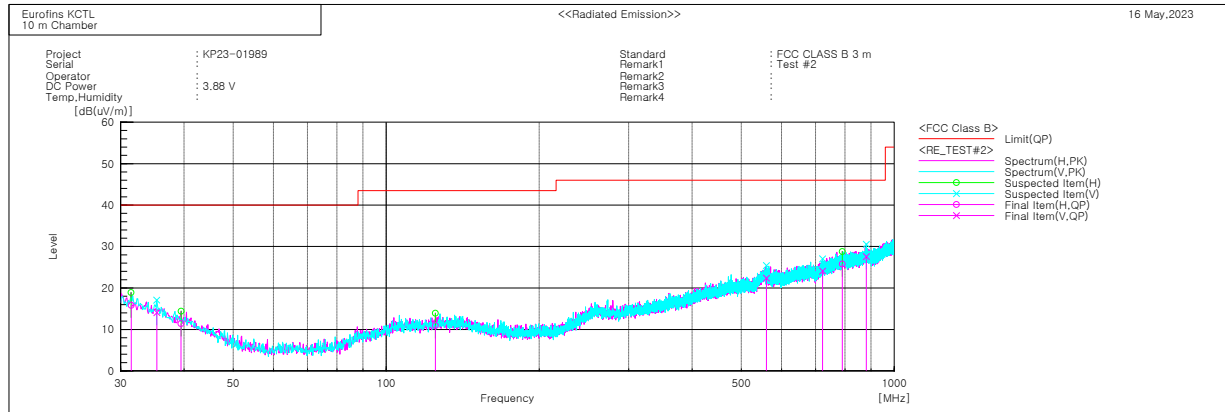
## 18 GHz ~ 30 GHz



### 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   | 22222.450       | H   | 46.4                | 34.8                 | 2.7           | 49.1                 | 37.5                  | 74.0                | 54.0                | 24.9           | 16.5            | 135.0       | 155.0       |
| 2   | 24035.770       | V   | 46.4                | 34.9                 | 3.0           | 49.4                 | 37.9                  | 74.0                | 54.0                | 24.6           | 16.1            | 285.0       | 319.0       |
| 3   | 24893.140       | V   | 45.8                | 33.8                 | 3.8           | 49.6                 | 37.6                  | 74.0                | 54.0                | 24.4           | 16.4            | 125.0       | 55.0        |
| 4   | 25273.550       | V   | 46.1                | 34.7                 | 3.5           | 49.6                 | 38.2                  | 74.0                | 54.0                | 24.4           | 15.8            | 247.0       | 28.0        |
| 5   | 28619.380       | H   | 46.3                | 34.9                 | 4.0           | 50.3                 | 38.9                  | 74.0                | 54.0                | 23.7           | 15.1            | 329.0       | 78.0        |
| 6   | 29638.750       | H   | 46.5                | 34.9                 | 3.5           | 50.0                 | 38.4                  | 74.0                | 54.0                | 24.0           | 15.6            | 185.0       | 142.0       |

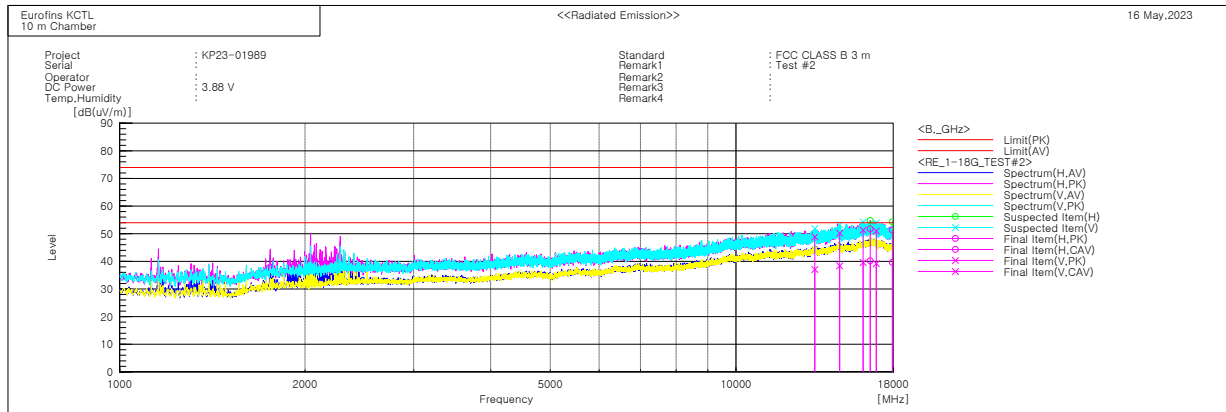
## 30 MHz ~ 1 GHz



### 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   | 31.489          | H   | 22.0                | -6.2          | 15.8                 | 40.0                | 24.2           | 300.0       | 299.0       |
| 2   | 35.357          | V   | 22.3                | -8.2          | 14.1                 | 40.0                | 25.9           | 191.0       | 61.0        |
| 3   | 39.426          | H   | 21.7                | -10.3         | 11.4                 | 40.0                | 28.6           | 246.0       | 185.0       |
| 4   | 124.911         | H   | 20.9                | -10.0         | 10.9                 | 43.5                | 32.6           | 235.0       | 353.0       |
| 5   | 560.350         | V   | 18.4                | 4.0           | 22.4                 | 46.0                | 23.6           | 192.0       | 136.0       |
| 6   | 722.827         | V   | 17.8                | 6.3           | 24.1                 | 46.0                | 21.9           | 263.0       | 80.0        |
| 7   | 790.150         | H   | 17.2                | 8.6           | 25.8                 | 46.0                | 20.2           | 338.0       | 261.0       |
| 8   | 881.004         | V   | 17.8                | 9.8           | 27.6                 | 46.0                | 18.4           | 100.0       | 110.0       |

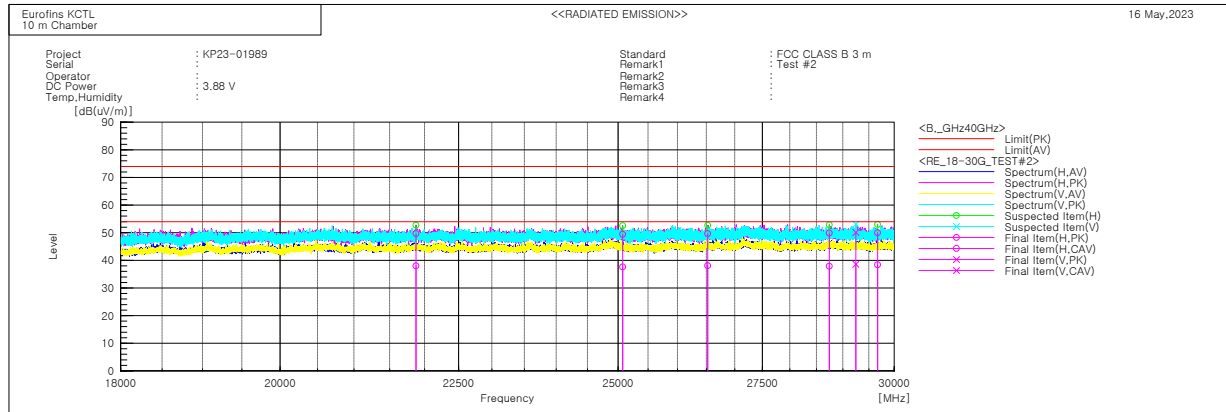
## 1 GHz ~ 18 GHz



### 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   | 13431.020       | V   | 31.7                | 19.9                 | 17.2           | 48.9                 | 37.1                  | 74.0                | 54.0                | 25.1           | 16.9            | 128.0       | 231.0       |
| 2   | 14737.590       | V   | 33.5                | 21.7                 | 16.7           | 50.2                 | 38.4                  | 74.0                | 54.0                | 23.8           | 15.6            | 163.0       | 128.0       |
| 3   | 16083.170       | V   | 33.6                | 21.9                 | 17.7           | 51.3                 | 39.6                  | 74.0                | 54.0                | 22.7           | 14.4            | 100.0       | 59.0        |
| 4   | 16510.790       | H   | 32.7                | 21.2                 | 19.0           | 51.7                 | 40.2                  | 74.0                | 54.0                | 22.3           | 13.8            | 281.0       | 137.0       |
| 5   | 16896.670       | V   | 31.6                | 19.8                 | 19.4           | 51.0                 | 39.2                  | 74.0                | 54.0                | 23.0           | 14.8            | 253.0       | 345.0       |
| 6   | 17934.550       | H   | 31.5                | 19.8                 | 19.8           | 51.3                 | 39.6                  | 74.0                | 54.0                | 22.7           | 14.4            | 352.0       | 287.0       |

## 18 GHz ~ 30 GHz



### Final Result

| No. | Frequency<br>[MHz] | (P) | Reading<br>PK<br>[dB(uV)] | Reading<br>CAV<br>[dB(uV)] | c.f<br>[dB(1/m)] | Result<br>PK<br>[dB(uV/m)] | Result<br>CAV<br>[dB(uV/m)] | Limit<br>PK<br>[dB(uV/m)] | Limit<br>AV<br>[dB(uV/m)] | Margin<br>PK<br>[dB] | Margin<br>CAV<br>[dB] | Height<br>[cm] | Angle<br>[deg] |
|-----|--------------------|-----|---------------------------|----------------------------|------------------|----------------------------|-----------------------------|---------------------------|---------------------------|----------------------|-----------------------|----------------|----------------|
| 1   | 21876.110          | H   | 47.3                      | 35.6                       | 2.4              | 49.7                       | 38.0                        | 74.0                      | 54.0                      | 24.3                 | 16.0                  | 369.0          | 116.0          |
| 2   | 25074.950          | H   | 45.6                      | 33.8                       | 3.8              | 49.4                       | 37.6                        | 74.0                      | 54.0                      | 24.6                 | 16.4                  | 121.0          | 318.0          |
| 3   | 26523.470          | H   | 44.9                      | 33.3                       | 4.8              | 49.7                       | 38.1                        | 74.0                      | 54.0                      | 24.3                 | 15.9                  | 164.0          | 169.0          |
| 4   | 28741.150          | H   | 45.9                      | 33.9                       | 4.0              | 49.9                       | 37.9                        | 74.0                      | 54.0                      | 24.1                 | 16.1                  | 100.0          | 169.0          |
| 5   | 29249.960          | V   | 46.2                      | 34.7                       | 3.9              | 50.1                       | 38.6                        | 74.0                      | 54.0                      | 23.9                 | 15.4                  | 218.0          | 1.0            |
| 6   | 29670.580          | H   | 46.5                      | 34.9                       | 3.5              | 50.0                       | 38.4                        | 74.0                      | 54.0                      | 24.0                 | 15.6                  | 185.0          | 330.0          |