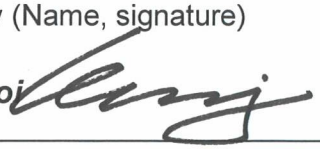
# TEST REPORT

| | | |
|---|---|---|
| **Job No.** | : | **GPEM2404000300EC** |
| **Test Report No.** | : | **F690501-RF-EMC002395_3** |
| **Applicant** | : | **Master Lock Company** |
| **Product Name** | : | **Digital Door Lock** |
| **Model Name** | : | **YRD450 FP** |
| **Standards** | : | **FCC Part 15 Subpart B** |
| | | **ICES-003 Issue 7:2020** |
| **FCC ID** | : | **2ABFG-YRD450-F** |
| **Date of Receipt** | : | **April 18, 2023(For initial test), April 15, 2024(For additional test)** |
| **Date of Test** | : | **April 20, 2023 ~ April 27, 2023(For initial test)** |
| | | **May 2, 2024(For additional test)** |
| | | **August 22, 2024(For additional RE test)** |
| **Date of Issue** | : | **August 23, 2024** |
| **Test Result** | : | **Complied** |

1) This test report does not assure KOLAS accreditation.
2) The results of this test report are effective only to the items tested.
3) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

| | Tested by (Name, signature) | Approved by (Name, signature) |
|---|---|---|
| Affirmation | *Luther Choi*  | *Julia Choi*  |

## SGS Korea Co., Ltd. Gunpo Laboratory

4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 15807, KOREA

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The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

# Contents

# Revision History

| Revision | Report Number | Description |
|---|---|---|
| 0 | F690501-RF-EMC001354 | Initial |
| 1 | F690501-RF-EMC002395 | - Applicant, manufacturer and FCC ID changed.<br>- Existed model name was revised.<br>- The YRD430-P and YRD410-P models were added as Alt. Models and additional tests were conducted. |
| 2 | F690501-RF-EMC002395_1 | - Basic model name and FCC ID changed.<br>- Alt. Model added. |
| 3 | F690501-RF-EMC002395_2 | Alt. Model and Model Differences revised. |
| 4 | F690501-RF-EMC002395_3 | - It added radiated emission(Above 1 ㎓) test results for YRD450 FP, YRD420 FP models (missing).<br>- It tested radiated emission(Above 1 ㎓) additionally. (Tested Model : YRD430-F, YRD410-F) |

# 1. Test Laboratory

## 1.1 General information

| | |
|---|---|
| Name | SGS Korea Co., Ltd. |
| - Branch Site | 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Republic of Korea<br>Tel. 82 31 428 5700 Fax. 82 31 427 5370 |
| - Branch Site-3 | 35, Giheungdanji-ro 121beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea<br>Tel. 82 31 548 0710 Fax. 82 31 548 0719 |
| - Branch Site-4 | 12, Dongtansandan 10-gil, Hwaseong-si, Gyeonggi-do, 18487, Republic of Korea<br>Tel. 82 31 8007 5302 Fax. 82 31 427 2370 |
| Website | http://www.sgsgroup.kr/ee |

SGS Korea Co., Ltd. has been accredited by the agencies listed in the following table;

| Accreditation | Accreditation bodies | Accreditation No. |
|---|---|---|
| KC | MSIT- RRA | KR0150 |
| FCC | FCC (MRA) | |
| IC | IC (MRA) | |
| Vietnam-MIC | Vietnam-MIC | |
| Japan EMI | VCCI | C-14102, T-11156, R-13662, G-20037 |
| KOLAS | KATS - KOLAS | Testing No.123 |
| CBTL | IECEE | TL 146 |
| SDPPI | SDPPI | - |

# 2. General Information of E.U.T.

## 2.1 Applicant Information

| | |
|---|---|
| Applicant | Master Lock Company |
| Applicant Address | 6744 S. Howell Avenue Oak Creek, WI 53154, USA |
| Manufacturer | Master Lock Company |
| Manufacturer Address | Lot A10 Ba Thien II Industrial Park Thien Ke Ward Vinh Phuc Province, Vietnam |

## 2.2 General Information of E.U.T.

| Classification | Description |
|---|---|
| Product Name | Digital Door Lock |
| Model Name | YRD450 FP |
| Alt. Model Name | YRD420 FP, YRD430-F, YRD410-F |
| Model Differences | Model Names / Description:<br>YRD450 FP (Basic Model): Representative production model.<br>YRD420 FP: - Same as basic model except below. - Variant model differs in the authentication method that opens the door.<br>YRD430-F: - Same as basic model except below. - Variant model is push type and has a different unlocking method. - Has a 9 V charging terminal.<br>YRD410-F: - Same as YRD430-F model except below. - Variant model differs in the authentication method that opens the door. - No 9V charging terminal. |
| Serial No. | - |
| EMI Classification | Class B |
| Internal Clock Frequency | 64 ㎒ (Bluetooth Frequency : 2.4 ㎓) |
| Rated Power | 6 Vd.c. |
| Tested Power | 6 Vd.c. |
| H/W Version | - |
| S/W Version | - |
| Port | - |
| Components | - |
| Function | Door locking devices. |

## 2.3 Configurations of E.U.T

| Description | Model | Serial No. | Manufacturer | Note |
|---|---|---|---|---|
| **1.Model Name: YRD450 FP** | | | | |
| Main Board | YRD450 FP MAIN PV01 | PC4M-D300S-E1 | - | - |
| Front Board | YRD450 FP TS KEYLESS FRONT PV01 | PC4F-D300S-E1 | - | - |
| Speaker | - | - | - | - |
| Motor | - | - | - | - |
| Fingerprint Module | - | - | - | - |
| Bluetooth Antenna | - | - | - | - |
| **2. Model Name: YRD420 FP** | | | | |
| Main Board | YRD450 FP MAIN PV01 | PC4M-D300S-E1 | - | - |
| Front Board | YRD420 FP TS KEYED FRONT PV01 | PC4F-D320S-E1 | - | - |
| Speaker | - | - | - | - |
| Motor | - | - | - | - |
| Fingerprint Module | - | - | - | - |
| Bluetooth Antenna | - | - | - | - |
| **3. Model Name : YRD430-F** | | | | |
| Main board | PC4M-D300S-E1 | - | - | - |
| Keypad Front board | PC4F-D330S-E100 | - | - | - |
| Fingerprint board | IREVO R03 | - | - | - |
| Motor | - | - | - | - |
| Speaker | - | - | - | - |
| Bluetooth Antenna | - | - | - | - |
| **4. Model Name : YRD410-F** | | | | |
| Main board | PC4M-D300S-E1 | - | - | - |
| Keyless Front board | PC4F-D310S-E100 | - | - | - |
| Fingerprint board | IREVO R03 | - | - | - |
| Motor | - | - | - | - |
| Speaker | - | - | - | - |
| Bluetooth Antenna | - | - | - | - |

# 3. E.U.T. Operation and Test Configuration

## 3.1 Peripheral Equipments

| Description | Model | Serial No. | Manufacturer | Note. |
|---|---|---|---|---|
| - | - | - | - | - |

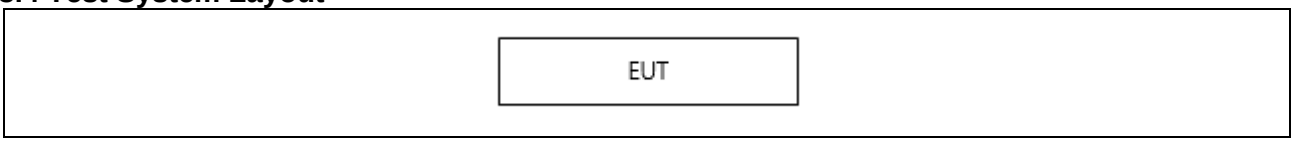
## 3.2 Cable List

| Start | | END | | Cable Spec. | | Used core |
|---|---|---|---|---|---|---|
| Name | I/O Port | Name | I/O Port | Length (m) | Shield | |
| EUT | - | - | - | - | - | - |

## 3.3 Operating Modes and Conditions

| Operating mode | | Operating condition |
|---|---|---|
| 01 | PW(Password) | A state that the EUT is operated by password. |
| 02 | FP(Fingerprint) | A state that the EUT is operated by touching fingerprint. |

## 3.4 Test System Layout




## 3.5 Modifications to the test items during testing

| | |
|---|---|
| ■ | No modifications done during testing |
| □ | Modification done during testing (see details below) |
| No. | Description of modification (if any) |
| 1 | |
| 2 | |

# 4. Test Results

## 4.1 Summary

| Test Items | Standards | Test Results |
|---|---|---|
| Conducted Emission | FCC Part 15 Subpart B Section 15.107<br>ICES-003 Issue 7:2020<br>ANSI C63.4a:2017 | N/A |
| Radiated Emission | FCC Part 15 Subpart B Section 15.109<br>ICES-003 Issue 7:2020<br>ANSI C63.4a:2017 | Complied |

## 4.2 Note

1 Test Methods of all test items are performed according to the basic standard in subclause 4.1.

2

# Emission Test

## 5.1 Test Method and Limits

| Test Items | Measuring Frequency Range | RBW | Measuring Distance |
|---|---|---|---|
| Conducted Emission | 0.15 ㎒ - 30 ㎒ | 9 ㎑ | - |
| Radiated Emission | 30 ㎒ - 1 ㎓ | 120 ㎑ | 10 m or 3 m |
| | Above 1 ㎓ | 1 ㎒ | 3 m |

## 5.2 Test Limits

| Frequency Range | Limits(dBμV) | | Class |
|---|---|---|---|
| | Quasi-peak | CISPR-Average | |
| 0.15 ㎒ - 0.5 ㎒ | 79 | 66 | Class A |
| 0.5 ㎒ - 30 ㎒ | 73 | 60 | |
| 0.15 ㎒ - 0.5 ㎒ | 66 to 56 Note1 | 56 to 46 Note1 | Class B |
| 0.5 ㎒ - 5 ㎒ | 56 | 46 | |
| 5 ㎒ - 30 ㎒ | 60 | 50 | |

**[Table 2.1 Conducted Emission Limits]**

| Frequency Range | Limits(dBμV/m) | Class |
|---|---|---|
| | Quasi-peak | |
| 30 ㎒ - 88 ㎒ | 39.0 | Class A (10 m method) |
| 88 ㎒ - 216 ㎒ | 43.5 | |
| 216 ㎒ - 960 ㎒ | 46.4 | |
| 960 ㎒ - 1 ㎓ | 49.5 | |
| 30 ㎒ - 88 ㎒ | 40.0 | Class B (3 m method) |
| 88 ㎒ - 216 ㎒ | 43.5 | |
| 216 ㎒ - 960 ㎒ | 46.0 | |
| 960 ㎒ - 1 ㎓ | 54.0 | |

**[Table 2.2 Radiated Emission Limits below 1 ㎓_For FCC Part 15 Subpart B]**

| Frequency Range | Limits(dBμV/m) | Class |
|---|---|---|
| | Quasi-peak | |
| 30 ㎒ - 88 ㎒ | 40.0 | Class A (10 m method) |
| 88 ㎒ - 216 ㎒ | 43.5 | |
| 216 ㎒ - 230 ㎒ | 46.4 | |
| 230 ㎒ - 960 ㎒ | 47.0 | |
| 960 ㎒ - 1 ㎓ | 49.5 | |

| | | |
|---|---|---|
| 30 MHz - 88 MHz | 50.0 | Class A (3 m method) |
| 88 MHz - 216 MHz | 54.0 | |
| 216 MHz - 230 MHz | 56.9 | |
| 230 MHz - 960 MHz | 57.0 | |
| 960 MHz - 1 GHz | 60.0 | |
| 30 MHz - 88 MHz | 30.0 | Class B (10 m method) |
| 88 MHz - 216 MHz | 33.1 | |
| 216 MHz - 230 MHz | 35.6 | |
| 230 MHz - 960 MHz | 37.0 | |
| 960 MHz - 1 GHz | 43.5 | |
| 30 MHz - 88 MHz | 40.0 | Class B (3 m method) |
| 88 MHz - 216 MHz | 43.5 | |
| 216 MHz - 230 MHz | 46.0 | |
| 230 MHz - 960 MHz | 47.0 | |
| 960 MHz - 1 GHz | 54.0 | |

**[Table 2.3 Radiated Emission Limits below 1 GHz_For ICES-003 Issue 7 : 2020]**

| Frequency Range | Limits(dBμV) | | Class |
|---|---|---|---|
| | Quasi-peak | CISPR-Average | |
| Above 1 GHz | 79.5 | 59.5 | Class A |
| | 74.0 | 54.0 | Class B |

**[Table 2.4 Radiated Emission Limits Above 1 GHz_ For FCC Part 15 Subpart B Note2]**

| Frequency Range | Limits(dBμV) | | Class |
|---|---|---|---|
| | Quasi-peak | CISPR-Average | |
| Above 1 GHz | 80.0 | 60.0 | Class A |
| | 74.0 | 54.0 | Class B |

**[Table 2.5 Radiated Emission Limits Above 1 GHz_For ICES-003 Issue 7 : 2020]**

Note 1. The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of that frequency.
Note 2. The limits of class A equipment is extrapolated using an extrapolation factor of 20 dB/decade because it was measured at 3 m distance not 10 m distance.

## *5.3 Radiated Emission*

### 5.3.1 Test Equipments

| Equipment | Model | Manufacturer | Serial No | Cal Due. Date |
|---|---|---|---|---|
| **Tested Model : YRD450 FP, YRD420 FP** | | | | |
| Horn Antenna | HF906 | R & S | 100326 | 2024-02-18 |
| Signal Conditioning Unit | SCU 18 | R & S | 10117 | 2023-06-13 |
| Test Receiver | ESU26 | R & S | 100109 | 2024-01-18 |
| Hybrid Antenna | VULB9163 | SCHWARZBECK | 01126 | 2024-02-09 |
| Amplifier | 8447F | HP | 2944A03909 | 2023-08-04 |
| RF Cable(CA-04) | - | - | - | 2023-10-04 |
| RF Cable(CA-05) | - | - | - | 2023-10-04 |
| RF Cable(CA-06) | MWX221-NMSNMS (4m) | RF ONE | J023142 | 2023-10-04 |
| RF Cable(CA-07) | PL520-NMNM-10M (10m) | RF ONE | 0200324001 | 2023-10-04 |
| **Tested Model : YRD430-F, YRD410-F(Below 1 ㎓)** | | | | |
| EMI TEST RECEIVER | ESU40 | R&S | 100075 | 2025-01-17 |
| TRILOG BROADBAND ANTENNA | VULB 9163 | SCHWARZBECK | 01126 | 2025-02-26 |
| PREAMPLIFIER | AM-1431 | MITEQ | 1336160 | 2024-05-23 |
| RF Cable | EMH-1Lab-RE-01 | - | - | - |
| RF Cable | EMH-1Lab-RE-04 | - | - | - |
| RF Cable | EMH-1Lab-RE-06 | - | - | - |
| **Tested Model : YRD430-F, YRD410-F(Above 1 ㎓)** | | | | |
| EMI TEST RECEIVER | ESU40 | R&S | 100075 | 2025-01-17 |
| Double Ridged Horn Antenna | HF907 | R&S | 100208 | 2025-03-04 |
| AMPLIFIER | SCU 18F | R&S | 101072 | 2025-05-20 |
| RF Cable | EMH-1Lab-RE-06 | - | - | - |
| RF Cable | EMH-1Lab-RE-05 | - | - | - |

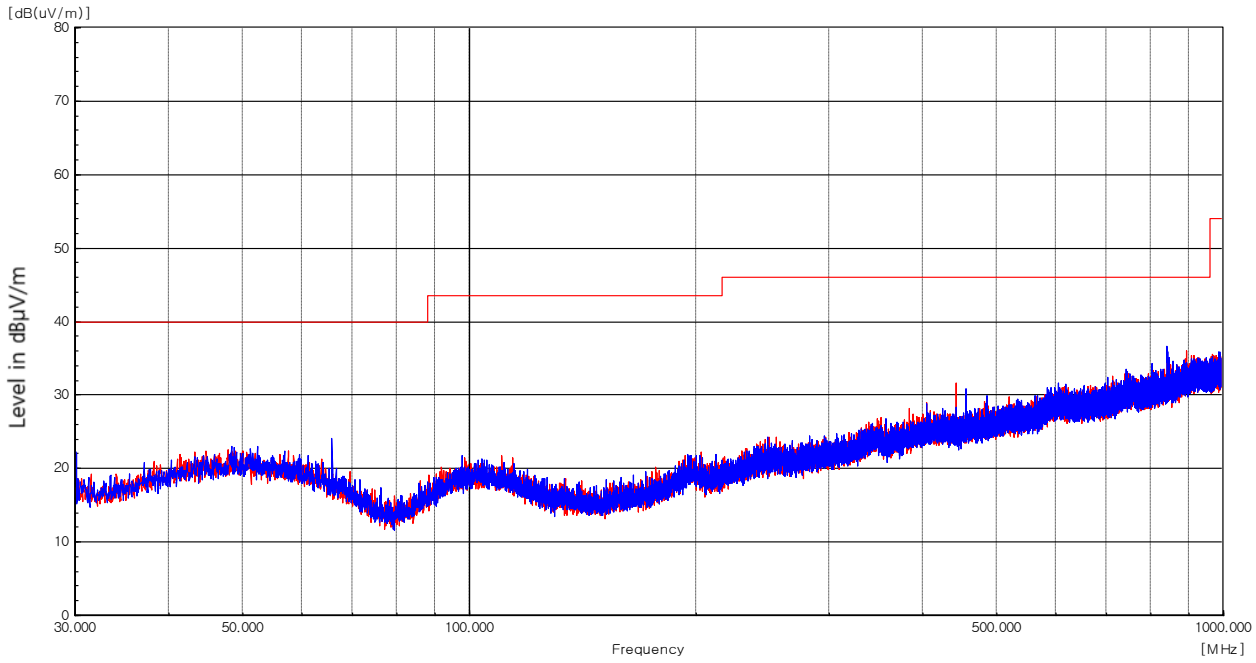
Note. Measuring software is below
- Branch Site : EP5RE(V5.3.70) from TOYO
- Branch Site-3 : EMC32(V10.40.10) from R&S
- Branch Site-4 : EMC32(V10.40.10) from R&S

### 5.3.2 Environment Conditions

| | |
|---|---|
| **Tested Model : YRD450 FP, YRD420 FP** | |
| Test Site | 3 m SEMI-ANECHOIC CHAMBER in Branch site |
| Temperature | (Minimum 20.0, Maximum 21.2) ℃ |
| Humidity | (Minimum 30.0, Maximum 43.0) % R.H. |
| Atmospheric Pressure | (Minimum 100.1, Maximum 101.3) kPa |
| Test Date | 2023-04-20, 2023-04-27 (for Below 1 GHz)<br>2023-04-24, 2023-04-27 (for Above 1 GHz) |
| **Tested Model : YRD430-F, YRD410-F(Below 1 GHz)** | |
| Test Site | 10 m SEMI-ANECHOIC CHAMBER in Branch site-3 |
| Temperature | (Minimum 21.2, Maximum 21.6) ℃ |
| Humidity | (Minimum 31.0, Maximum 33.0) % R.H. |
| Atmospheric Pressure | (Minimum 101.0, Maximum 101.0) kPa |
| Test Date | 2024-05-02 |
| **Tested Model : YRD430-F, YRD410-F(Above 1 GHz)** | |
| Test Site | 10 m SEMI-ANECHOIC CHAMBER in Branch site-3 |
| Temperature | (Minimum 21.2, Maximum 21.4) ℃ |
| Humidity | (Minimum 31.0, Maximum 33.0) % R.H. |
| Atmospheric Pressure | (Minimum 101.0, Maximum 101.0) kPa |
| Test Date | 2024-08-22 |

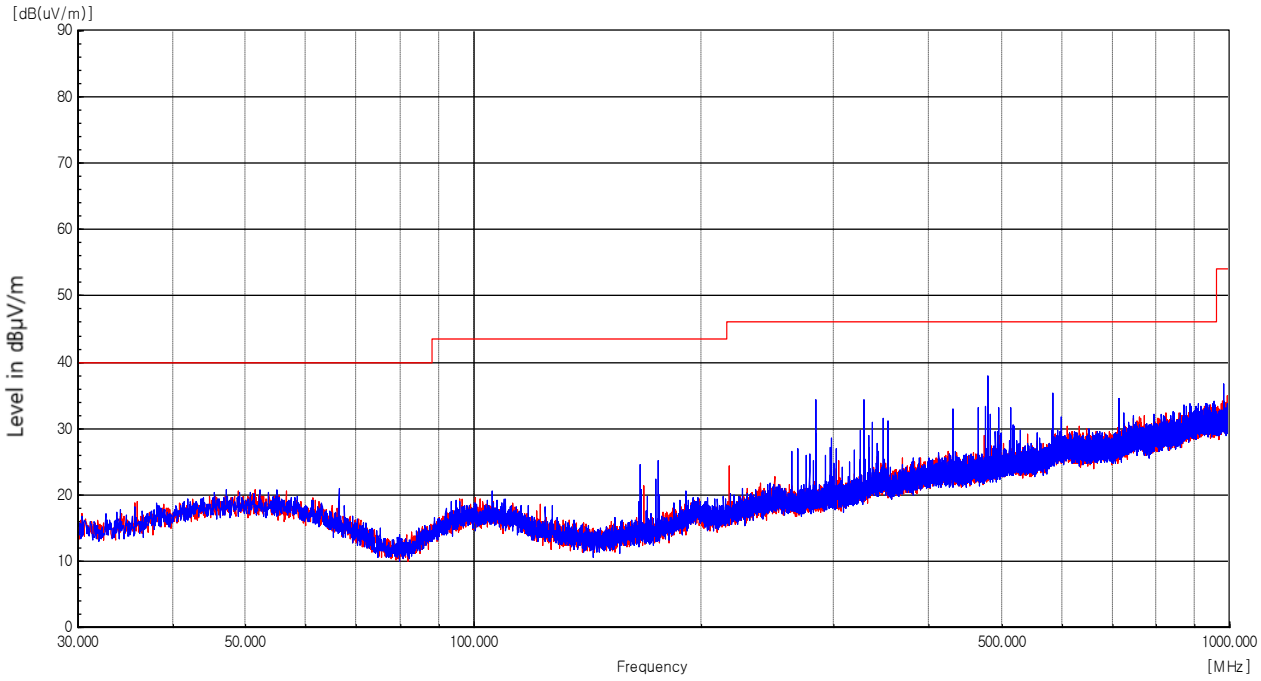
### 5.3.3 Test Result

01 Mode_Model: YRD450 FP [FCC]



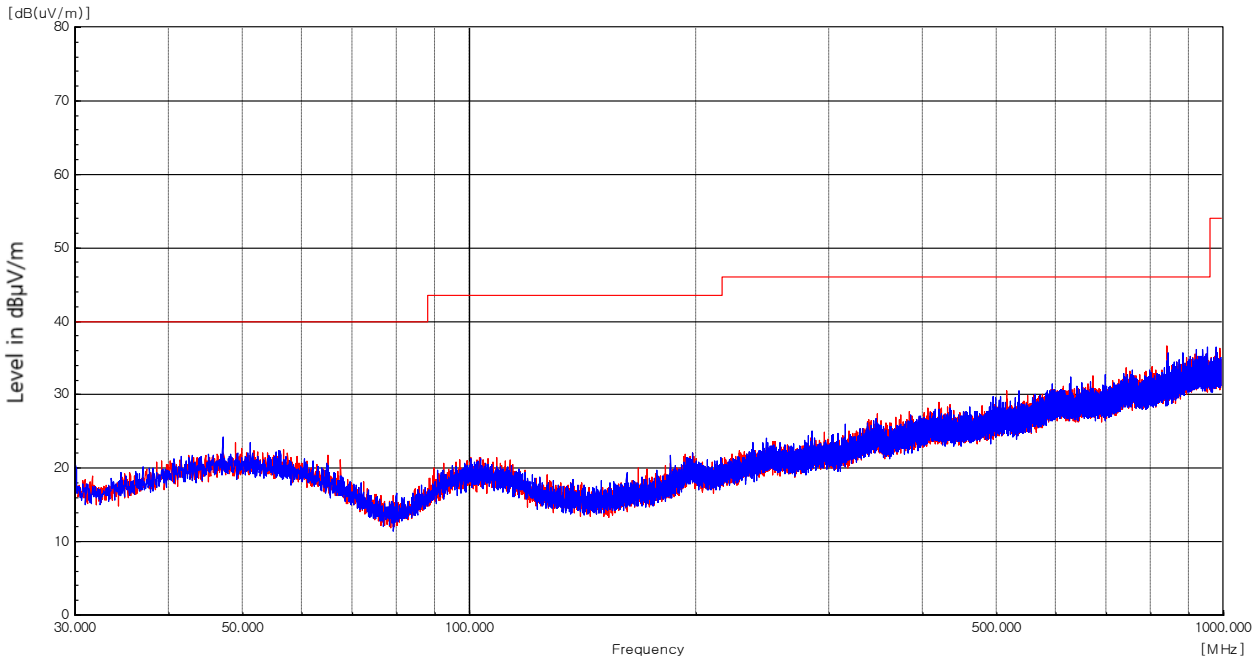

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.04 | 22.10 | V | 20 | 205 | 16.29 | 0.66 | 28.20 | 10.85 | 40.00 | 29.15 |
| 65.73 | 23.50 | V | 350 | 100 | 16.65 | 1.09 | 28.20 | 13.04 | 40.00 | 26.96 |
| 110.47 | 22.00 | H | 145 | 112 | 17.15 | 1.41 | 28.18 | 12.38 | 43.50 | 31.12 |
| 441.64 | 23.50 | H | 160 | 102 | 21.92 | 2.55 | 28.13 | 19.84 | 46.00 | 26.16 |
| 455.39 | 23.70 | V | 145 | 100 | 21.97 | 2.95 | 28.23 | 20.39 | 46.00 | 25.61 |
| 842.54 | 24.00 | V | 10 | 195 | 27.00 | 3.66 | 28.73 | 25.93 | 46.00 | 20.07 |

02 Mode_Model: YRD450 FP [FCC]



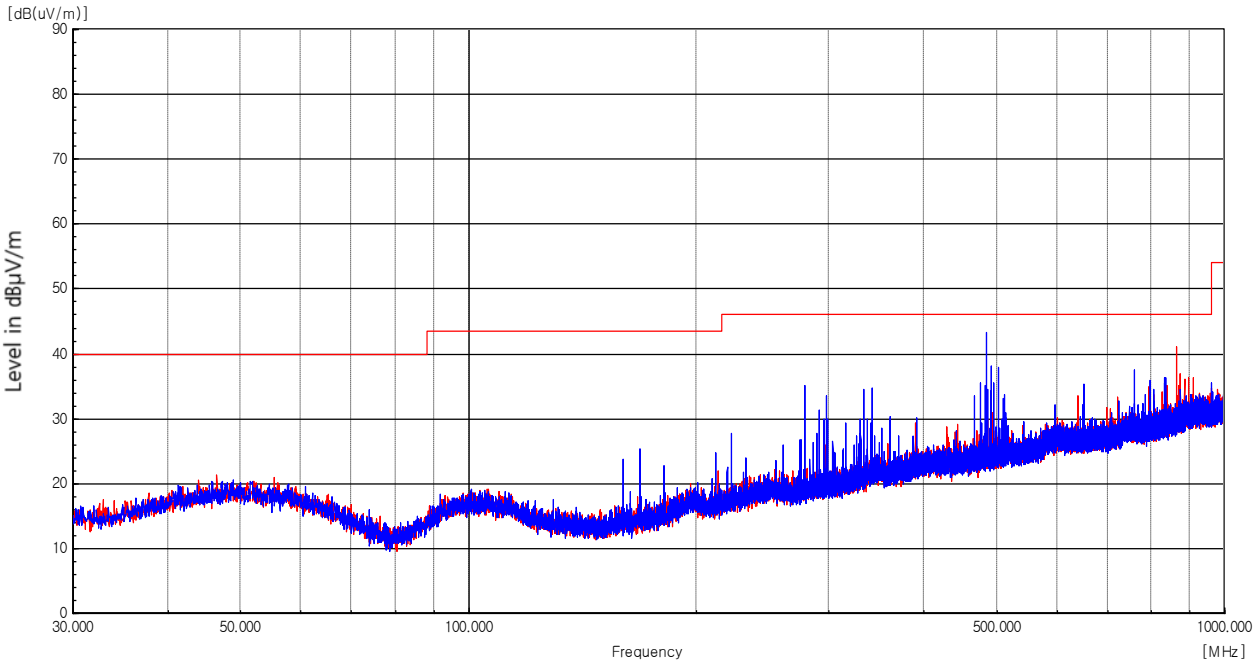

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 175.50 | 23.40 | V | 90 | 105 | 14.80 | 1.73 | 28.00 | 11.93 | 43.50 | 31.57 |
| 217.61 | 24.50 | H | 25 | 195 | 16.88 | 1.95 | 27.85 | 15.48 | 46.00 | 30.52 |
| 283.78 | 24.70 | V | 350 | 107 | 18.79 | 2.14 | 27.65 | 17.98 | 46.00 | 28.02 |
| 478.34 | 25.00 | V | 320 | 100 | 22.52 | 2.75 | 28.37 | 21.90 | 46.00 | 24.10 |
| 584.15 | 24.50 | V | 300 | 109 | 24.32 | 3.40 | 28.67 | 23.55 | 46.00 | 22.45 |
| 981.33 | 24.10 | V | 285 | 110 | 28.10 | 4.48 | 28.54 | 28.14 | 54.00 | 25.86 |

01 Mode_Model: YRD420 FP [FCC]



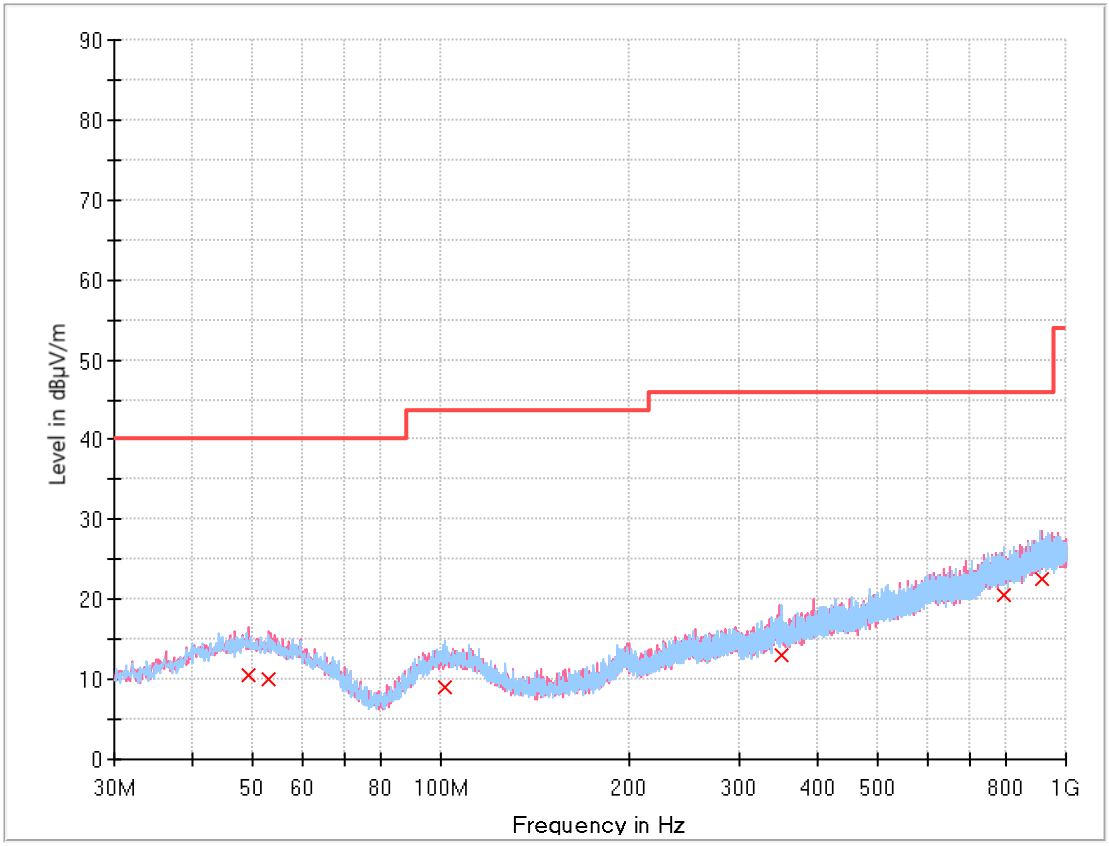

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 47.06 | 22.20 | V | 345 | 100 | 19.61 | 0.83 | 28.20 | 14.44 | 40.00 | 25.56 |
| 48.96 | 22.30 | H | 90 | 204 | 19.70 | 0.86 | 28.20 | 14.66 | 40.00 | 25.34 |
| 515.93 | 23.40 | H | 20 | 198 | 23.20 | 3.06 | 28.53 | 21.13 | 46.00 | 24.87 |
| 626.35 | 23.80 | V | 255 | 200 | 25.08 | 3.08 | 28.78 | 23.18 | 46.00 | 22.82 |
| 842.54 | 24.00 | H | 355 | 210 | 27.00 | 3.66 | 28.73 | 25.93 | 46.00 | 20.07 |
| 843.99 | 23.80 | V | 350 | 100 | 27.00 | 3.67 | 28.72 | 25.75 | 46.00 | 20.25 |

02 Mode_Model: YRD420 FP [FCC]




| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 222.46 | 24.20 | V | 40 | 105 | 17.15 | 1.96 | 27.83 | 15.48 | 46.00 | 30.52 |
| 278.16 | 23.20 | V | 30 | 100 | 18.60 | 2.14 | 27.67 | 16.27 | 46.00 | 29.73 |
| 342.02 | 23.50 | V | 35 | 109 | 20.50 | 2.38 | 27.52 | 18.86 | 46.00 | 27.14 |
| 484.81 | 22.90 | V | 260 | 201 | 22.70 | 2.71 | 28.41 | 19.90 | 46.00 | 26.10 |
| 760.57 | 23.00 | V | 240 | 100 | 26.60 | 3.78 | 28.94 | 24.44 | 46.00 | 21.56 |
| 862.71 | 22.50 | H | 280 | 100 | 27.24 | 3.70 | 28.70 | 24.74 | 46.00 | 21.26 |

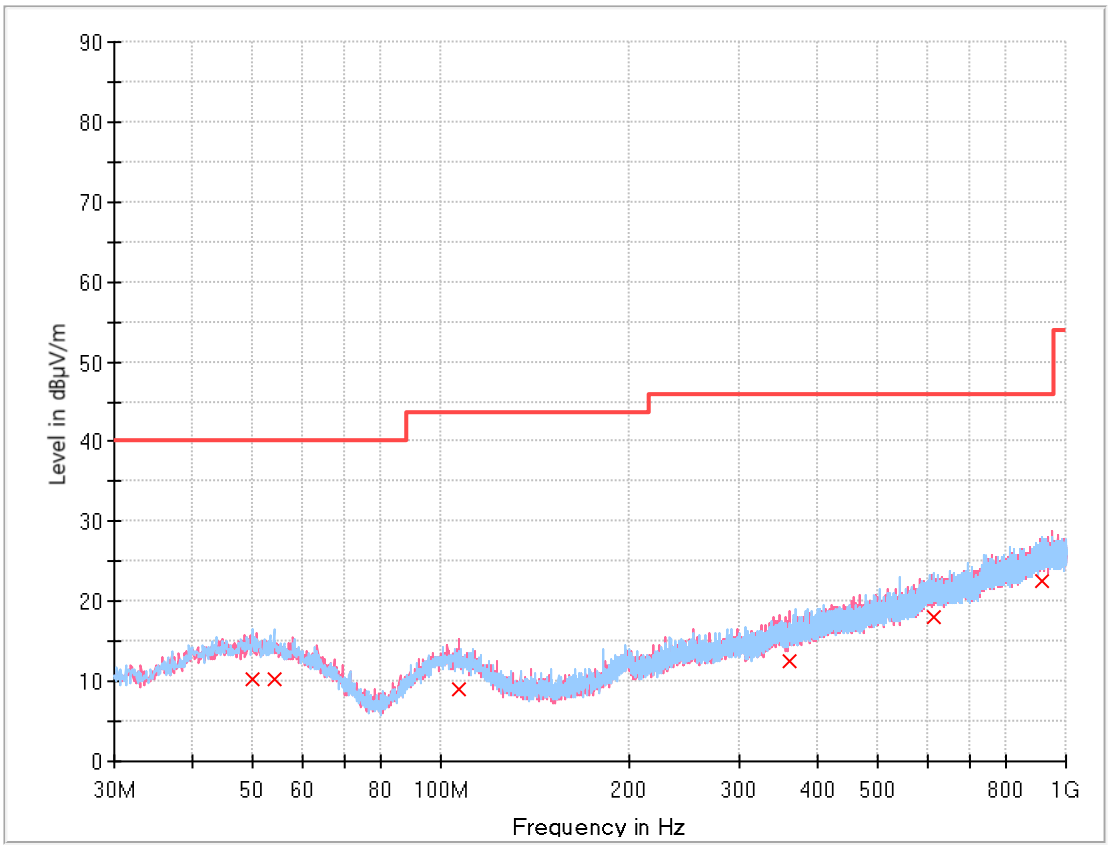
01 Mode_Model: YRD430-F [FCC]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.206 | 10.47 | 40.00 | 29.53 | 15 000.0 | 120.000 | 112.0 | V | 354.0 | -17.8 |
| 53.086 | 10.01 | 40.00 | 29.99 | 15 000.0 | 120.000 | 386.0 | V | 349.0 | -18.0 |
| 101.586 | 9.06 | 43.50 | 34.44 | 15 000.0 | 120.000 | 364.0 | H | 0.0 | -19.2 |
| 349.712 | 13.07 | 46.00 | 32.93 | 15 000.0 | 120.000 | 374.0 | H | 0.0 | -15.4 |
| 794.942 | 20.56 | 46.00 | 25.44 | 15 000.0 | 120.000 | 145.0 | H | 198.0 | -8.1 |
| 918.326 | 22.53 | 46.00 | 23.47 | 15 000.0 | 120.000 | 287.0 | V | 102.0 | -6.4 |

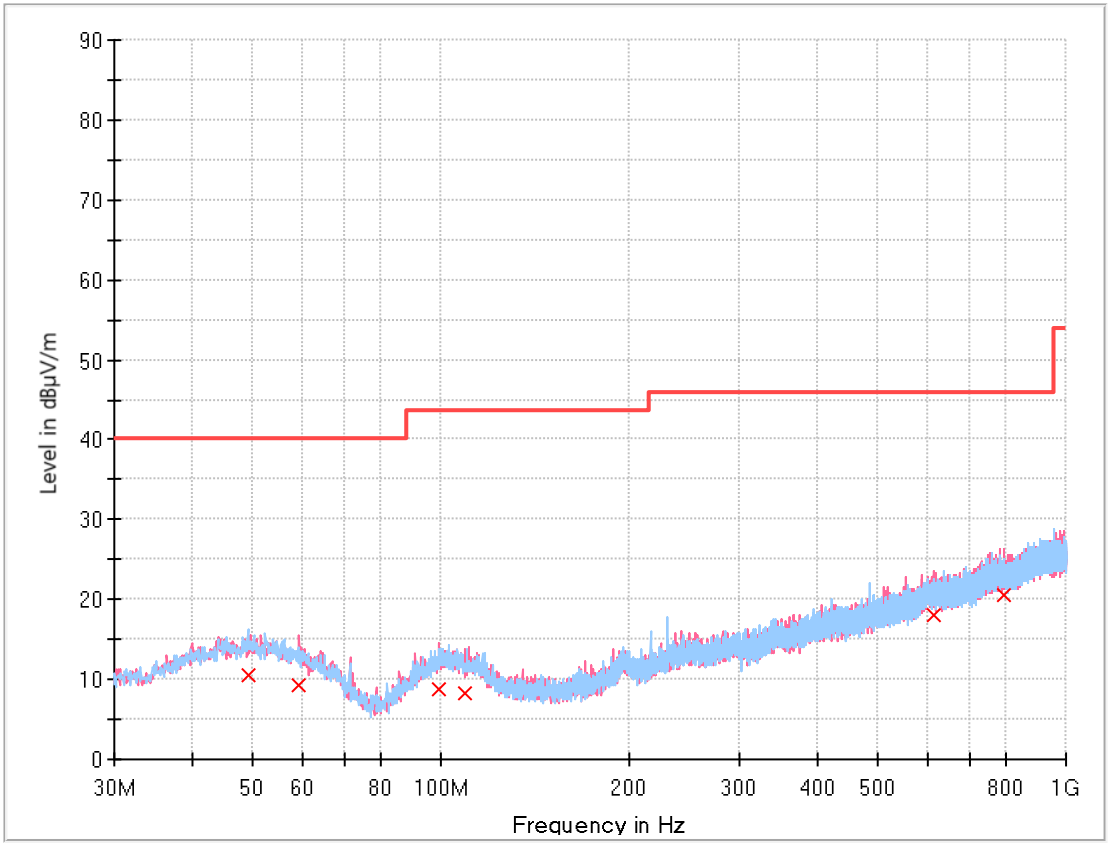
02 Mode_Model: YRD430-F [FCC]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.982 | 10.40 | 40.00 | 29.60 | 15 000.0 | 120.000 | 245.0 | H | 127.0 | -17.8 |
| 53.959 | 10.28 | 40.00 | 29.72 | 15 000.0 | 120.000 | 122.0 | H | 0.0 | -18.1 |
| 107.018 | 8.92 | 43.50 | 34.58 | 15 000.0 | 120.000 | 314.0 | V | 1.0 | -19.5 |
| 359.994 | 12.49 | 46.00 | 33.51 | 15 000.0 | 120.000 | 136.0 | V | 186.0 | -16.1 |
| 612.291 | 18.12 | 46.00 | 27.88 | 15 000.0 | 120.000 | 344.0 | H | 59.0 | -10.1 |
| 914.446 | 22.59 | 46.00 | 23.41 | 15 000.0 | 120.000 | 375.0 | H | 146.0 | -6.4 |

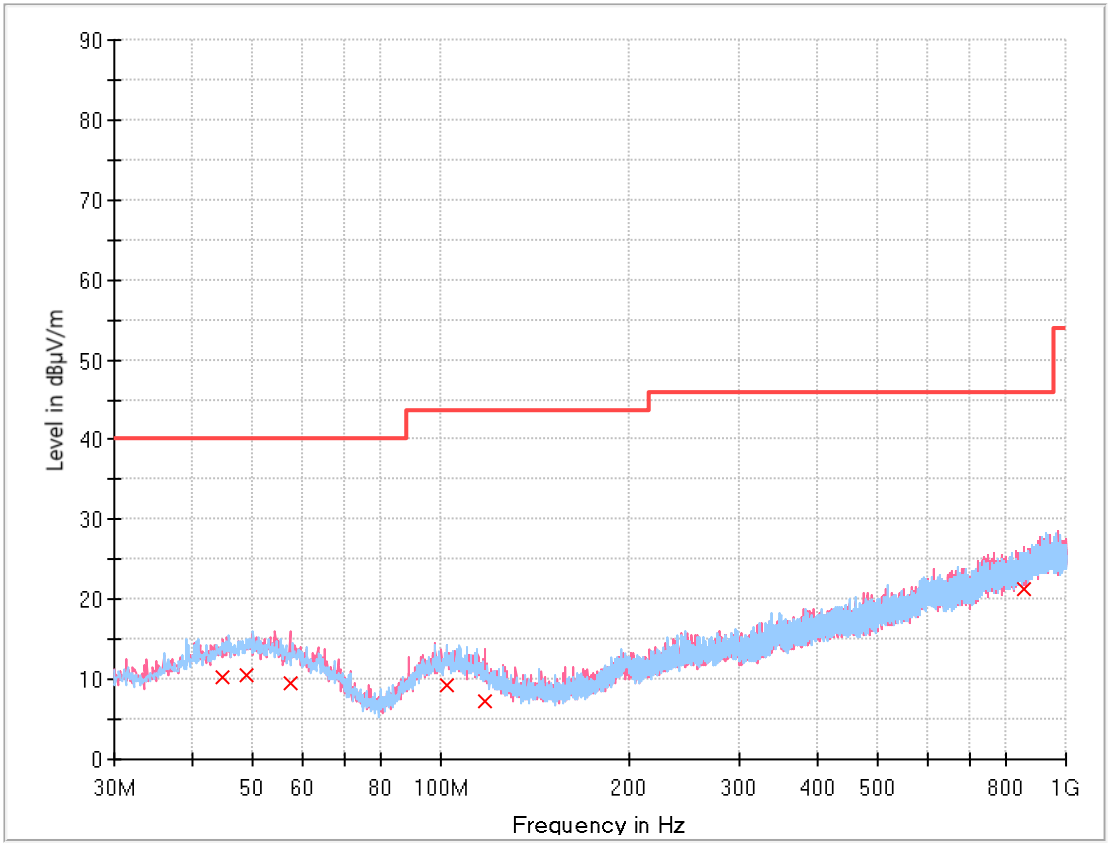
01 Mode_Model: YRD410-F [FCC]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.109 | 10.49 | 40.00 | 29.51 | 15 000.0 | 120.000 | 374.0 | H | 344.0 | -17.8 |
| 59.294 | 9.19 | 40.00 | 30.81 | 15 000.0 | 120.000 | 134.0 | V | 252.0 | -19.0 |
| 99.064 | 8.70 | 43.50 | 34.80 | 15 000.0 | 120.000 | 144.0 | V | 336.0 | -19.4 |
| 109.443 | 8.33 | 43.50 | 35.17 | 15 000.0 | 120.000 | 187.0 | V | 277.0 | -19.8 |
| 612.291 | 18.12 | 46.00 | 27.88 | 15 000.0 | 120.000 | 348.0 | V | 32.0 | -10.1 |
| 792.905 | 20.51 | 46.00 | 25.49 | 15 000.0 | 120.000 | 244.0 | V | 160.0 | -8.1 |

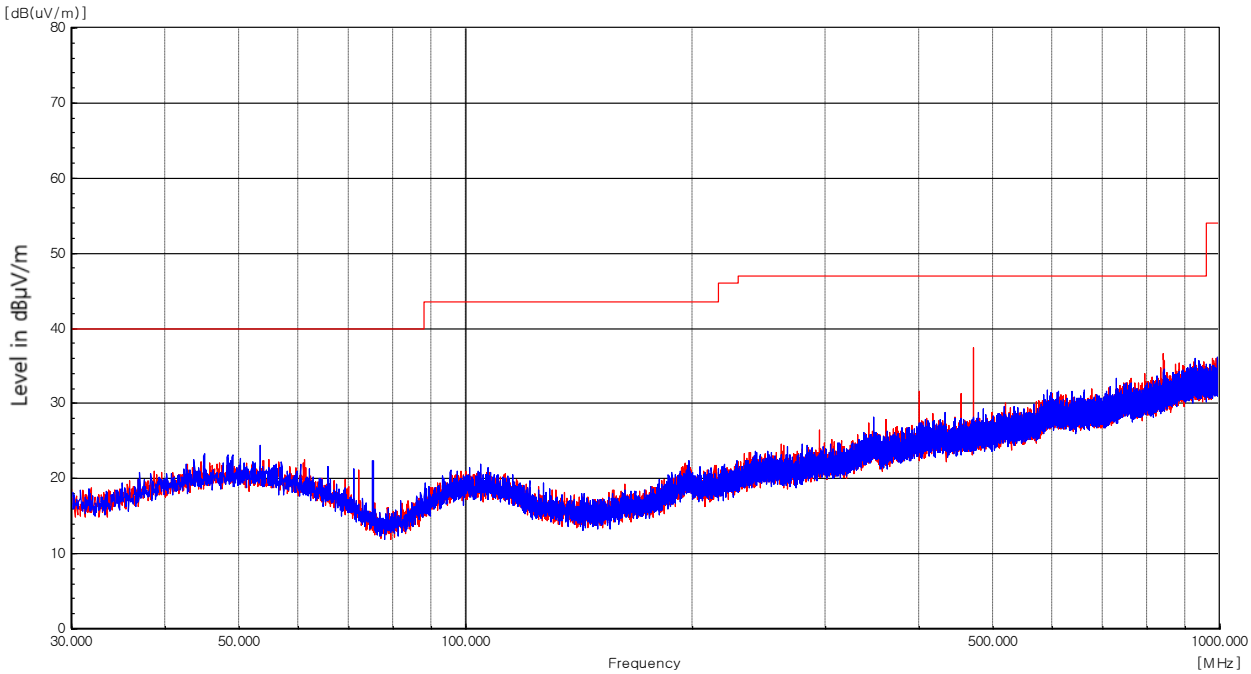
02 Mode_Model: YRD410-F [FCC]




Final_Result

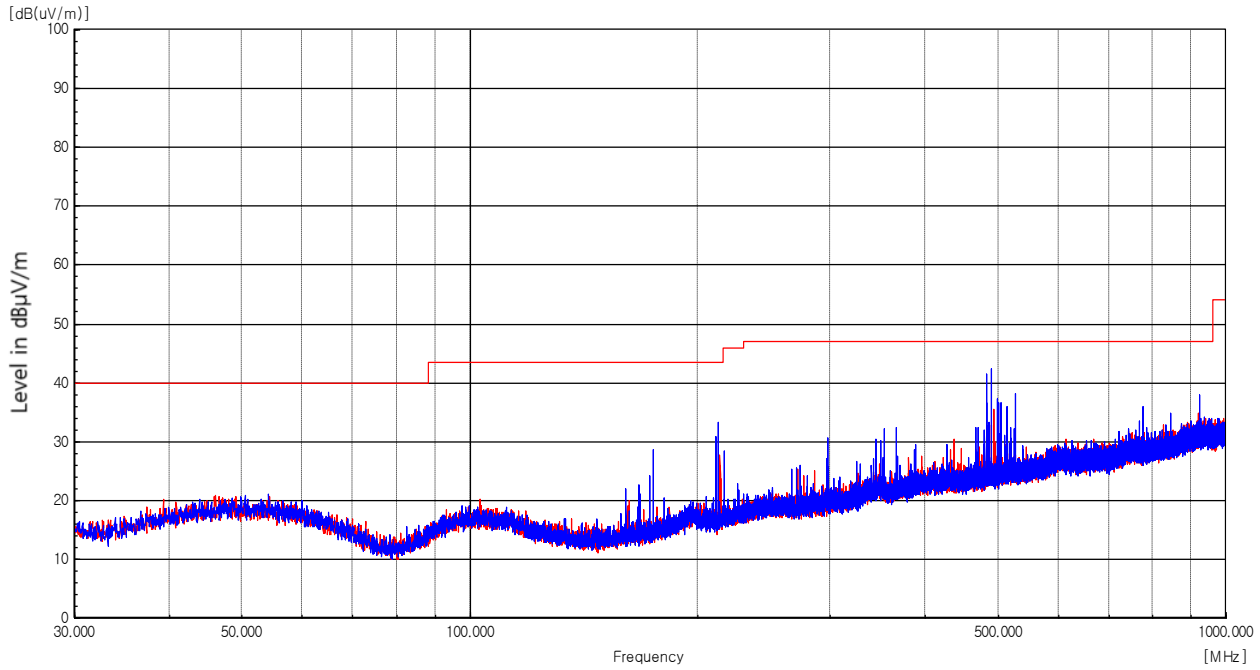
| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 44.744 | 10.25 | 40.00 | 29.75 | 15 000.0 | 120.000 | 124.0 | V | 318.0 | -18.0 |
| 48.915 | 10.48 | 40.00 | 29.52 | 15 000.0 | 120.000 | 148.0 | H | 192.0 | -17.8 |
| 57.257 | 9.43 | 40.00 | 30.57 | 15 000.0 | 120.000 | 377.0 | V | 0.0 | -18.6 |
| 101.974 | 9.21 | 43.50 | 34.29 | 15 000.0 | 120.000 | 355.0 | V | 236.0 | -19.2 |
| 117.397 | 7.32 | 43.50 | 36.18 | 15 000.0 | 120.000 | 255.0 | V | 258.0 | -20.9 |
| 854.015 | 21.22 | 46.00 | 24.78 | 15 000.0 | 120.000 | 314.0 | V | 119.0 | -7.4 |

01 Mode_Model: YRD450 FP [ICES-003]



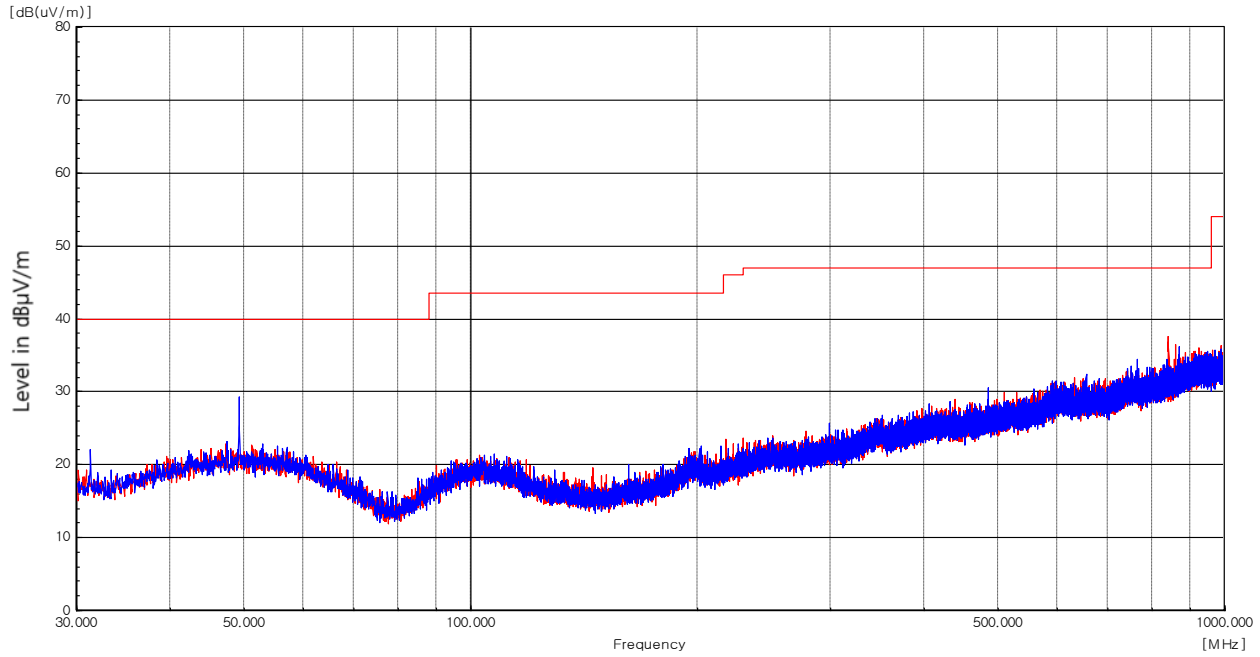

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 53.36 | 22.30 | V | 350 | 102 | 19.40 | 0.93 | 28.20 | 14.43 | 40.00 | 25.57 |
| 75.31 | 23.40 | V | 320 | 185 | 13.14 | 1.16 | 28.20 | 9.50 | 40.00 | 30.50 |
| 347.35 | 23.20 | V | 0 | 204 | 20.70 | 2.42 | 27.51 | 18.81 | 46.00 | 27.19 |
| 398.88 | 24.20 | H | 255 | 210 | 21.34 | 2.72 | 27.79 | 20.47 | 46.00 | 25.53 |
| 471.47 | 26.20 | H | 240 | 195 | 22.17 | 2.85 | 28.33 | 22.89 | 46.00 | 23.11 |
| 842.62 | 24.20 | H | 120 | 200 | 27.00 | 3.66 | 28.73 | 26.13 | 46.00 | 19.87 |

02 Mode_Model: YRD450 FP [ICES-003]



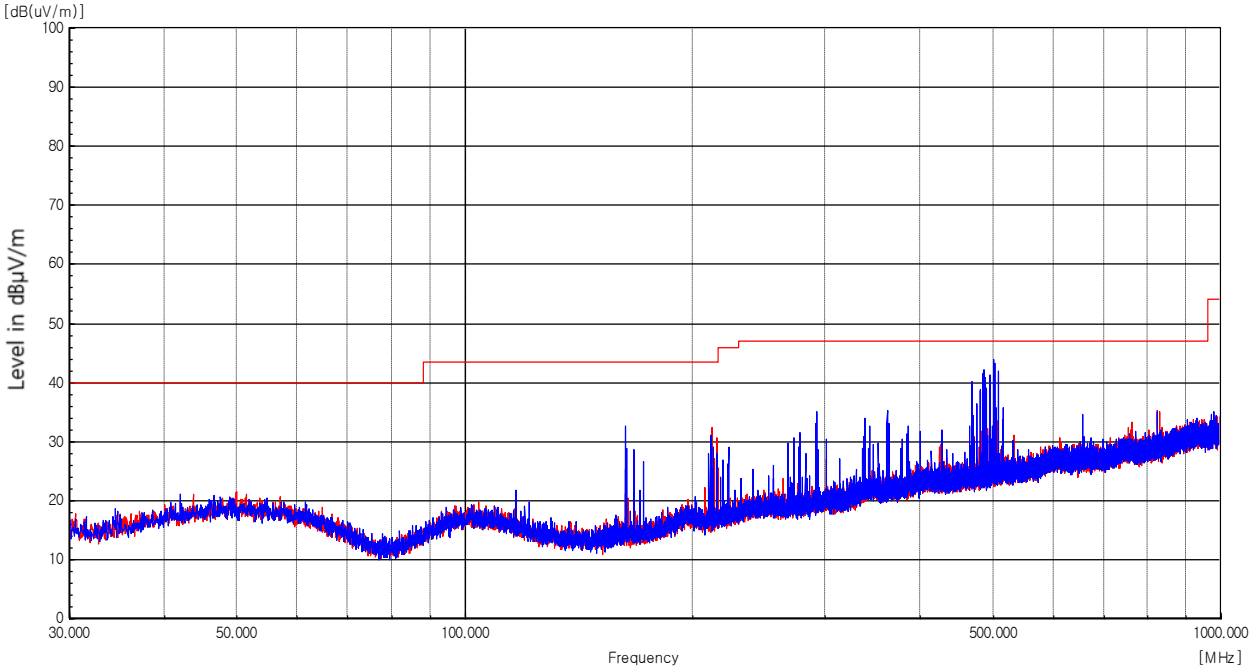

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 174.77 | 23.20 | V | 35 | 105 | 14.78 | 1.71 | 28.00 | 11.69 | 43.50 | 31.81 |
| 213.21 | 24.50 | V | 20 | 215 | 16.66 | 1.89 | 27.86 | 15.19 | 43.50 | 28.31 |
| 366.43 | 24.20 | V | 30 | 102 | 20.50 | 2.43 | 27.60 | 19.53 | 46.00 | 26.47 |
| 436.19 | 25.10 | H | 20 | 200 | 22.00 | 2.56 | 28.09 | 21.57 | 46.00 | 24.43 |
| 489.13 | 25.20 | V | 300 | 103 | 22.80 | 2.70 | 28.43 | 22.27 | 46.00 | 23.73 |
| 923.86 | 24.30 | V | 330 | 110 | 28.20 | 4.09 | 28.65 | 27.94 | 46.00 | 18.06 |

01 Mode_Model: YRD420 FP [ICES-003]



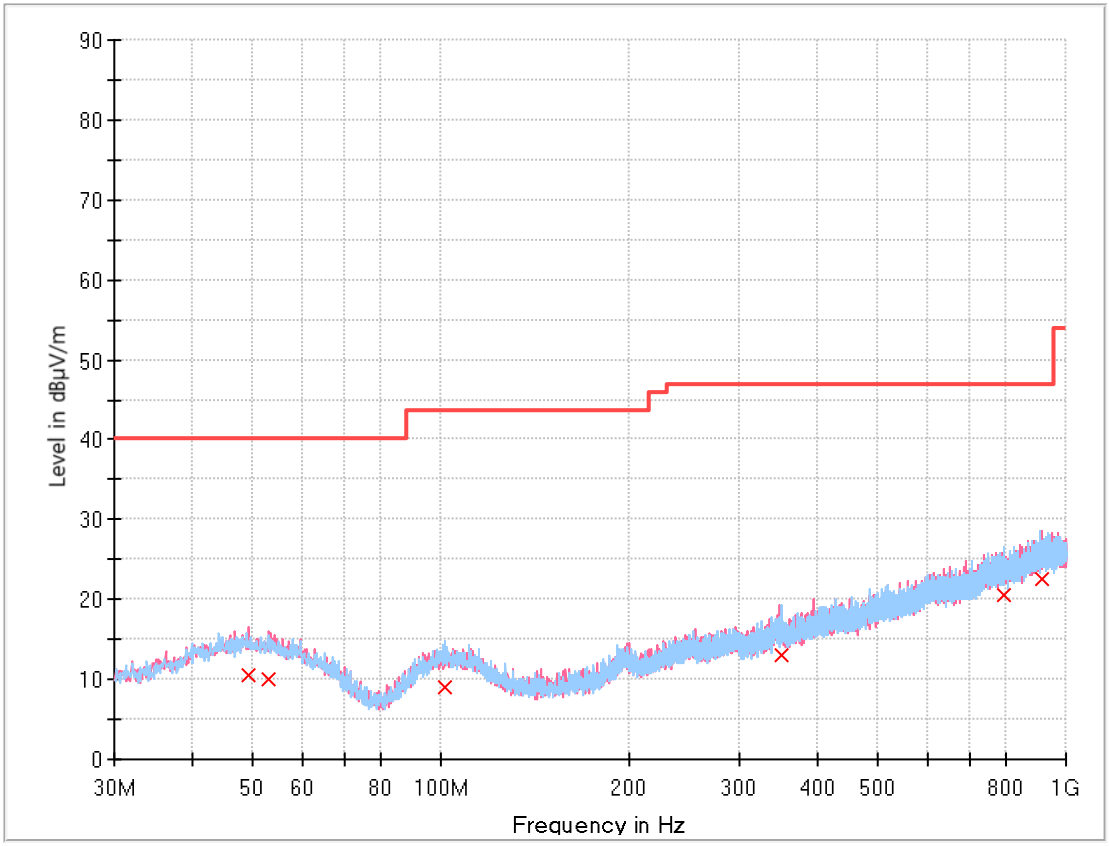

| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 31.29 | 22.50 | V | 48 | 200 | 16.07 | 0.67 | 28.20 | 11.04 | 40.00 | 28.96 |
| 49.32 | 23.00 | V | 37 | 200 | 19.67 | 0.86 | 28.20 | 15.33 | 40.00 | 24.67 |
| 217.82 | 22.50 | H | 156 | 100 | 16.89 | 1.96 | 27.85 | 13.50 | 46.00 | 32.50 |
| 437.89 | 23.30 | H | 358 | 200 | 22.00 | 2.53 | 28.10 | 19.73 | 46.00 | 26.27 |
| 485.86 | 23.40 | V | 212 | 200 | 22.70 | 2.71 | 28.42 | 20.39 | 46.00 | 25.61 |
| 842.54 | 23.20 | H | 359 | 200 | 27.00 | 3.66 | 28.73 | 25.13 | 46.00 | 20.87 |

02 Mode_Model: YRD420 FP [ICES-003]




| Freq. ( MHz ) | Reading (dBµV/m) | Pol. (H/V) | A ( ° ) | H ( cm ) | AF ( dB/m ) | CL ( dB ) | Amp. ( dB ) | F/R (dBµV/m) | Limit (dBµV/m) | Margin ( dB ) |
|---|---|---|---|---|---|---|---|---|---|---|
| 162.97 | 23.70 | V | 45 | 109 | 14.50 | 1.59 | 28.05 | 11.74 | 43.50 | 31.76 |
| 212.12 | 24.20 | H | 0 | 110 | 16.61 | 1.88 | 27.86 | 14.83 | 43.50 | 28.67 |
| 291.82 | 23.40 | V | 40 | 105 | 18.90 | 2.13 | 27.62 | 16.81 | 46.00 | 29.19 |
| 361.78 | 23.40 | V | 95 | 100 | 20.28 | 2.32 | 27.57 | 18.43 | 46.00 | 27.57 |
| 499.52 | 23.00 | V | 60 | 200 | 22.90 | 2.78 | 28.50 | 20.18 | 46.00 | 25.82 |
| 823.58 | 22.30 | H | 210 | 102 | 26.70 | 3.83 | 28.81 | 24.02 | 46.00 | 21.98 |

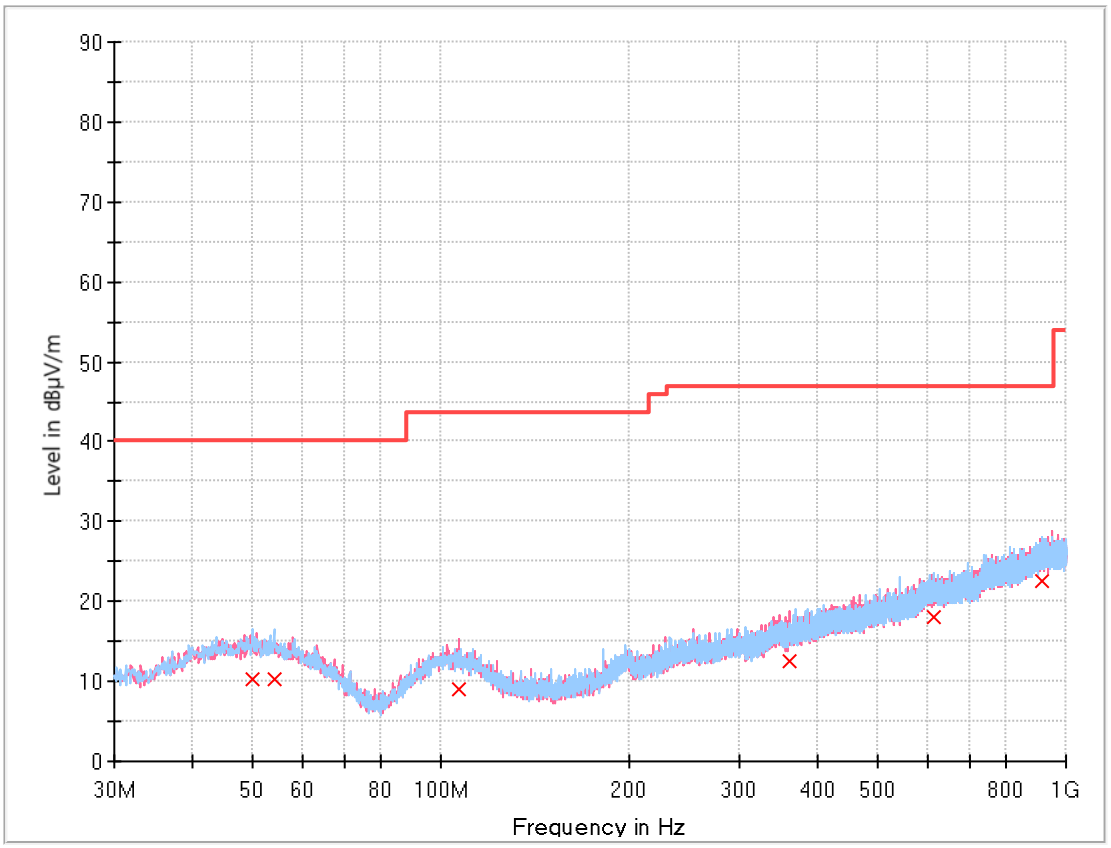
01 Mode_Model: YRD430-F [ICES-003]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.206 | 10.47 | 40.00 | 29.53 | 15 000.0 | 120.000 | 112.0 | V | 354.0 | -17.8 |
| 53.086 | 10.01 | 40.00 | 29.99 | 15 000.0 | 120.000 | 386.0 | V | 349.0 | -18.0 |
| 101.586 | 9.06 | 43.50 | 34.44 | 15 000.0 | 120.000 | 364.0 | H | 0.0 | -19.2 |
| 349.712 | 13.07 | 47.00 | 33.93 | 15 000.0 | 120.000 | 374.0 | H | 0.0 | -15.4 |
| 794.942 | 20.56 | 47.00 | 26.44 | 15 000.0 | 120.000 | 145.0 | H | 198.0 | -8.1 |
| 918.326 | 22.53 | 47.00 | 24.47 | 15 000.0 | 120.000 | 287.0 | V | 102.0 | -6.4 |

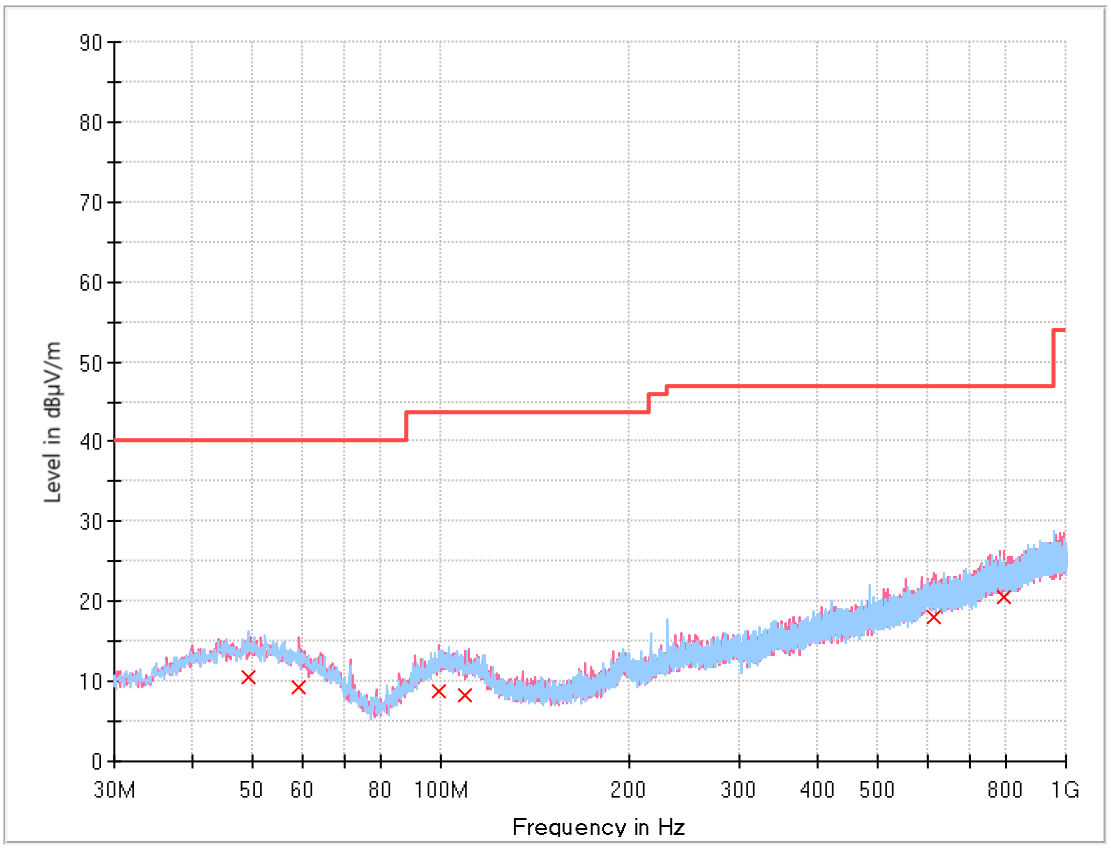
02 Mode_Model: YRD430-F [ICES-003]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.982 | 10.40 | 40.00 | 29.60 | 15 000.0 | 120.000 | 245.0 | H | 127.0 | -17.8 |
| 53.959 | 10.28 | 40.00 | 29.72 | 15 000.0 | 120.000 | 122.0 | H | 0.0 | -18.1 |
| 107.018 | 8.92 | 43.50 | 34.58 | 15 000.0 | 120.000 | 314.0 | V | 1.0 | -19.5 |
| 359.994 | 12.49 | 47.00 | 34.51 | 15 000.0 | 120.000 | 136.0 | V | 186.0 | -16.1 |
| 612.291 | 18.12 | 47.00 | 28.88 | 15 000.0 | 120.000 | 344.0 | H | 59.0 | -10.1 |
| 914.446 | 22.59 | 47.00 | 24.41 | 15 000.0 | 120.000 | 375.0 | H | 146.0 | -6.4 |

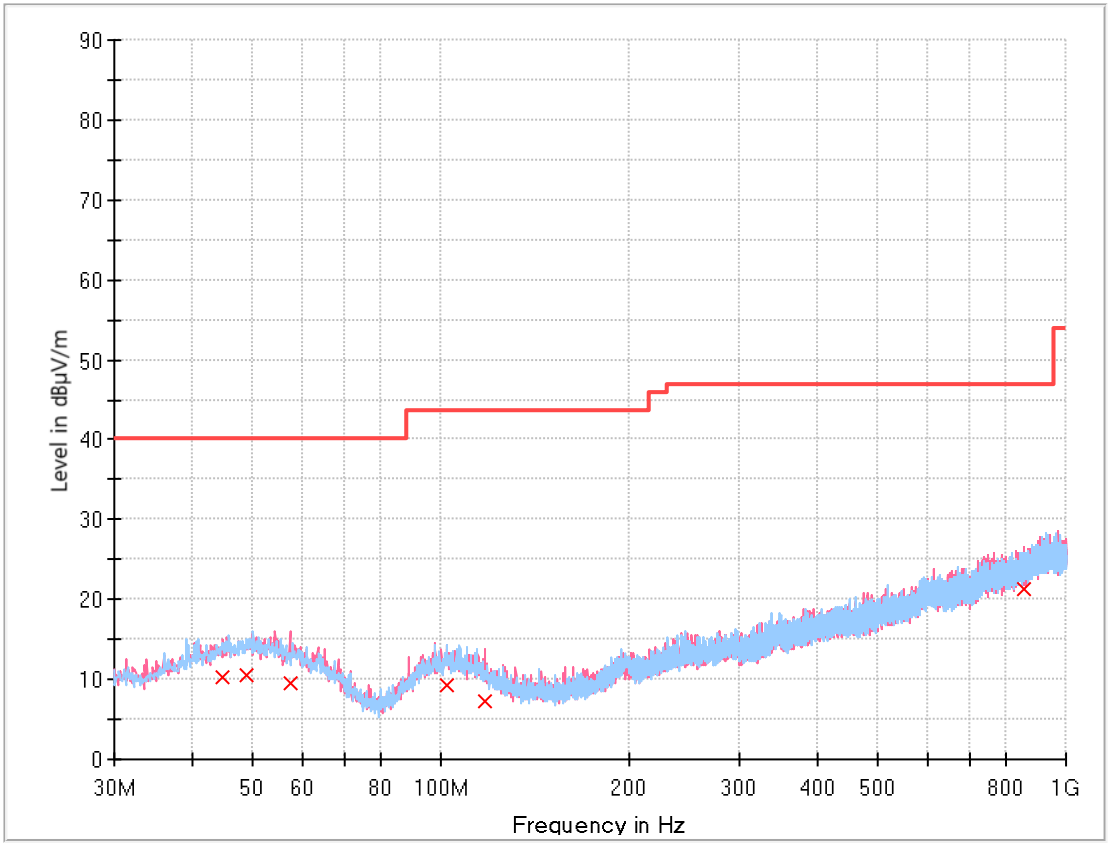
01 Mode_Model: YRD410-F [ICES-003]




Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 49.109 | 10.49 | 40.00 | 29.51 | 15 000.0 | 120.000 | 374.0 | H | 344.0 | -17.8 |
| 59.294 | 9.19 | 40.00 | 30.81 | 15 000.0 | 120.000 | 134.0 | V | 252.0 | -19.0 |
| 99.064 | 8.70 | 43.50 | 34.80 | 15 000.0 | 120.000 | 144.0 | V | 336.0 | -19.4 |
| 109.443 | 8.33 | 43.50 | 35.17 | 15 000.0 | 120.000 | 187.0 | V | 277.0 | -19.8 |
| 612.291 | 18.12 | 47.00 | 28.88 | 15 000.0 | 120.000 | 348.0 | V | 32.0 | -10.1 |
| 792.905 | 20.51 | 47.00 | 26.49 | 15 000.0 | 120.000 | 244.0 | V | 160.0 | -8.1 |

02 Mode_Model: YRD410-F [ICES-003]



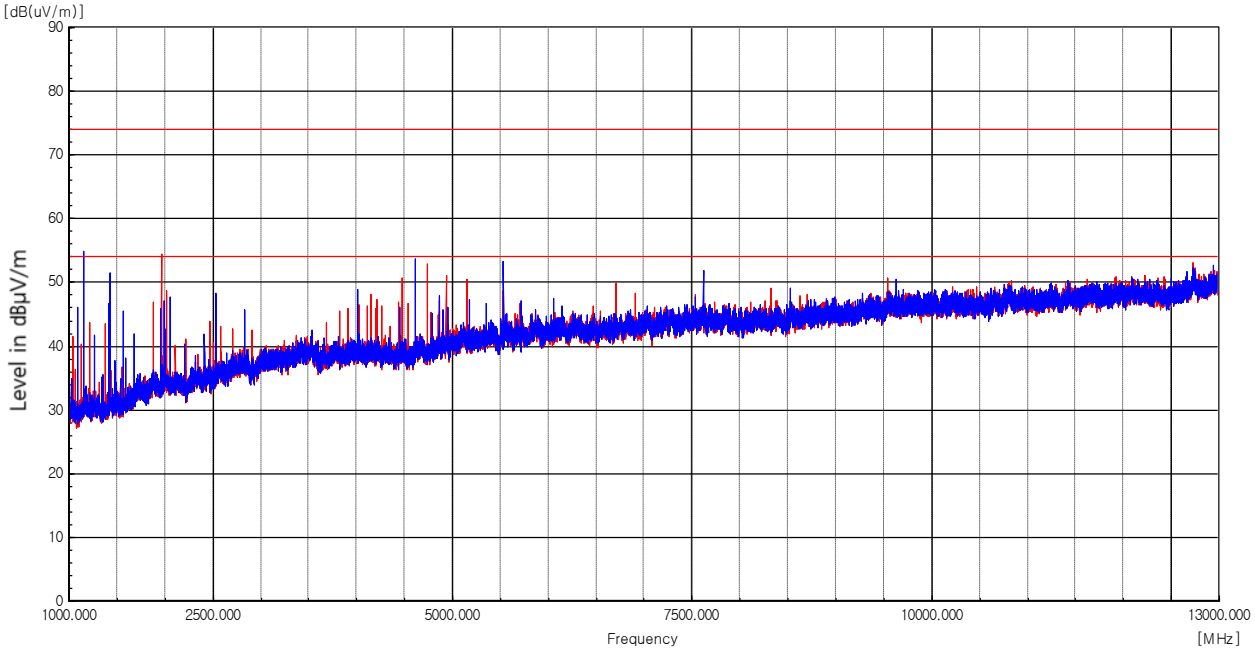

Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 44.744 | 10.25 | 40.00 | 29.75 | 15 000.0 | 120.000 | 124.0 | V | 318.0 | -18.0 |
| 48.915 | 10.48 | 40.00 | 29.52 | 15 000.0 | 120.000 | 148.0 | H | 192.0 | -17.8 |
| 57.257 | 9.43 | 40.00 | 30.57 | 15 000.0 | 120.000 | 377.0 | V | 0.0 | -18.6 |
| 101.974 | 9.21 | 43.50 | 34.29 | 15 000.0 | 120.000 | 355.0 | V | 236.0 | -19.2 |
| 117.397 | 7.32 | 43.50 | 36.18 | 15 000.0 | 120.000 | 255.0 | V | 258.0 | -20.9 |
| 854.015 | 21.22 | 47.00 | 25.78 | 15 000.0 | 120.000 | 314.0 | V | 119.0 | -7.4 |

Note. Measurement Uncertainty: See Appendix A

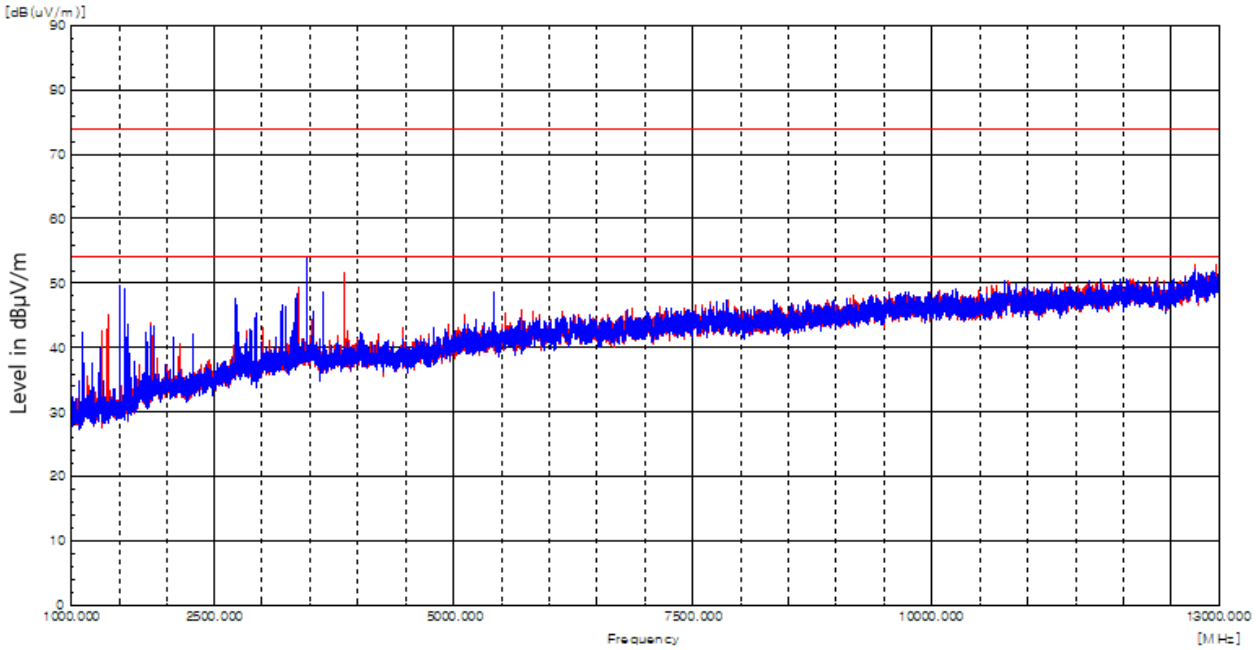
- AF = Antenna Factor
- CL = Cable Loss
- F/R = Final Result
- Pol.(H) = Horizontal
- Pol.(V) = Vertical
- Amp. = Amplifier Gain
- Margin = Limit – F/R or Quasi Peak
- F/R = Reading + AF + CL – Amp.
- A: Angle
- H: Height
- Corr. = Antenna Factor + Cable loss – Amplifier Gain

01 Mode_Model: YRD450 FP



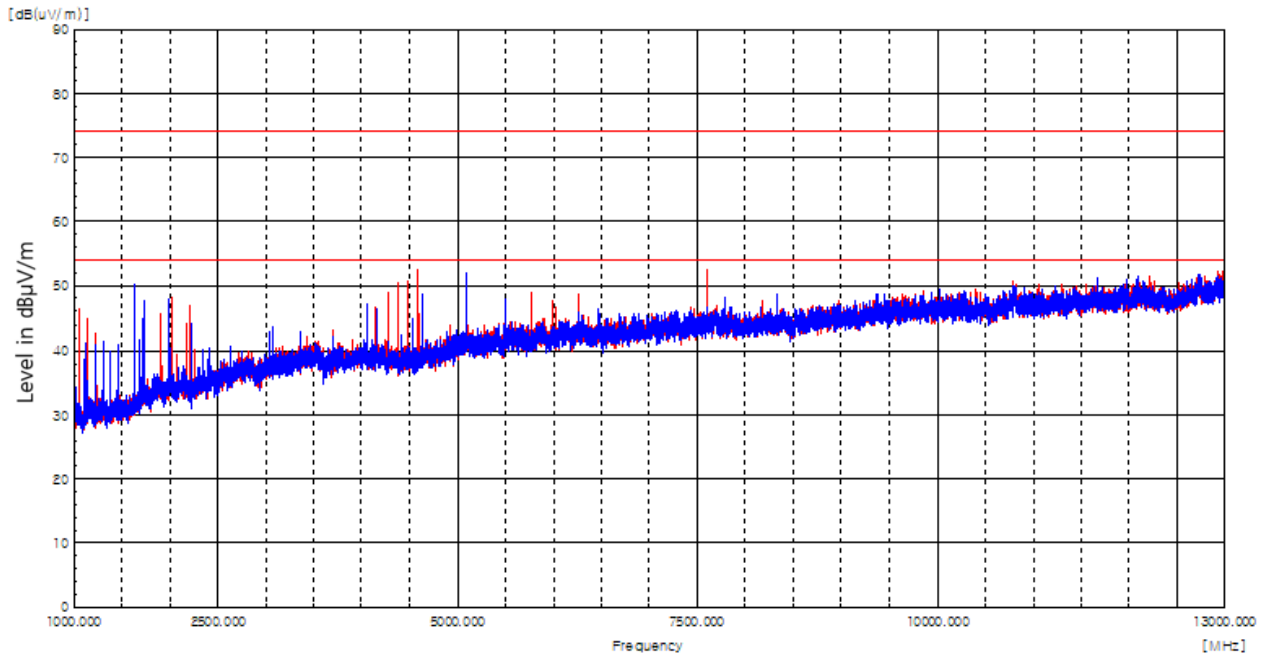

| Freq. | Level(dBµV/m) | | Pol. | A | H | AF | CL | Amp. | CF | F/R | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ( MHz ) | Peak | C-AV | (H/V) | ( ° ) | ( cm ) | ( dB ) | ( dB ) | ( dB ) | ( dB ) | (dBµV/m) | (dBµV/m) | ( dB ) |
| 1 148.50 | 46.50 | - | V | 45 | 100 | 24.51 | 4.45 | 45.53 | 0.00 | 29.93 | 74.00 | 44.07 |
| 1 148.50 | - | 32.30 | V | 45 | 100 | 24.51 | 4.45 | 45.53 | 0.00 | 15.73 | 54.00 | 38.27 |
| 1 959.50 | 64.00 | - | H | 241 | 100 | 27.66 | 6.06 | 45.30 | 0.00 | 52.42 | 74.00 | 21.58 |
| 1 959.50 | - | 33.90 | H | 241 | 100 | 27.66 | 6.06 | 45.30 | 0.00 | 22.32 | 54.00 | 31.68 |
| 4 607.50 | 45.20 | - | V | 34 | 100 | 32.13 | 9.16 | 45.70 | 0.00 | 40.79 | 74.00 | 33.21 |
| 4 607.50 | - | 32.20 | V | 34 | 100 | 32.13 | 9.16 | 45.70 | 0.00 | 27.79 | 54.00 | 26.21 |
| 5 532.00 | 43.20 | - | H | 1 | 100 | 34.16 | 10.34 | 45.39 | 0.00 | 42.31 | 74.00 | 31.69 |
| 5 532.00 | - | 31.50 | H | 1 | 100 | 34.16 | 10.34 | 45.39 | 0.00 | 30.61 | 54.00 | 23.39 |
| 7 529.50 | 42.60 | - | H | 1 | 100 | 36.20 | 12.91 | 45.78 | 0.00 | 45.93 | 74.00 | 28.07 |
| 7 529.50 | - | 29.20 | H | 1 | 100 | 36.20 | 12.91 | 45.78 | 0.00 | 32.53 | 54.00 | 21.47 |
| 9 630.50 | 43.30 | - | V | 240 | 100 | 37.60 | 13.78 | 45.55 | 0.00 | 49.13 | 74.00 | 24.87 |
| 9 630.50 | - | 29.90 | V | 240 | 100 | 37.60 | 13.78 | 45.55 | 0.00 | 35.73 | 54.00 | 18.27 |

02 Mode_Model: YRD450 FP



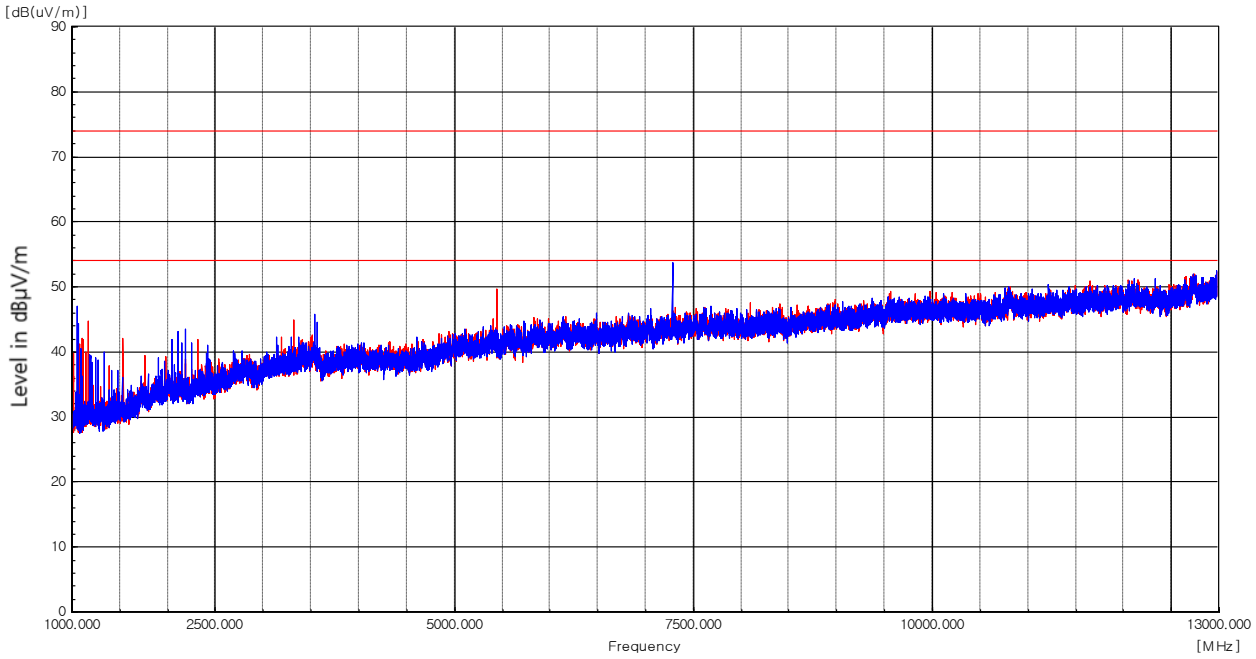

| Freq. | Level(dBµV/m) | | Pol. | A | H | AF | CL | Amp. | CF | F/R | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ( MHz ) | Peak | C-AV | (H/V) | ( ° ) | ( cm ) | ( dB ) | ( dB ) | ( dB ) | ( dB ) | (dBµV/m) | (dBµV/m) | ( dB ) |
| 1 391.50 | 46.30 | - | H | 105 | 105 | 25.02 | 5.40 | 45.40 | 0.00 | 31.32 | 74.00 | 42.68 |
| 1 391.50 | - | 32.40 | H | 105 | 105 | 25.02 | 5.40 | 45.40 | 0.00 | 17.42 | 54.00 | 36.58 |
| 1 519.00 | 64.00 | - | V | 200 | 111 | 25.12 | 5.71 | 45.40 | 0.00 | 49.43 | 74.00 | 24.57 |
| 1 519.00 | - | 33.90 | V | 200 | 111 | 25.12 | 5.71 | 45.40 | 0.00 | 19.33 | 54.00 | 34.67 |
| 3 455.00 | 45.40 | - | V | 5 | 101 | 31.20 | 7.89 | 45.43 | 0.00 | 39.06 | 74.00 | 34.94 |
| 3 455.00 | - | 31.60 | V | 5 | 101 | 31.20 | 7.89 | 45.43 | 0.00 | 25.26 | 54.00 | 28.74 |
| 3 857.50 | 45.60 | - | H | 240 | 120 | 32.33 | 8.34 | 45.40 | 0.00 | 40.87 | 74.00 | 33.13 |
| 3 857.50 | - | 32.00 | H | 240 | 120 | 32.33 | 8.34 | 45.40 | 0.00 | 27.27 | 54.00 | 26.73 |
| 5 423.00 | 42.60 | - | V | 10 | 125 | 34.15 | 10.08 | 45.40 | 0.00 | 41.43 | 74.00 | 32.57 |
| 5 423.00 | - | 29.20 | V | 10 | 125 | 34.15 | 10.08 | 45.40 | 0.00 | 28.03 | 54.00 | 25.97 |
| 12 283.50 | 43.30 | - | H | 350 | 110 | 38.67 | 15.25 | 45.07 | 0.00 | 52.15 | 74.00 | 21.85 |
| 12 283.50 | - | 29.90 | H | 350 | 110 | 38.67 | 15.25 | 45.07 | 0.00 | 38.75 | 54.00 | 15.25 |

01 Mode_Model: YRD420 FP



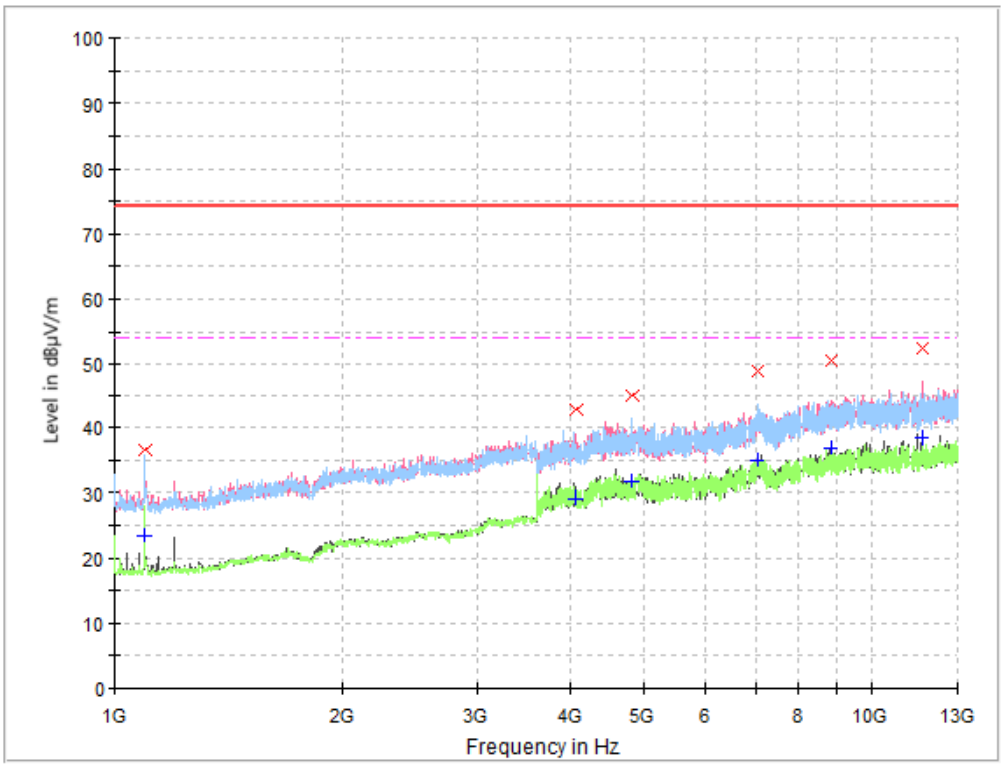

| Freq. | Level(dBµV/m) | | Pol. | A | H | AF | CL | Amp. | CF | F/R | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ( MHz ) | Peak | C-AV | (H/V) | ( ° ) | ( cm ) | ( dB ) | ( dB ) | ( dB ) | ( dB ) | (dBµV/m) | (dBµV/m) | ( dB ) |
| 1 644.50 | 49.50 | - | V | 125 | 100 | 26.11 | 5.74 | 45.38 | 0.00 | 35.97 | 74.00 | 38.03 |
| 1 644.50 | - | 34.50 | V | 125 | 100 | 26.11 | 5.74 | 45.38 | 0.00 | 20.97 | 54.00 | 33.03 |
| 2 020.00 | 64.00 | - | H | 85 | 100 | 28.14 | 5.96 | 45.30 | 0.00 | 52.80 | 74.00 | 21.20 |
| 2 020.00 | - | 33.90 | H | 85 | 100 | 28.14 | 5.96 | 45.30 | 0.00 | 22.70 | 54.00 | 31.30 |
| 4 063.50 | 45.40 | - | V | 42 | 100 | 32.20 | 8.58 | 45.37 | 0.00 | 40.81 | 74.00 | 33.19 |
| 4 063.50 | - | 32.20 | V | 42 | 100 | 32.20 | 8.58 | 45.37 | 0.00 | 27.61 | 54.00 | 26.39 |
| 4 584.50 | 45.60 | - | H | 327 | 100 | 31.83 | 9.16 | 45.68 | 0.00 | 40.91 | 74.00 | 33.09 |
| 4 584.50 | - | 31.40 | H | 327 | 100 | 31.83 | 9.16 | 45.68 | 0.00 | 26.71 | 54.00 | 27.29 |
| 5 084.00 | 42.60 | - | V | 261 | 100 | 33.54 | 10.12 | 45.40 | 0.00 | 40.86 | 74.00 | 33.14 |
| 5 084.00 | - | 29.20 | V | 261 | 100 | 33.54 | 10.12 | 45.40 | 0.00 | 27.46 | 54.00 | 26.54 |
| 7 607.00 | 43.30 | - | H | 257 | 100 | 36.00 | 13.45 | 45.74 | 0.00 | 47.01 | 74.00 | 26.99 |
| 7 607.00 | - | 29.90 | H | 257 | 100 | 36.00 | 13.45 | 45.74 | 0.00 | 33.61 | 54.00 | 20.39 |

02 Mode_Model: YRD420 FP




| Freq. | Level(dBµV/m) | | Pol. | A | H | AF | CL | Amp. | CF | F/R | Limit | Margin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ( MHz ) | Peak | C-AV | (H/V) | ( ° ) | ( cm ) | ( dB ) | ( dB ) | ( dB ) | ( dB ) | (dBµV/m) | (dBµV/m) | ( dB ) |
| 1 057.00 | 48.30 | - | V | 145 | 102 | 24.43 | 4.26 | 45.57 | 0.00 | 31.42 | 74.00 | 42.58 |
| 1 057.00 | - | 34.50 | V | 145 | 102 | 24.43 | 4.26 | 45.57 | 0.00 | 17.62 | 54.00 | 36.38 |
| 1 167.00 | 64.00 | - | H | 120 | 100 | 25.24 | 4.53 | 45.52 | 0.00 | 48.25 | 74.00 | 25.75 |
| 1 167.00 | - | 33.90 | H | 120 | 100 | 25.24 | 4.53 | 45.52 | 0.00 | 18.15 | 54.00 | 35.85 |
| 2 184.00 | 46.50 | - | V | 230 | 110 | 27.53 | 6.15 | 45.30 | 0.00 | 34.88 | 74.00 | 39.12 |
| 2 184.00 | - | 33.10 | V | 230 | 110 | 27.53 | 6.15 | 45.30 | 0.00 | 21.48 | 54.00 | 32.52 |
| 3 323.00 | 44.40 | - | H | 260 | 100 | 30.70 | 8.27 | 45.32 | 0.00 | 38.05 | 74.00 | 35.95 |
| 3 323.00 | - | 31.00 | H | 260 | 100 | 30.70 | 8.27 | 45.32 | 0.00 | 24.65 | 54.00 | 29.35 |
| 3 566.00 | 42.60 | - | V | 355 | 108 | 31.36 | 7.88 | 45.48 | 0.00 | 36.36 | 74.00 | 37.64 |
| 3 566.00 | - | 29.20 | V | 355 | 108 | 31.36 | 7.88 | 45.48 | 0.00 | 22.96 | 54.00 | 31.04 |
| 5 438.50 | 43.30 | - | H | 125 | 105 | 34.12 | 10.25 | 45.40 | 0.00 | 42.27 | 74.00 | 31.73 |
| 5 438.50 | - | 29.90 | H | 125 | 105 | 34.12 | 10.25 | 45.40 | 0.00 | 28.87 | 54.00 | 25.13 |
| 12 335.50 | 42.80 | - | V | 300 | 100 | 38.60 | 15.65 | 45.03 | 0.00 | 52.02 | 74.00 | 21.98 |
| 12 335.50 | - | 29.10 | V | 300 | 100 | 38.60 | 15.65 | 45.03 | 0.00 | 38.32 | 54.00 | 15.68 |

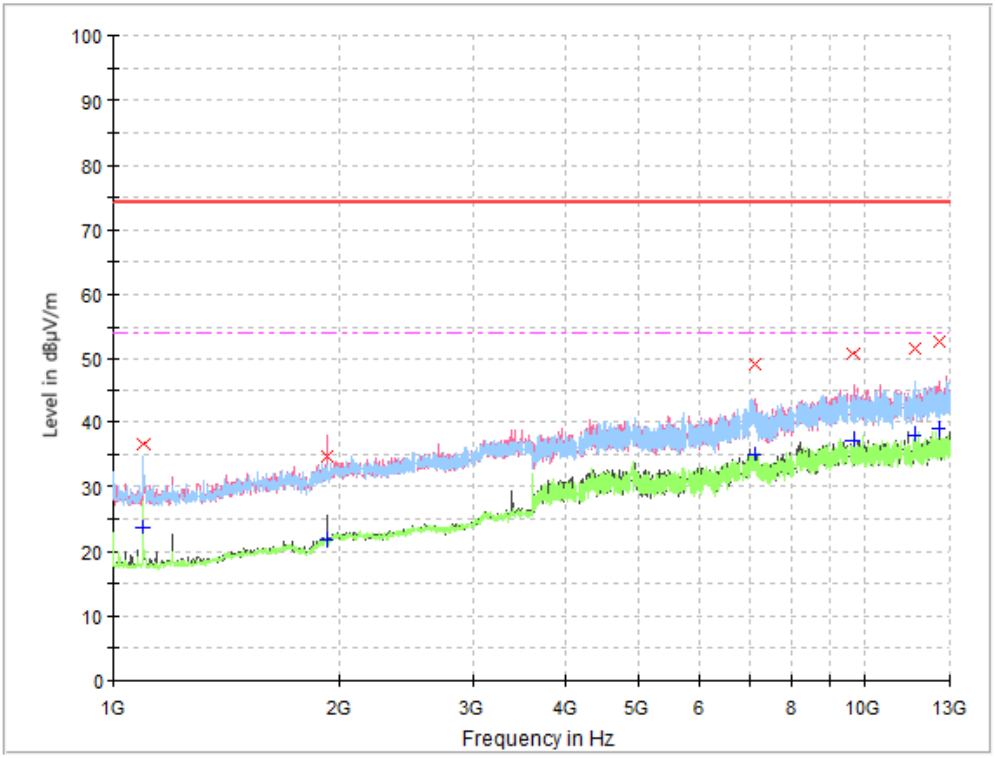
01 Mode_Model: YRD430-F




## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | CAverage (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 099.600 | --- | 23.51 | 54.00 | 30.49 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | -14.6 |
| 1 099.600 | 36.65 | --- | 74.00 | 37.35 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | -14.6 |
| 4 078.000 | --- | 29.32 | 54.00 | 24.68 | 15 000.0 | 1 000.000 | 100.0 | V | 304.0 | -0.6 |
| 4 078.000 | 42.87 | --- | 74.00 | 31.13 | 15 000.0 | 1 000.000 | 100.0 | V | 304.0 | -0.6 |
| 4 835.200 | 45.10 | --- | 74.00 | 28.90 | 15 000.0 | 1 000.000 | 100.0 | H | 80.0 | 2.0 |
| 4 835.200 | --- | 31.70 | 54.00 | 22.30 | 15 000.0 | 1 000.000 | 100.0 | H | 80.0 | 2.0 |
| 7 045.600 | 48.79 | --- | 74.00 | 25.21 | 15 000.0 | 1 000.000 | 100.0 | H | 136.0 | 5.4 |
| 7 045.600 | --- | 35.13 | 54.00 | 18.87 | 15 000.0 | 1 000.000 | 100.0 | H | 136.0 | 5.4 |
| 8 860.000 | --- | 36.93 | 54.00 | 17.07 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 7.8 |
| 8 860.000 | 50.45 | --- | 74.00 | 23.55 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 7.8 |
| 11 614.000 | --- | 38.58 | 54.00 | 15.42 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 9.2 |
| 11 614.000 | 52.37 | --- | 74.00 | 21.63 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 9.2 |

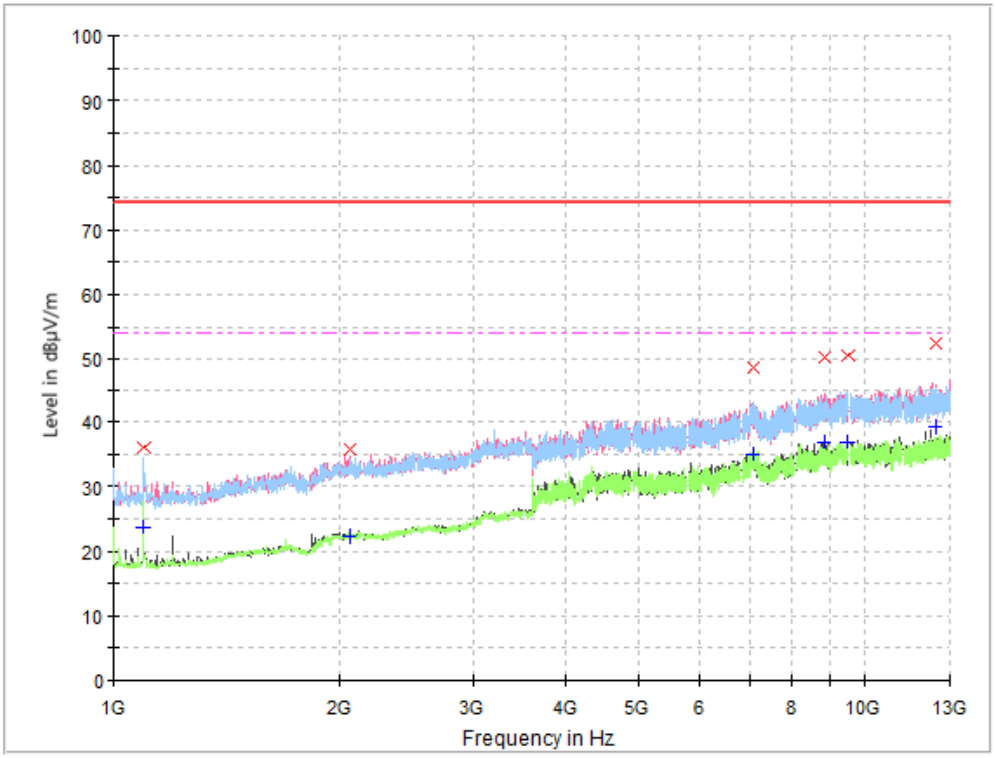
02 Mode_Model: YRD430-F




## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | CAverage (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 099.600 | --- | 23.70 | 54.00 | 30.30 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | -14.6 |
| 1 099.600 | 36.82 | --- | 74.00 | 37.18 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | -14.6 |
| 1 928.800 | 34.95 | --- | 74.00 | 39.05 | 15 000.0 | 1 000.000 | 100.0 | V | 183.0 | -9.1 |
| 1 928.800 | --- | 21.67 | 54.00 | 32.33 | 15 000.0 | 1 000.000 | 100.0 | V | 183.0 | -9.1 |
| 7 120.000 | --- | 35.21 | 54.00 | 18.79 | 15 000.0 | 1 000.000 | 100.0 | V | 147.0 | 5.5 |
| 7 120.000 | 49.02 | --- | 74.00 | 24.98 | 15 000.0 | 1 000.000 | 100.0 | V | 147.0 | 5.5 |
| 9 678.400 | --- | 37.33 | 54.00 | 16.67 | 15 000.0 | 1 000.000 | 100.0 | V | 168.0 | 8.0 |
| 9 678.400 | 50.83 | --- | 74.00 | 23.17 | 15 000.0 | 1 000.000 | 100.0 | V | 168.0 | 8.0 |
| 11 627.200 | 51.53 | --- | 74.00 | 22.47 | 15 000.0 | 1 000.000 | 100.0 | H | 134.0 | 9.2 |
| 11 627.200 | --- | 38.30 | 54.00 | 15.70 | 15 000.0 | 1 000.000 | 100.0 | H | 134.0 | 9.2 |
| 12 596.800 | --- | 39.13 | 54.00 | 14.87 | 15 000.0 | 1 000.000 | 100.0 | V | 210.0 | 10.3 |
| 12 596.800 | 52.72 | --- | 74.00 | 21.28 | 15 000.0 | 1 000.000 | 100.0 | V | 210.0 | 10.3 |

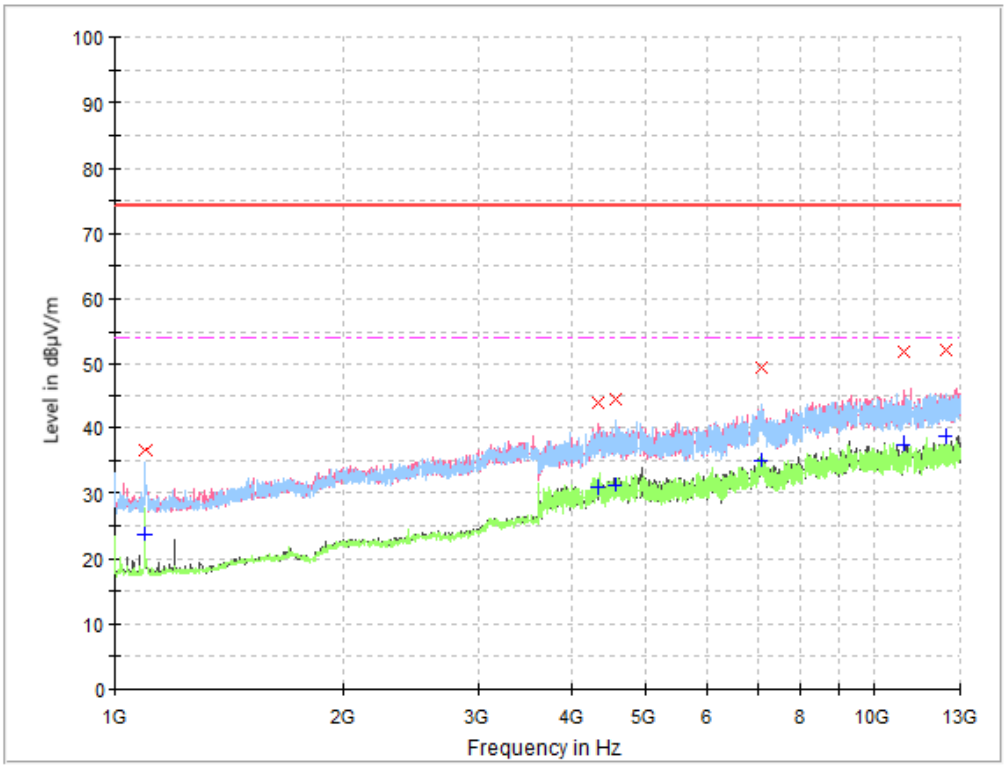
01 Mode_Model: YRD410-F




## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | CAverage (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 099.600 | 36.21 | --- | 74.00 | 37.79 | 15 000.0 | 1 000.000 | 100.0 | V | 219.0 | -14.6 |
| 1 099.600 | --- | 23.59 | 54.00 | 30.41 | 15 000.0 | 1 000.000 | 100.0 | V | 219.0 | -14.6 |
| 2 063.200 | 36.07 | --- | 74.00 | 37.93 | 15 000.0 | 1 000.000 | 100.0 | V | 190.0 | -8.0 |
| 2 063.200 | --- | 22.24 | 54.00 | 31.76 | 15 000.0 | 1 000.000 | 100.0 | V | 190.0 | -8.0 |
| 7 105.600 | 48.52 | --- | 74.00 | 25.48 | 15 000.0 | 1 000.000 | 100.0 | H | 97.0 | 5.5 |
| 7 105.600 | --- | 35.21 | 54.00 | 18.79 | 15 000.0 | 1 000.000 | 100.0 | H | 97.0 | 5.5 |
| 8 863.600 | 50.21 | --- | 74.00 | 23.79 | 15 000.0 | 1 000.000 | 100.0 | V | 234.0 | 7.8 |
| 8 863.600 | --- | 36.92 | 54.00 | 17.08 | 15 000.0 | 1 000.000 | 100.0 | V | 234.0 | 7.8 |
| 9 511.600 | --- | 37.12 | 54.00 | 16.88 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | 8.0 |
| 9 511.600 | 50.40 | --- | 74.00 | 23.60 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | 8.0 |
| 12 427.600 | --- | 39.18 | 54.00 | 14.82 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 10.0 |
| 12 427.600 | 52.44 | --- | 74.00 | 21.56 | 15 000.0 | 1 000.000 | 100.0 | V | 346.0 | 10.0 |

02 Mode_Model: YRD410-F




## Final_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | CAverage (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 099.600 | 36.80 | --- | 74.00 | 37.20 | 15 000.0 | 1 000.000 | 100.0 | H | 22.0 | -14.6 |
| 1 099.600 | --- | 23.64 | 54.00 | 30.36 | 15 000.0 | 1 000.000 | 100.0 | H | 22.0 | -14.6 |
| 4 333.600 | --- | 30.91 | 54.00 | 23.09 | 15 000.0 | 1 000.000 | 100.0 | V | 254.0 | 0.6 |
| 4 333.600 | 44.08 | --- | 74.00 | 29.92 | 15 000.0 | 1 000.000 | 100.0 | V | 254.0 | 0.6 |
| 4 580.800 | --- | 31.15 | 54.00 | 22.85 | 15 000.0 | 1 000.000 | 100.0 | H | 164.0 | 0.8 |
| 4 580.800 | 44.48 | --- | 74.00 | 29.52 | 15 000.0 | 1 000.000 | 100.0 | H | 164.0 | 0.8 |
| 7 094.800 | --- | 35.19 | 54.00 | 18.81 | 15 000.0 | 1 000.000 | 100.0 | H | 178.0 | 5.5 |
| 7 094.800 | 49.42 | --- | 74.00 | 24.58 | 15 000.0 | 1 000.000 | 100.0 | H | 178.0 | 5.5 |
| 10 963.600 | --- | 37.73 | 54.00 | 16.27 | 15 000.0 | 1 000.000 | 100.0 | V | 14.0 | 8.3 |
| 10 963.600 | 51.75 | --- | 74.00 | 22.25 | 15 000.0 | 1 000.000 | 100.0 | V | 14.0 | 8.3 |
| 12 450.400 | 52.04 | --- | 74.00 | 21.96 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | 10.0 |
| 12 450.400 | --- | 38.82 | 54.00 | 15.18 | 15 000.0 | 1 000.000 | 100.0 | H | 0.0 | 10.0 |

Note. Measurement Uncertainty: See Appendix A

- AF = Antenna Factor
- CL = Cable Loss
- F/R = Final Result
- Pol.(H) = Horizontal
- Pol.(V) = Vertical
- Amp. = Amplifier Gain
- A: Angle
- H: Height
- F/R = Level + AF + CL – Amp
- Margin = Limit – F/R or MaxPeak or CAverage
- Corr. = AF + CL – AMP ** The value of 'Level' includes 'Corr.'.

Ex) In case

Freq ; 100 ㎒, level ; 30 ㏈(µV/m), AF ; 10 ㏈/m, CL ; 4 ㏈, Amp ; 25 ㏈

Result = Level + AF + CL – Amp
= 30 + 10 + 4 - 25
= 19

Margin = Limit – Result
= 43.5 – 19
= 24.5

## *Appendix A: Measurement Uncertainty*

| Test Method | | | Measurement Uncertainty |
|---|---|---|---|
| Conducted Emission | | ENV216 | 4.0 dB (The confidential level is 95 %, *k*=2) |
| | | ESH2-Z5 | 3.6 dB (The confidential level is 95 %, *k*=2) |
| | | ESH3-Z6 | 3.8 dB (The confidential level is 95 %, *k*=2) |
| Conducted Emission - Signal | | ISN T800 | 5.8 dB (The confidential level is 95 %, *k*=2) |
| | | ISNT8-Cat6 | 5.8 dB (The confidential level is 95 %, *k*=2) |
| | | ISN S751 | 7.5 dB (The confidential level is 95 %, *k*=2) |
| Disturbance Voltage at Antenna Terminal | | | 2.9 dB (The confidential level is 95 %, *k*=2) |
| Radiated Emission | 9 kHz - 30 MHz | Horizontal | 3.4 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 3.4 dB (The confidential level is 95 %, *k*=2) |
| | 30 MHz - 1 000 MHz | Horizontal | 4.5 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 5.1 dB (The confidential level is 95 %, *k*=2) |
| | 1 GHz - 18 GHz | Horizontal | 3.7 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 3.9 dB (The confidential level is 95 %, *k*=2) |

**Table A.1 Measurement Uncertainty of Branch Site**

| Test Method | | | Measurement Uncertainty |
|---|---|---|---|
| Conducted Emission | | ENV216 | 3.2 dB (The confidential level is 95 %, *k*=2) |
| | | ESH3-Z6 | 3.2 dB (The confidential level is 95 %, *k*=2) |
| | | ESH2-Z5 | 3.0 dB (The confidential level is 95 %, *k*=2) |
| | | NNLK8129 | 3.0 dB (The confidential level is 95 %, *k*=2) |
| Conducted Emission - Signal | | ISN T800 | 5.5 dB (The confidential level is 95 %, *k*=2) |
| | | ISN ST08 | 6.6 dB (The confidential level is 95 %, *k*=2) |
| Radiated Emission | 9 kHz - 30 MHz | Horizontal | 3.3 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 3.3 dB (The confidential level is 95 %, *k*=2) |
| | 30 MHz - 1 000 MHz | Horizontal | 4.3 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 4.6 dB (The confidential level is 95 %, *k*=2) |
| | 1 GHz - 18 GHz | Horizontal | 3.9 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 4.0 dB (The confidential level is 95 %, *k*=2) |

**Table A.2 Measurement Uncertainty of Branch Site-3**

| Test Method | | | Measurement Uncertainty |
|---|---|---|---|
| Conducted Emission | | ENV216 | 3.5 dB (The confidential level is 95 %, *k*=2) |
| | | ESH2-Z5 | 3.3 dB (The confidential level is 95 %, *k*=2) |
| | | ESH3-Z6 | 3.3 dB (The confidential level is 95 %, *k*=2) |
| | | NNLK8129 | 3.4 dB (The confidential level is 95 %, *k*=2) |
| Conducted Emission - Signal | | ISN T800 | 5.7 dB (The confidential level is 95 %, *k*=2) |
| | | ISN ST08 | 5.5 dB (The confidential level is 95 %, *k*=2) |
| Radiated Emission | 9 kHz - 30 MHz (Triple Loop Ant.) | | 3.4 dB (The confidential level is 95 %, *k*=2) |
| | 9 kHz - 30 MHz (Loop Ant.) | Horizontal | 3.8 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 3.8 dB (The confidential level is 95 %, *k*=2) |
| | 30 MHz - 1 000 MHz | Horizontal | 4.8 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 5.4 dB (The confidential level is 95 %, *k*=2) |
| | 1 GHz - 18 GHz | Horizontal | 4.1 dB (The confidential level is 95 %, *k*=2) |
| | | Vertical | 4.2 dB (The confidential level is 95 %, *k*=2) |

**Table A.3 Measurement Uncertainty of Branch Site-4**

**- End of Test Report -**