

## TEST REPORT

**Applicant:** Zhejiang Hanshow Technology Co., Ltd.

**Address of Applicant:** Bld. 33, No. 966 xiuyuan Rd., BeiKeJian Innovation Park,  
XiuZhou District, Jiaxing, Zhejiang, China

**Manufacturer/Factory:** Zhejiang Hanshow Technology Co., Ltd.

**Address of  
Manufacturer/Factory:** Bld. 33, No. 966 xiuyuan Rd., BeiKeJian Innovation Park,  
XiuZhou District, Jiaxing, Zhejiang, China

**Equipment Under Test (EUT)**

Product Name: ESL Controller

Model No.: HS\_C09959, HS\_C09989

**FCC ID:** 2AHB5-C09959

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249

**Date of sample receipt:** May 28, 2020

**Date of Test:** May 29, 2020-June 05, 2020

**Date of report issued:** June 05, 2020

**Test Result :** PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular blue ink stamp for GTS (Global United Technology Services) is visible. The stamp contains the text "GTS", "GLOBAL UNITED TECHNOLOGY SERVICES", and "EST. 2010". Overlaid on the stamp is a handwritten signature in black ink, which appears to read "Robinson Lo". To the right of the signature, the word "June" is handwritten.

**Robinson Lo**  
**Laboratory Manager**

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | June 05, 2020 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

**Prepared By:** Tiger Chen **Date:** June 05, 2020  
**Project Engineer**

**Check By:** Robinson **Date:** June 05, 2020  
**Reviewer**

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## 4 Test Summary

| Test Item                                | Section in CFR 47     | Result |
|------------------------------------------|-----------------------|--------|
| Antenna requirement                      | 15.203                | Pass   |
| AC Power Line Conducted Emission         | 15.207                | Pass   |
| Field strength of the fundamental signal | 15.249 (a)            | Pass   |
| Spurious emissions                       | 15.249 (a) (d)/15.209 | Pass   |
| Band edge                                | 15.249 (d)/15.205     | Pass   |
| 20dB Occupied Bandwidth                  | 15.215 (c)            | Pass   |

Remarks:

1. Test according to ANSI C63.10: 2013.
2. Pass: The EUT complies with the essential requirements in the standard.

### 4.1 Measurement Uncertainty

| Test Item                        | Frequency Range | Measurement Uncertainty | Notes |
|----------------------------------|-----------------|-------------------------|-------|
| Radiated Emission                | 30MHz-200MHz    | 3.8039dB                | (1)   |
| Radiated Emission                | 200MHz-1GHz     | 3.9679dB                | (1)   |
| Radiated Emission                | 1GHz-18GHz      | 4.29dB                  | (1)   |
| Radiated Emission                | 18GHz-40GHz     | 3.30dB                  | (1)   |
| AC Power Line Conducted Emission | 0.15MHz ~ 30MHz | 3.44dB                  | (1)   |

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

## 5 General Information

### 5.1 General Description of EUT

|                      |                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------|
| Product Name:        | ESL Controller                                                                                                 |
| Model No.:           | HS_C09959, HS_C09989                                                                                           |
| Test Model No:       | HS_C09959                                                                                                      |
| Serial No.:          | 907012001593871513                                                                                             |
| Hardware Version:    | HS_C09959_V1_1_1                                                                                               |
| Software Version:    | 6.1.17                                                                                                         |
| Test sample(s) ID:   | GTS202005000207-1                                                                                              |
| Sample(s) Status     | Engineered sample                                                                                              |
| Operation Frequency: | 2402MHz~2480MHz                                                                                                |
| Channel numbers:     | 157                                                                                                            |
| Channel separation:  | 0.5MHz                                                                                                         |
| Modulation type:     | GFSK                                                                                                           |
| Antenna Type:        | Omni-directional Antenna                                                                                       |
| Antenna gain:        | 2dBi(declare by applicant)                                                                                     |
| Power supply:        | AC Adapter<br>Model: SWI12-12-N<br>Input: AC 100-240V, 50-60Hz, 0.31A max<br>Output: DC 12.0V, 1.0A, 12.0W MAX |

| Operation Frequency each of channel |                 |         |                 |         |                 |         |                 |
|-------------------------------------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| Channel                             | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 1                                   | 2402.0          | 41      | 2422.0          | 81      | 2442.0          | 121     | 2462.0          |
| 2                                   | 2402.5          | 42      | 2422.5          | 82      | 2442.5          | 122     | 2462.5          |
| 3                                   | 2403.0          | 43      | 2423.0          | 83      | 2443.0          | 123     | 2463.0          |
| 4                                   | 2403.5          | 44      | 2423.5          | 84      | 2443.5          | 124     | 2463.5          |
| 5                                   | 2404.0          | 45      | 2424.0          | 85      | 2444.0          | 125     | 2464.0          |
| 6                                   | 2404.5          | 46      | 2424.5          | 86      | 2444.5          | 126     | 2464.5          |
| 7                                   | 2405.0          | 47      | 2425.0          | 87      | 2445.0          | 127     | 2465.0          |
| 8                                   | 2405.5          | 48      | 2425.5          | 88      | 2445.5          | 128     | 2465.5          |
| 9                                   | 2406.0          | 49      | 2426.0          | 89      | 2446.0          | 129     | 2466.0          |
| 10                                  | 2406.5          | 50      | 2426.5          | 90      | 2446.5          | 130     | 2466.5          |
| 11                                  | 2407.0          | 51      | 2427.0          | 91      | 2447.0          | 131     | 2467.0          |
| 12                                  | 2407.5          | 52      | 2427.5          | 92      | 2447.5          | 132     | 2467.5          |
| 13                                  | 2408.0          | 53      | 2428.0          | 93      | 2448.0          | 133     | 2468.0          |
| 14                                  | 2408.5          | 54      | 2428.5          | 94      | 2448.5          | 134     | 2468.5          |
| 15                                  | 2409.0          | 55      | 2429.0          | 95      | 2449.0          | 135     | 2469.0          |
| 16                                  | 2409.5          | 56      | 2429.5          | 96      | 2449.5          | 136     | 2469.5          |
| 17                                  | 2410.0          | 57      | 2430.0          | 97      | 2450.0          | 137     | 2470.0          |
| 18                                  | 2410.5          | 58      | 2430.5          | 98      | 2450.5          | 138     | 2470.5          |
| 19                                  | 2411.0          | 59      | 2431.0          | 99      | 2451.0          | 139     | 2471.0          |
| 20                                  | 2411.5          | 60      | 2431.5          | 100     | 2451.5          | 140     | 2471.5          |
| 21                                  | 2412.0          | 61      | 2432.0          | 101     | 2452.0          | 141     | 2472.0          |
| 22                                  | 2412.5          | 62      | 2432.5          | 102     | 2452.5          | 142     | 2472.5          |
| 23                                  | 2413.0          | 63      | 2433.0          | 103     | 2453.0          | 143     | 2473.0          |
| 24                                  | 2413.5          | 64      | 2433.5          | 104     | 2453.5          | 144     | 2473.5          |
| 25                                  | 2414.0          | 65      | 2434.0          | 105     | 2454.0          | 145     | 2474.0          |
| 26                                  | 2414.5          | 66      | 2434.5          | 106     | 2454.5          | 146     | 2474.5          |
| 27                                  | 2415.0          | 67      | 2435.0          | 107     | 2455.0          | 147     | 2475.0          |
| 28                                  | 2415.5          | 68      | 2435.5          | 108     | 2455.5          | 148     | 2475.5          |
| 29                                  | 2416.0          | 69      | 2436.0          | 109     | 2456.0          | 149     | 2476.0          |
| 30                                  | 2416.5          | 70      | 2436.5          | 110     | 2456.5          | 150     | 2476.5          |
| 31                                  | 2417.0          | 71      | 2437.0          | 111     | 2457.0          | 151     | 2477.0          |
| 32                                  | 2417.5          | 72      | 2437.5          | 112     | 2457.5          | 152     | 2477.5          |
| 33                                  | 2418.0          | 73      | 2438.0          | 113     | 2458.0          | 153     | 2478.0          |
| 34                                  | 2418.5          | 74      | 2438.5          | 114     | 2458.5          | 154     | 2478.5          |
| 35                                  | 2419.0          | 75      | 2439.0          | 115     | 2459.0          | 155     | 2479.0          |
| 36                                  | 2419.5          | 76      | 2439.5          | 116     | 2459.5          | 156     | 2479.5          |
| 37                                  | 2420.0          | 77      | 2440.0          | 117     | 2460.0          | 157     | 2480.0          |
| 38                                  | 2420.5          | 78      | 2440.5          | 118     | 2460.5          |         |                 |
| 39                                  | 2421.0          | 79      | 2441.0          | 119     | 2461.0          |         |                 |
| 40                                  | 2421.5          | 80      | 2441.5          | 120     | 2461.5          |         |                 |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

| Channel             | Frequency |
|---------------------|-----------|
| The lowest channel  | 2402MHz   |
| The middle channel  | 2441MHz   |
| The Highest channel | 2480MHz   |

## 5.2 Test mode

|                                                                                                                                                                                                                                                                     |                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Transmitting mode                                                                                                                                                                                                                                                   | Keep the EUT in continuously transmitting mode. |
| <i>Remark: During the test, the dutycycle &gt;98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i> |                                                 |

### Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

| Axis                   | X     | Y     | Z     |
|------------------------|-------|-------|-------|
| Field Strength(dBuV/m) | 96.13 | 97.17 | 96.08 |

## 5.3 Description of Support Units

|       |
|-------|
| None. |
|-------|

## 5.4 Deviation from Standards

|       |
|-------|
| None. |
|-------|

## 5.5 Abnormalities from Standard Conditions

|       |
|-------|
| None. |
|-------|

## 5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

- **IC —Registration No.: 9079A**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

## 5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

## 5.8 Additional Instructions

|                   |                                               |
|-------------------|-----------------------------------------------|
| Test Software     | Special test command provided by manufacturer |
| Power level setup | Default                                       |



## 6 Test Instruments list

| Radiated Emission: |                                     |                                |                             |               |                     |                         |
|--------------------|-------------------------------------|--------------------------------|-----------------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                      | Manufacturer                   | Model No.                   | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber           | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H)       | GTS250        | July. 03 2015       | July. 02 2020           |
| 2                  | Control Room                        | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H)       | GTS251        | N/A                 | N/A                     |
| 3                  | EMI Test Receiver                   | Rohde & Schwarz                | ESU26                       | GTS203        | June. 26 2019       | June. 25 2020           |
| 4                  | BiConiLog Antenna                   | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9163                    | GTS214        | June. 26 2019       | June. 25 2020           |
| 5                  | Double -ridged waveguide horn       | SCHWARZBECK<br>MESS-ELEKTRONIK | BBHA 9120 D                 | GTS208        | June. 26 2019       | June. 25 2020           |
| 6                  | Horn Antenna                        | ETS-LINDGREN                   | 3160                        | GTS217        | June. 26 2019       | June. 25 2020           |
| 7                  | EMI Test Software                   | AUDIX                          | E3                          | N/A           | N/A                 | N/A                     |
| 8                  | Coaxial Cable                       | GTS                            | N/A                         | GTS213        | June. 26 2019       | June. 25 2020           |
| 9                  | Coaxial Cable                       | GTS                            | N/A                         | GTS211        | June. 26 2019       | June. 25 2020           |
| 10                 | Coaxial cable                       | GTS                            | N/A                         | GTS210        | June. 26 2019       | June. 25 2020           |
| 11                 | Coaxial Cable                       | GTS                            | N/A                         | GTS212        | June. 26 2019       | June. 25 2020           |
| 12                 | Amplifier(100kHz-3GHz)              | HP                             | 8347A                       | GTS204        | June. 26 2019       | June. 25 2020           |
| 13                 | Amplifier(2GHz-20GHz)               | HP                             | 84722A                      | GTS206        | June. 26 2019       | June. 25 2020           |
| 14                 | Amplifier (18-26GHz)                | Rohde & Schwarz                | AFS33-18002<br>650-30-8P-44 | GTS218        | June. 26 2019       | June. 25 2020           |
| 15                 | Band filter                         | Amindeon                       | 82346                       | GTS219        | June. 26 2019       | June. 25 2020           |
| 16                 | Power Meter                         | Anritsu                        | ML2495A                     | GTS540        | June. 26 2019       | June. 25 2020           |
| 17                 | Power Sensor                        | Anritsu                        | MA2411B                     | GTS541        | June. 26 2019       | June. 25 2020           |
| 18                 | Wideband Radio Communication Tester | Rohde & Schwarz                | CMW500                      | GTS575        | June. 26 2019       | June. 25 2020           |
| 19                 | Splitter                            | Agilent                        | 11636B                      | GTS237        | June. 26 2019       | June. 25 2020           |
| 20                 | Loop Antenna                        | ZHINAN                         | ZN30900A                    | GTS534        | June. 26 2019       | June. 25 2020           |
| 21                 | Breitband hornantenne               | SCHWARZBECK                    | BBHA 9170                   | GTS579        | Oct. 19 2019        | Oct. 18 2020            |
| 22                 | Amplifier                           | TDK                            | PA-02-02                    | GTS574        | Oct. 19 2019        | Oct. 18 2020            |
| 23                 | Amplifier                           | TDK                            | PA-02-03                    | GTS576        | Oct. 19 2019        | Oct. 18 2020            |
| 24                 | PSA Series Spectrum Analyzer        | Rohde & Schwarz                | FSP                         | GTS578        | June. 26 2019       | June. 25 2020           |

| Conducted Emission |                           |                         |                      |               |                     |                         |
|--------------------|---------------------------|-------------------------|----------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment            | Manufacturer            | Model No.            | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | Shielding Room            | ZhongYu Electron        | 7.3(L)x3.1(W)x2.9(H) | GTS252        | May.15 2019         | May.14 2022             |
| 2                  | EMI Test Receiver         | R&S                     | ESCI 7               | GTS552        | June. 26 2019       | June. 25 2020           |
| 3                  | Coaxial Switch            | ANRITSU CORP            | MP59B                | GTS225        | June. 26 2019       | June. 25 2020           |
| 4                  | ENV216 2-L-V-NETZNACHB.DE | ROHDE&SCHWARZ           | ENV216               | GTS226        | June. 26 2019       | June. 25 2020           |
| 5                  | Coaxial Cable             | GTS                     | N/A                  | GTS227        | N/A                 | N/A                     |
| 6                  | EMI Test Software         | AUDIX                   | E3                   | N/A           | N/A                 | N/A                     |
| 7                  | Thermo meter              | KTJ                     | TA328                | GTS233        | June. 26 2019       | June. 25 2020           |
| 8                  | Absorbing clamp           | Elektronik-Feinmechanik | MDS21                | GTS229        | June. 26 2019       | June. 25 2020           |
| 9                  | ISN                       | SCHWARZBECK             | NTFM 8158            | GTD565        | June. 26 2019       | June. 25 2020           |

| RF Conducted Test: |                                                |              |                  |            |                     |                         |
|--------------------|------------------------------------------------|--------------|------------------|------------|---------------------|-------------------------|
| Item               | Test Equipment                                 | Manufacturer | Model No.        | Serial No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | MXA Signal Analyzer                            | Agilent      | N9020A           | GTS566     | June. 26 2019       | June. 25 2020           |
| 2                  | EMI Test Receiver                              | R&S          | ESCI 7           | GTS552     | June. 26 2019       | June. 25 2020           |
| 3                  | Spectrum Analyzer                              | Agilent      | E4440A           | GTS533     | June. 26 2019       | June. 25 2020           |
| 4                  | MXG vector Signal Generator                    | Agilent      | N5182A           | GTS567     | June. 26 2019       | June. 25 2020           |
| 5                  | ESG Analog Signal Generator                    | Agilent      | E4428C           | GTS568     | June. 26 2019       | June. 25 2020           |
| 6                  | USB RF Power Sensor                            | DARE         | RPR3006W         | GTS569     | June. 26 2019       | June. 25 2020           |
| 7                  | RF Switch Box                                  | Shongyi      | RFSW3003328      | GTS571     | June. 26 2019       | June. 25 2020           |
| 8                  | Programmable Constant Temp & Humi Test Chamber | WEWON        | WHTH-150L-40-880 | GTS572     | June. 26 2019       | June. 25 2020           |

| General used equipment: |                                 |              |           |               |                     |                         |
|-------------------------|---------------------------------|--------------|-----------|---------------|---------------------|-------------------------|
| Item                    | Test Equipment                  | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                       | Humidity/ Temperature Indicator | KTJ          | TA328     | GTS243        | June. 26 2019       | June. 25 2020           |
| 2                       | Barometer                       | ChangChun    | DYM3      | GTS255        | June. 26 2019       | June. 25 2020           |

## 7 Test results and Measurement Data

### 7.1 Antenna requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | FCC Part15 C Section 15.203 |
| <p><b>15.203 requirement:</b></p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p><b>15.247(c) (1)(i) requirement:</b></p> <p>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</p> |                             |
| <b>EUT Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |
| <p><i>The antenna is omni-directional antenna, the best case gain of the antenna is 2dBi, reference to the appendix II for details.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |

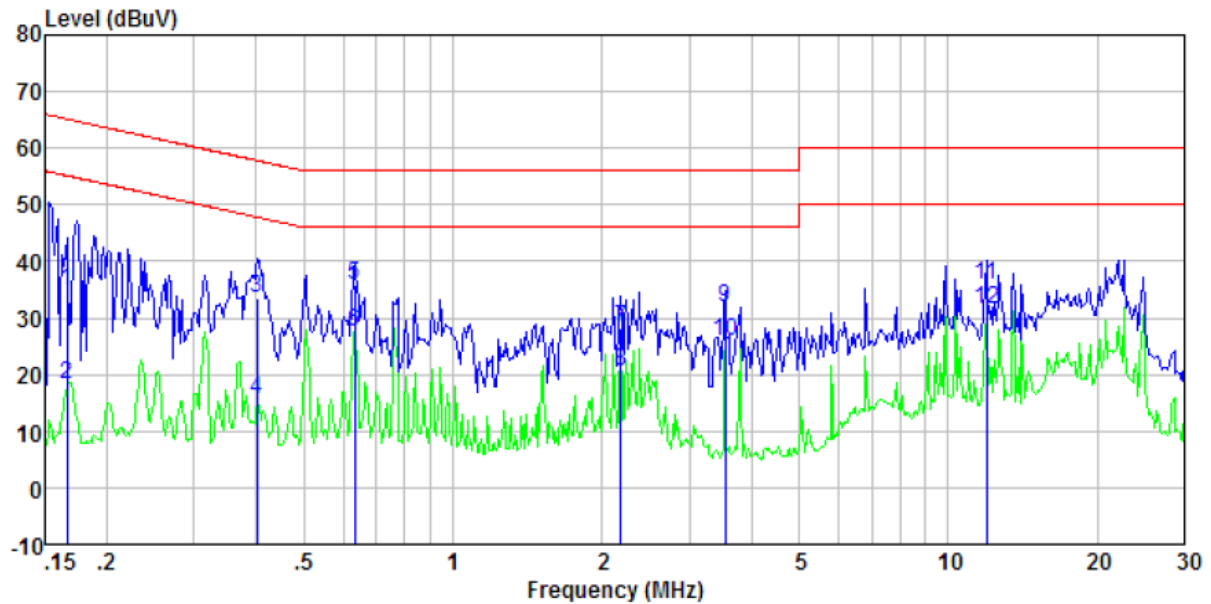
## 7.2 Conducted Emissions

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |  |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|-----|-----------|----------|--|
| Test Requirement:                                | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |              |     |           |          |  |
| Test Method:                                     | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |              |     |           |          |  |
| Test Frequency Range:                            | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |  |
| Class / Severity:                                | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |              |     |           |          |  |
| Receiver setup:                                  | RBW=9KHz, VBW=30KHz, Sweep time=auto                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |              |     |           |          |  |
| Limit:                                           | Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       | Limit (dBuV) |     |           |          |  |
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       | Quasi-peak   |     | Average   |          |  |
|                                                  | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 66 to 56*    |     | 56 to 46* |          |  |
|                                                  | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       | 56           |     | 46        |          |  |
|                                                  | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | 60           |     | 50        |          |  |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |  |
| Test setup:                                      | <div><p style="text-align: center;"><b>Reference Plane</b></p><p><i>Remark:</i><br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |  |
| Test procedure:                                  | <div><div>1. The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</div><div>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</div></div> |       |              |     |           |          |  |
| Test Instruments:                                | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |              |     |           |          |  |
| Test mode:                                       | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |              |     |           |          |  |
| Test environment:                                | Temp.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 25 °C | Humid.:      | 52% | Press.:   | 1012mbar |  |
| Test voltage:                                    | AC 120V, 60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |              |     |           |          |  |
| Test results:                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |              |     |           |          |  |

Remark: Both AC 120V and 240V were test, only the worst condition AC 120V report.

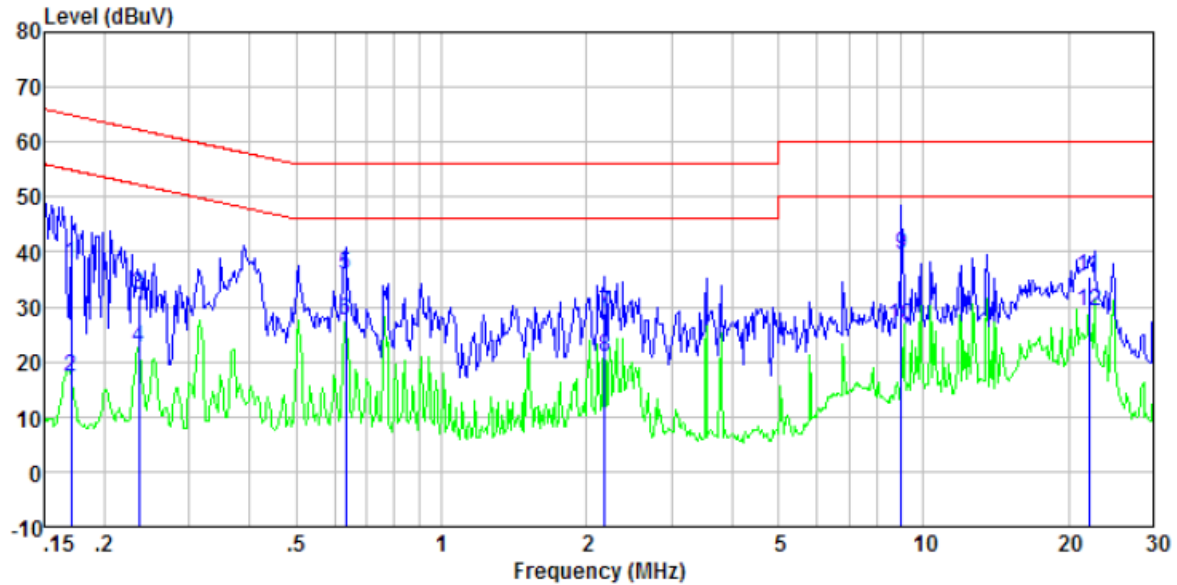
## Measurement data

Line:



| Freq<br>MHz | Reading<br>level<br>dBuV | LISN/ISN<br>factor<br>dB/m | Cable<br>loss<br>dB | Level<br>dBuV | Limit<br>level<br>dBuV | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|----------------------------|---------------------|---------------|------------------------|---------------------|---------|
| 0.17        | 14.36                    | 20.40                      | 0.08                | 34.84         | 65.16                  | -30.32              | QP      |
| 0.17        | -2.33                    | 20.40                      | 0.08                | 18.15         | 55.16                  | -37.01              | Average |
| 0.40        | 13.16                    | 20.35                      | 0.11                | 33.62         | 57.81                  | -24.19              | QP      |
| 0.40        | -5.01                    | 20.35                      | 0.11                | 15.45         | 47.81                  | -32.36              | Average |
| 0.63        | 15.52                    | 20.28                      | 0.12                | 35.92         | 56.00                  | -20.08              | QP      |
| 0.63        | 7.26                     | 20.28                      | 0.12                | 27.66         | 46.00                  | -18.34              | Average |
| 2.18        | 7.68                     | 20.20                      | 0.18                | 28.06         | 56.00                  | -27.94              | QP      |
| 2.18        | 0.14                     | 20.20                      | 0.18                | 20.52         | 46.00                  | -25.48              | Average |
| 3.55        | 11.47                    | 20.20                      | 0.18                | 31.85         | 56.00                  | -24.15              | QP      |
| 3.55        | 5.60                     | 20.20                      | 0.18                | 25.98         | 46.00                  | -20.02              | Average |
| 11.93       | 15.37                    | 20.20                      | 0.20                | 35.77         | 60.00                  | -24.23              | QP      |
| 11.93       | 10.96                    | 20.20                      | 0.20                | 31.36         | 50.00                  | -18.64              | Average |

## Neutral:

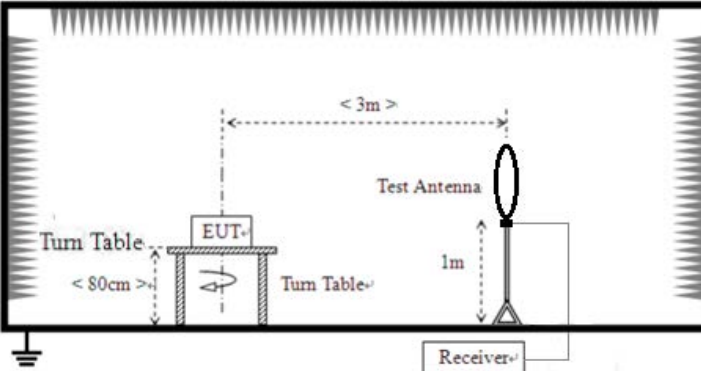


| Freq<br>MHz | Reading<br>level<br>dBuV | LISN/ISN<br>factor<br>dB/m | Cable<br>loss<br>dB | Level<br>dBuV | Limit<br>level<br>dBuV | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|----------------------------|---------------------|---------------|------------------------|---------------------|---------|
| 0.17        | 17.25                    | 20.40                      | 0.09                | 37.74         | 64.94                  | -27.20              | QP      |
| 0.17        | -3.23                    | 20.40                      | 0.09                | 17.26         | 54.94                  | -37.68              | Average |
| 0.24        | 11.57                    | 20.40                      | 0.11                | 32.08         | 62.26                  | -30.18              | QP      |
| 0.24        | 2.02                     | 20.40                      | 0.11                | 22.53         | 52.26                  | -29.73              | Average |
| 0.63        | 15.51                    | 20.28                      | 0.12                | 35.91         | 56.00                  | -20.09              | QP      |
| 0.63        | 7.22                     | 20.28                      | 0.12                | 27.62         | 46.00                  | -18.38              | Average |
| 2.18        | 8.52                     | 20.20                      | 0.18                | 28.90         | 56.00                  | -27.10              | QP      |
| 2.18        | 0.58                     | 20.20                      | 0.18                | 20.96         | 46.00                  | -25.04              | Average |
| 9.01        | 19.03                    | 20.20                      | 0.20                | 39.43         | 60.00                  | -20.57              | QP      |
| 9.01        | 6.20                     | 20.20                      | 0.20                | 26.60         | 50.00                  | -23.40              | Average |
| 22.06       | 14.83                    | 20.32                      | 0.23                | 35.38         | 60.00                  | -24.62              | QP      |
| 22.06       | 8.76                     | 20.32                      | 0.23                | 29.31         | 50.00                  | -20.69              | Average |

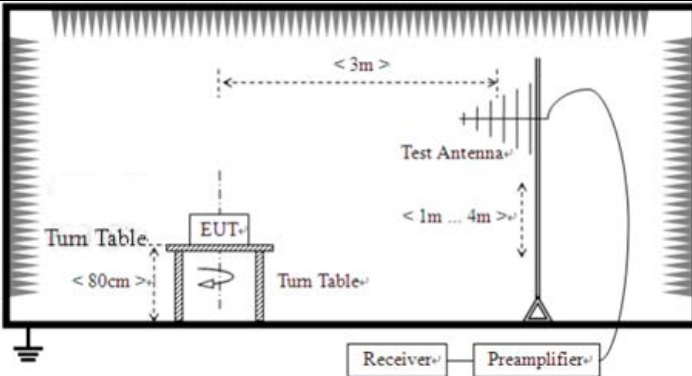
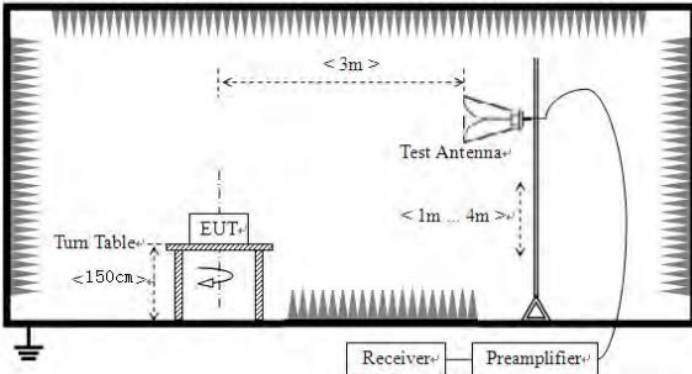
## Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

### 7.3 Radiated Emission Method

|                                                      |                                                                                                                                                                                                                                                                |            |                    |        |                  |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|--------|------------------|
| Test Requirement:                                    | FCC Part15 C Section 15.209                                                                                                                                                                                                                                    |            |                    |        |                  |
| Test Method:                                         | ANSI C63.10:2013                                                                                                                                                                                                                                               |            |                    |        |                  |
| Test Frequency Range:                                | 9kHz to 25GHz                                                                                                                                                                                                                                                  |            |                    |        |                  |
| Test site:                                           | Measurement Distance: 3m                                                                                                                                                                                                                                       |            |                    |        |                  |
| Receiver setup:                                      | Frequency                                                                                                                                                                                                                                                      | Detector   | RBW                | VBW    | Remark           |
|                                                      | 9kHz-150kHz                                                                                                                                                                                                                                                    | Quasi-peak | 200Hz              | 300Hz  | Quasi-peak Value |
|                                                      | 150kHz-30MHz                                                                                                                                                                                                                                                   | Quasi-peak | 9kHz               | 10kHz  | Quasi-peak Value |
|                                                      | 30MHz-1GHz                                                                                                                                                                                                                                                     | Quasi-peak | 120KHz             | 300KHz | Quasi-peak Value |
|                                                      | Above 1GHz                                                                                                                                                                                                                                                     | Peak       | 1MHz               | 3MHz   | Peak Value       |
|                                                      |                                                                                                                                                                                                                                                                | Peak       | 1MHz               | 10Hz   | Average Value    |
| Limit:<br>(Field strength of the fundamental signal) | Frequency                                                                                                                                                                                                                                                      |            | Limit (dBuV/m @3m) |        | Remark           |
|                                                      | 2400MHz-2483.5MHz                                                                                                                                                                                                                                              |            | 94.00              |        | Average Value    |
|                                                      |                                                                                                                                                                                                                                                                |            | 114.00             |        | Peak Value       |
| Limit:<br>(Spurious Emissions)                       | Frequency                                                                                                                                                                                                                                                      |            | Limit (uV/m)       |        | Remark           |
|                                                      | 0.009MHz-0.490MHz                                                                                                                                                                                                                                              |            | 2400/F(kHz) @300m  |        | Quasi-peak Value |
|                                                      | 0.490MHz-1.705MHz                                                                                                                                                                                                                                              |            | 24000/F(kHz) @30m  |        | Quasi-peak Value |
|                                                      | 1.705MHz-30.0MHz                                                                                                                                                                                                                                               |            | 30 @30m            |        | Quasi-peak Value |
|                                                      | 30MHz-88MHz                                                                                                                                                                                                                                                    |            | 100 @3m            |        | Quasi-peak Value |
|                                                      | 88MHz-216MHz                                                                                                                                                                                                                                                   |            | 150 @3m            |        | Quasi-peak Value |
|                                                      | 216MHz-960MHz                                                                                                                                                                                                                                                  |            | 200 @3m            |        | Quasi-peak Value |
|                                                      | 960MHz-1GHz                                                                                                                                                                                                                                                    |            | 500 @3m            |        | Quasi-peak Value |
|                                                      | Above 1GHz                                                                                                                                                                                                                                                     |            | 500 @3m            |        | Average Value    |
| 5000 @3m                                             |                                                                                                                                                                                                                                                                |            | Peak Value         |        |                  |
| Limit:<br>(band edge)                                | Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation. |            |                    |        |                  |
| Test setup:                                          | <div>For radiated emissions from 9kHz to 30MHz</div> <div></div> <div>For radiated emissions from 30MHz to 1GHz</div>                                                      |            |                    |        |                  |



|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |       |         |          |         |          |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|---------|----------|---------|----------|
|                   | <div></div> <p>For radiated emissions above 1GHz</p> <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |       |         |          |         |          |
| Test Procedure:   | <div><div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div>1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div><div>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div><div>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</div><div>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</div><div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div><div>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</div></div></div> |         |       |         |          |         |          |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |       |         |          |         |          |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |       |         |          |         |          |
| Test environment: | <table><tr><td>Temp.:</td><td>25 °C</td><td>Humid.:</td><td>52%</td><td>Press.:</td><td>1012mbar</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Temp.:  | 25 °C | Humid.: | 52%      | Press.: | 1012mbar |
| Temp.:            | 25 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Humid.: | 52%   | Press.: | 1012mbar |         |          |
| Test voltage:     | AC 120V, 60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |       |         |          |         |          |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |       |         |          |         |          |

**Remark: Both AC 120V and 240V were test, only the worst condition AC 120V report.**



**Measurement data:**
**7.3.1 Field Strength of The Fundamental Signal**
**ANT 1:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2402.00         | 95.49             | 27.41                 | 2.91            | 36.86              | 88.95          | 94.00               | -5.05           | Average | Horizontal   |
| 2402.00         | 100.68            | 27.41                 | 2.91            | 36.86              | 94.14          | 114.00              | -19.86          | Peak    | Horizontal   |
| 2402.00         | 82.35             | 27.41                 | 2.91            | 36.86              | 75.81          | 94.00               | -18.19          | Average | Vertical     |
| 2402.00         | 88.72             | 27.41                 | 2.91            | 36.86              | 82.18          | 114.00              | -31.82          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2441.00         | 97.28             | 27.53                 | 2.96            | 36.89              | 90.88          | 94.00               | -3.12           | Average | Horizontal   |
| 2441.00         | 103.57            | 27.53                 | 2.96            | 36.89              | 97.17          | 114.00              | -16.83          | Peak    | Horizontal   |
| 2441.00         | 83.15             | 27.53                 | 2.96            | 36.89              | 76.75          | 94.00               | -17.25          | Average | Vertical     |
| 2441.00         | 90.32             | 27.53                 | 2.96            | 36.89              | 83.92          | 114.00              | -30.08          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2480.00         | 93.71             | 27.64                 | 2.99            | 36.92              | 87.42          | 94.00               | -6.58           | Average | Horizontal   |
| 2480.00         | 101.55            | 27.64                 | 2.99            | 36.92              | 95.26          | 114.00              | -18.74          | Peak    | Horizontal   |
| 2480.00         | 83.19             | 27.64                 | 2.99            | 36.92              | 76.90          | 94.00               | -17.10          | Average | Vertical     |
| 2480.00         | 90.94             | 27.64                 | 2.99            | 36.92              | 84.65          | 114.00              | -29.35          | Peak    | Vertical     |

**ANT 2:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2402.00         | 89.76             | 27.41                 | 2.91            | 36.86              | 83.22          | 94.00               | -10.78          | Average | Horizontal   |
| 2402.00         | 95.13             | 27.41                 | 2.91            | 36.86              | 88.59          | 114.00              | -25.41          | Peak    | Horizontal   |
| 2402.00         | 81.85             | 27.41                 | 2.91            | 36.86              | 75.31          | 94.00               | -18.69          | Average | Vertical     |
| 2402.00         | 88.10             | 27.41                 | 2.91            | 36.86              | 81.56          | 114.00              | -32.44          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2441.00         | 95.76             | 27.53                 | 2.96            | 36.89              | 89.36          | 94.00               | -4.64           | Average | Horizontal   |
| 2441.00         | 102.15            | 27.53                 | 2.96            | 36.89              | 95.75          | 114.00              | -18.25          | Peak    | Horizontal   |
| 2441.00         | 86.18             | 27.53                 | 2.96            | 36.89              | 79.78          | 94.00               | -14.22          | Average | Vertical     |
| 2441.00         | 92.84             | 27.53                 | 2.96            | 36.89              | 86.44          | 114.00              | -27.56          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2480.00         | 95.35             | 27.64                 | 2.99            | 36.92              | 89.06          | 94.00               | -4.94           | Average | Horizontal   |
| 2480.00         | 102.11            | 27.64                 | 2.99            | 36.92              | 95.82          | 114.00              | -18.18          | Peak    | Horizontal   |
| 2480.00         | 86.09             | 27.64                 | 2.99            | 36.92              | 79.80          | 94.00               | -14.20          | Average | Vertical     |
| 2480.00         | 92.14             | 27.64                 | 2.99            | 36.92              | 85.85          | 114.00              | -28.15          | Peak    | Vertical     |

**ANT 3:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2402.00         | 89.78             | 27.41                 | 2.91            | 36.86              | 83.24          | 94.00               | -10.76          | Average | Horizontal   |
| 2402.00         | 95.19             | 27.41                 | 2.91            | 36.86              | 88.65          | 114.00              | -25.35          | Peak    | Horizontal   |
| 2402.00         | 82.43             | 27.41                 | 2.91            | 36.86              | 75.89          | 94.00               | -18.11          | Average | Vertical     |
| 2402.00         | 89.17             | 27.41                 | 2.91            | 36.86              | 82.63          | 114.00              | -31.37          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2441.00         | 93.43             | 27.53                 | 2.96            | 36.89              | 87.03          | 94.00               | -6.97           | Average | Horizontal   |
| 2441.00         | 102.09            | 27.53                 | 2.96            | 36.89              | 95.69          | 114.00              | -18.31          | Peak    | Horizontal   |
| 2441.00         | 83.17             | 27.53                 | 2.96            | 36.89              | 76.77          | 94.00               | -17.23          | Average | Vertical     |
| 2441.00         | 91.13             | 27.53                 | 2.96            | 36.89              | 84.73          | 114.00              | -29.27          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2480.00         | 93.04             | 27.64                 | 2.99            | 36.92              | 86.75          | 94.00               | -7.25           | Average | Horizontal   |
| 2480.00         | 100.31            | 27.64                 | 2.99            | 36.92              | 94.02          | 114.00              | -19.98          | Peak    | Horizontal   |
| 2480.00         | 84.86             | 27.64                 | 2.99            | 36.92              | 78.57          | 94.00               | -15.43          | Average | Vertical     |
| 2480.00         | 91.03             | 27.64                 | 2.99            | 36.92              | 84.74          | 114.00              | -29.26          | Peak    | Vertical     |

**ANT 4:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2402.00         | 90.98             | 27.41                 | 2.91            | 36.86              | 84.44          | 94.00               | -9.56           | Average | Horizontal   |
| 2402.00         | 97.21             | 27.41                 | 2.91            | 36.86              | 90.67          | 114.00              | -23.33          | Peak    | Horizontal   |
| 2402.00         | 83.86             | 27.41                 | 2.91            | 36.86              | 77.32          | 94.00               | -16.68          | Average | Vertical     |
| 2402.00         | 90.71             | 27.41                 | 2.91            | 36.86              | 84.17          | 114.00              | -29.83          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2441.00         | 95.34             | 27.53                 | 2.96            | 36.89              | 88.94          | 94.00               | -5.06           | Average | Horizontal   |
| 2441.00         | 102.54            | 27.53                 | 2.96            | 36.89              | 96.14          | 114.00              | -17.86          | Peak    | Horizontal   |
| 2441.00         | 85.09             | 27.53                 | 2.96            | 36.89              | 78.69          | 94.00               | -15.31          | Average | Vertical     |
| 2441.00         | 91.37             | 27.53                 | 2.96            | 36.89              | 84.97          | 114.00              | -29.03          | Peak    | Vertical     |

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Remark  | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|---------|--------------|
| 2480.00         | 86.08             | 27.64                 | 2.99            | 36.92              | 79.79          | 94.00               | -14.21          | Average | Horizontal   |
| 2480.00         | 101.30            | 27.64                 | 2.99            | 36.92              | 95.01          | 114.00              | -18.99          | Peak    | Horizontal   |
| 2480.00         | 84.18             | 27.64                 | 2.99            | 36.92              | 77.89          | 94.00               | -16.11          | Average | Vertical     |
| 2480.00         | 90.26             | 27.64                 | 2.99            | 36.92              | 83.97          | 114.00              | -30.03          | Peak    | Vertical     |

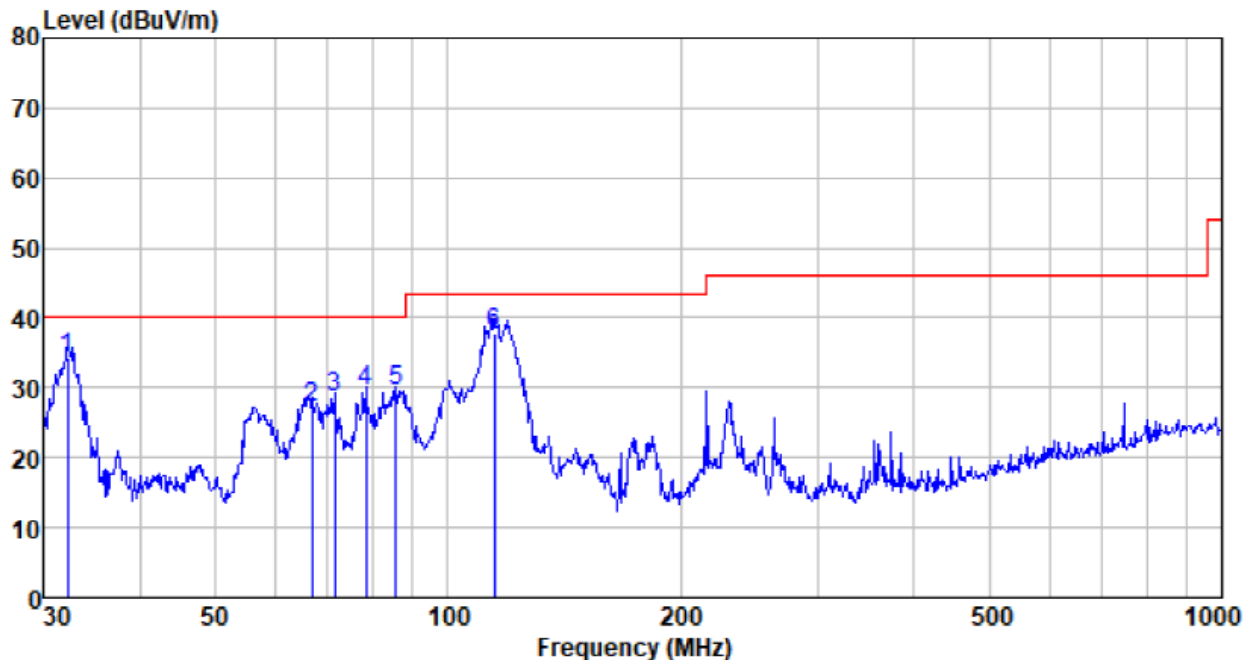
## 7.3.2 Spurious emissions

### ■ Below 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

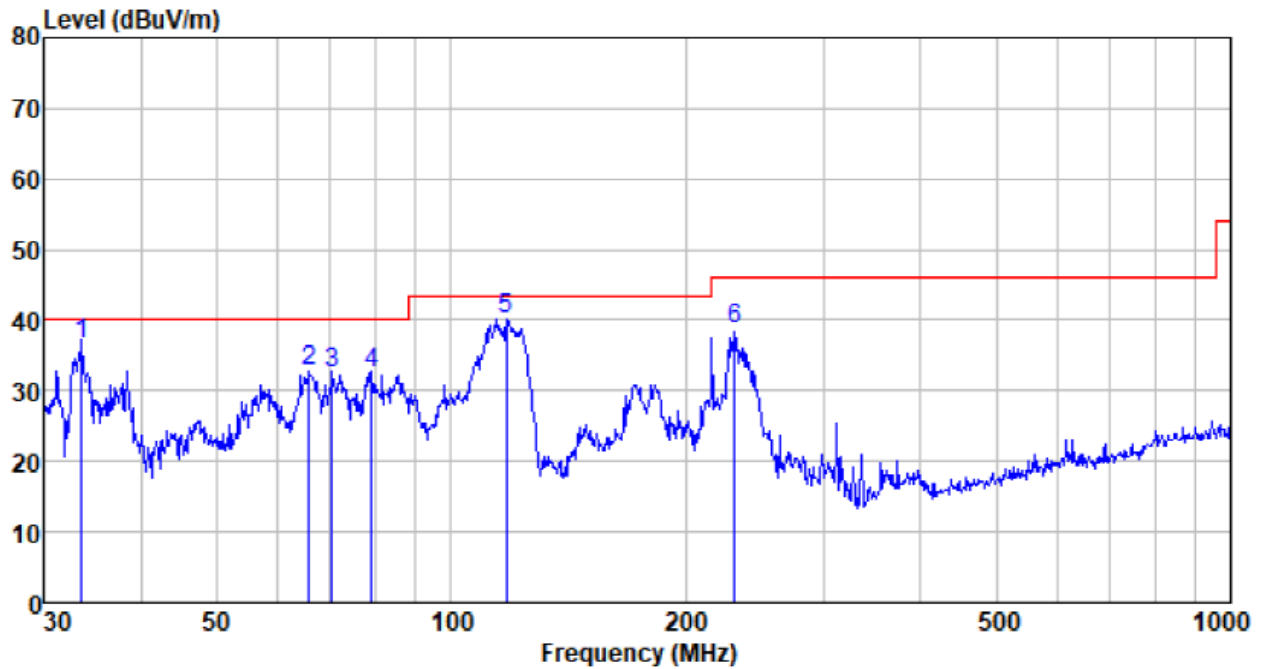
### ■ Below 1GHz

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 32.293      | 57.72                    | 11.25                     | 0.58                | 35.17                  | 34.38           | 40.00                    | -5.62               | QP     |
| 66.733      | 54.14                    | 8.65                      | 0.91                | 36.40                  | 27.30           | 40.00                    | -12.70              | QP     |
| 71.330      | 56.68                    | 7.49                      | 0.95                | 36.46                  | 28.66           | 40.00                    | -11.34              | QP     |
| 78.413      | 57.54                    | 7.41                      | 1.01                | 36.53                  | 29.43           | 40.00                    | -10.57              | QP     |
| 85.598      | 55.68                    | 9.30                      | 1.07                | 36.60                  | 29.45           | 40.00                    | -10.55              | QP     |
| 114.917     | 62.99                    | 10.26                     | 1.32                | 36.84                  | 37.73           | 43.50                    | -5.77               | QP     |

Vertical:



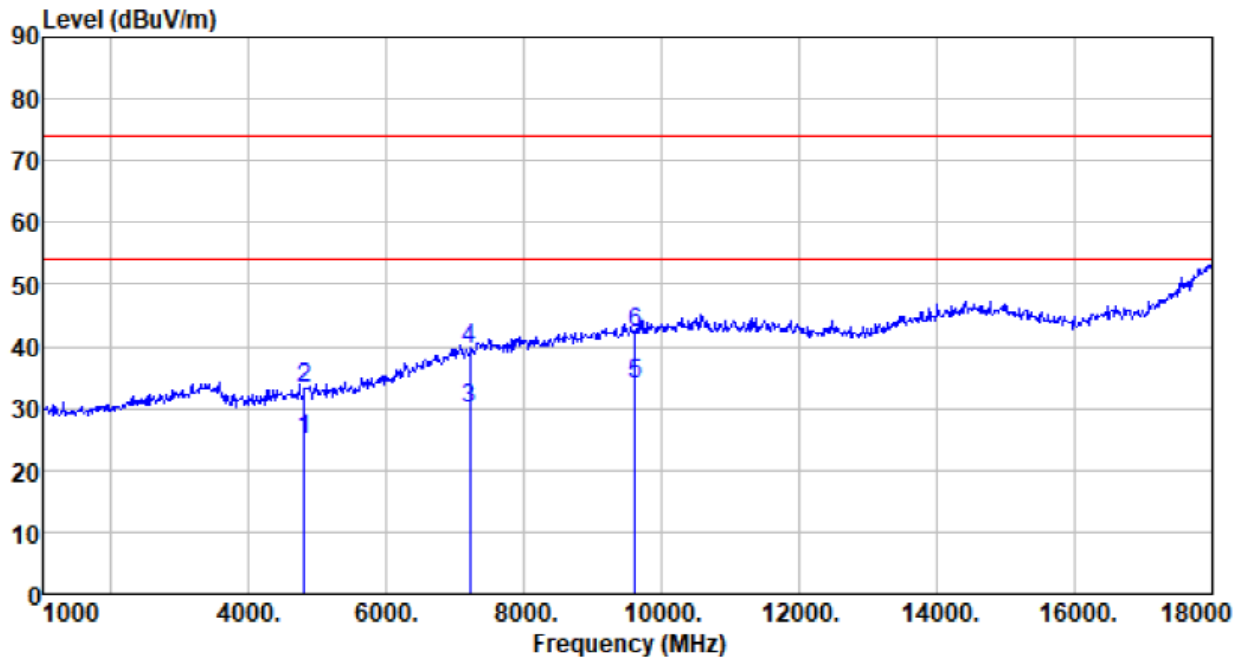
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 33.562      | 59.90                    | 11.27                     | 0.59                | 35.26                  | 36.50           | 40.00                    | -3.50               | QP     |
| 65.803      | 59.12                    | 9.00                      | 0.91                | 36.39                  | 32.64           | 40.00                    | -7.36               | QP     |
| 70.337      | 60.44                    | 7.50                      | 0.94                | 36.45                  | 32.43           | 40.00                    | -7.57               | QP     |
| 78.965      | 60.58                    | 7.41                      | 1.02                | 36.54                  | 32.47           | 40.00                    | -7.53               | QP     |
| 117.773     | 65.83                    | 9.84                      | 1.34                | 36.86                  | 40.15           | 43.50                    | -3.35               | QP     |
| 230.907     | 62.54                    | 11.53                     | 2.02                | 37.36                  | 38.73           | 46.00                    | -7.27               | QP     |

■ Above 1GHz

ANT 1:

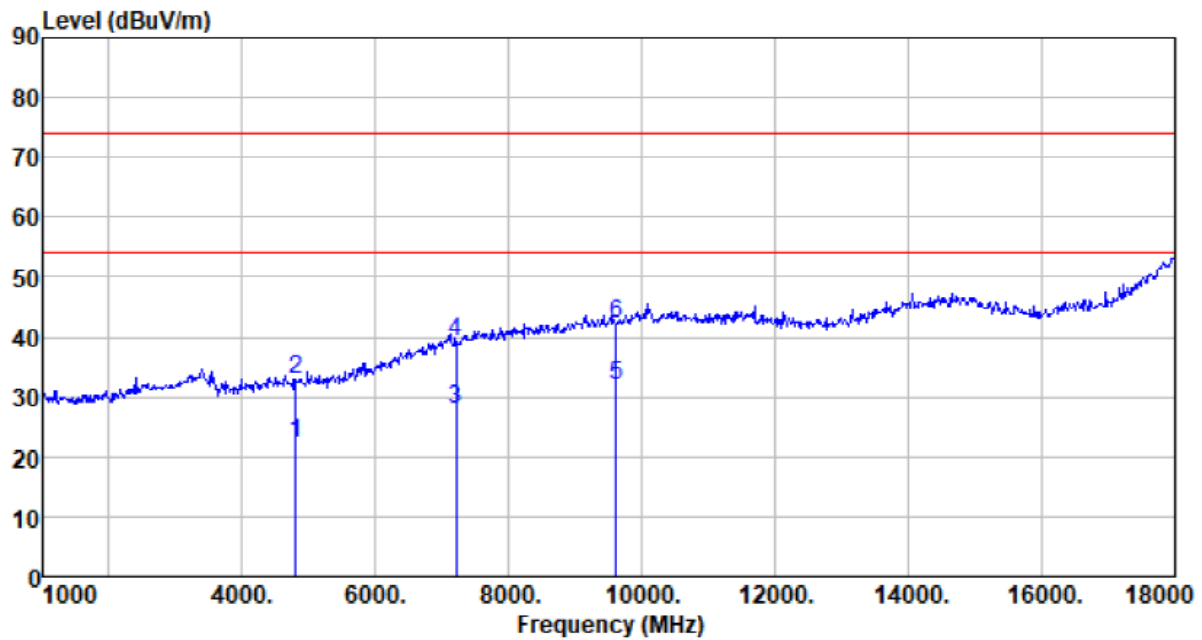
|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 26.91                    | 31.20                     | 4.61                | 37.73                  | 24.99           | 54.00                    | -29.01              | Average |
| 4804.000    | 35.29                    | 31.20                     | 4.61                | 37.73                  | 33.37           | 74.00                    | -40.63              | Peak    |
| 7206.000    | 22.80                    | 36.16                     | 6.48                | 35.63                  | 29.81           | 54.00                    | -24.19              | Average |
| 7206.000    | 32.38                    | 36.16                     | 6.48                | 35.63                  | 39.39           | 74.00                    | -34.61              | Peak    |
| 9608.000    | 22.76                    | 37.93                     | 7.97                | 34.94                  | 33.72           | 54.00                    | -20.28              | Average |
| 9608.000    | 31.38                    | 37.93                     | 7.97                | 34.94                  | 42.34           | 74.00                    | -31.66              | Peak    |

Vertical:

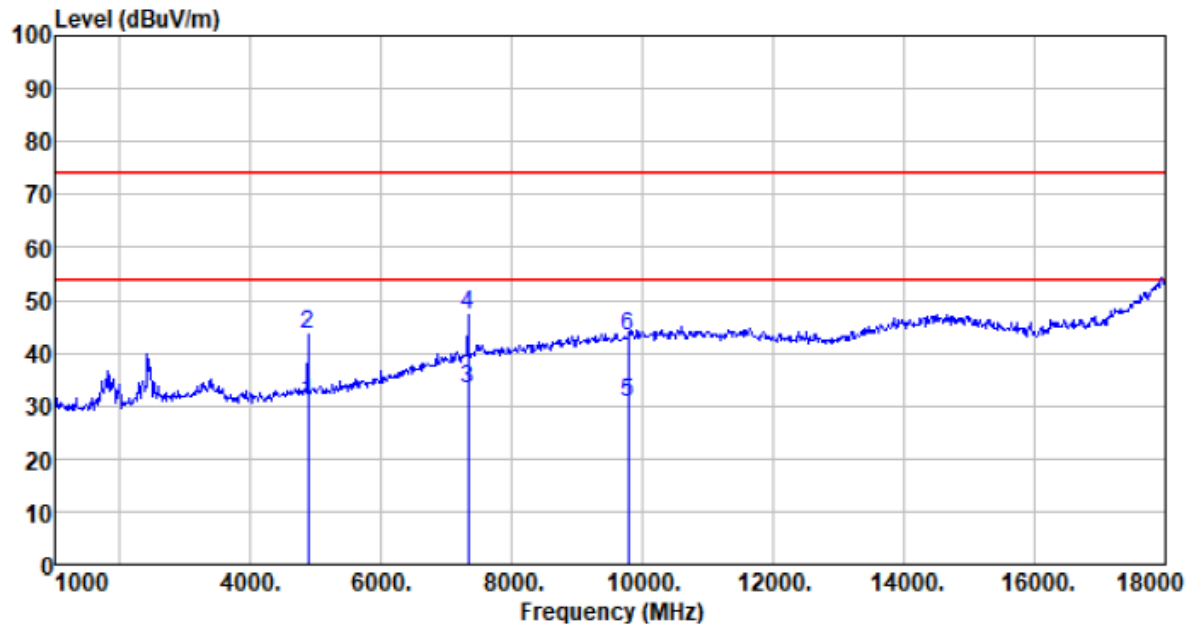


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 24.32                    | 31.20                     | 4.61                | 37.73                        | 22.40           | 54.00                    | -31.60              | Average |
| 4804.000    | 34.83                    | 31.20                     | 4.61                | 37.73                        | 32.91           | 74.00                    | -41.09              | Peak    |
| 7206.000    | 20.82                    | 36.16                     | 6.48                | 35.63                        | 27.83           | 54.00                    | -26.17              | Average |
| 7206.000    | 32.08                    | 36.16                     | 6.48                | 35.63                        | 39.09           | 74.00                    | -34.91              | Peak    |
| 9608.000    | 20.93                    | 37.93                     | 7.97                | 34.94                        | 31.89           | 54.00                    | -22.11              | Average |
| 9608.000    | 31.10                    | 37.93                     | 7.97                | 34.94                        | 42.06           | 74.00                    | -31.94              | Peak    |



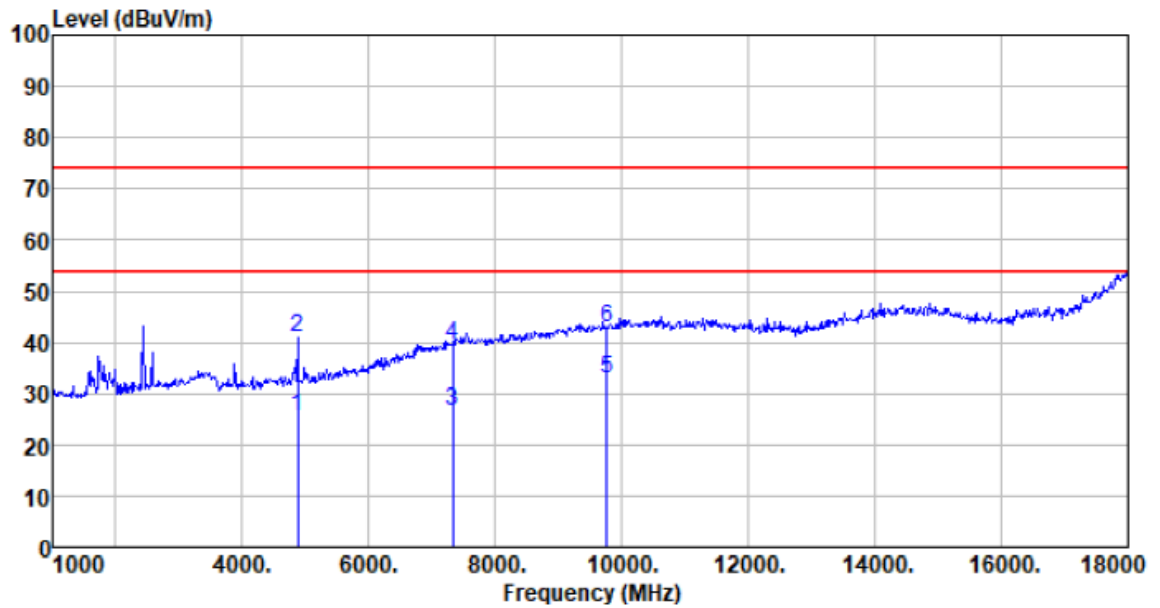
|               |        |
|---------------|--------|
| Test channel: | Middle |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 4876.000    | 32.28                    | 31.31                     | 4.69                | 37.75                        | 30.53           | 54.00                    | -23.47              | Average |
| 4876.000    | 45.36                    | 31.31                     | 4.69                | 37.75                        | 43.61           | 74.00                    | -30.39              | Peak    |
| 7324.000    | 25.80                    | 36.43                     | 6.63                | 35.60                        | 33.26           | 54.00                    | -20.74              | Average |
| 7324.000    | 39.88                    | 36.43                     | 6.63                | 35.60                        | 47.34           | 74.00                    | -26.66              | Peak    |
| 9772.000    | 19.47                    | 38.13                     | 8.03                | 35.05                        | 30.58           | 54.00                    | -23.42              | Average |
| 9772.000    | 31.90                    | 38.13                     | 8.03                | 35.05                        | 43.01           | 74.00                    | -30.99              | Peak    |

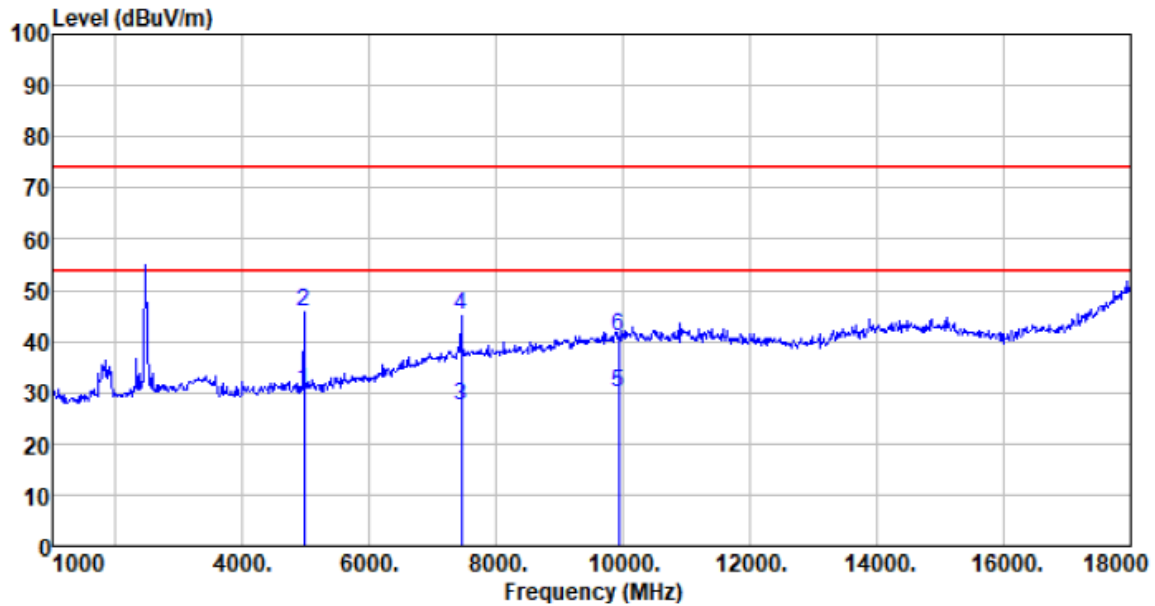
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 27.38                    | 31.33                     | 4.69                | 37.76                        | 25.64           | 54.00                    | -28.36              | Average |
| 4882.000    | 42.84                    | 31.33                     | 4.69                | 37.76                        | 41.10           | 74.00                    | -32.90              | Peak    |
| 7323.000    | 19.10                    | 36.43                     | 6.63                | 35.60                        | 26.56           | 54.00                    | -27.44              | Average |
| 7323.000    | 32.16                    | 36.43                     | 6.63                | 35.60                        | 39.62           | 74.00                    | -34.38              | Peak    |
| 9764.000    | 21.71                    | 38.10                     | 8.03                | 35.03                        | 32.81           | 54.00                    | -21.19              | Average |
| 9764.000    | 31.82                    | 38.10                     | 8.03                | 35.03                        | 42.92           | 74.00                    | -31.08              | Peak    |

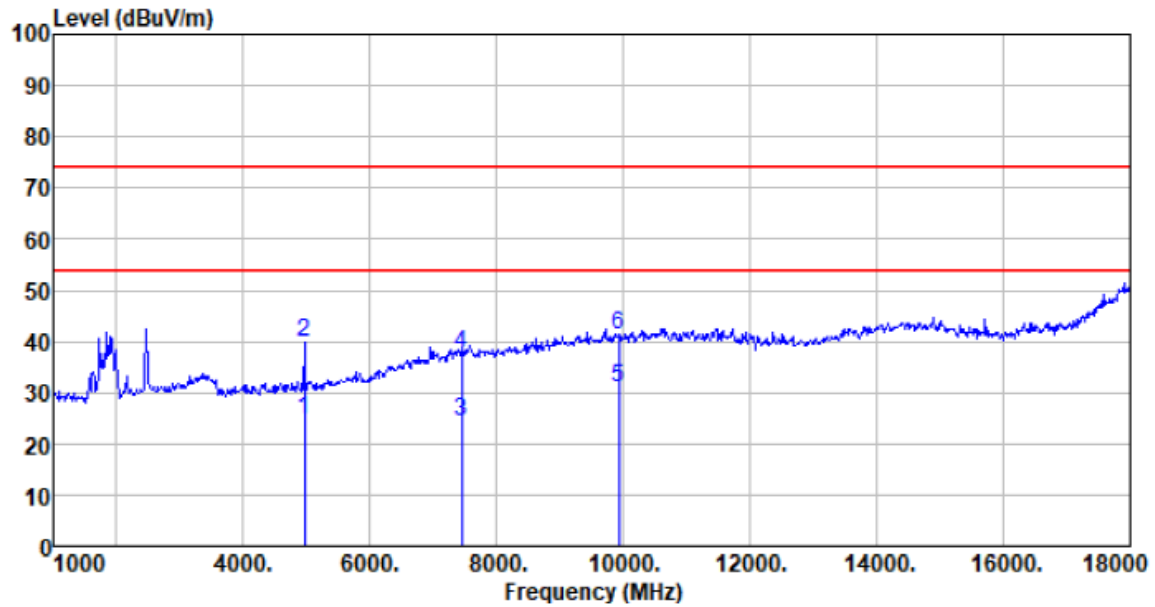
|               |         |
|---------------|---------|
| Test channel: | Highest |
|---------------|---------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 31.99                    | 31.44                     | 4.79                | 37.78                  | 30.44           | 54.00                    | -23.56              | Average |
| 4960.000    | 47.42                    | 31.44                     | 4.79                | 37.78                  | 45.87           | 74.00                    | -28.13              | Peak    |
| 7440.000    | 19.48                    | 36.66                     | 6.77                | 35.56                  | 27.35           | 54.00                    | -26.65              | Average |
| 7440.000    | 37.11                    | 36.66                     | 6.77                | 35.56                  | 44.98           | 74.00                    | -29.02              | Peak    |
| 9920.000    | 18.81                    | 38.30                     | 8.09                | 35.14                  | 30.06           | 54.00                    | -23.94              | Average |
| 9920.000    | 29.76                    | 38.30                     | 8.09                | 35.14                  | 41.01           | 74.00                    | -32.99              | Peak    |

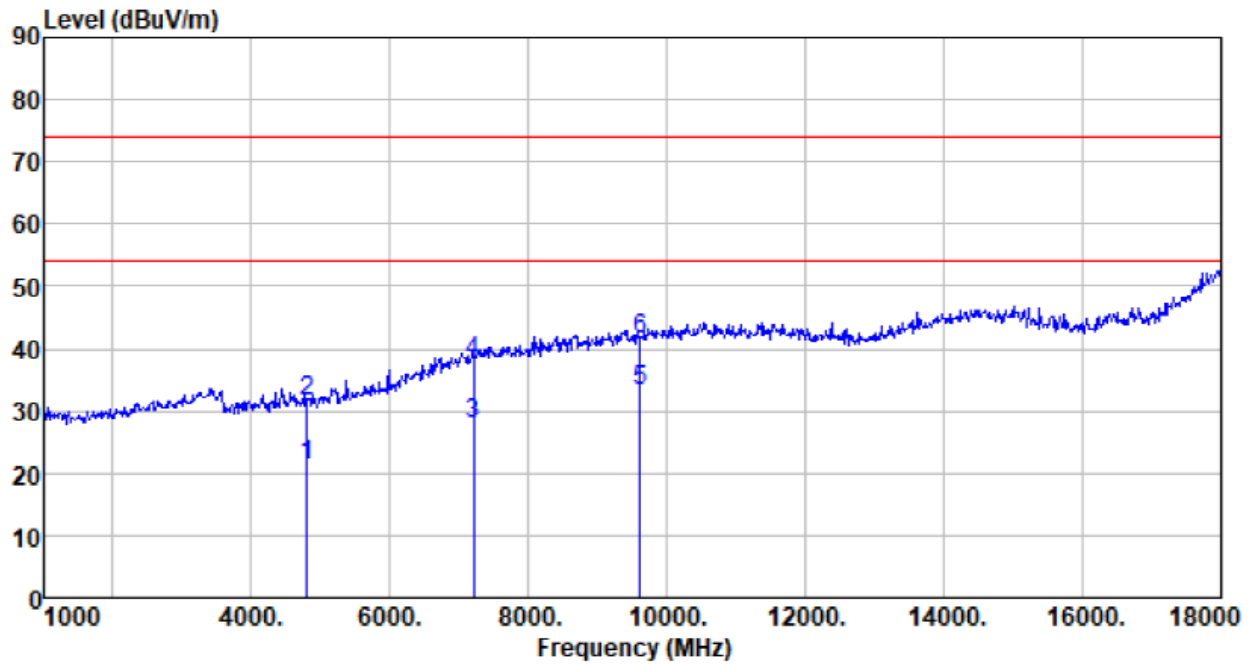
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 26.18                    | 31.44                     | 4.79                | 37.78                  | 24.63           | 54.00                    | -29.37              | Average |
| 4960.000    | 41.53                    | 31.44                     | 4.79                | 37.78                  | 39.98           | 74.00                    | -34.02              | Peak    |
| 7440.000    | 16.51                    | 36.66                     | 6.77                | 35.56                  | 24.38           | 54.00                    | -29.62              | Average |
| 7440.000    | 29.63                    | 36.66                     | 6.77                | 35.56                  | 37.50           | 74.00                    | -36.50              | Peak    |
| 9920.000    | 19.64                    | 38.30                     | 8.09                | 35.14                  | 30.89           | 54.00                    | -23.11              | Average |
| 9920.000    | 30.16                    | 38.30                     | 8.09                | 35.14                  | 41.41           | 74.00                    | -32.59              | Peak    |

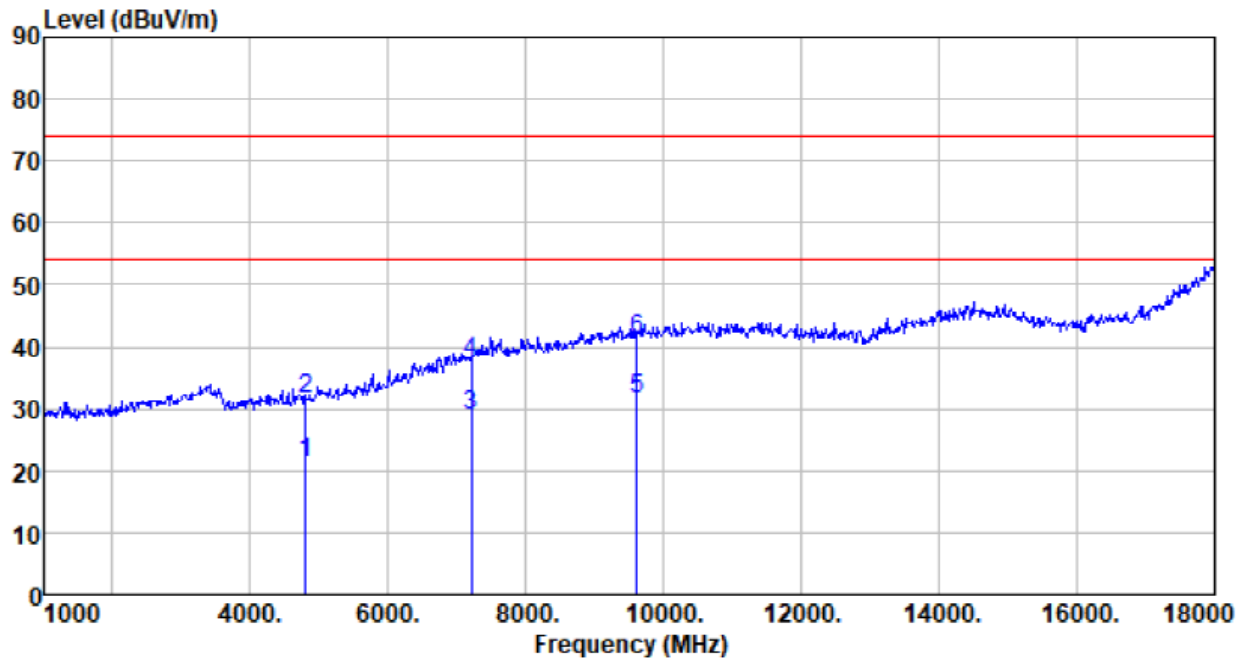
**ANT 2:**

|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

**Horizontal:**


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 23.32                    | 31.20                     | 4.61                | 37.73                  | 21.40           | 54.00                    | -32.60              | Average |
| 4804.000    | 33.33                    | 31.20                     | 4.61                | 37.73                  | 31.41           | 74.00                    | -42.59              | Peak    |
| 7206.000    | 21.04                    | 36.16                     | 6.48                | 35.63                  | 28.05           | 54.00                    | -25.95              | Average |
| 7206.000    | 31.00                    | 36.16                     | 6.48                | 35.63                  | 38.01           | 74.00                    | -35.99              | Peak    |
| 9608.000    | 22.25                    | 37.93                     | 7.97                | 34.94                  | 33.21           | 54.00                    | -20.79              | Average |
| 9608.000    | 30.43                    | 37.93                     | 7.97                | 34.94                  | 41.39           | 74.00                    | -32.61              | Peak    |

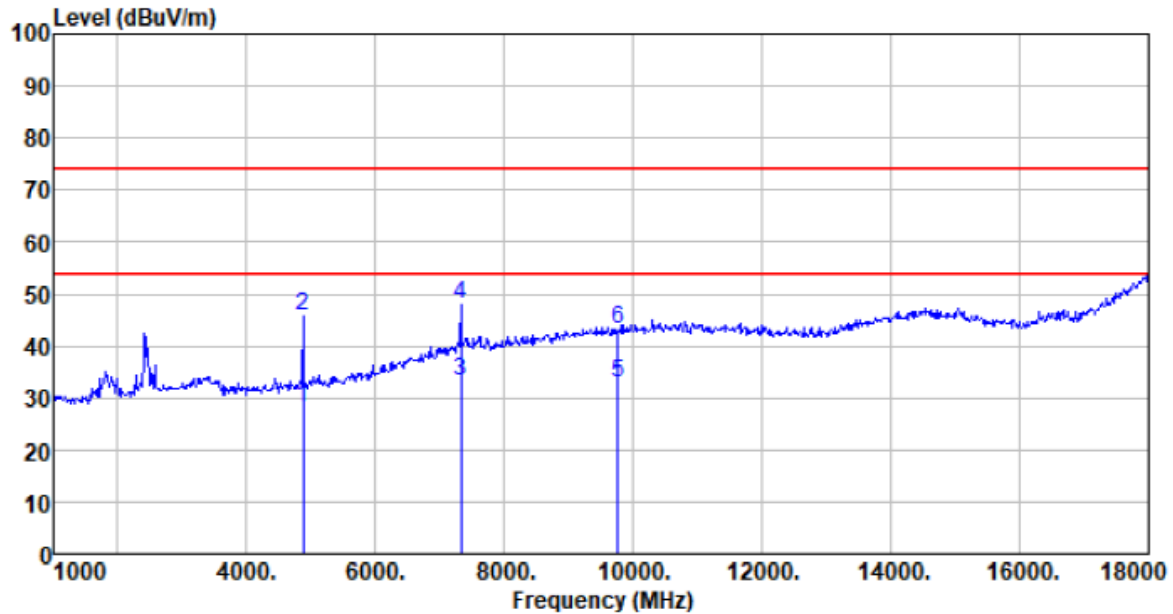
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 23.25                    | 31.20                     | 4.61                | 37.73                  | 21.33           | 54.00                    | -32.67              | Average |
| 4804.000    | 33.52                    | 31.20                     | 4.61                | 37.73                  | 31.60           | 74.00                    | -42.40              | Peak    |
| 7206.000    | 21.73                    | 36.16                     | 6.48                | 35.63                  | 28.74           | 54.00                    | -25.26              | Average |
| 7206.000    | 30.57                    | 36.16                     | 6.48                | 35.63                  | 37.58           | 74.00                    | -36.42              | Peak    |
| 9608.000    | 20.68                    | 37.93                     | 7.97                | 34.94                  | 31.64           | 54.00                    | -22.36              | Average |
| 9608.000    | 30.07                    | 37.93                     | 7.97                | 34.94                  | 41.03           | 74.00                    | -32.97              | Peak    |

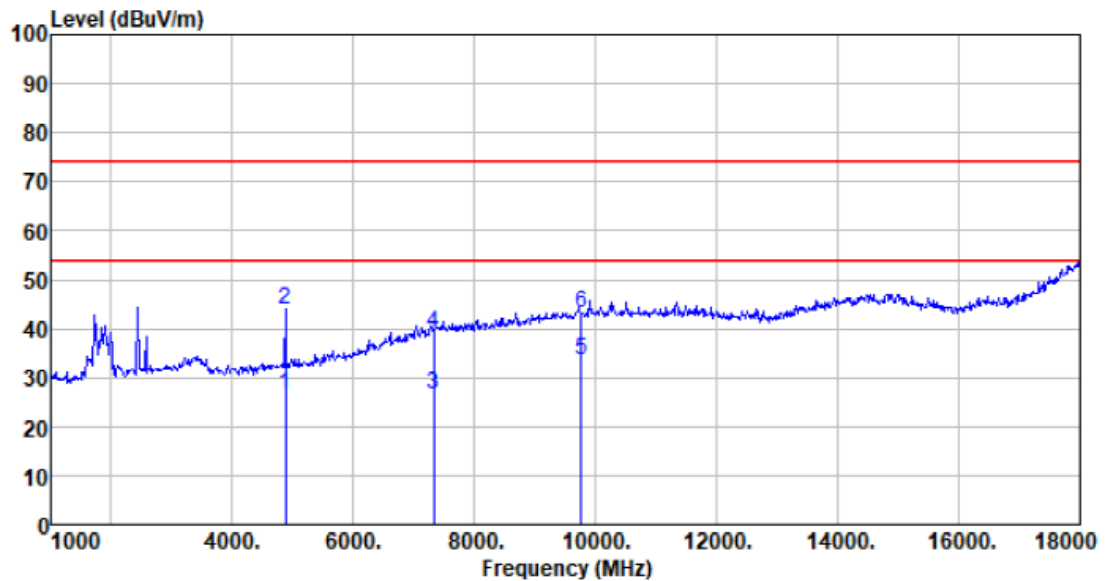
|               |        |
|---------------|--------|
| Test channel: | Middle |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 29.79                    | 31.33                     | 4.69                | 37.76                  | 28.05           | 54.00                    | -25.95              | Average |
| 4882.000    | 47.57                    | 31.33                     | 4.69                | 37.76                  | 45.83           | 74.00                    | -28.17              | Peak    |
| 7323.000    | 25.76                    | 36.43                     | 6.63                | 35.60                  | 33.22           | 54.00                    | -20.78              | Average |
| 7323.000    | 40.66                    | 36.43                     | 6.63                | 35.60                  | 48.12           | 74.00                    | -25.88              | Peak    |
| 9764.000    | 21.56                    | 38.10                     | 8.03                | 35.03                  | 32.66           | 54.00                    | -21.34              | Average |
| 9764.000    | 32.06                    | 38.10                     | 8.03                | 35.03                  | 43.16           | 74.00                    | -30.84              | Peak    |

Vertical:

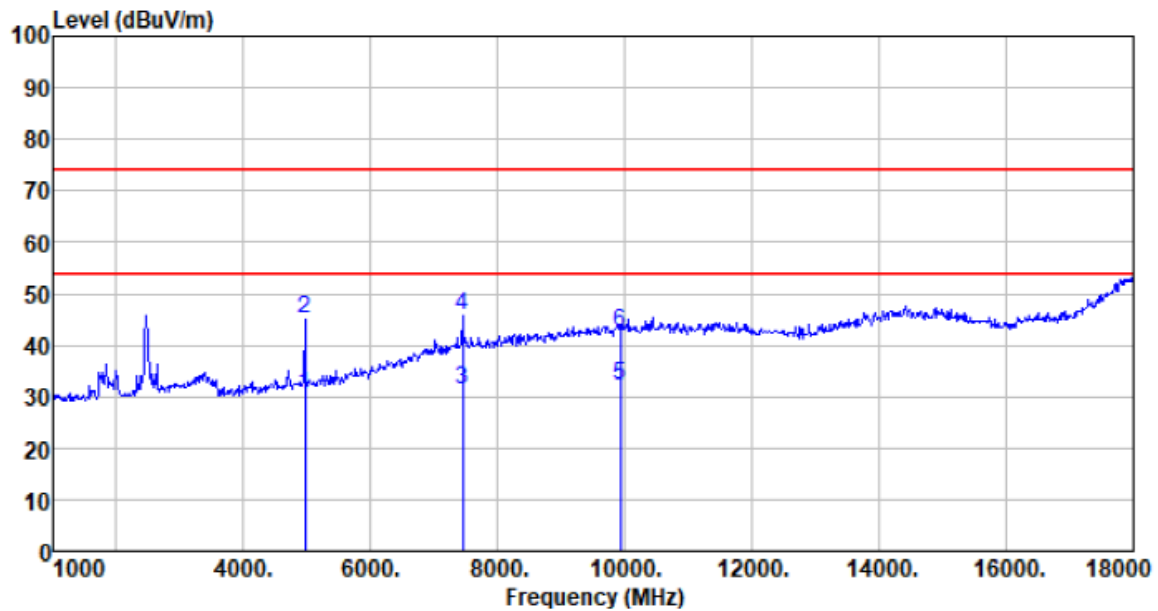


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 28.47                    | 31.33                     | 4.69                | 37.76                  | 26.73           | 54.00                    | -27.27              | Average |
| 4882.000    | 45.70                    | 31.33                     | 4.69                | 37.76                  | 43.96           | 74.00                    | -30.04              | Peak    |
| 7323.000    | 19.22                    | 36.43                     | 6.63                | 35.60                  | 26.68           | 54.00                    | -27.32              | Average |
| 7323.000    | 31.82                    | 36.43                     | 6.63                | 35.60                  | 39.28           | 74.00                    | -34.72              | Peak    |
| 9764.000    | 22.47                    | 38.10                     | 8.03                | 35.03                  | 33.57           | 54.00                    | -20.43              | Average |
| 9764.000    | 32.07                    | 38.10                     | 8.03                | 35.03                  | 43.17           | 74.00                    | -30.83              | Peak    |



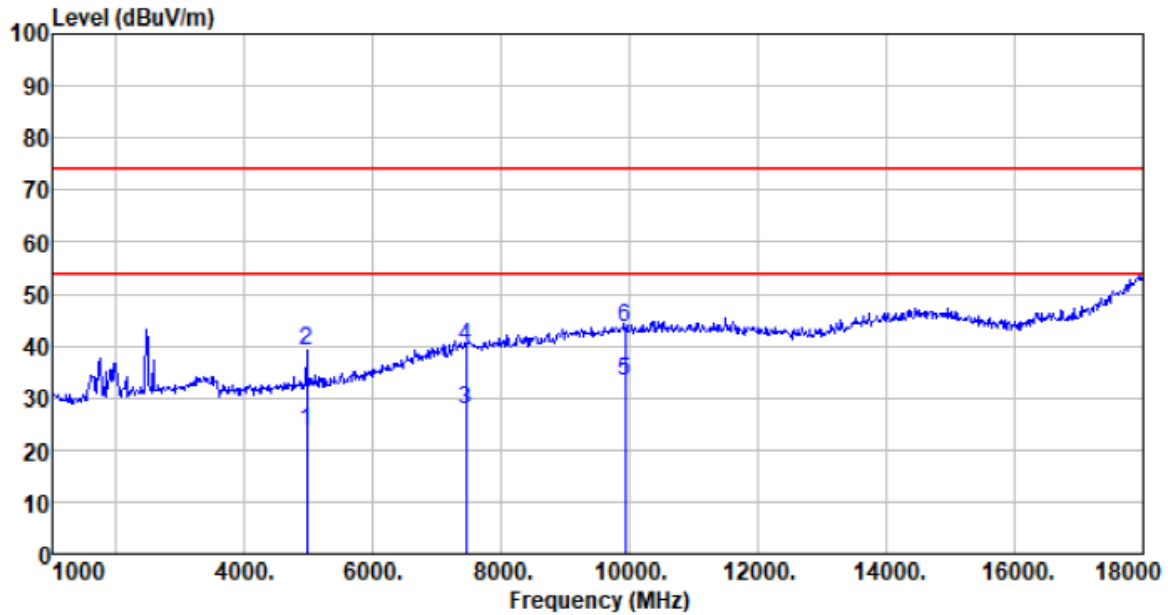
|               |         |
|---------------|---------|
| Test channel: | Highest |
|---------------|---------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 31.91                    | 31.44                     | 4.79                | 37.78                        | 30.36           | 54.00                    | -23.64              | Average |
| 4960.000    | 46.54                    | 31.44                     | 4.79                | 37.78                        | 44.99           | 74.00                    | -29.01              | Peak    |
| 7440.000    | 23.43                    | 36.66                     | 6.77                | 35.56                        | 31.30           | 54.00                    | -22.70              | Average |
| 7440.000    | 37.94                    | 36.66                     | 6.77                | 35.56                        | 45.81           | 74.00                    | -28.19              | Peak    |
| 9920.000    | 21.03                    | 38.30                     | 8.09                | 35.14                        | 32.28           | 54.00                    | -21.72              | Average |
| 9920.000    | 31.30                    | 38.30                     | 8.09                | 35.14                        | 42.55           | 74.00                    | -31.45              | Peak    |

Vertical:

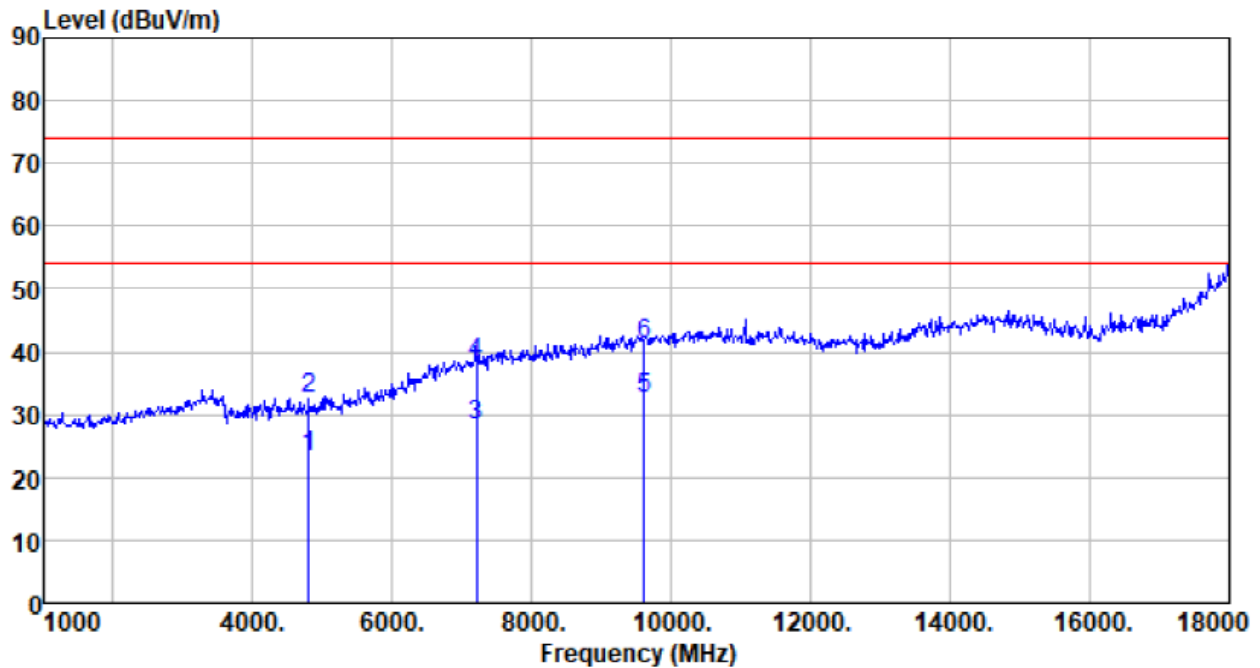


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 25.04                    | 31.44                     | 4.79                | 37.78                  | 23.49           | 54.00                    | -30.51              | Average |
| 4960.000    | 40.51                    | 31.44                     | 4.79                | 37.78                  | 38.96           | 74.00                    | -35.04              | Peak    |
| 7440.000    | 19.86                    | 36.66                     | 6.77                | 35.56                  | 27.73           | 54.00                    | -26.27              | Average |
| 7440.000    | 32.11                    | 36.66                     | 6.77                | 35.56                  | 39.98           | 74.00                    | -34.02              | Peak    |
| 9920.000    | 22.12                    | 38.30                     | 8.09                | 35.14                  | 33.37           | 54.00                    | -20.63              | Average |
| 9920.000    | 32.37                    | 38.30                     | 8.09                | 35.14                  | 43.62           | 74.00                    | -30.38              | Peak    |

**ANT 3:**

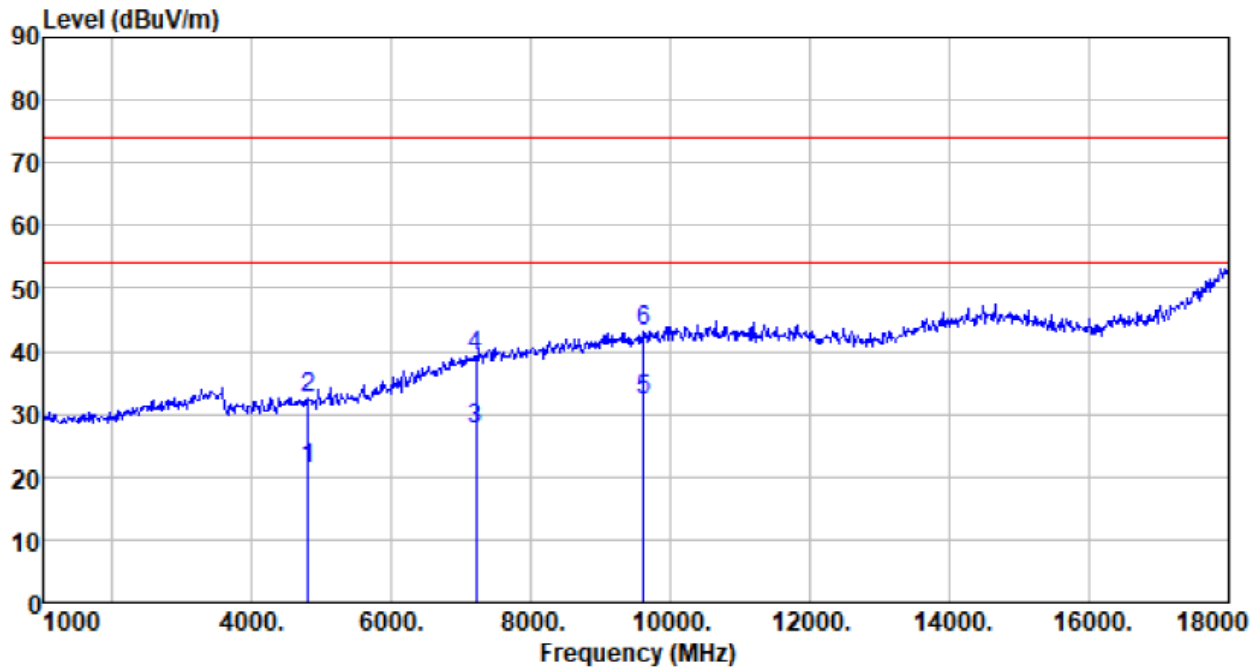
|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

**Horizontal:**



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 25.21                    | 31.20                     | 4.61                | 37.73                  | 23.29           | 54.00                    | -30.71              | Average |
| 4804.000    | 34.42                    | 31.20                     | 4.61                | 37.73                  | 32.50           | 74.00                    | -41.50              | Peak    |
| 7206.000    | 21.30                    | 36.16                     | 6.48                | 35.63                  | 28.31           | 54.00                    | -25.69              | Average |
| 7206.000    | 31.03                    | 36.16                     | 6.48                | 35.63                  | 38.04           | 74.00                    | -35.96              | Peak    |
| 9608.000    | 21.56                    | 37.93                     | 7.97                | 34.94                  | 32.52           | 54.00                    | -21.48              | Average |
| 9608.000    | 30.06                    | 37.93                     | 7.97                | 34.94                  | 41.02           | 74.00                    | -32.98              | Peak    |

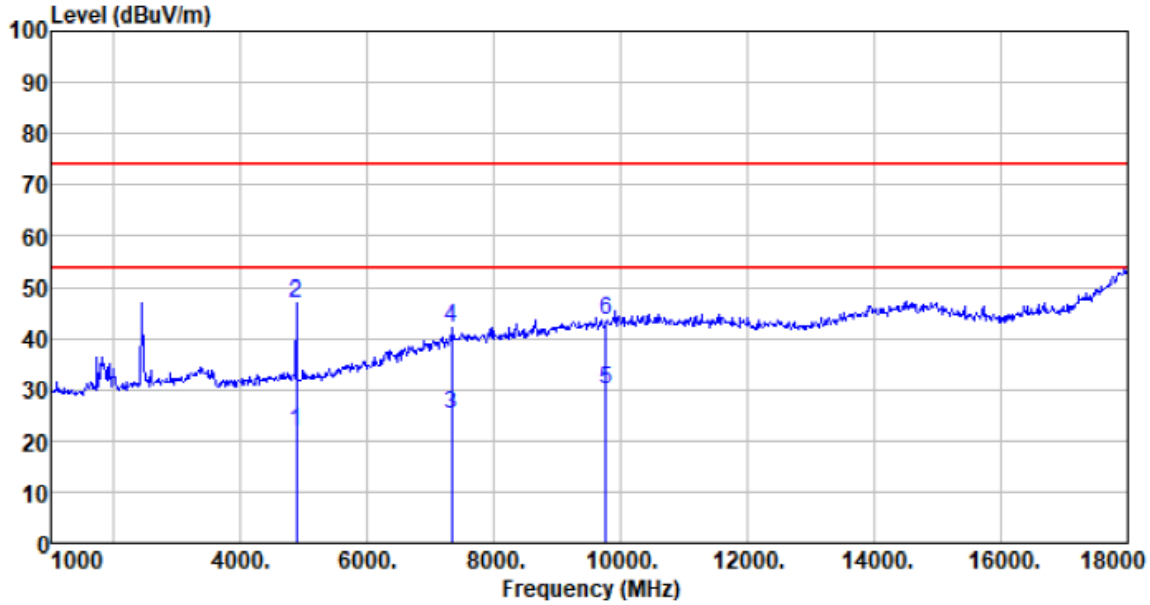
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 23.21                    | 31.20                     | 4.61                | 37.73                  | 21.29           | 54.00                    | -32.71              | Average |
| 4804.000    | 34.42                    | 31.20                     | 4.61                | 37.73                  | 32.50           | 74.00                    | -41.50              | Peak    |
| 7206.000    | 20.40                    | 36.16                     | 6.48                | 35.63                  | 27.41           | 54.00                    | -26.59              | Average |
| 7206.000    | 32.34                    | 36.16                     | 6.48                | 35.63                  | 39.35           | 74.00                    | -34.65              | Peak    |
| 9608.000    | 21.20                    | 37.93                     | 7.97                | 34.94                  | 32.16           | 54.00                    | -21.84              | Average |
| 9608.000    | 32.23                    | 37.93                     | 7.97                | 34.94                  | 43.19           | 74.00                    | -30.81              | Peak    |

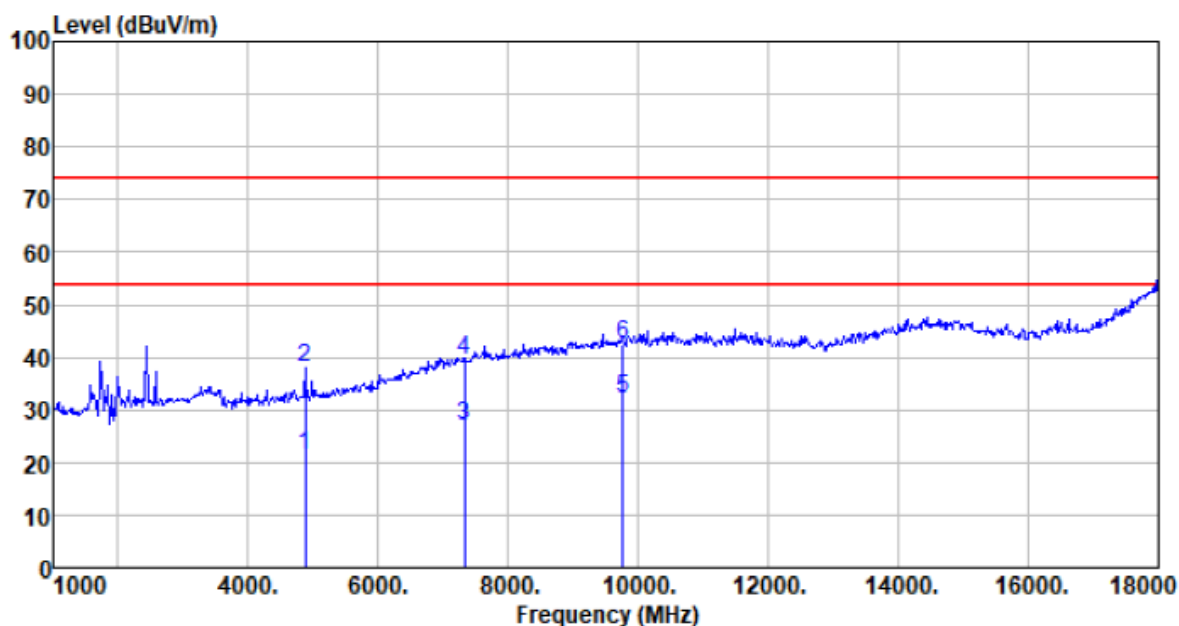
|               |        |
|---------------|--------|
| Test channel: | Middle |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 23.55                    | 31.33                     | 4.69                | 37.76                  | 21.81           | 54.00                    | -32.19              | Average |
| 4882.000    | 48.57                    | 31.33                     | 4.69                | 37.76                  | 46.83           | 74.00                    | -27.17              | Peak    |
| 7323.000    | 17.76                    | 36.43                     | 6.63                | 35.60                  | 25.22           | 54.00                    | -28.78              | Average |
| 7323.000    | 34.71                    | 36.43                     | 6.63                | 35.60                  | 42.17           | 74.00                    | -31.83              | Peak    |
| 9764.000    | 18.64                    | 38.10                     | 8.03                | 35.03                  | 29.74           | 54.00                    | -24.26              | Average |
| 9764.000    | 32.30                    | 38.10                     | 8.03                | 35.03                  | 43.40           | 74.00                    | -30.60              | Peak    |

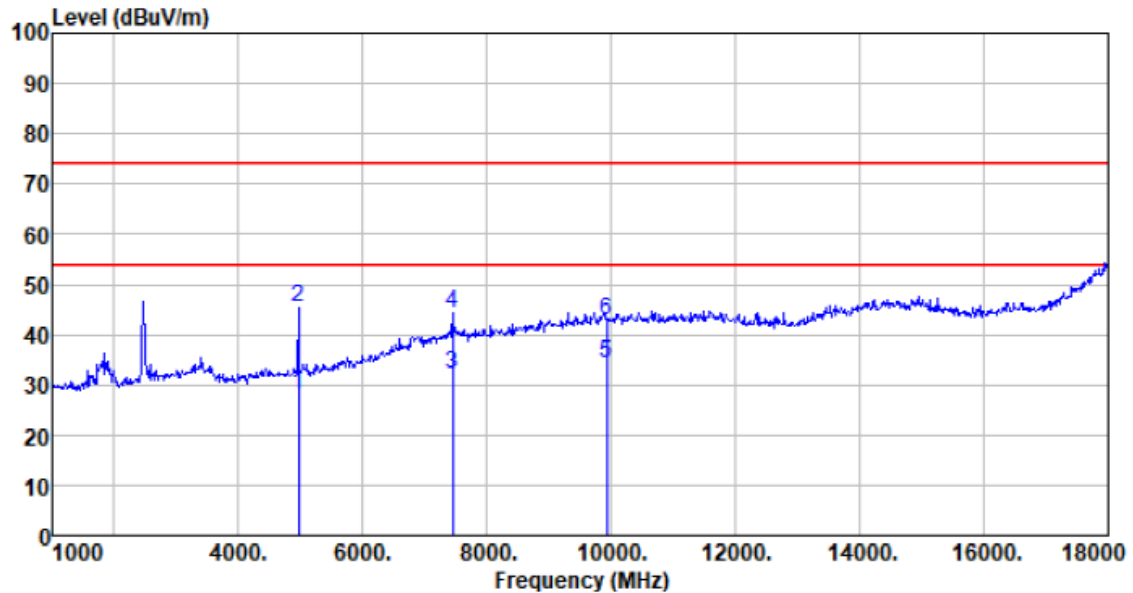
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 23.16                    | 31.33                     | 4.69                | 37.76                  | 21.42           | 54.00                    | -32.58              | Average |
| 4882.000    | 39.93                    | 31.33                     | 4.69                | 37.76                  | 38.19           | 74.00                    | -35.81              | Peak    |
| 7323.000    | 19.65                    | 36.43                     | 6.63                | 35.60                  | 27.11           | 54.00                    | -26.89              | Average |
| 7323.000    | 32.05                    | 36.43                     | 6.63                | 35.60                  | 39.51           | 74.00                    | -34.49              | Peak    |
| 9764.000    | 20.96                    | 38.10                     | 8.03                | 35.03                  | 32.06           | 54.00                    | -21.94              | Average |
| 9764.000    | 31.29                    | 38.10                     | 8.03                | 35.03                  | 42.39           | 74.00                    | -31.61              | Peak    |

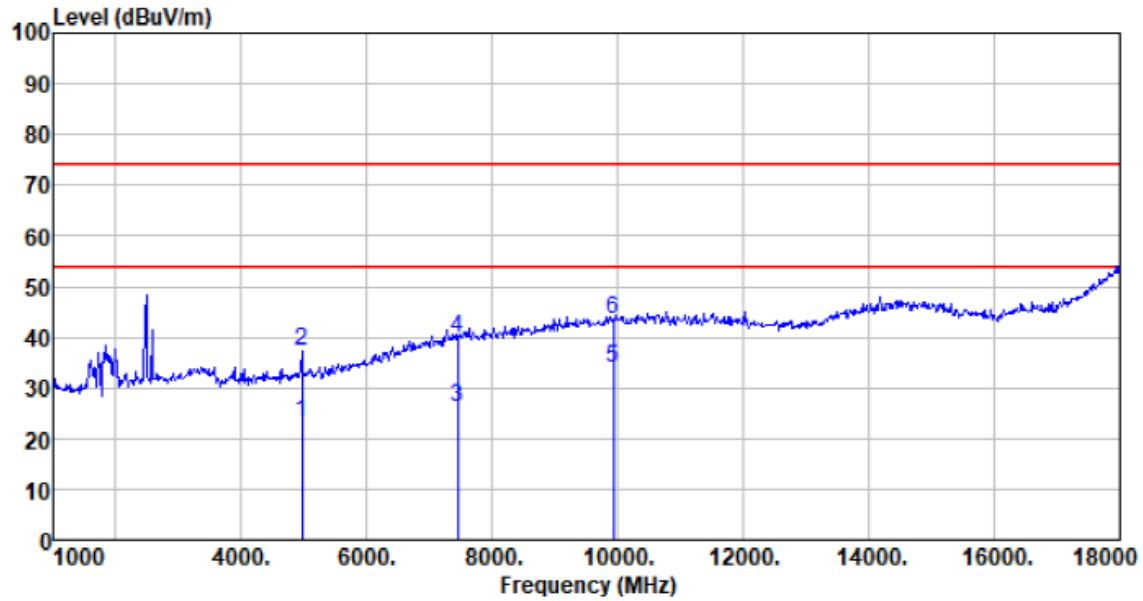
|               |         |
|---------------|---------|
| Test channel: | Highest |
|---------------|---------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 29.45                    | 31.44                     | 4.79                | 37.78                  | 27.90           | 54.00                    | -26.10              | Average |
| 4960.000    | 46.88                    | 31.44                     | 4.79                | 37.78                  | 45.33           | 74.00                    | -28.67              | Peak    |
| 7440.000    | 24.24                    | 36.66                     | 6.77                | 35.56                  | 32.11           | 54.00                    | -21.89              | Average |
| 7440.000    | 36.41                    | 36.66                     | 6.77                | 35.56                  | 44.28           | 74.00                    | -29.72              | Peak    |
| 9920.000    | 23.13                    | 38.30                     | 8.09                | 35.14                  | 34.38           | 54.00                    | -19.62              | Average |
| 9920.000    | 31.73                    | 38.30                     | 8.09                | 35.14                  | 42.98           | 74.00                    | -31.02              | Peak    |

Vertical:

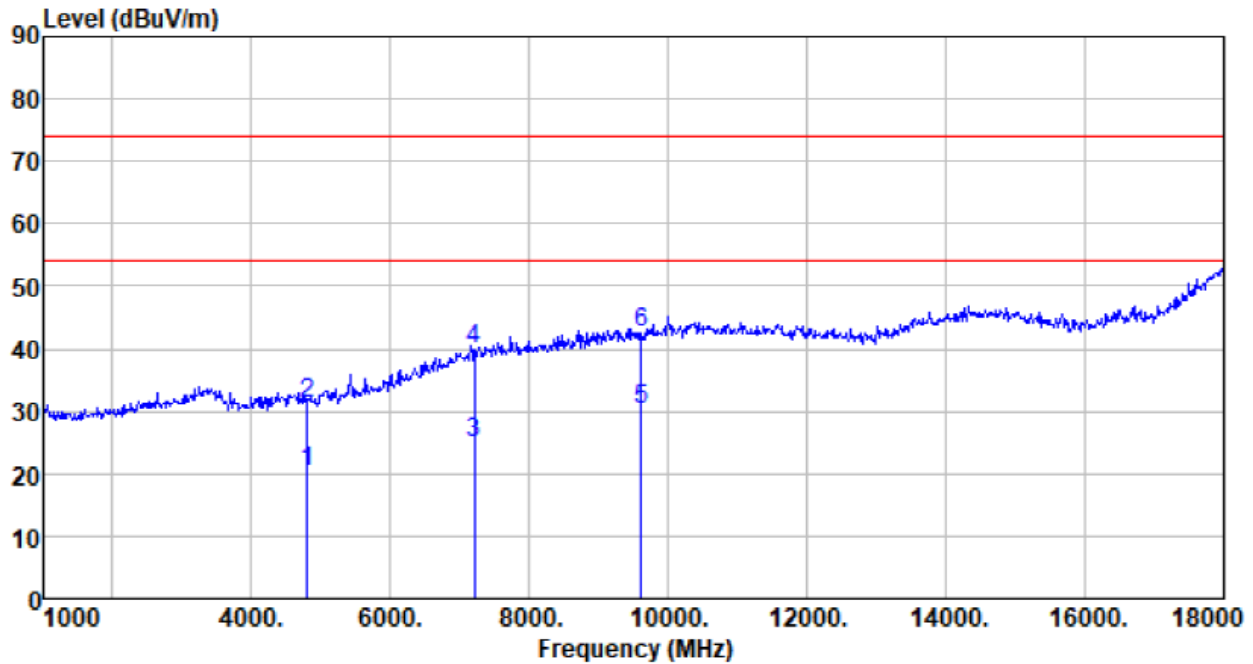


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 24.62                    | 31.44                     | 4.79                | 37.78                  | 23.07           | 54.00                    | -30.93              | Average |
| 4960.000    | 38.71                    | 31.44                     | 4.79                | 37.78                  | 37.16           | 74.00                    | -36.84              | Peak    |
| 7440.000    | 18.23                    | 36.66                     | 6.77                | 35.56                  | 26.10           | 54.00                    | -27.90              | Average |
| 7440.000    | 32.12                    | 36.66                     | 6.77                | 35.56                  | 39.99           | 74.00                    | -34.01              | Peak    |
| 9920.000    | 22.69                    | 38.30                     | 8.09                | 35.14                  | 33.94           | 54.00                    | -20.06              | Average |
| 9920.000    | 32.23                    | 38.30                     | 8.09                | 35.14                  | 43.48           | 74.00                    | -30.52              | Peak    |



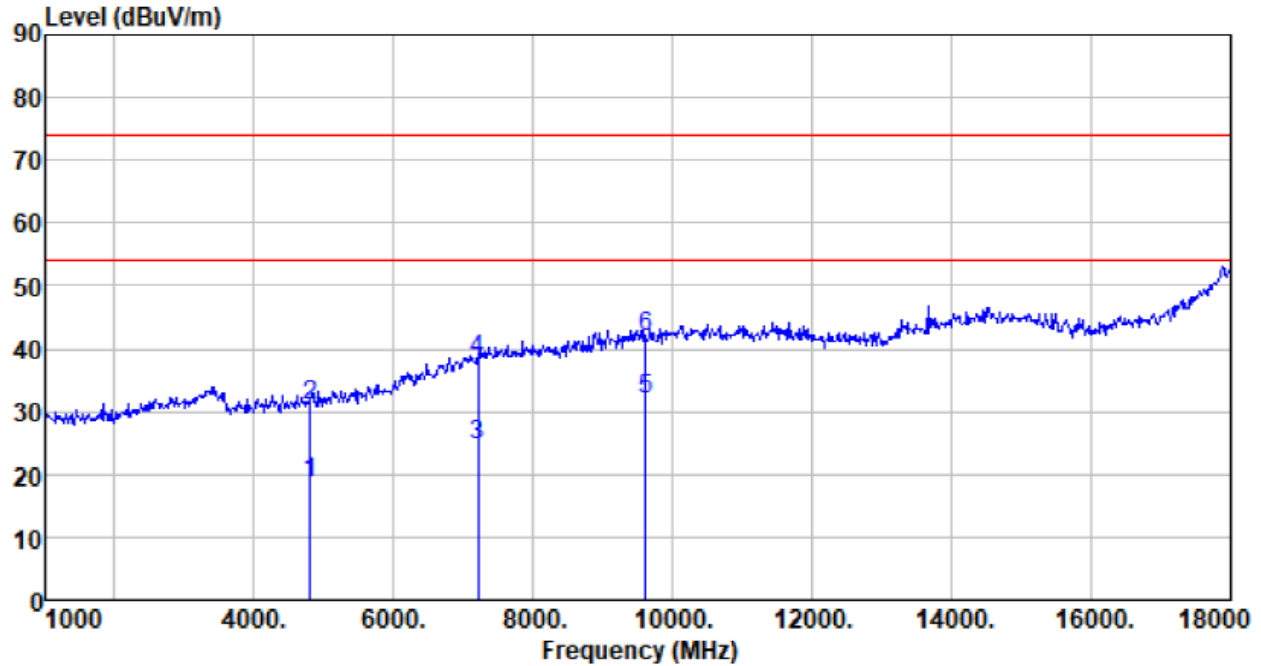
**ANT 4:**

|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

**Horizontal:**


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 22.15                    | 31.20                     | 4.61                | 37.73                  | 20.23           | 54.00                    | -33.77              | Average |
| 4804.000    | 33.12                    | 31.20                     | 4.61                | 37.73                  | 31.20           | 74.00                    | -42.80              | Peak    |
| 7206.000    | 17.91                    | 36.16                     | 6.48                | 35.63                  | 24.92           | 54.00                    | -29.08              | Average |
| 7206.000    | 32.79                    | 36.16                     | 6.48                | 35.63                  | 39.80           | 74.00                    | -34.20              | Peak    |
| 9608.000    | 19.17                    | 37.93                     | 7.97                | 34.94                  | 30.13           | 54.00                    | -23.87              | Average |
| 9608.000    | 31.62                    | 37.93                     | 7.97                | 34.94                  | 42.58           | 74.00                    | -31.42              | Peak    |

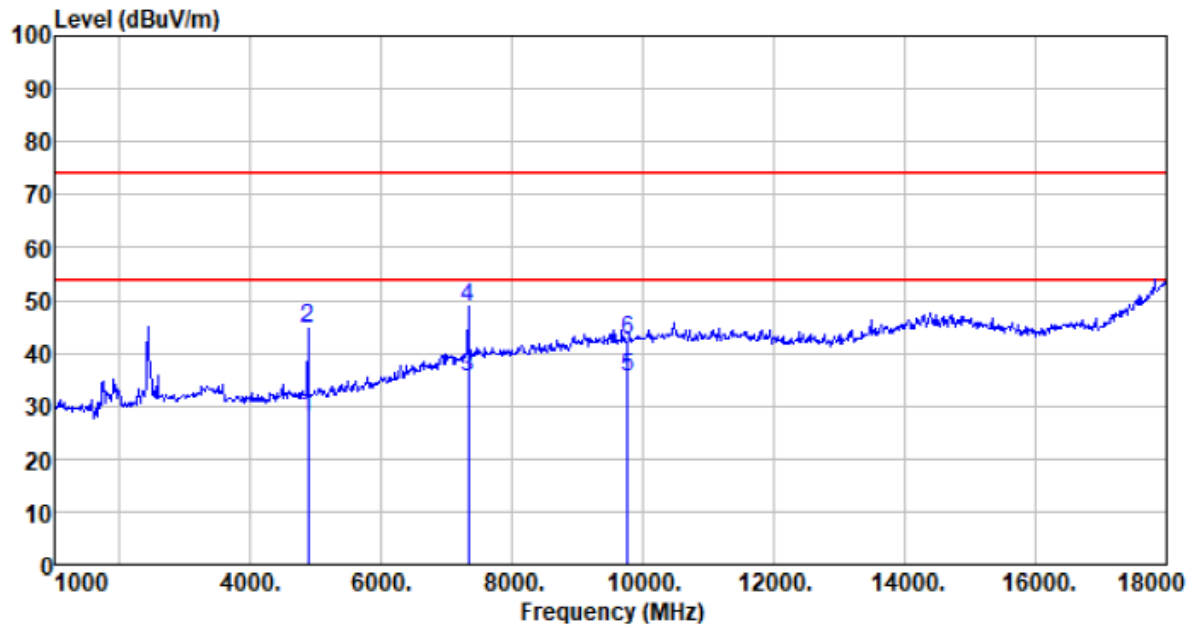
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4804.000    | 20.53                    | 31.20                     | 4.61                | 37.73                  | 18.61           | 54.00                    | -35.39              | Average |
| 4804.000    | 32.75                    | 31.20                     | 4.61                | 37.73                  | 30.83           | 74.00                    | -43.17              | Peak    |
| 7206.000    | 17.50                    | 36.16                     | 6.48                | 35.63                  | 24.51           | 54.00                    | -29.49              | Average |
| 7206.000    | 31.25                    | 36.16                     | 6.48                | 35.63                  | 38.26           | 74.00                    | -35.74              | Peak    |
| 9608.000    | 20.79                    | 37.93                     | 7.97                | 34.94                  | 31.75           | 54.00                    | -22.25              | Average |
| 9608.000    | 30.99                    | 37.93                     | 7.97                | 34.94                  | 41.95           | 74.00                    | -32.05              | Peak    |

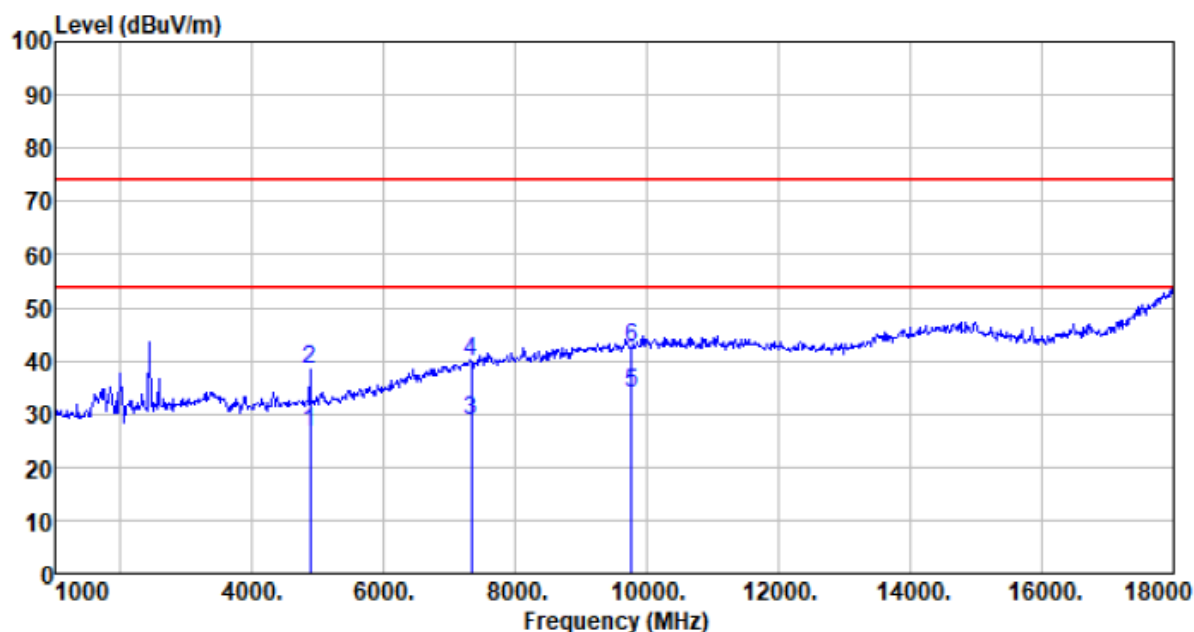
|               |        |
|---------------|--------|
| Test channel: | Middle |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 29.51                    | 31.33                     | 4.69                | 37.76                  | 27.77           | 54.00                    | -26.23              | Average |
| 4882.000    | 46.42                    | 31.33                     | 4.69                | 37.76                  | 44.68           | 74.00                    | -29.32              | Peak    |
| 7323.000    | 27.96                    | 36.43                     | 6.63                | 35.60                  | 35.42           | 54.00                    | -18.58              | Average |
| 7323.000    | 41.29                    | 36.43                     | 6.63                | 35.60                  | 48.75           | 74.00                    | -25.25              | Peak    |
| 9764.000    | 24.48                    | 38.10                     | 8.03                | 35.03                  | 35.58           | 54.00                    | -18.42              | Average |
| 9764.000    | 31.32                    | 38.10                     | 8.03                | 35.03                  | 42.42           | 74.00                    | -31.58              | Peak    |

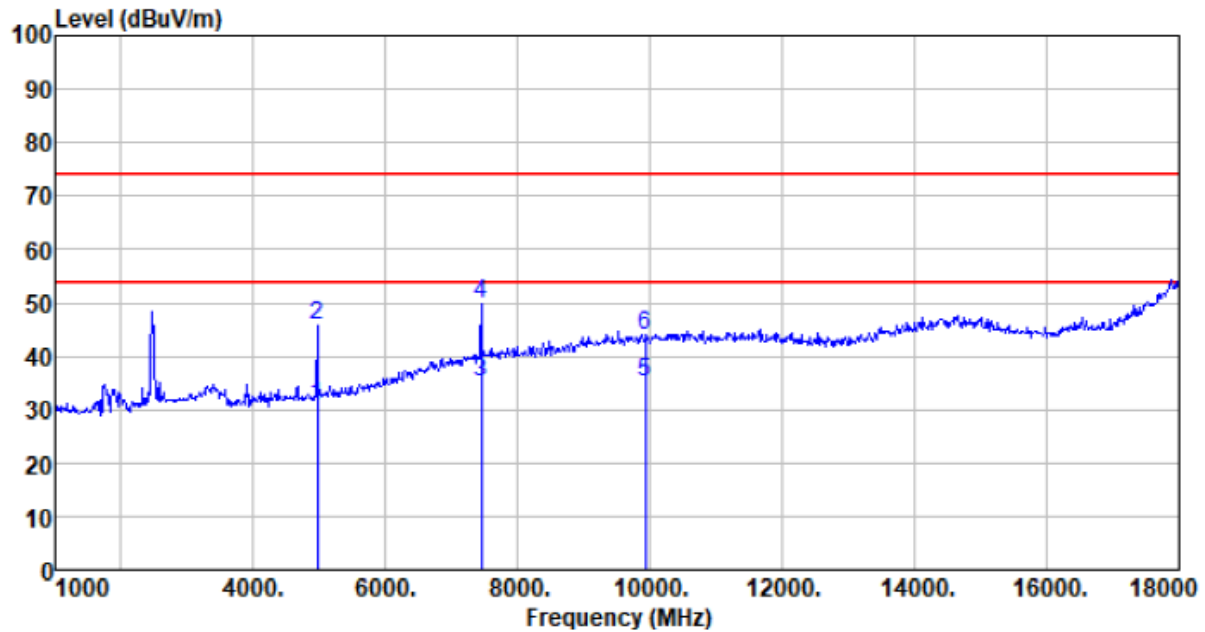
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4882.000    | 28.32                    | 31.33                     | 4.69                | 37.76                  | 26.58           | 54.00                    | -27.42              | Average |
| 4882.000    | 40.05                    | 31.33                     | 4.69                | 37.76                  | 38.31           | 74.00                    | -35.69              | Peak    |
| 7323.000    | 21.43                    | 36.43                     | 6.63                | 35.60                  | 28.89           | 54.00                    | -25.11              | Average |
| 7323.000    | 32.43                    | 36.43                     | 6.63                | 35.60                  | 39.89           | 74.00                    | -34.11              | Peak    |
| 9764.000    | 22.86                    | 38.10                     | 8.03                | 35.03                  | 33.96           | 54.00                    | -20.04              | Average |
| 9764.000    | 31.50                    | 38.10                     | 8.03                | 35.03                  | 42.60           | 74.00                    | -31.40              | Peak    |

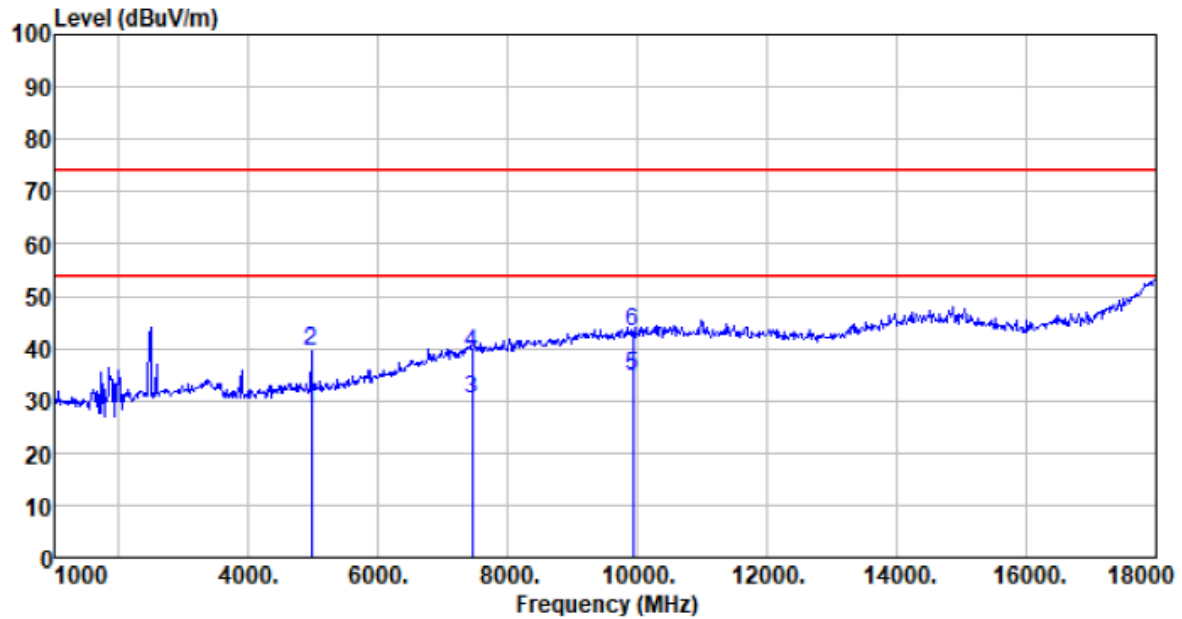
|               |         |
|---------------|---------|
| Test channel: | Highest |
|---------------|---------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 32.20                    | 31.44                     | 4.79                | 37.78                        | 30.65           | 54.00                    | -23.35              | Average |
| 4960.000    | 47.25                    | 31.44                     | 4.79                | 37.78                        | 45.70           | 74.00                    | -28.30              | Peak    |
| 7440.000    | 27.13                    | 36.66                     | 6.77                | 35.56                        | 35.00           | 54.00                    | -19.00              | Average |
| 7440.000    | 41.81                    | 36.66                     | 6.77                | 35.56                        | 49.68           | 74.00                    | -24.32              | Peak    |
| 9920.000    | 23.95                    | 38.30                     | 8.09                | 35.14                        | 35.20           | 54.00                    | -18.80              | Average |
| 9920.000    | 32.53                    | 38.30                     | 8.09                | 35.14                        | 43.78           | 74.00                    | -30.22              | Peak    |

Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 4960.000    | 30.07                    | 31.44                     | 4.79                | 37.78                  | 28.52           | 54.00                    | -25.48              | Average |
| 4960.000    | 40.94                    | 31.44                     | 4.79                | 37.78                  | 39.39           | 74.00                    | -34.61              | Peak    |
| 7440.000    | 22.53                    | 36.66                     | 6.77                | 35.56                  | 30.40           | 54.00                    | -23.60              | Average |
| 7440.000    | 31.21                    | 36.66                     | 6.77                | 35.56                  | 39.08           | 74.00                    | -34.92              | Peak    |
| 9920.000    | 23.57                    | 38.30                     | 8.09                | 35.14                  | 34.82           | 54.00                    | -19.18              | Average |
| 9920.000    | 31.84                    | 38.30                     | 8.09                | 35.14                  | 43.09           | 74.00                    | -30.91              | Peak    |

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. “\*”, means this data is too weak instrument of signal is unable to test.

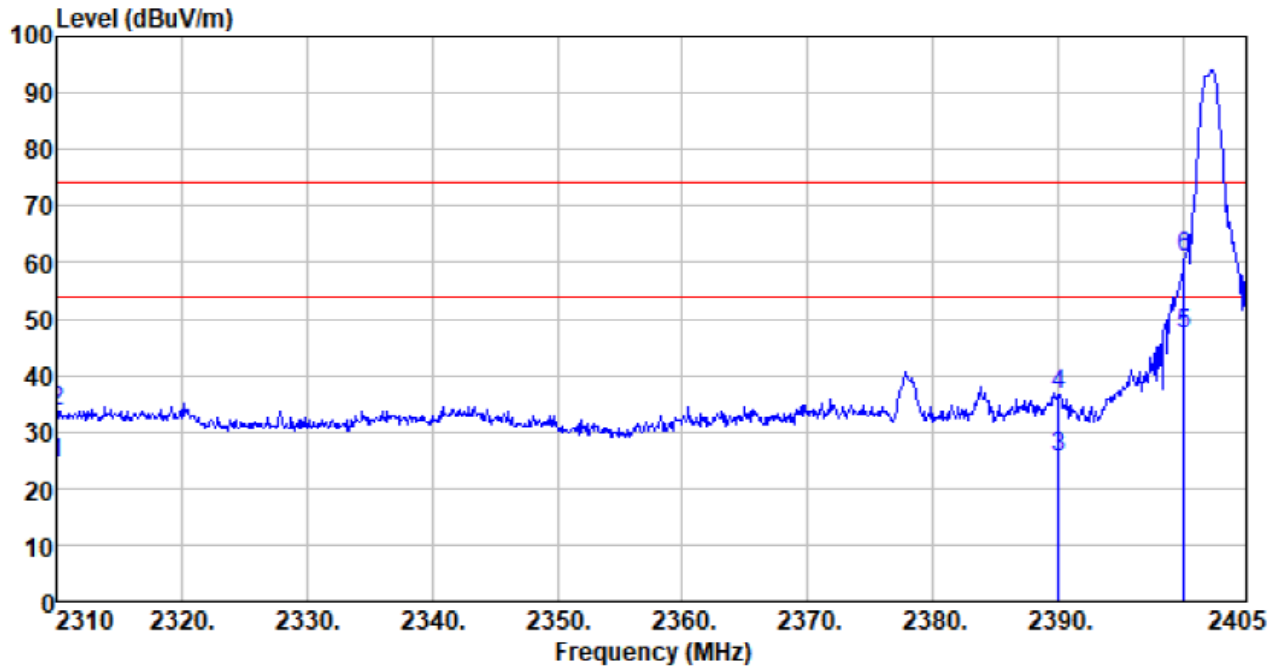
### 7.3.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

ANT 1:

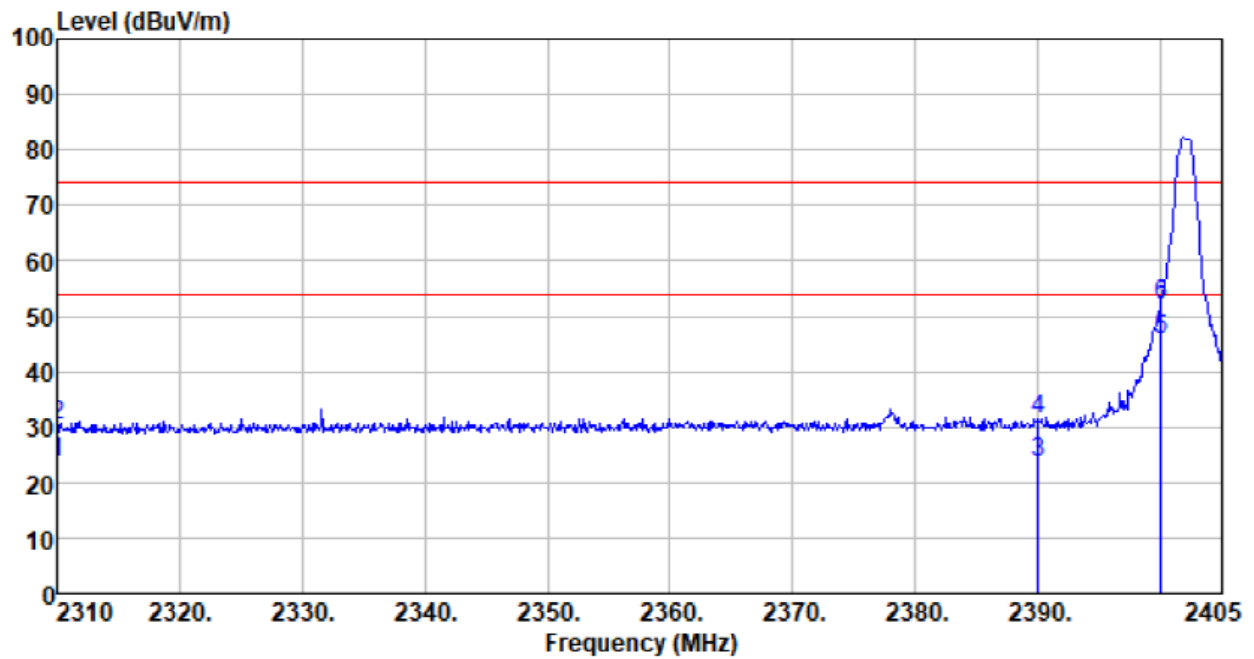
|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 31.35                    | 27.14                     | 2.81                | 36.79                  | 24.51           | 54.00                    | -29.49              | Average |
| 2310.000    | 40.44                    | 27.14                     | 2.81                | 36.79                  | 33.60           | 74.00                    | -40.40              | Peak    |
| 2390.000    | 31.88                    | 27.37                     | 2.91                | 36.85                  | 25.31           | 54.00                    | -28.69              | Average |
| 2390.000    | 43.19                    | 27.37                     | 2.91                | 36.85                  | 36.62           | 74.00                    | -37.38              | Peak    |
| 2400.000    | 53.79                    | 27.41                     | 2.91                | 36.86                  | 47.25           | 54.00                    | -6.75               | Average |
| 2400.000    | 67.33                    | 27.41                     | 2.91                | 36.86                  | 60.79           | 74.00                    | -13.21              | Peak    |

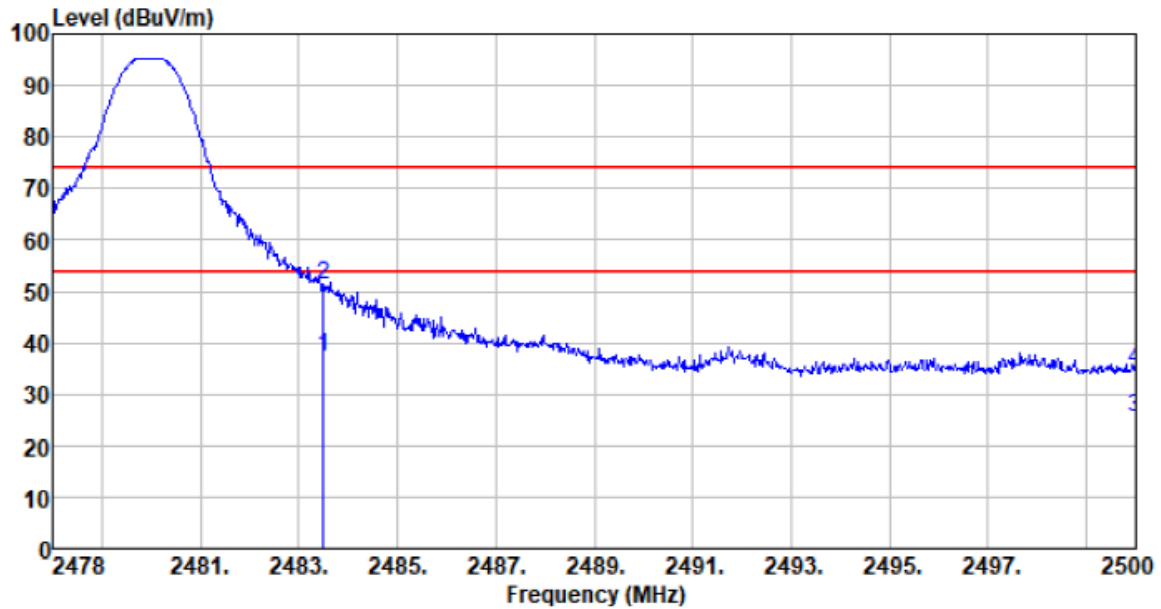
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 30.61                    | 27.14                     | 2.81                | 36.79                  | 23.77           | 54.00                    | -30.23              | Average |
| 2310.000    | 37.26                    | 27.14                     | 2.81                | 36.79                  | 30.42           | 74.00                    | -43.58              | Peak    |
| 2390.000    | 30.03                    | 27.37                     | 2.91                | 36.85                  | 23.46           | 54.00                    | -30.54              | Average |
| 2390.000    | 38.00                    | 27.37                     | 2.91                | 36.85                  | 31.43           | 74.00                    | -42.57              | Peak    |
| 2400.000    | 52.42                    | 27.41                     | 2.91                | 36.86                  | 45.88           | 54.00                    | -8.12               | Average |
| 2400.000    | 58.54                    | 27.41                     | 2.91                | 36.86                  | 52.00           | 74.00                    | -22.00              | Peak    |

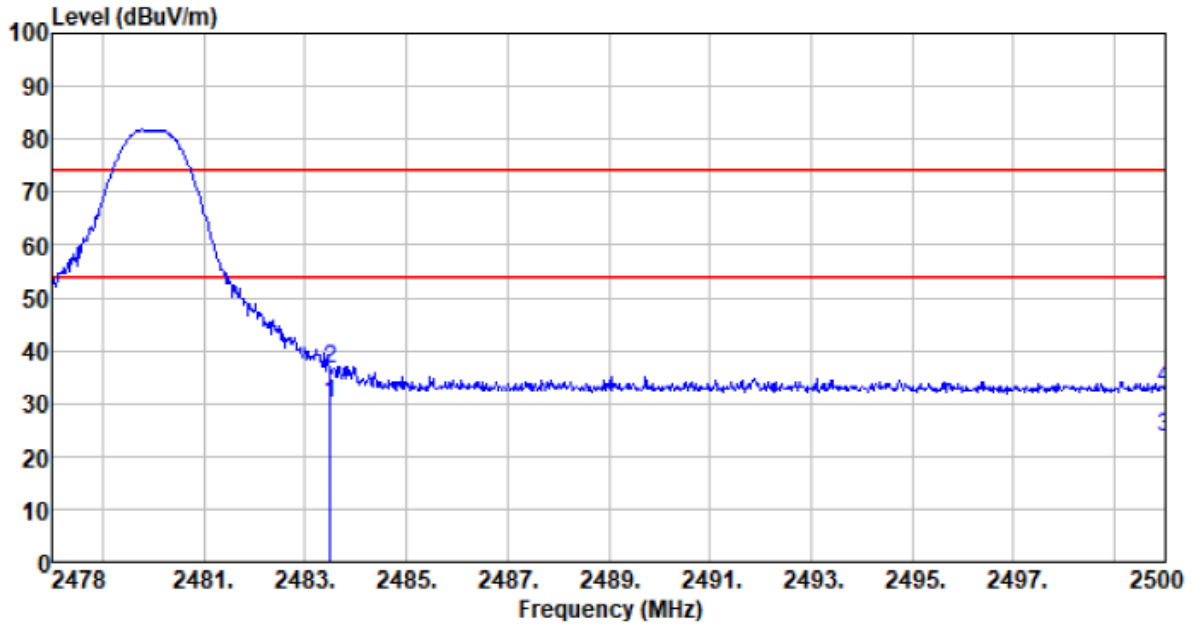


|               |         |
|---------------|---------|
| Test channel: | Highest |
| Horizontal:   |         |



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 43.66                    | 27.66                     | 2.99                | 36.93                  | 37.38           | 54.00                    | -16.62              | Average |
| 2483.500    | 57.45                    | 27.66                     | 2.99                | 36.93                  | 51.17           | 74.00                    | -22.83              | Peak    |
| 2500.000    | 31.82                    | 27.70                     | 3.01                | 36.94                  | 25.59           | 54.00                    | -28.41              | Average |
| 2500.000    | 40.88                    | 27.70                     | 3.01                | 36.94                  | 34.65           | 74.00                    | -39.35              | Peak    |

Vertical:



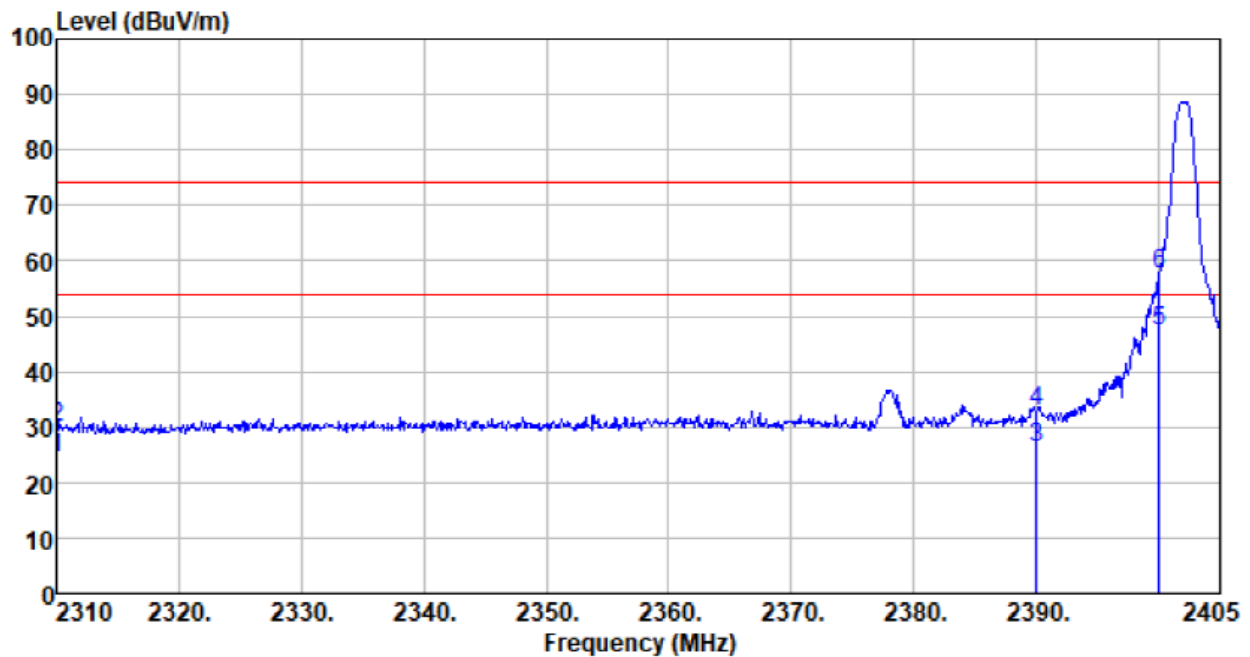
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 36.18                    | 27.66                     | 2.99                | 36.93                  | 29.90           | 54.00                    | -24.10              | Average |
| 2483.500    | 42.88                    | 27.66                     | 2.99                | 36.93                  | 36.60           | 74.00                    | -37.40              | Peak    |
| 2500.000    | 29.74                    | 27.70                     | 3.01                | 36.94                  | 23.51           | 54.00                    | -30.49              | Average |
| 2500.000    | 39.17                    | 27.70                     | 3.01                | 36.94                  | 32.94           | 74.00                    | -41.06              | Peak    |

**ANT 2:**

Test channel:

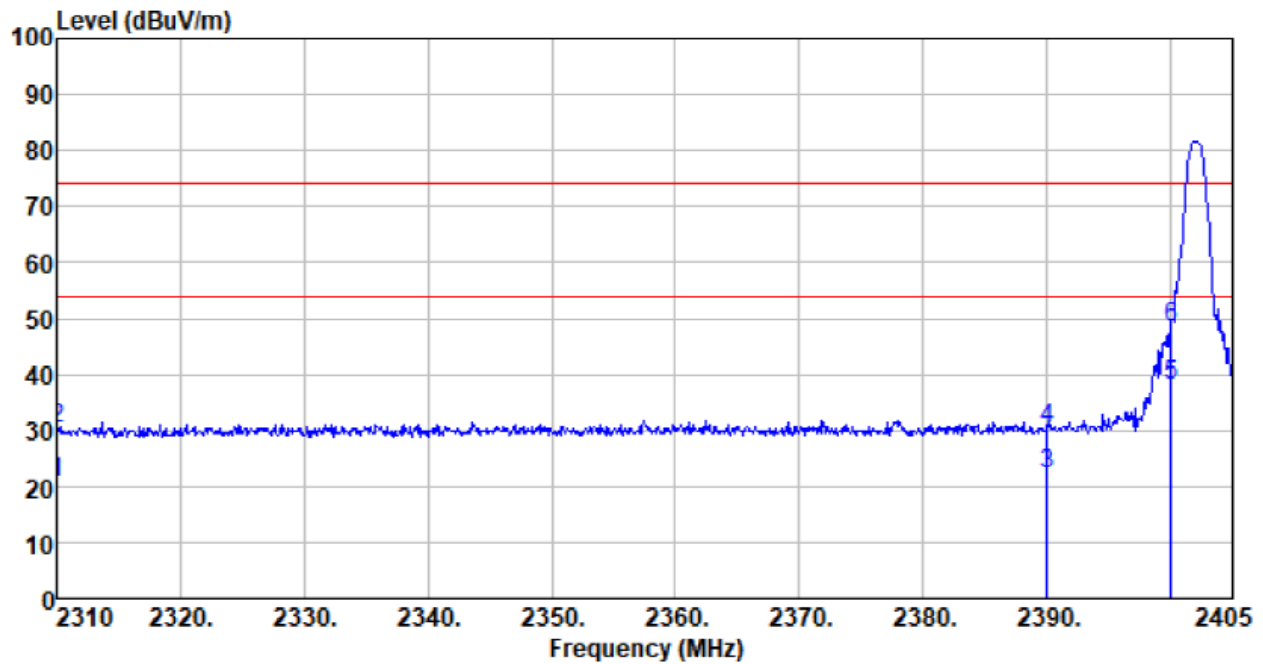
Lowest

Horizontal:



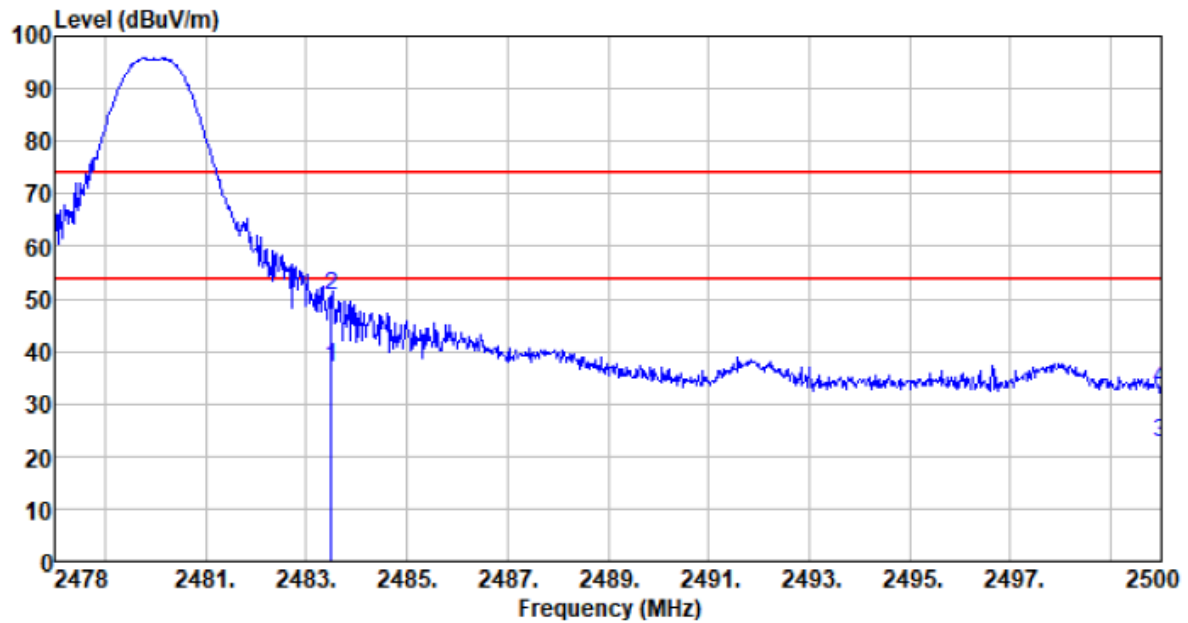
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 31.33                    | 27.14                     | 2.81                | 36.79                  | 24.49           | 54.00                    | -29.51              | Average |
| 2310.000    | 36.64                    | 27.14                     | 2.81                | 36.79                  | 29.80           | 74.00                    | -44.20              | Peak    |
| 2390.000    | 32.94                    | 27.37                     | 2.91                | 36.85                  | 26.37           | 54.00                    | -27.63              | Average |
| 2390.000    | 39.29                    | 27.37                     | 2.91                | 36.85                  | 32.72           | 74.00                    | -41.28              | Peak    |
| 2400.000    | 53.85                    | 27.41                     | 2.91                | 36.86                  | 47.31           | 54.00                    | -6.69               | Average |
| 2400.000    | 64.08                    | 27.41                     | 2.91                | 36.86                  | 57.54           | 74.00                    | -16.46              | Peak    |

Vertical:



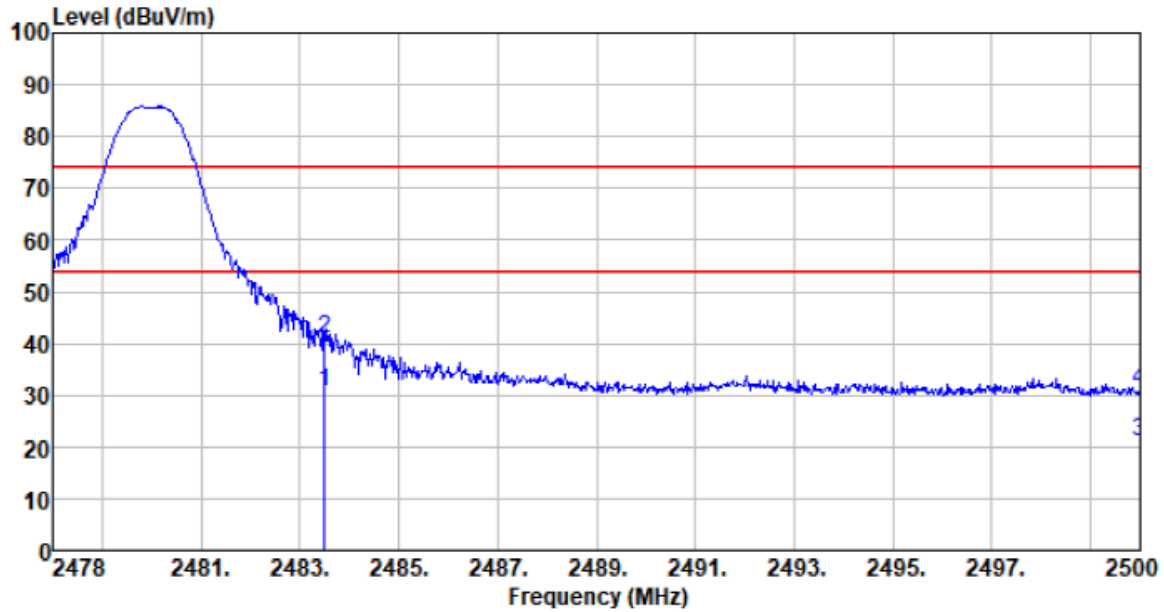
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 27.47                    | 27.14                     | 2.81                | 36.79                  | 20.63           | 54.00                    | -33.37              | Average |
| 2310.000    | 37.05                    | 27.14                     | 2.81                | 36.79                  | 30.21           | 74.00                    | -43.79              | Peak    |
| 2390.000    | 28.55                    | 27.37                     | 2.91                | 36.85                  | 21.98           | 54.00                    | -32.02              | Average |
| 2390.000    | 36.85                    | 27.37                     | 2.91                | 36.85                  | 30.28           | 74.00                    | -43.72              | Peak    |
| 2400.000    | 44.58                    | 27.41                     | 2.91                | 36.86                  | 38.04           | 54.00                    | -15.96              | Average |
| 2400.000    | 54.86                    | 27.41                     | 2.91                | 36.86                  | 48.32           | 74.00                    | -25.68              | Peak    |

|               |         |
|---------------|---------|
| Test channel: | Highest |
| Horizontal:   |         |



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 43.22                    | 27.66                     | 2.99                | 36.93                  | 36.94           | 54.00                    | -17.06              | Average |
| 2483.500    | 56.65                    | 27.66                     | 2.99                | 36.93                  | 50.37           | 74.00                    | -23.63              | Peak    |
| 2500.000    | 28.64                    | 27.70                     | 3.01                | 36.94                  | 22.41           | 54.00                    | -31.59              | Average |
| 2500.000    | 39.21                    | 27.70                     | 3.01                | 36.94                  | 32.98           | 74.00                    | -41.02              | Peak    |

Vertical:

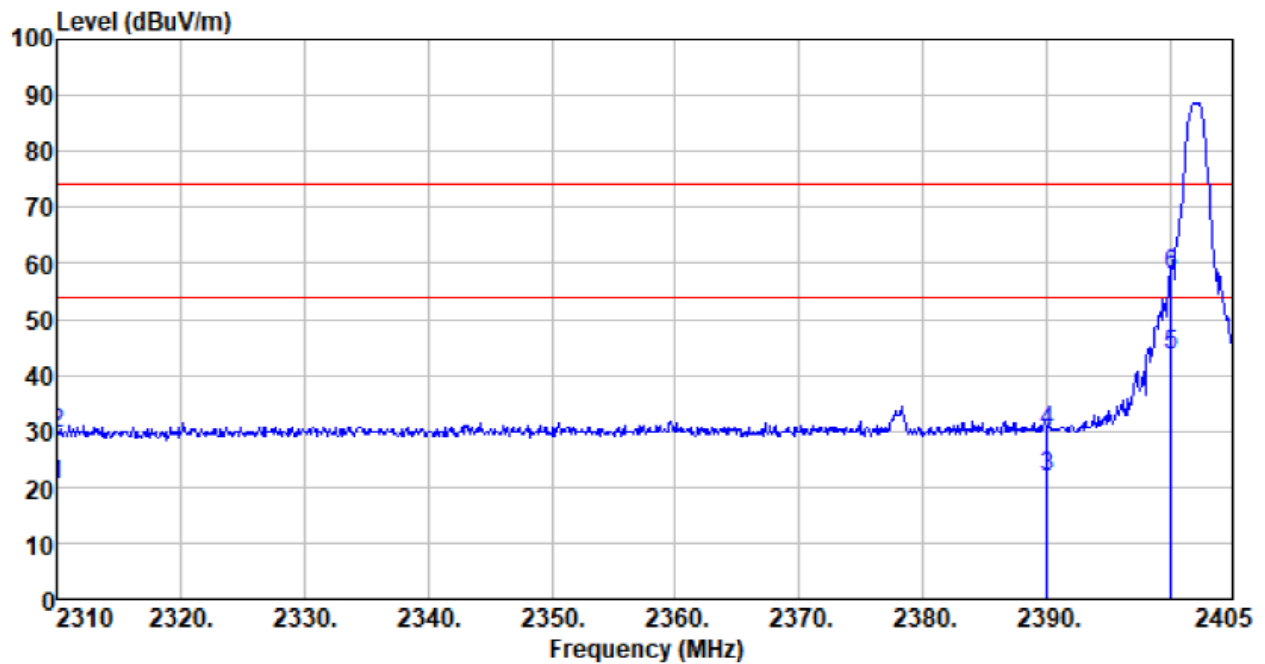


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 36.90                    | 27.66                     | 2.99                | 36.93                        | 30.62           | 54.00                    | -23.38              | Average |
| 2483.500    | 47.29                    | 27.66                     | 2.99                | 36.93                        | 41.01           | 74.00                    | -32.99              | Peak    |
| 2500.000    | 27.17                    | 27.70                     | 3.01                | 36.94                        | 20.94           | 54.00                    | -33.06              | Average |
| 2500.000    | 37.08                    | 27.70                     | 3.01                | 36.94                        | 30.85           | 74.00                    | -43.15              | Peak    |

**ANT 3:**

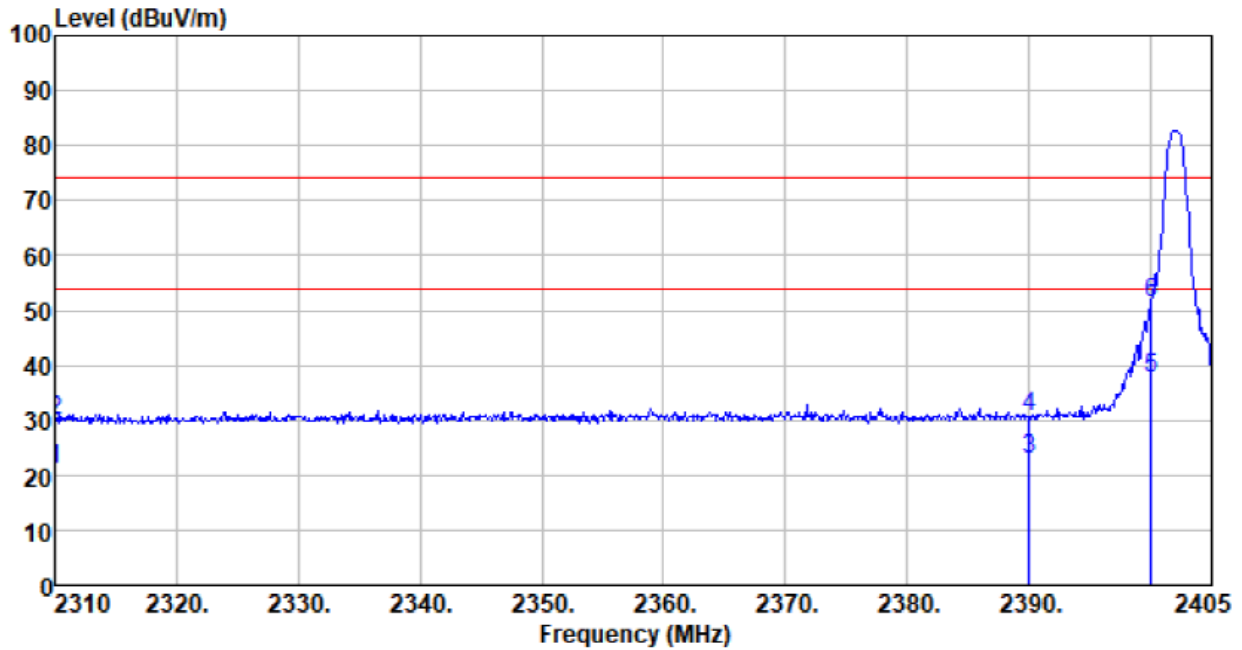
|               |        |
|---------------|--------|
| Test channel: | Lowest |
|---------------|--------|

Horizontal:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 27.10                    | 27.14                     | 2.81                | 36.79                  | 20.26           | 54.00                    | -33.74              | Average |
| 2310.000    | 36.51                    | 27.14                     | 2.81                | 36.79                  | 29.67           | 74.00                    | -44.33              | Peak    |
| 2390.000    | 28.26                    | 27.37                     | 2.91                | 36.85                  | 21.69           | 54.00                    | -32.31              | Average |
| 2390.000    | 36.63                    | 27.37                     | 2.91                | 36.85                  | 30.06           | 74.00                    | -43.94              | Peak    |
| 2400.000    | 50.01                    | 27.41                     | 2.91                | 36.86                  | 43.47           | 54.00                    | -10.53              | Average |
| 2400.000    | 64.40                    | 27.41                     | 2.91                | 36.86                  | 57.86           | 74.00                    | -16.14              | Peak    |

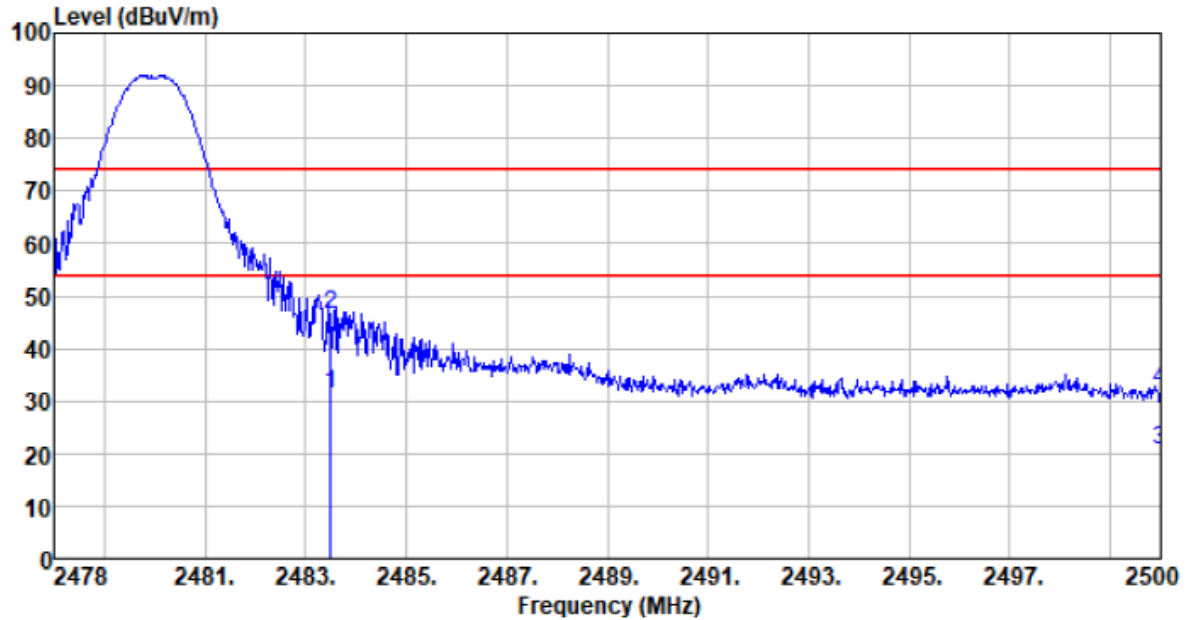
Vertical:



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 28.04                    | 27.14                     | 2.81                | 36.79                  | 21.20           | 54.00                    | -32.80              | Average |
| 2310.000    | 36.71                    | 27.14                     | 2.81                | 36.79                  | 29.87           | 74.00                    | -44.13              | Peak    |
| 2390.000    | 29.48                    | 27.37                     | 2.91                | 36.85                  | 22.91           | 54.00                    | -31.09              | Average |
| 2390.000    | 37.15                    | 27.37                     | 2.91                | 36.85                  | 30.58           | 74.00                    | -43.42              | Peak    |
| 2400.000    | 44.06                    | 27.41                     | 2.91                | 36.86                  | 37.52           | 54.00                    | -16.48              | Average |
| 2400.000    | 57.91                    | 27.41                     | 2.91                | 36.86                  | 51.37           | 74.00                    | -22.63              | Peak    |

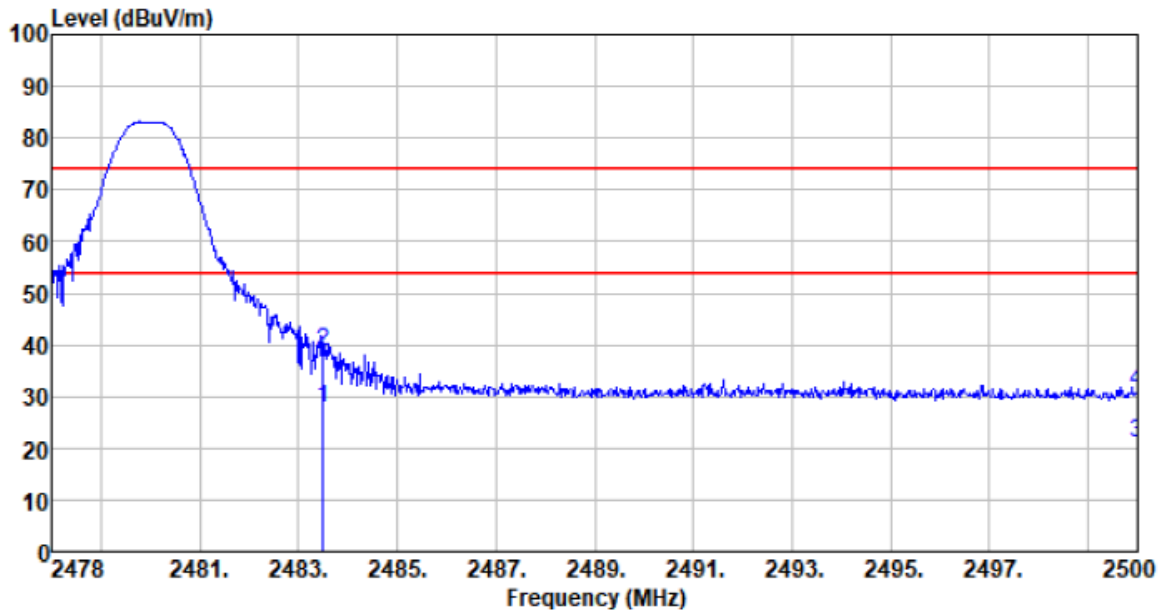


|               |         |
|---------------|---------|
| Test channel: | Highest |
| Horizontal:   |         |



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 37.49                    | 27.66                     | 2.99                | 36.93                  | 31.21           | 54.00                    | -22.79              | Average |
| 2483.500    | 52.90                    | 27.66                     | 2.99                | 36.93                  | 46.62           | 74.00                    | -27.38              | Peak    |
| 2500.000    | 26.97                    | 27.70                     | 3.01                | 36.94                  | 20.74           | 54.00                    | -33.26              | Average |
| 2500.000    | 38.19                    | 27.70                     | 3.01                | 36.94                  | 31.96           | 74.00                    | -42.04              | Peak    |

Vertical:



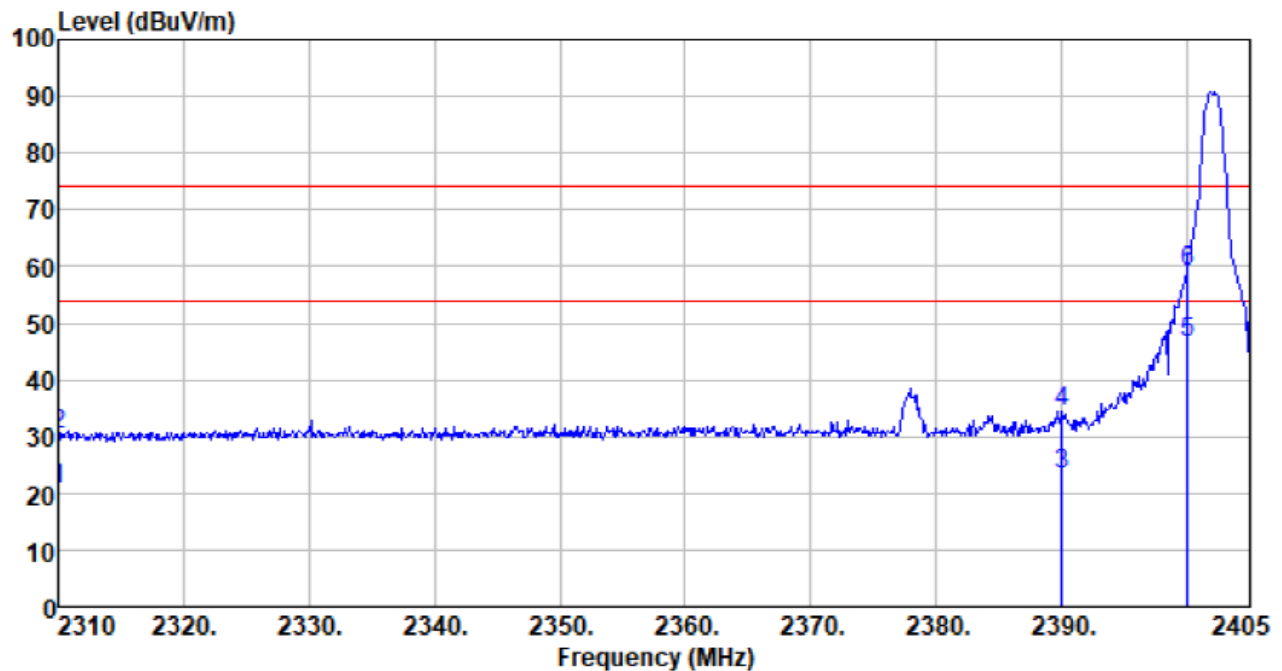
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 33.95                    | 27.66                     | 2.99                | 36.93                        | 27.67           | 54.00                    | -26.33              | Average |
| 2483.500    | 45.18                    | 27.66                     | 2.99                | 36.93                        | 38.90           | 74.00                    | -35.10              | Peak    |
| 2500.000    | 27.10                    | 27.70                     | 3.01                | 36.94                        | 20.87           | 54.00                    | -33.13              | Average |
| 2500.000    | 37.37                    | 27.70                     | 3.01                | 36.94                        | 31.14           | 74.00                    | -42.86              | Peak    |

**ANT 4:**

Test channel:

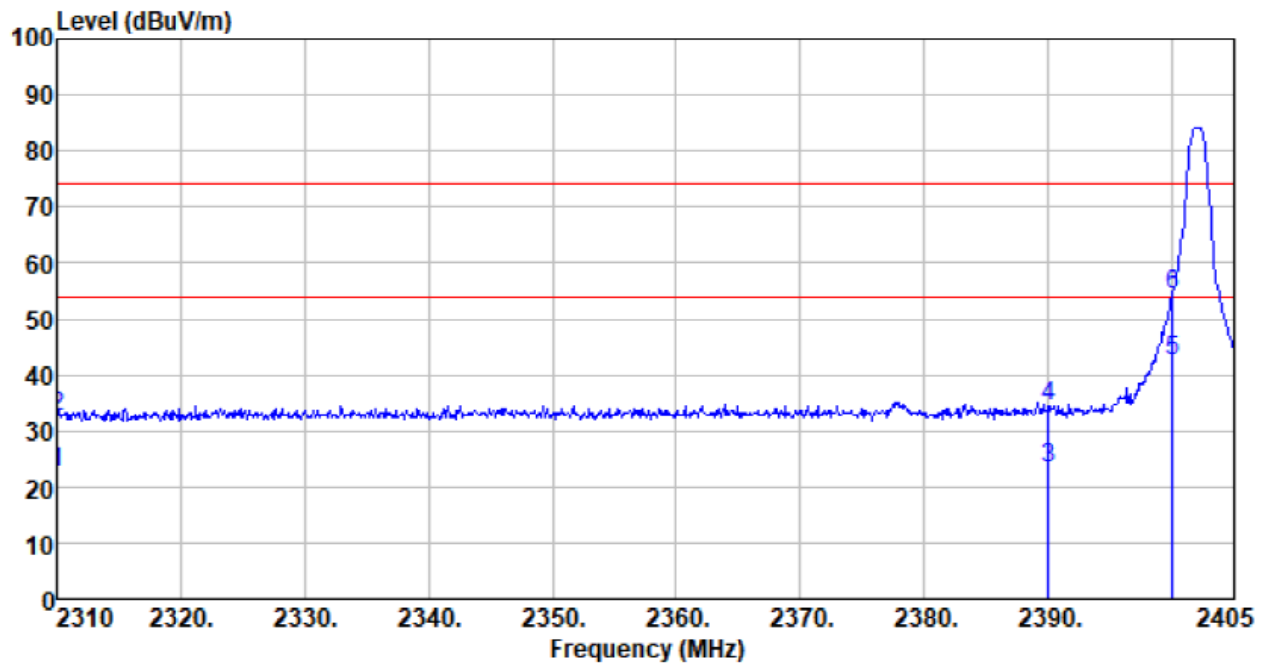
Lowest

Horizontal:



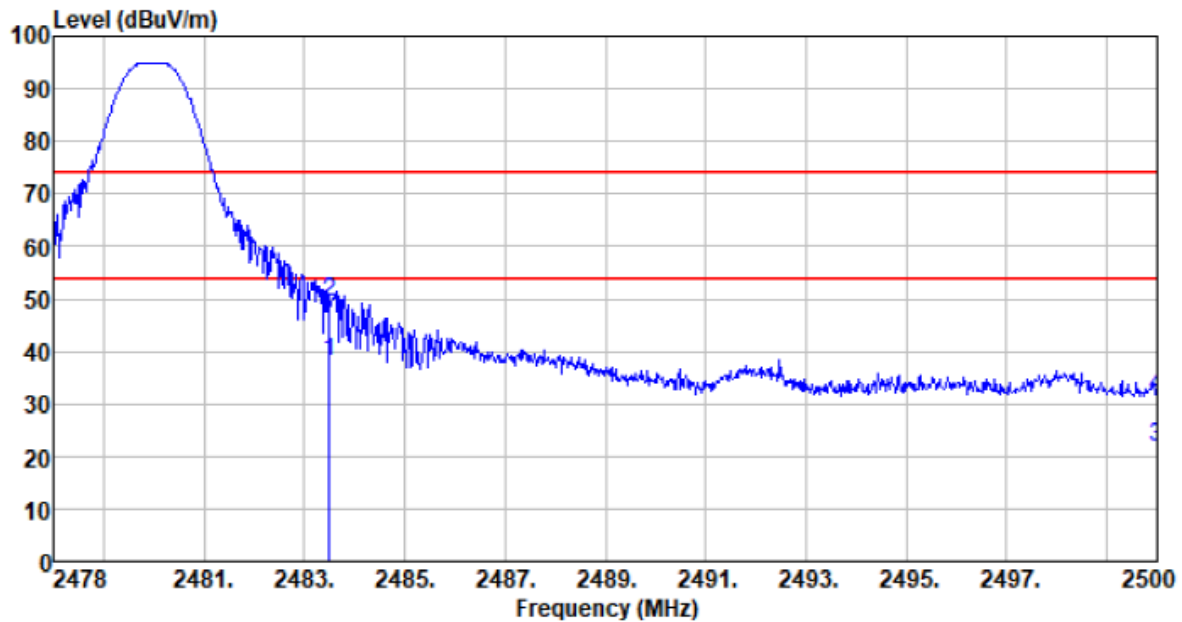
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamplifier<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 27.57                    | 27.14                     | 2.81                | 36.79                        | 20.73           | 54.00                    | -33.27              | Average |
| 2310.000    | 37.06                    | 27.14                     | 2.81                | 36.79                        | 30.22           | 74.00                    | -43.78              | Peak    |
| 2390.000    | 29.77                    | 27.37                     | 2.91                | 36.85                        | 23.20           | 54.00                    | -30.80              | Average |
| 2390.000    | 40.88                    | 27.37                     | 2.91                | 36.85                        | 34.31           | 74.00                    | -39.69              | Peak    |
| 2400.000    | 53.05                    | 27.41                     | 2.91                | 36.86                        | 46.51           | 54.00                    | -7.49               | Average |
| 2400.000    | 65.50                    | 27.41                     | 2.91                | 36.86                        | 58.96           | 74.00                    | -15.04              | Peak    |

Vertical:



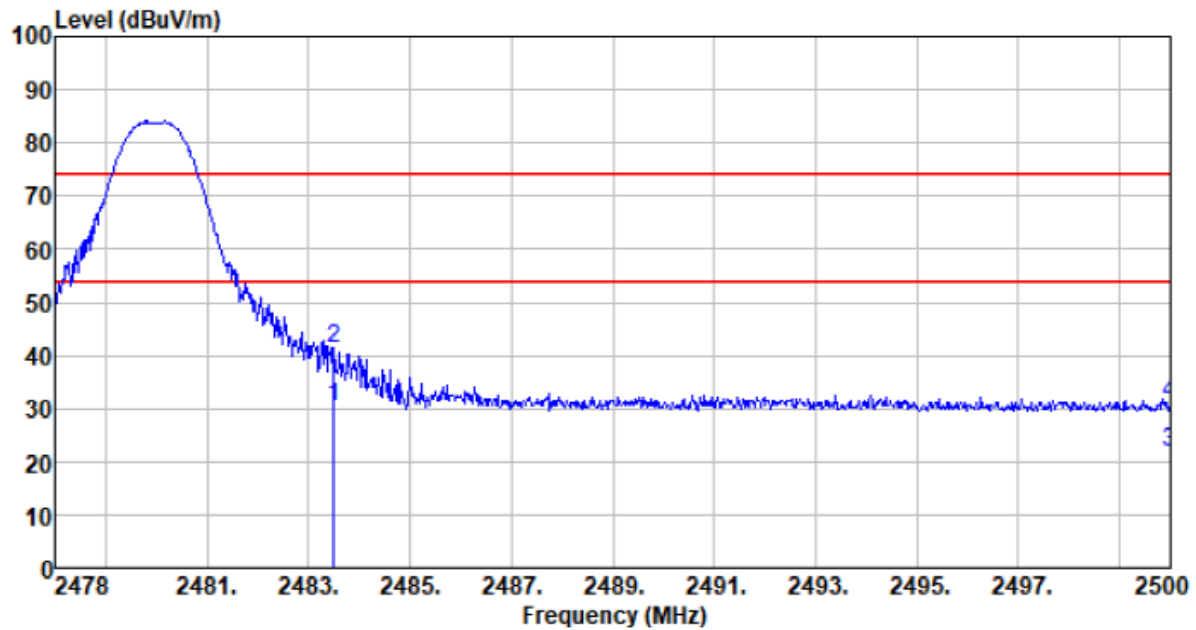
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2310.000    | 29.24                    | 27.14                     | 2.81                | 36.79                  | 22.40           | 54.00                    | -31.60              | Average |
| 2310.000    | 39.33                    | 27.14                     | 2.81                | 36.79                  | 32.49           | 74.00                    | -41.51              | Peak    |
| 2390.000    | 29.83                    | 27.37                     | 2.91                | 36.85                  | 23.26           | 54.00                    | -30.74              | Average |
| 2390.000    | 40.78                    | 27.37                     | 2.91                | 36.85                  | 34.21           | 74.00                    | -39.79              | Peak    |
| 2400.000    | 48.81                    | 27.41                     | 2.91                | 36.86                  | 42.27           | 54.00                    | -11.73              | Average |
| 2400.000    | 60.68                    | 27.41                     | 2.91                | 36.86                  | 54.14           | 74.00                    | -19.86              | Peak    |

|               |         |
|---------------|---------|
| Test channel: | Highest |
| Horizontal:   |         |



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 44.37                    | 27.66                     | 2.99                | 36.93                  | 38.09           | 54.00                    | -15.91              | Average |
| 2483.500    | 55.81                    | 27.66                     | 2.99                | 36.93                  | 49.53           | 74.00                    | -24.47              | Peak    |
| 2500.000    | 27.92                    | 27.70                     | 3.01                | 36.94                  | 21.69           | 54.00                    | -32.31              | Average |
| 2500.000    | 37.49                    | 27.70                     | 3.01                | 36.94                  | 31.26           | 74.00                    | -42.74              | Peak    |

Vertical:

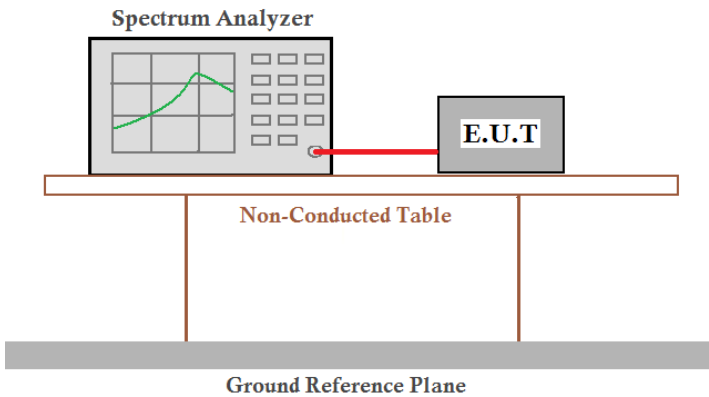


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 2483.500    | 36.46                    | 27.66                     | 2.99                | 36.93                  | 30.18           | 54.00                    | -23.82              | Average |
| 2483.500    | 47.67                    | 27.66                     | 2.99                | 36.93                  | 41.39           | 74.00                    | -32.61              | Peak    |
| 2500.000    | 28.01                    | 27.70                     | 3.01                | 36.94                  | 21.78           | 54.00                    | -32.22              | Average |
| 2500.000    | 37.23                    | 27.70                     | 3.01                | 36.94                  | 31.00           | 74.00                    | -43.00              | Peak    |

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

## 7.4 20dB Occupy Bandwidth

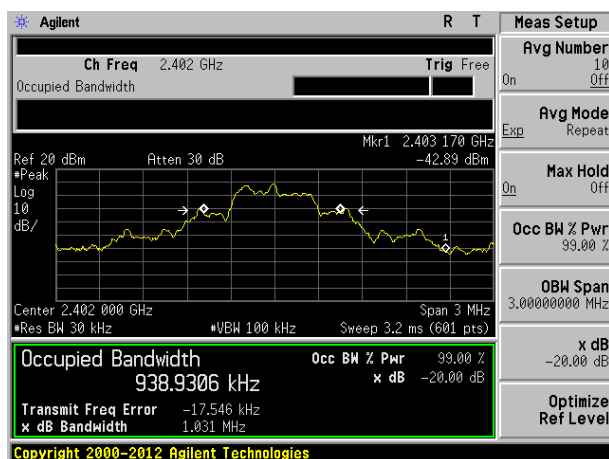
|                   |                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 C Section 15.249/15.215                                                                                                                                                                                                                                                                                |
| Test Method:      | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                  |
| Limit:            | Operation Frequency range 2400MHz~2483.5MHz                                                                                                                                                                                                                                                                       |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p> |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                  |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                  |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                              |

### Measurement Data

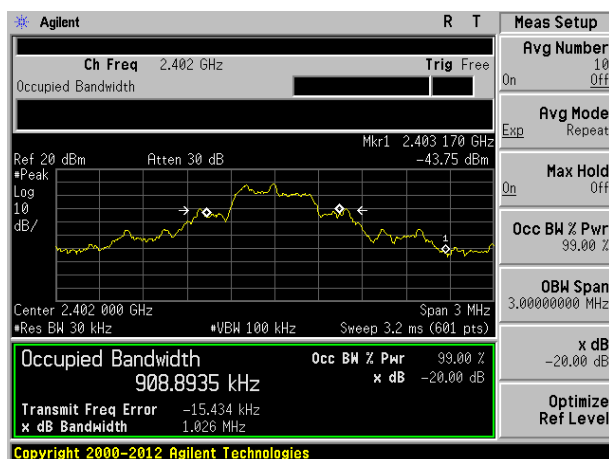
| Test channel | 20dB bandwidth(MHz) |       |       |       | Result |
|--------------|---------------------|-------|-------|-------|--------|
|              | ANT 1               | ANT 2 | ANT 3 | ANT 4 |        |
| Lowest       | 1.031               | 1.026 | 1.011 | 1.028 | Pass   |
| Middle       | 1.031               | 1.029 | 1.030 | 1.031 | Pass   |
| Highest      | 1.035               | 1.032 | 1.034 | 1.032 | Pass   |

Test plot as follows:

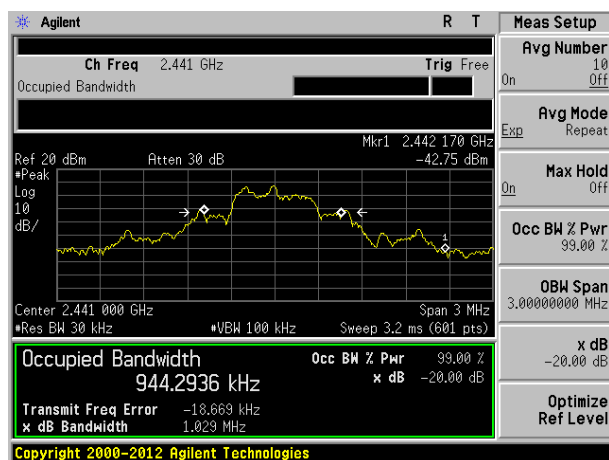
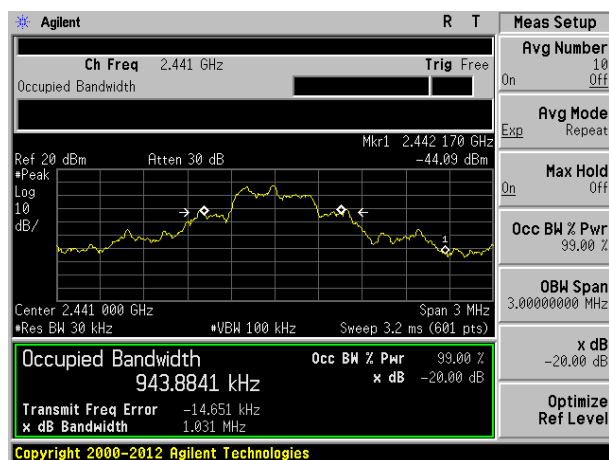
ANT 1



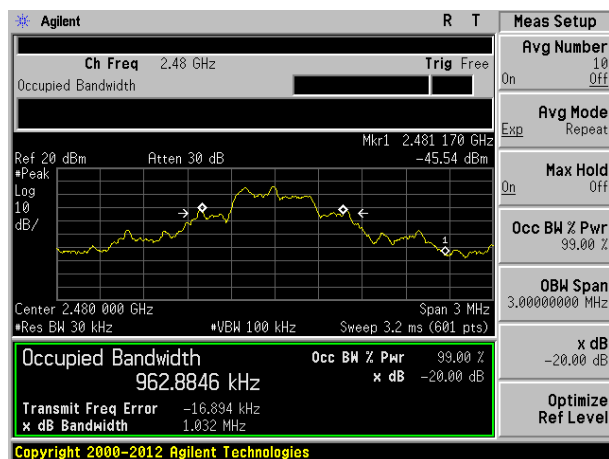
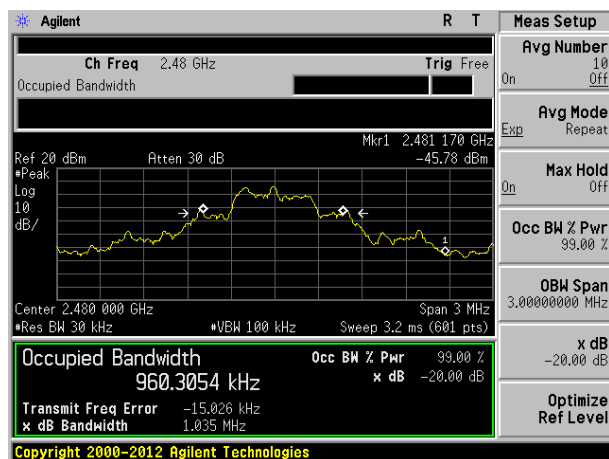
ANT 2



Lowest channel



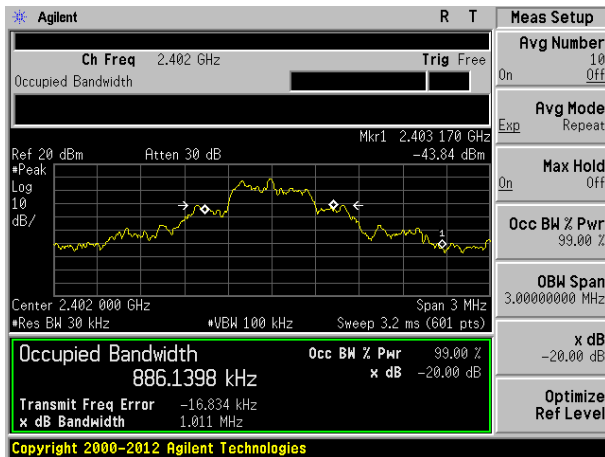
Middle channel



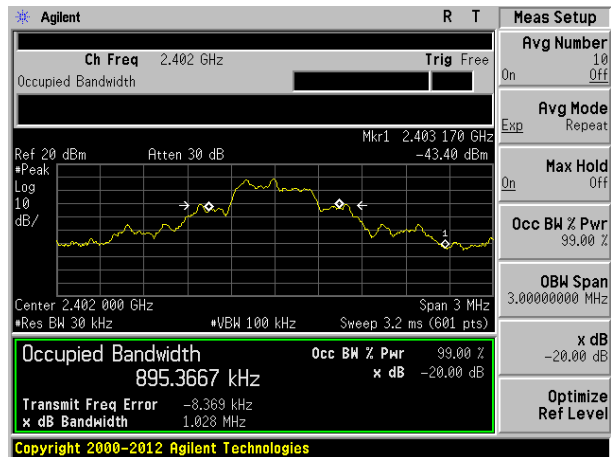
Highest channel



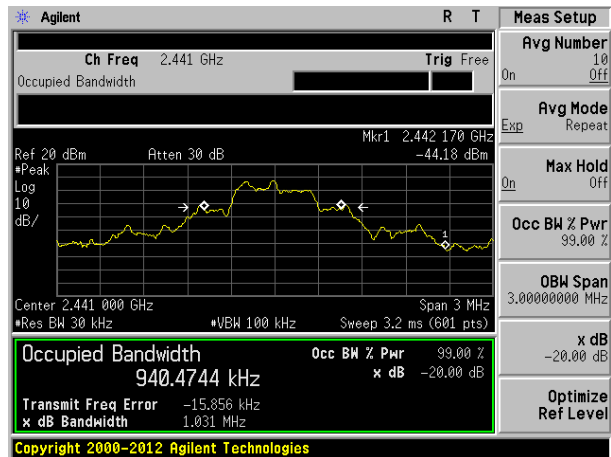
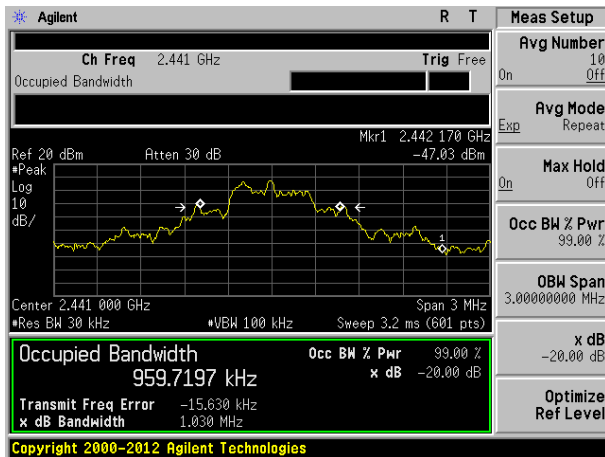
## ANT 3



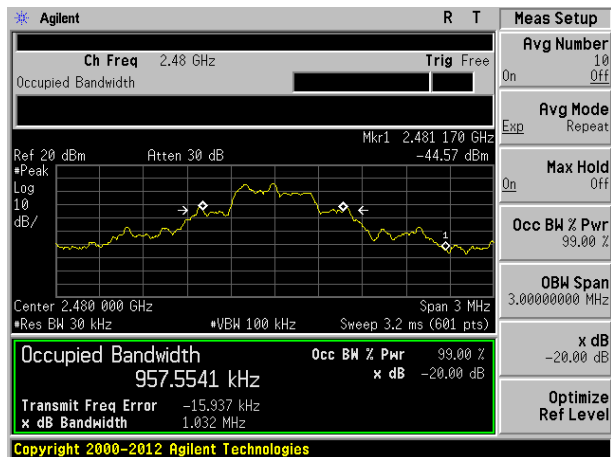
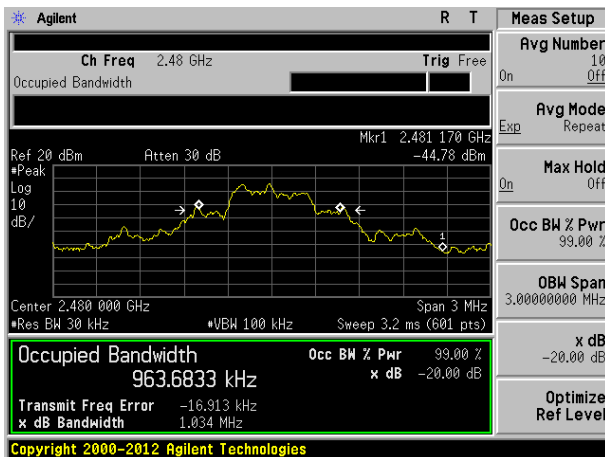
## ANT 4



## Lowest channel



## Middle channel



## Highest channel

## 8 Test Setup Photo

Reference to the **appendix I** for details.

## 9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----