**Underwriters Laboratories Inc.**

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Project: 12CA45851
File: MC16222
Report: 12CA45851-A1-FCC
Date: Dec. 18, 2012
Model: AMM215MWTD

# Electromagnetic Compatibility Test Report

**For**

# LCD Color Medical Monitor

**ADVAN INT'L CORP**
**47817 Fremont Blvd., Fremont, CA 94538 U.S.A.**

**Summary of Test Results:**

| The following tests were performed on a sample submitted for evaluation of compliance 47 CFR Part 15.107 (a) / 47 CFR Part 15.109 (a) Class B. | | | | |
|---|---|---|---|---|
| Test # | Test Name<br>Test Requirement/Specification | Compliant | Not Compliant | See Remark |
| 1 | AC Power line Conducted Emission Test | X | - | - |
| 2 | Radiated Emission Test | X | - | - |
| ***Note:** No modifications were made to the EUT in order to achieve and maintain compliance to the standards described in this report. | | | | |

**Conclusion:**

The tests listed in the Summary of Testing section of this report have been performed as a witness testing and the results recorded by UL Korea Ltd. in accordance with the procedures stated in each test requirement and specification. The test list was determined by the Applicant as being applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

The equipment under test has

☐ Met the technical requirements

☒ Met the technical requirements under the limited condition

☐ Not met the technical requirements

Witnessed by
Hongsuk Oh, WiSE Associate Project Engineer
UL Verification Services – 3014ASEO
UL Korea Ltd.
Dec. 18, 2012

Reviewed by
Sung Hoon Baek, WiSE Senior Project Engineer
UL Verification Services – 3014ASEO
UL Korea Ltd.
Dec. 18, 2012

## Test Report Details

| | |
|---|---|
| Test report No: | 12CA45851-A1-FCC |
| File No: | MC16222 |
| Witnessed By: | UL Korea Ltd.<br>33rd FL. GFC Bldg. 737 Yeoksam-dong, Kangnam-ku, Seoul, 135-984, Korea |
| Test Site: | Digital EMC Co., Ltd<br>683-3, Yuban-Dong, Cheoin-Gu, Yongin-Si, Kyunggi-Do, 449-080, Korea<br>The test facility was deemed to have the environment and capabilities necessary to perform the tests included in the test package. |
| Applicant: | ADVAN INT'L CORP<br>47817 Fremont Blvd., Fremont, CA 94538 U.S.A. |
| Manufacturer: | ADVAN INT'L CORP<br>47817 Fremont Blvd., Fremont, CA 94538 U.S.A. |
| Factory: | D&T Inc.<br>(JANG-DONG, (DAEDEOK VALLEY))<br>26-121 GAJEONGBUK-RO, YUSEONG-GU, DAEJEON 305-343, KOREA |
| Applicant Contact: | Jun Ho Jang |
| Phone: | 82-70-7842-8018 |
| E-mail: | andyjang@advancorp.com |
| Product Type: | LCD COLOR MEDICAL MONITOR |
| Model Number: | AMM215MWTD |
| Multi-listing model number: | N/A<br>The manufacturer has declared to all the multiple model names into the basic model without any further evaluation by UL. |
| FCC ID: | QVXAMM215MWTD |
| Trademark: | N/A |
| Product standards: | FCC Part 15 Subpart B |
| Test Procedure: | ANSI C63.4 : 2003 |
| Sample Serial Number: | N/A |
| Sample Receive Date: | Nov. 6, 2012 |
| Testing Start Date: | Nov. 7, 2012 |
| Date Testing Complete: | Dec. 7, 2012 |
| **Overall Results:** | **Pass** |

UL Korea Ltd. reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. UL Korea Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from UL Korea Ltd. issued reports.

## REPORT DIRECTORY

# 1. GENERAL PRODUCT DESCRIPTION

## 1.1 Report Revision History:

| Revision Date | Description | Remarks |
|---|---|---|
| - | Original | - |

## 1.2 Equipment Description:

| Description: |
|---|
| Auto - Scanning with digital control LCD color medical monitor with touch screen function |

## 1.3 Details of Equipment Under Test (EUT):

| Equipment Configuration: | | | | |
|---|---|---|---|---|
| No. | Product Type | Manufacturer | Model | Comments |
| 1 | LCD Color Medical Monitor | ADVAN Int'l Corp. | AMM215MWTD | - |
| 2 | AC/DC Adapter | Bridge power | JMW1100KB1300F02 | 1 EA |
| 3 | DC Extension Cable | - | 1501047002 | 5 ft |
| 4 | DC Extension Cable | - | 1501047 | 15 ft |
| 5 | DC Extension Cable | - | 1501047001 | 75 ft |
| 6 | DVI-D cable | - | - | 1 EA |
| 7 | HD15 VGA cable | - | - | 1 EA |
| 8 | Hospital-grade AC power cord | - | - | 1 EA |
| 9 | Composite Video BNC Jack Cable | - | - | 1 EA |
| 10 | Super Video Cable | - | - | 1 EA |

**1.4 Technical Data:**

| Model | AMM215MWTD |
|---|---|
| LCD Panel | |
| Diagonal | 21.46 inches a-Si TFT Active Matrix |
| Resolution | 1920 (H) x 1080 (V) @ 60Hz |
| Pixel Pitch | 0.2475 mm |
| Display Color | 16.7M colors |
| Viewing Angle | R/L 178°, U/D 178° (CR > 10) |
| Brightness** | 250 cd/m² (typ) |
| Efficient Picture Size | 495.6 (H) x 292.2 (V) x 10.2 (D) mm |
| Input | |
| VGA | 15pin D-Sub x 1<br>R/G/B : 0.7 Vp-p<br>H/V Sync : TTL Level (V high ≥2.3V, V low ≤0.5V) |
| DVI | DVI-I x 1<br>TMDS Single Link |
| Optional DVI | DVI-I x 1<br>TMDS Single Link |
| Remote Input | 9–pin D-Sub (RS-232C) x 1 |
| Audio | Stereo Phone Jack x 1<br>Speaker Out : 1W x 2 EA |
| General | |
| Power Adaptor | AC Input : AC 100 ~ 240V 50-60Hz, 2.0A<br>DC Output : DC 13V, 6.92A |
| Power Consumption | TBD |
| Dimension | 523 (W) x 321 (H) x 110 (D) mm |
| Weight | Monitor : TBD<br>AC adaptor : 680g |
| Operating / Storage Environment | |

### 1.5 EUT Internal Operating Frequency

| Frequency (MHz) | Description | Frequency (MHz) | Description |
|---|---|---|---|
| 192.38 MHz | Memory Clock | 27.000 MHz | System Clock |
| 142 MHz | Display Clock | 28.322 MHz | System Clock |

### 1.6 Technical descriptions and documents:

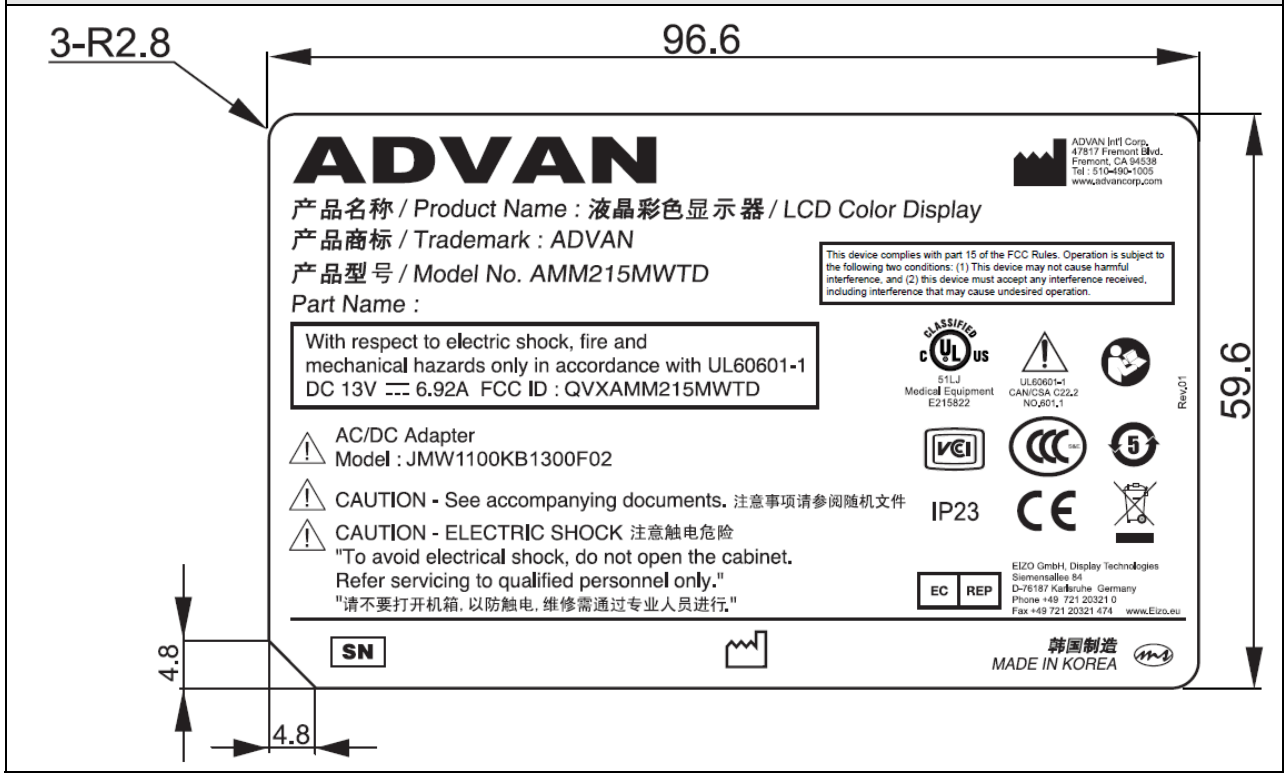
| No. | Document Title and Description |
|---|---|
| 1 | AMM215MWTD User Manual |
| ***Note:** The manufacturer provided the following document. | |

### 1.7 Detail information of Multi-listing model:

| - | Model | Description | Comment |
|---|---|---|---|
| 1 | - | - | - |
| ***Note:** The manufacturer has declared to all the multiple model names into the basic model without any further evaluation by UL. | | | |

### 1.8 Equipment Marking Plate of Product:

Product Label



## 2. TEST CONDITION

### 2.1 Equipment Used During Test:

| Use* | Product Type | Manufacturer | Model | Comments |
|---|---|---|---|---|
| EUT | LCD Color Medical Monitor | ADVAN Int'l Corp. | AMM215MWTD-Touch | - |
| EUT | AC/DC Adapter | Bridge power | JMW1100KB1300F02 | - |
| EUT | DC Extension Cable | - | 1501047002 | 5ft |
| EUT | DC Extension Cable | - | 1501047 | 15ft |
| EUT | DC Extension Cable | - | 1501047001 | 75ft |
| AE | PC | DELL | VOSTRO430 | |
| AE | Keyboard | MONITEREY INTERNATIONAL CORP. | SKG-210PB | |
| AE | Mouse | DELL | MS111-2 | |
| AE | Headset 1 | Cosy | N/ACOV903 | |
| AE | Headset 2 | Cresyn | CS-HP700 | |
| *** Note:** EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment, SIM - Simulator (Not Subjected to Test) | | | | |

**2.2 Input/Output Ports:**

| Port # | Name | Type* | Cable Max. >3m | Cable Shielded | Comments |
|---|---|---|---|---|---|
| 1 | A.C. input port | AC | 1.8 | Non shielded | A.C. Power Cord |
| 2 | USB input port | I/O | 1.8 | Shielded | USB Data cable |
| 3 | VGA In | I/O | 1.8 | Shielded | 15 pin D-Sub |
| 4 | DVI In | I/O | 1.8 | Shielded | - |
| 5 | DVI In or Optical | I/O | 1.8 | Shielded | Optical Input mode was not tested by applicant re |
| 6 | RS-232C | - | - | - | Not user port |
| 7 | Audio-IN | I/O | 1.2 | Non shielded | Connected with Headset |
| **Note**: *AC= AC Power Port, DC = DC Power Port, N/E = Non-Electrical, I/O= Signal Input or Output Port (Not Involved in Process Control), TP= Telecommunication Ports, * RS-232 port is used for service purpose only. No user interface port. | | | | | |

**2.3 Power Interface:**

| Mode # | Voltage (V) | Current (A) | Power (W) | Frequency (DC/AC-Hz) | Comments |
|---|---|---|---|---|---|
| Rated | AC 100-240 V | 2 A | - | 50-60Hz | Rated of Power Supply |
| 1 | AC 120 V | - | - | 60Hz | - |

**2.4 Test Operating Mode:**

| Mode # | Mode | Comments |
|---|---|---|
| 1 | DVI Mode | Worst case condition |
| 2 | Optical Input mode | - |
| 3 | VGA Mode | Worst case condition |
| 4 | Touch Mode | Before and after immunity test, Touch function was checked |
| * Note: EUT have been performed under continuous displaying "H" Patten for configuration Modes of 1 to 2. | | |

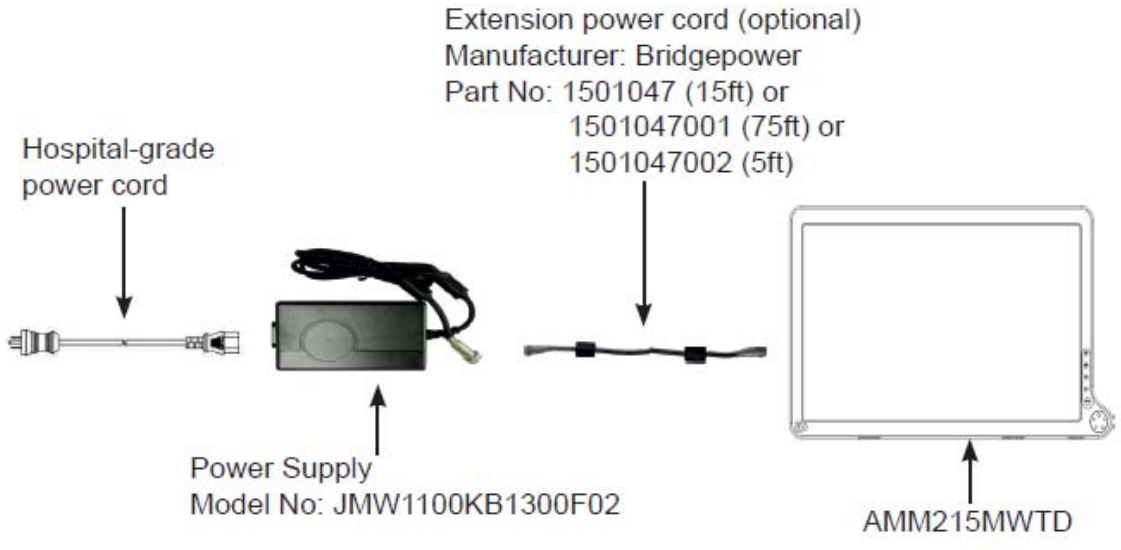
**2.5 Modes of Video Resolution:**

| Mode # | | Resolution | Comments |
|---|---|---|---|
| 1 | VGA Mode | 640 x 350 @70Hz | - |
| 2 | | 1024 x 768 @75Hz | - |
| 3 | | 1920 x 1080@60Hz | Worst case condition (Range of Brightness: 100, Range of contrast: 100 And range of backlight: 100. |
| 4 | DVI Mode | 640 x 350 @70Hz | - |
| 5 | | 1024 x 768 @75Hz | - |
| 6 | | 1920 x 1080@60Hz | Worst case condition (Range of Brightness: 100, Range of contrast: 100 And range of backlight: 100. |
| *** Note:** Video resolution where it refers from above is representative worst case. | | | |

**2.6 Used D.C. Extension Cable for Test:**

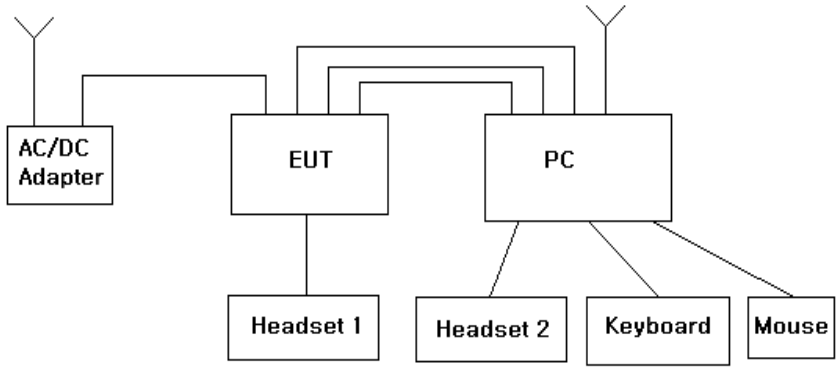
| No. | Cable Length | Preliminary Test | Comment |
|---|---|---|---|
| 1 | 5ft | DVI, VGA and Optical Mode. | - |
| 2 | 15ft | | - |
| 3 | 75ft | | Worst case condition |

*** Note:** Radiated emission and conducted emission test were performed for all extension power cable during the preliminary testing and selected worst-case condition (75ft) for final measurements.



**2.7 Test Configuration:**

Test configuration




**2.8 Result of Testing:**

| No | Test requirements | Standard | Results | Verdict |
|---|---|---|---|---|
| 1 | AC Power line Conducted Emission Test | 47 CFR Part 15.107(a) / 47 CFR Part 15.109(a) Class B | Met limit Class B | **Complied** |
| 2 | Radiated Emission Test | | Met limit Class B | **Complied** |

*** Note:** This product has been tested in accordance with the measurement procedures specified 47 CFR Part 15.107 (a) / 47 CFR Part 15.109 (a) Class B at the Digital EMC Laboratory and the test results has been shown to be complied with the EMC requirements specified in the standard above.

## 3. TEST CONDITION AND RESULTS

### 3.1 MAINS TERMINAL DISTURBANCE VOLTAGE TEST

| **TEST:** Limits of mains terminal disturbance voltage | | | | | |
|---|---|---|---|---|---|
| Method | Measurements were made on a ground plane that extends 1-meter minimum beyond all sides of the system under test. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. | | | | |
| Basic Standard | FCC Part 15 | | | | |
| Parameters recorded during the test | Laboratory Ambient Temperature | 22 °C | | | |
| | Relative Humidity | 47 % | | | |
| - | Frequency range on each side of line | Measurement Point | | | |
| Fully configured sample scanned over the following frequency range | 150 kHz to 30 MHz | AC Input port of EUT | | | |
| **Limits - Class B** | | | | | |
| Frequency (MHz) | Limit (dBµV) | | | | |
| | Quasi-Peak | Result | Average | Result | |
| 0.15 to 0.50 | 66 to 56 | **Pass** | 56 to 46 | **Pass** | |
| 0.50 to 5 | 56 | **Pass** | 46 | **Pass** | |
| 5 to 30 | 60 | **Pass** | 50 | **Pass** | |
| **EUT Configuration Settings:** | | | | | |
| Power Interface Mode # (See Section 2.3) | EUT Operation Mode # (See 2.4) | EUT Configurations Mode # (See Section 2.7) | | | |
| 1 | 2, 3 | 1 | | | |
| **Conducted Emissions Test Equipment used:** | | | | | |
| Description | Manufacturer | Model | Identifier | Cal. Date | Cal. Due |
| EMI TEST RECEIVER | ROHDE & SCHWARZ | ESCI | 100364 | 2012.03.06 | 2013.03.06 |
| LISN | ROHDE & SCHWARZ | ESH2-Z5 | 828739/006 | 2012.09.18 | 2013.09.18 |
| LISN | TTI | LISN1600 | 197204 | 2012.07.02 | 2013.07.02 |
| 50 OHM TERMINATOR | TME | CT-01 | N/A | 2012.01.09 | 2013.01.09 |

**Figure 1. Graphical representation of conducted emissions : DVI Mode**

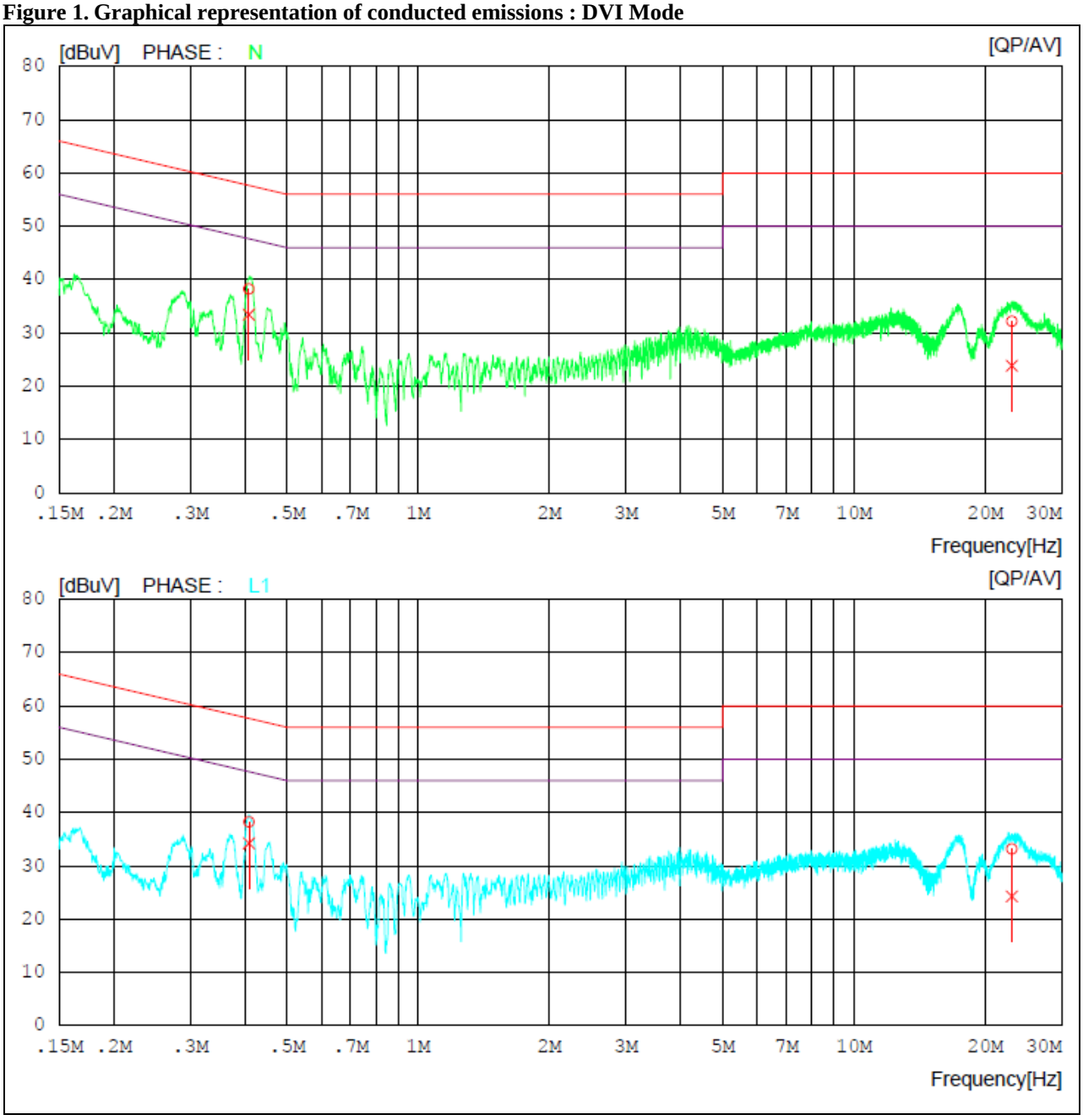


**Table 1. Conducted emissions Test data : DVI Mode**

| NO | FREQ | READING | | C.FACTOR | RESULT | | LIMIT | | MARGIN | | PHASE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | QP | AV | | QP | AV | QP | AV | QP | AV | |
| | [MHz] | [dBuV] | [dBuV] | [dB] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | |
| 1 | 0.40911 | 38.0 | 33.2 | 0.2 | 38.2 | 33.4 | 57.7 | 47.7 | 19.5 | 14.3 | N |
| 2 | 23.05350 | 31.2 | 22.8 | 1.0 | 32.2 | 23.8 | 60.0 | 50.0 | 27.8 | 26.2 | N |
| 3 | 0.40929 | 38.0 | 34.0 | 0.2 | 38.2 | 34.2 | 57.7 | 47.7 | 19.5 | 13.5 | L1 |
| 4 | 23.04700 | 32.2 | 23.3 | 1.0 | 33.2 | 24.3 | 60.0 | 50.0 | 26.8 | 25.7 | L1 |

*** Note:**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Figure 2. Graphical representation of conducted emissions : VGA Mode**

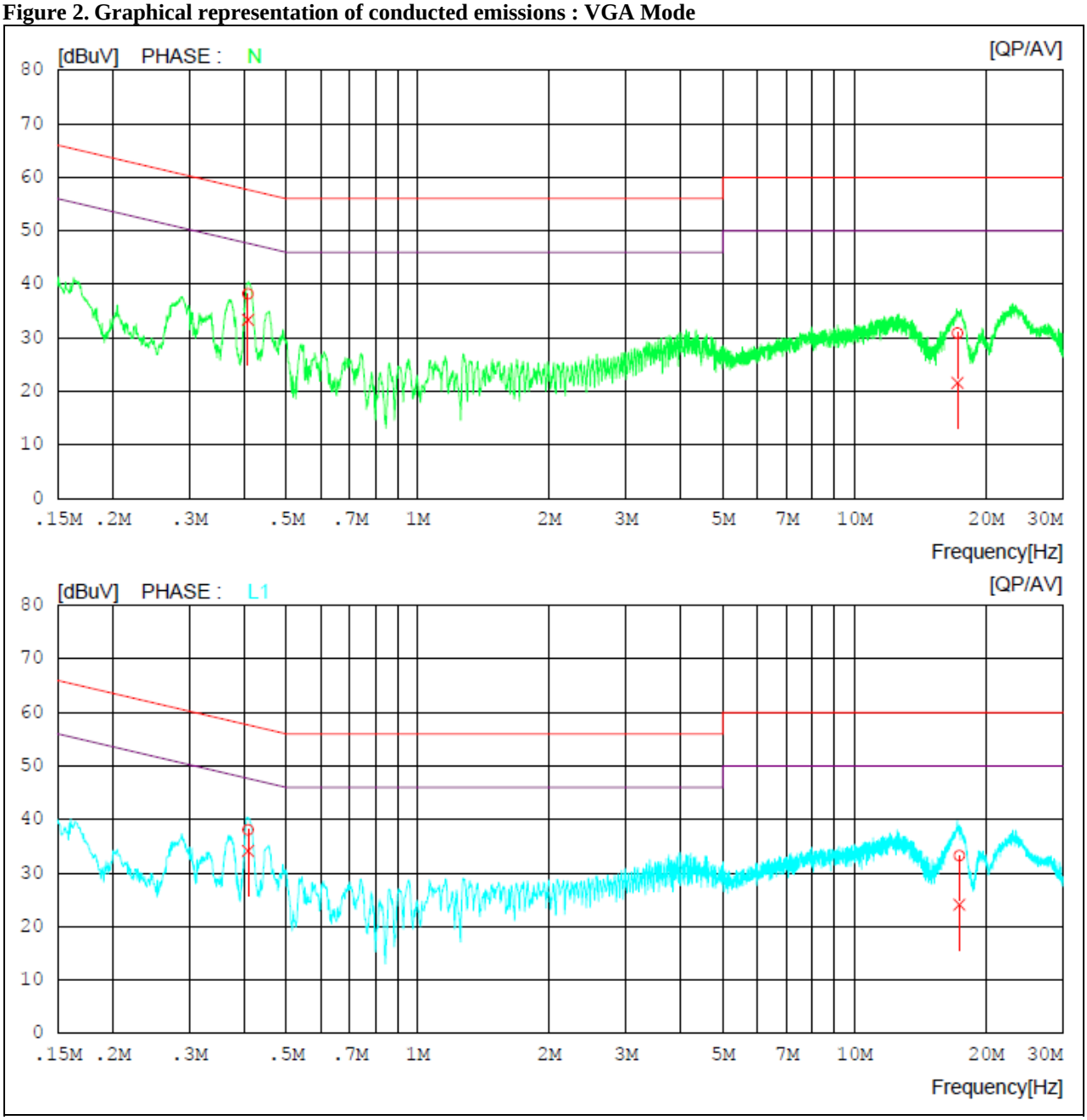


**Table 2. Conducted emissions Test data : VGA Mode**

| NO | FREQ | READING QP [dBuV] | READING AV [dBuV] | C.FACTOR [dB] | RESULT QP [dBuV] | RESULT AV [dBuV] | LIMIT QP [dBuV] | LIMIT AV [dBuV] | MARGIN QP [dBuV] | MARGIN AV [dBuV] | PHASE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.40905 | 38.0 | 33.1 | 0.2 | 38.2 | 33.3 | 57.7 | 47.7 | 19.5 | 14.4 | N |
| 2 | 17.22200 | 30.0 | 20.7 | 0.9 | 30.9 | 21.6 | 60.0 | 50.0 | 29.1 | 28.4 | N |
| 3 | 0.40928 | 37.9 | 33.9 | 0.2 | 38.1 | 34.1 | 57.7 | 47.7 | 19.6 | 13.6 | L1 |
| 4 | 17.39500 | 32.4 | 23.2 | 0.9 | 33.3 | 24.1 | 60.0 | 50.0 | 26.7 | 25.9 | L1 |

*** Note:**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

### 3.2 RADIATED DISTURBANCE

| **TEST:** Limits for radiated disturbance | |
|---|---|
| Method | Frequency scans were conducted with a peak detector with horizontal and vertical polarization of the antenna. Measurements were done in the frequency range 30-1000 MHz. The main test was then conducted by measurements at each frequency found in the pretest. These measurements were done at an open area test site at 3m distances, with a quasi-peak detector. EUT was positioned on a wooden table 0.8m above the floor, at the edge of the turntable. Cables connected to EUT were fixed to cause maximum emission. A maximum emitting point for each frequency was found by turning EUT 0-360 degrees, and adjust the antenna height between 1-4m. A quasi-peak detector measurement was then done at the maximum emitting point.<br><br>The measurements (above 1 GHz) were made 3 m distance test site. The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane. The turntable with EUT was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels.<br>This procedure was performed for both horizontal and vertical polarization of the receiving antenna. The measurements were conducted with Average and Peak value. |

| Basic Standards | FCC Part 15 | |
|---|---|---|
| Parameters recorded during the test | Laboratory Ambient Temperature | 22 °C |
| | Relative Humidity | 47 % |
| - | Frequency range | Measurement Point |
| Fully configured sample scanned over the following frequency range | 30 MHz – 1.0 GHz | 3 meter measurement distance |
| | 1.0 GHz ~ 6.0 GHz | 3 meter measurement distance |

| **Limits – Class B** | | | |
|---|---|---|---|
| Frequency (MHz) | Limit (dBμV/m) | | |
| | Quasi-Peak | | **Results** |
| 30 to 230 | 30.00 | | **Pass** |
| 230 to 1000 | 37.00 | | **Pass** |
| - | Average | Peak | - |
| Above 1000 | 54 | 74 | Pass |

| **EUT Configuration Settings:** | | |
|---|---|---|
| Power Interface Mode #<br>(See Section 2.3) | EUT Operation Mode #<br>(See 2.4) | EUT Configurations Mode #<br>(See Section 2.7) |
| 1 | 2, 3 | 1 |

| **Radiated Emissions Test Equipment:** | | | | | |
|---|---|---|---|---|---|
| Description | Manufacturer | Model | Identifier | Cal. Date | Cal. Due |
| EMI TEST RECEIVER | ROHDE & SCHWARZ | ESU | 100014 | 2012.01.09 | 2013.01.09 |

| | | | | | |
|---|---|---|---|---|---|
| BILOG ANTENNA | SCHAFFNER | CBL6112D | 22609 | 2010.12.21 | 2012.12.21 |
| HORN ANTENNA | SCHWARZBECK | BBHA9120A | 322 | 2012.05.15 | 2014.05.15 |
| AMPLIFIER | H/P | 8447E | 2945A02865 | 2012.01.09 | 2013.01.09 |
| AMPLIFIER | TSJ | MLA-00108-B02-36 | 1518831 | 2012.01.09 | 2013.01.09 |

**Figure 3. Graphical representation of Radiated emission :** DVI Mode (30 MHz ~ 1 GHz)

Horizontal/ vertical

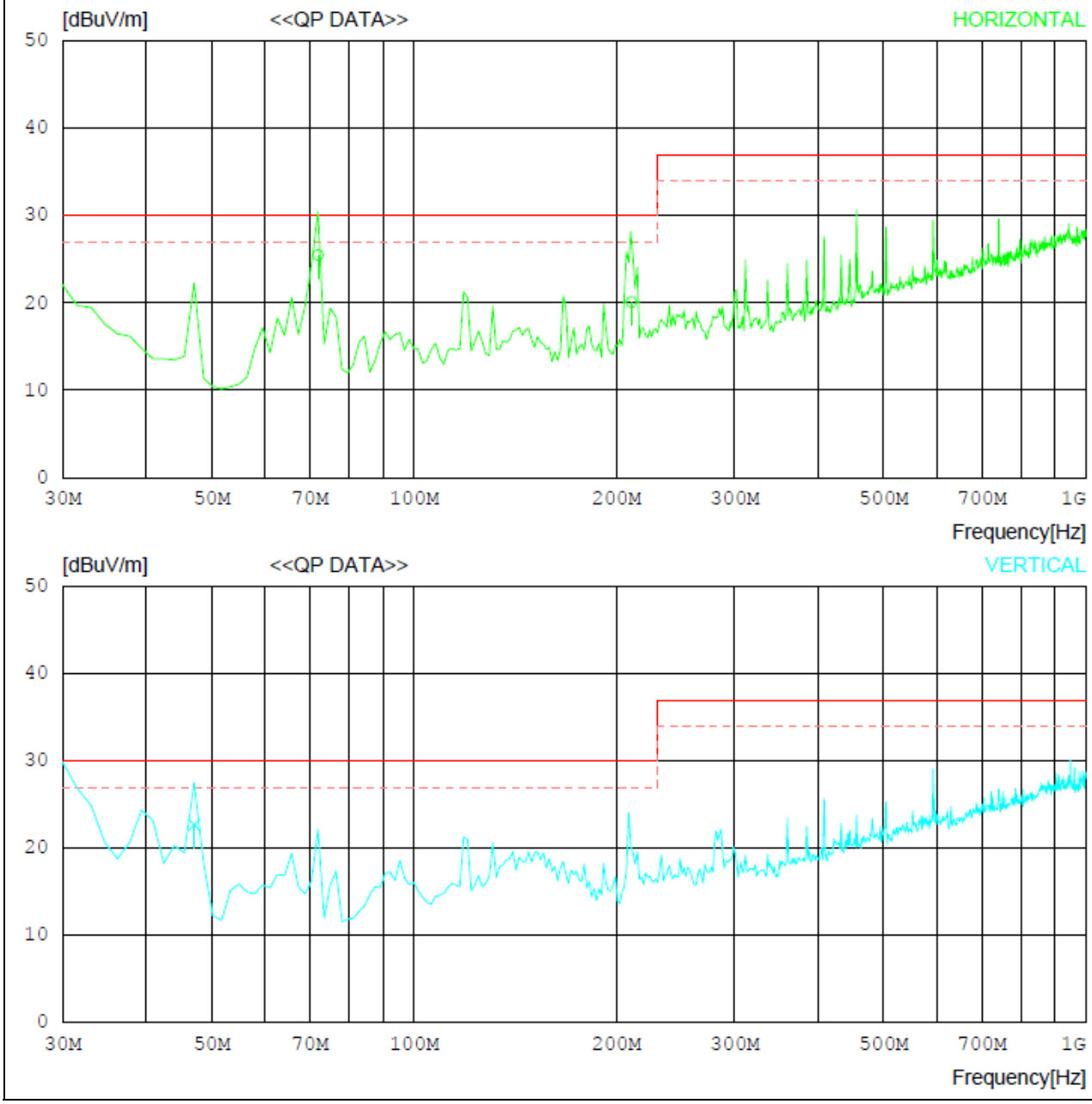


**Table 3. Radiated emission Test data :** DVI Mode (30 MHz ~ 1 GHz)

| No. | FREQ [MHz] | READING QP [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 71.998 | 39.7 | 6.4 | 2.1 | 22.7 | 25.5 | 30.0 | 4.5 | 356 | 1 |
| 2 | 210.769 | 30.8 | 10.0 | 2.7 | 23.4 | 20.1 | 30.0 | 9.9 | 300 | 358 |
| --- Vertical ------ | | | | | | | | | | |
| 3 | 47.099 | 34.1 | 10.0 | 1.4 | 22.8 | 22.7 | 30.0 | 7.3 | 109 | 259 |

*** Note:**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Figure 4. Graphical representation of Radiated emission :** DVI Mode ( (1 ~ 6) GHz _ Peak)

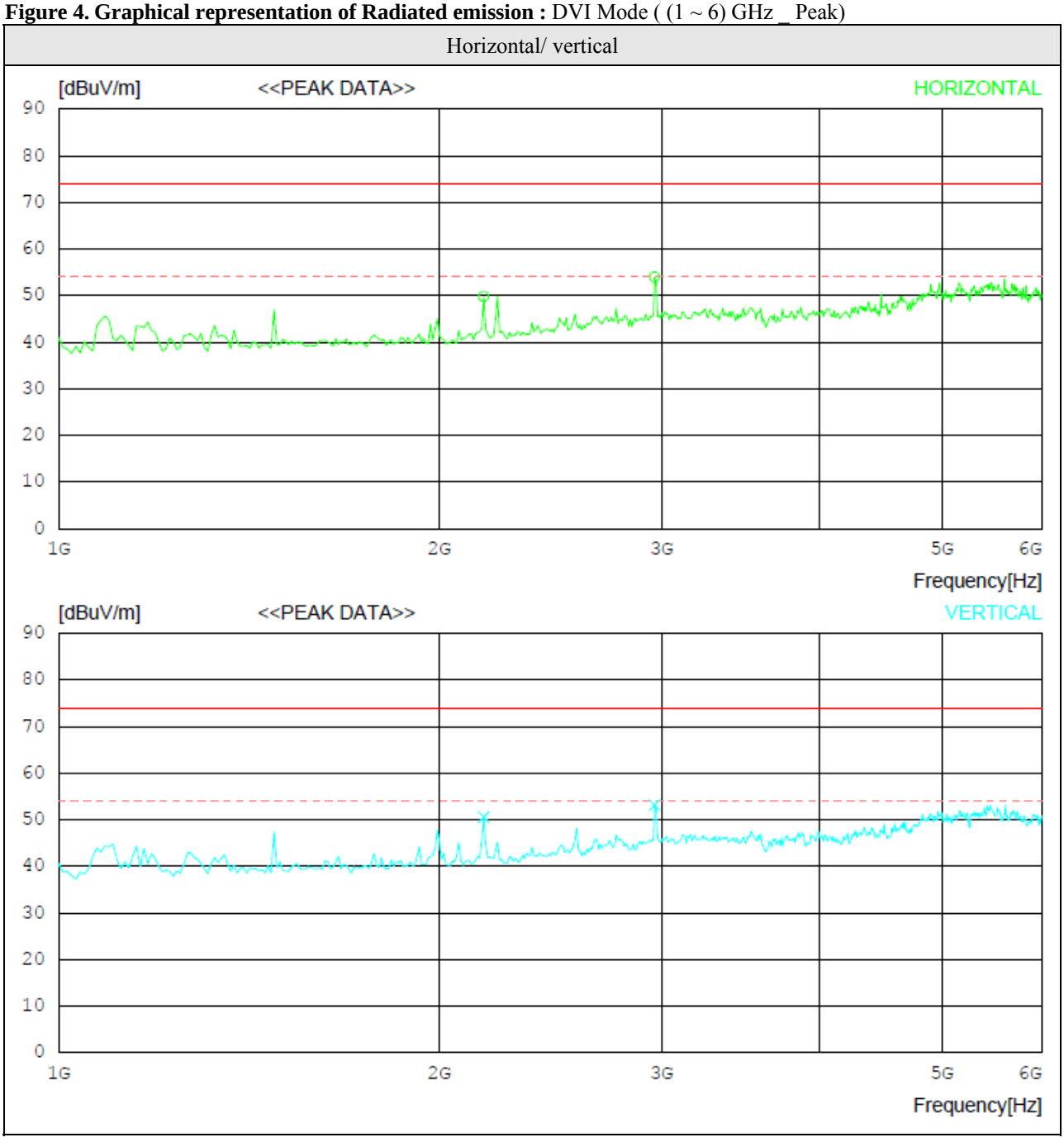


Table 4. **Radiated emission Test data :** DVI Mode ( (1 ~ 6) GHz _ Peak)

| No. | FREQ [MHz] | READING PEAK [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 2169.873 | 57.2 | 25.5 | 8.8 | 41.7 | 49.8 | 74.0 | 24.2 | 100 | 195 |
| 2 | 2963.154 | 56.5 | 28.9 | 10.4 | 41.8 | 54.0 | 74.0 | 20 | 100 | 174 |
| --- Vertical ------ | | | | | | | | | | |
| 3 | 2169.873 | 58.0 | 25.5 | 8.8 | 41.7 | 50.6 | 74.0 | 23.4 | 100 | 49 |
| 4 | 2963.154 | 55.7 | 28.9 | 10.4 | 41.8 | 53.2 | 74.0 | 20.8 | 100 | 201 |

*** Note:**
1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

Figure 5. **Graphical representation of Radiated emission** : DVI Mode ( (1 ~ 6) GHz _ Average)

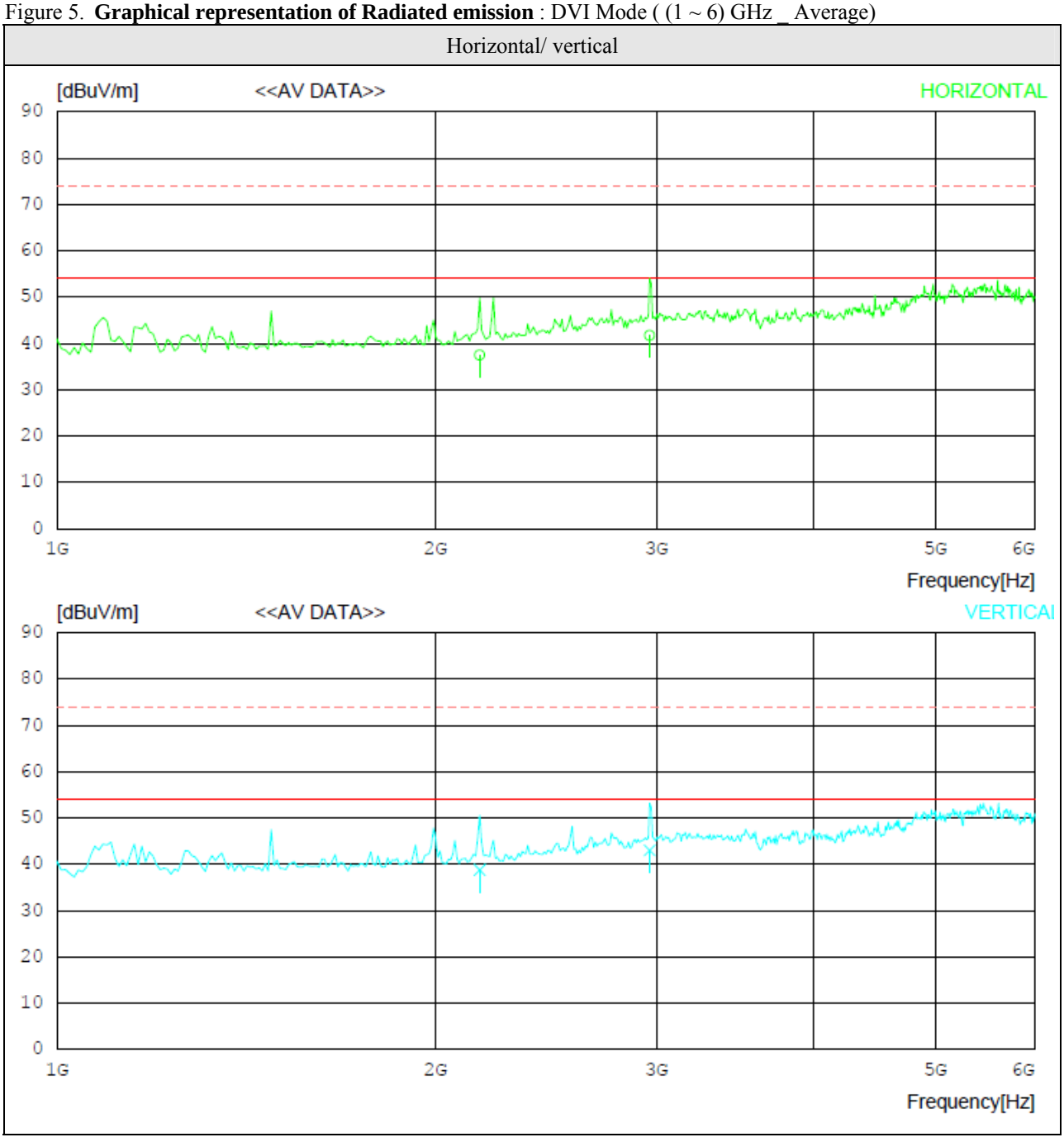


**Table 5. Radiated emission Test data** : DVI Mode ( (1 ~ 6) GHz _ Average)

| No. | FREQ [MHz] | READING AV [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 2169.873 | 44.9 | 25.5 | 8.8 | 41.7 | 37.5 | 54.0 | 16.5 | 100 | 195 |
| 2 | 2963.154 | 44.2 | 28.9 | 10.4 | 41.8 | 41.7 | 54.0 | 12.3 | 100 | 174 |
| --- Vertical ------ | | | | | | | | | | |
| 3 | 2169.873 | 46.2 | 25.5 | 8.8 | 41.7 | 38.8 | 54.0 | 15.2 | 100 | 49 |
| 4 | 2963.154 | 45.5 | 28.9 | 10.4 | 41.8 | 43.0 | 54.0 | 11.0 | 100 | 201 |

*** Note:**
1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Figure 6. Graphical representation of Radiated emission :** VGA Mode (30 MHz ~ 1 GHz)

Horizontal/ vertical

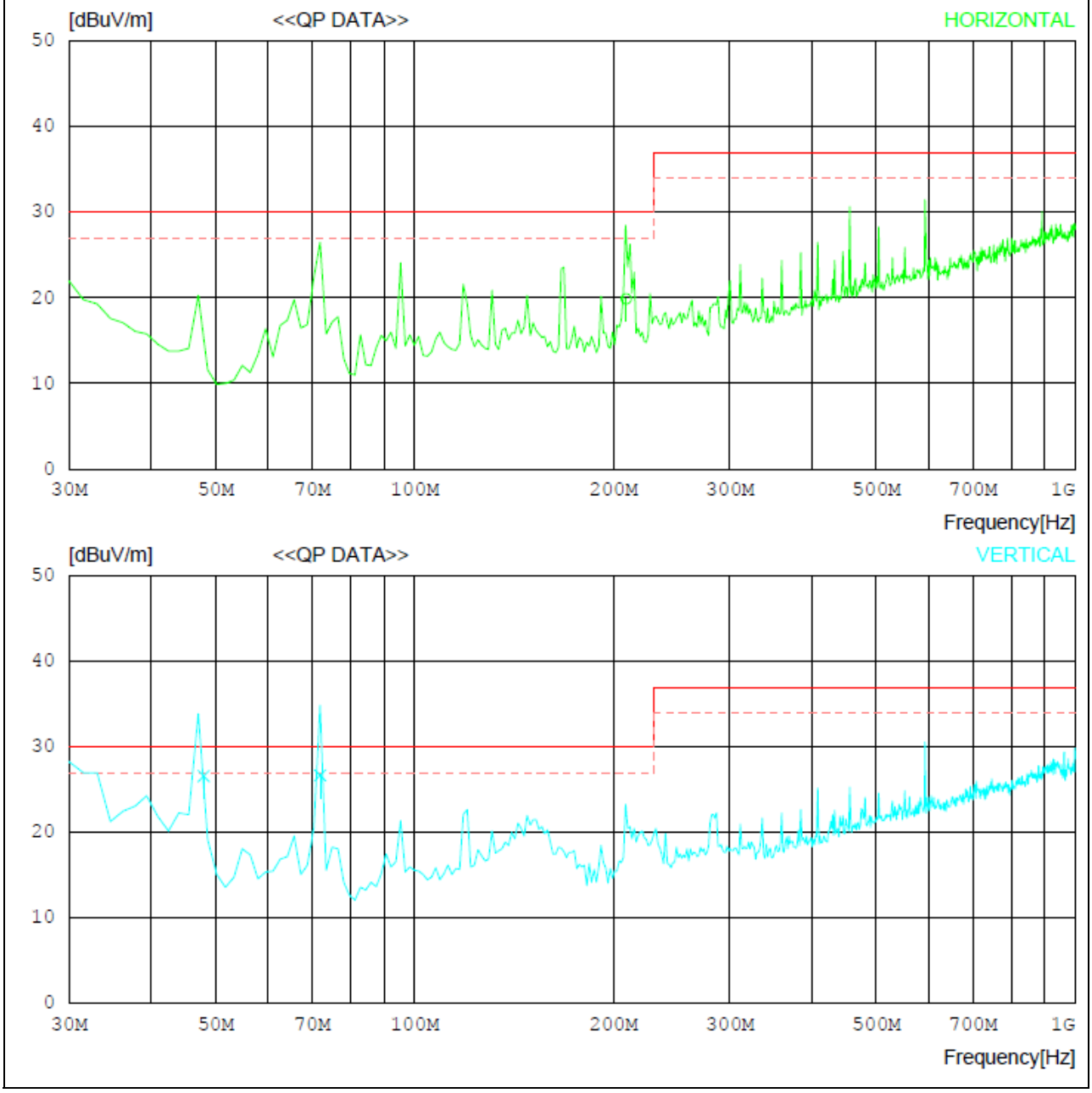


**Table 6. Radiated emission Test data :** VGA Mode (30 MHz ~ 1 GHz)

| No. | FREQ [MHz] | READING QP [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 209.282 | 30.7 | 9.9 | 2.7 | 23.4 | 19.9 | 30.0 | 10.1 | 296 | 349 |
| --- Vertical ------ | | | | | | | | | | |
| 2 | 47.969 | 38.4 | 9.5 | 1.5 | 22.8 | 26.6 | 30.0 | 3.4 | 294 | 283 |
| 3 | 72.000 | 40.9 | 6.4 | 2.1 | 22.7 | 26.7 | 30.0 | 3.3 | 315 | 1 |

*** Note:**
1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Figure 7. Graphical representation of Radiated emission :** VGA Mode ( (1 ~ 6) GHz _ Peak)

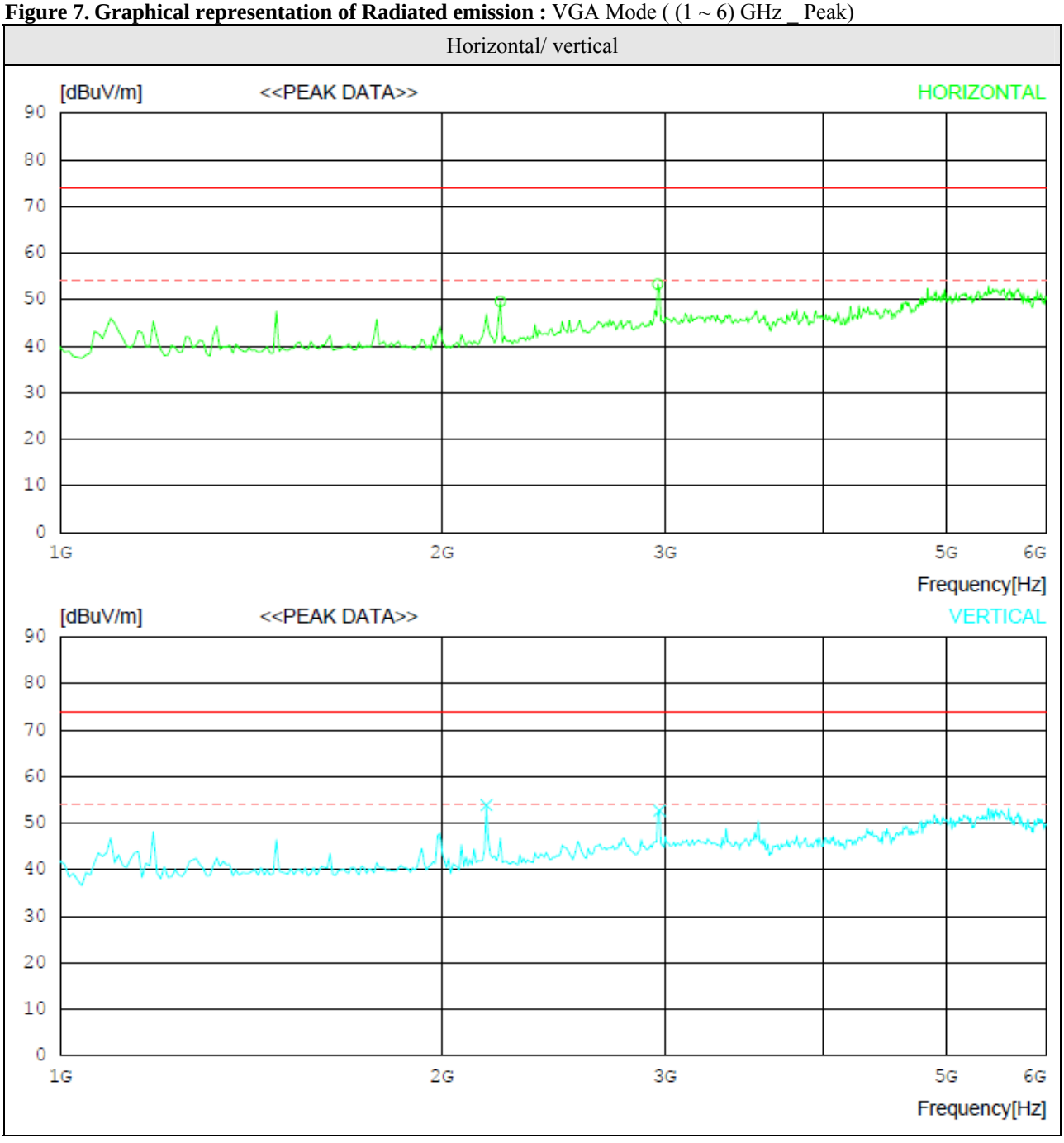


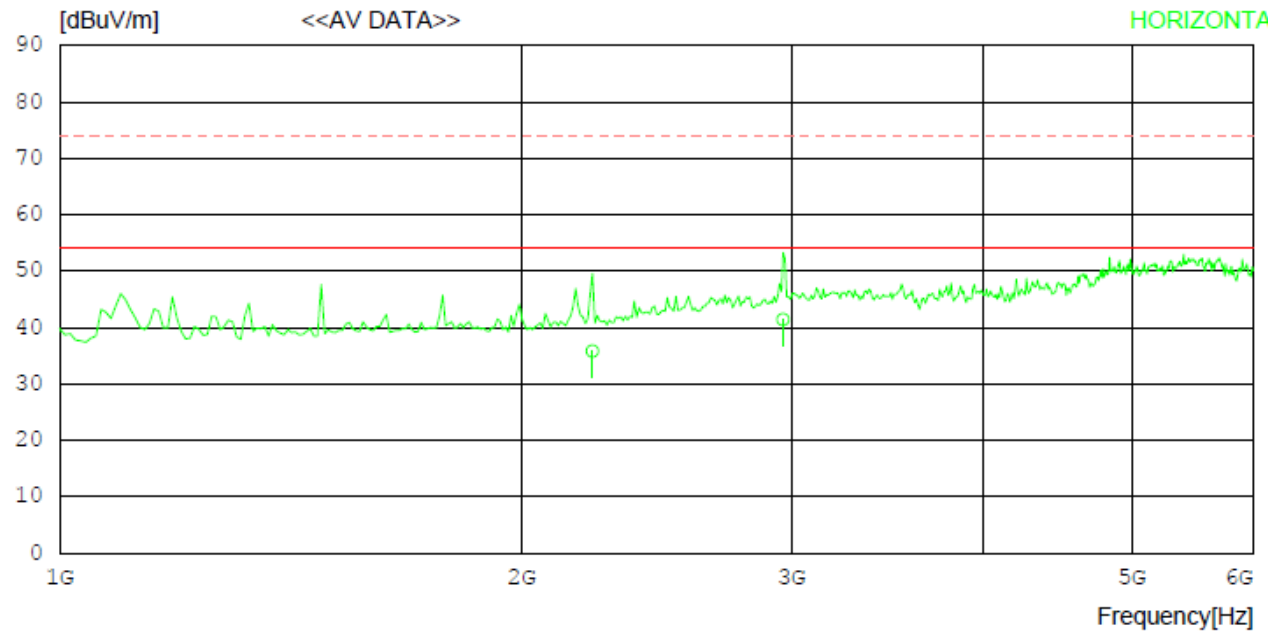
Table 7. **Radiated emission Test data :** VGA Mode ( (1 ~ 6) GHz _ Peak)

| No. | FREQ [MHz] | READING PEAK [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 2225.964 | 56.5 | 25.9 | 8.9 | 41.7 | 49.6 | 74.0 | 24.4 | 100 | 358 |
| 2 | 2963.154 | 55.8 | 28.9 | 10.4 | 41.8 | 53.3 | 74.0 | 20.7 | 100 | 223 |
| --- Vertical ------ | | | | | | | | | | |
| 3 | 2169.873 | 61.3 | 25.5 | 8.8 | 41.7 | 53.9 | 74.0 | 20.1 | 100 | 1 |
| 4 | 2971.167 | 55.2 | 28.9 | 10.5 | 41.9 | 52.7 | 74.0 | 21.3 | 100 | 193 |

*** Note:**
1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.

**Graphical representation of Radiated emission** : VGA Mode ((1 ~ 6) GHz_Average)

Horizontal/ vertical



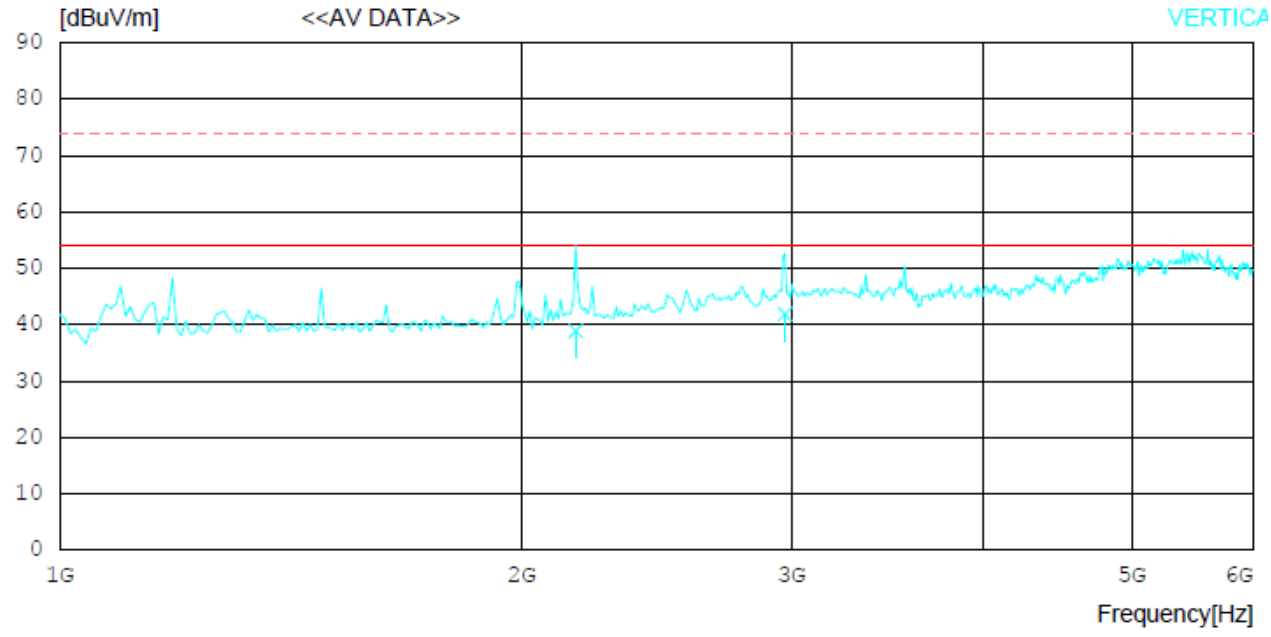



**Table 8. Radiated emission Test data** : VGA Mode ( (1 ~ 6) GHz _ Average)

| No. | FREQ [MHz] | READING AV [dBuV] | ANT FACTOR [dB] | LOSS [dB] | GAIN [dB] | RESULT [dBuV/m] | LIMIT [dBuV/m] | MARGIN [dB] | ANTENNA [cm] | TABLE [DEG] |
|---|---|---|---|---|---|---|---|---|---|---|
| --- Horizontal ------ | | | | | | | | | | |
| 1 | 2225.964 | 42.7 | 25.9 | 8.9 | 41.7 | 35.8 | 54.0 | 18.2 | 100 | 358 |
| 2 | 2963.154 | 43.9 | 28.9 | 10.4 | 41.8 | 41.4 | 54.0 | 12.6 | 100 | 223 |
| --- Vertical ------ | | | | | | | | | | |
| 3 | 2169.873 | 46.3 | 25.5 | 8.8 | 41.7 | 38.9 | 54.0 | 15.1 | 100 | 1 |
| 4 | 2971.167 | 44.4 | 28.9 | 10.5 | 41.9 | 41.9 | 54.0 | 12.1 | 100 | 193 |

*** Note:**

1. Margin (dB)= Limit (dBuV) - Level (dBuV)
2. If no frequencies are specified in the tables, no measurement for quasi-peak or average was necessary.