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Project: 12CA45978
File: MC16222
Report: 12CA45978-FCC
Date: Dec. 18, 2012
Model: AMM215WTD

Electromagnetic Compatibility Test Report

For

LCD Color Medical Monitor

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

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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 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

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Model Number: AMM215WTD
Client Name: ADVAN INT'L CORP.

Test Report Details

Test report No: 12CA45978-FCC
File No: MC16222
Witnessed By: UL Korea Ltd.
33rd FL. GFC Bldg. 737 Yeoksam-dong, Kangnam-ku, Seoul, 135-984, Korea
Test Site: Digital EMC Co., Ltd
683-3, Yuban-Dong, Cheoin-Gu, Yongin-Si, Kyunggi-Do, 449-080, Korea
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
47817 Fremont Blvd., Fremont, CA 94538 U.S.A.
Manufacturer: ADVAN INT'L CORP
47817 Fremont Blvd., Fremont, CA 94538 U.S.A.
Factory: D&T Inc.
(JANG-DONG, (DAEDEOK VALLEY))
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: AMM215WTD
Multi-listing model number: N/A
The manufacturer has declared to all the multiple model names into the basic model without any further evaluation by UL.
FCC ID: QVXAMM215WTD
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.

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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

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.	AMM215WTD	-
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	BNC Cable	-	-	8 EA
10	S-Video (Y/C) Cable	-	-	1 EA

1.4 Technical Data:

Model	AMM215WTD
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/m ² (typ)
Efficient Picture Size	495.6 (H) x 292.2 (V) x 10.2 (D) mm
Input	
Composite	BNC x 1 1 Vp-p
Y/C	4 pin Mini Din x 1 Luminance (Y) : 1 Vp-p Chrominance (C) : 0.3±0.03Vp-p
RGB /Component	BNC x 5 (Y/Pb/Pr, RGBs, R/G/B/H/V) RGB : RGB : 0.7 ± 0.1 Vp-p Composite Sync : 0.3Vp-p ~ 5Vp-p H/V SYNC : TTL Level
VGA	15pin D-Sub x 1 R/G/B : 0.7 Vp-p H/V Sync : TTL Level (V high ≥2.3V, V low ≤0.5V)
DVI	DVI-I x 1 TMDS Single Link
Optional DVI	DVI-I x 1 TMDS Single Link
SDI	BNC x 1 Serial Input Swing : 0.5 ~ 1.1 Vp-p Serial Input Data Rate : 0.27 ~2.97Gb/s
Remote Input	9-pin D-Sub (RS-232C) x 1
Audio	Stereo Phone Jack x 1 Speaker Out : 1W x 2 EA
Output	
Composite Video	BNC x 1 1 Vp-p
Y/C Video	4 pin Mini Din x 1 Luminance (Y) : 1.0±0.1Vp-p Chrominance (C) : 0.3±0.03Vp-p
Component/RGB	BNC x 5 RGB: 0.7 ± 0.1 Vp-p Composite Sync : 0.3Vp-p ~ 5Vp-p H/V SYNC : TTL Level
SDI	BNC x 1 Serial Output Swing : 0.35 ~ 0.6Vp-p Serial Output Data Rate : 0.27 ~2.97Gb/s
General	
Power Adaptor	AC Input : AC 100 ~ 240V 50-60Hz, 2.0A DC Output : DC 13V, 6.92A
Power Consumption	TBD
Dimension	523 (W) x 321 (H) x 110 (D) mm
Weight	Monitor : TBD AC adaptor : 680g
Operating / Storage Environment	
Operating Temperature	32° ~ 95°F (0° ~ 35°C)
Operating Humidity	20% ~ 80%, non-condensing
Storage Temperature	-4° ~ 140°F (-20° ~ 60°C)
Storage Humidity	10% ~ 85%, non-condensing
VESA Mounting	
	100mm x 100mm
Compliance & Certification	
Safety	UL (UL60601-1) cUL (CAN/CSA-C22.2 No.6011-M90) CE (EN60601-1) AS/NZS 3200-1-0 CCC (GB4943-2001) CB-ITE (IEC60950-1) IP23
EMC	FCC (Part 15 Class B) CE (EN60601-1-2) AS/NZS 3200-1-2 VCCI (Class B) CCC (GB9254, GB17625.1)
Optional Module	
DC Extension Cable	5ft, 15ft, 75ft length
Base Stand	Adjustable high, swivel and tilt base stand

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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	AMM215WTD 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.			

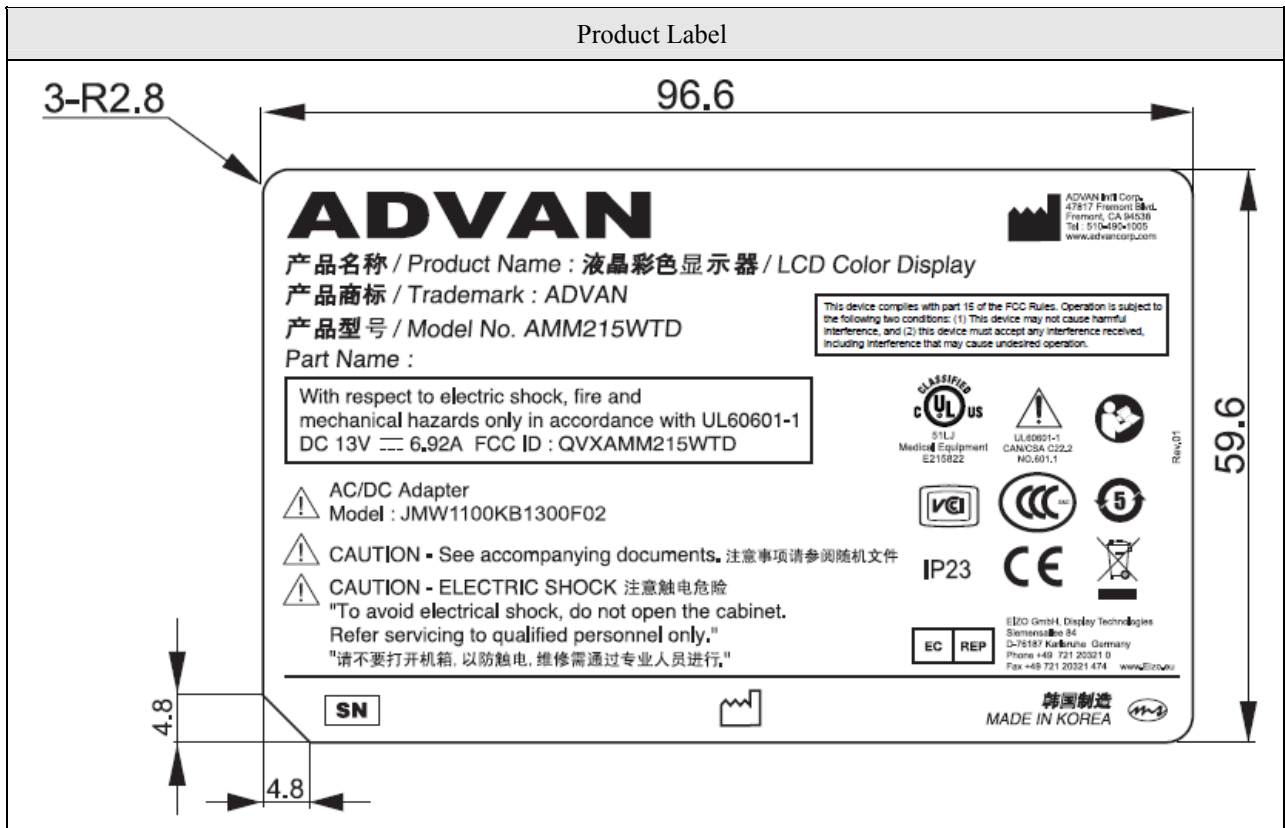
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1.8 Equipment Marking Plate of Product:



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2. TEST CONDITION

2.1 Equipment Used During Test:

Use*	Product Type	Manufacturer	Model	Comments
EUT	LCD Color Medical Monitor	ADVAN Int'l Corp.	AMM215WTD	-
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	DVI, VGA Source
AE	Keyboard	HP	KB-065	-
AE	Mouse	MICROSOFT CORPORATION	1094	-
AE	SDI Converter	WOODLAND HILLS	Converter	-
AE	Printer	Bixolon	SRP-770	-
AE	LCD Monitor	ADVAN Int'l Corp.	AMM190WTD	-
AE	Adapter (SDI Converter)	N/A	N/A	-
AE	Adapter (Monitor)	Bridge power	JMW1100KB1800F01	-
AE	Adapter (Printer)	Cosy	N/A	-
*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	Mains	AC	1.8 m	Unshielded	Hospital-grade AC power cord
2	DVI In	I/O	1.8 m	Shielded	24 pin DVI-D
3	Optional DVI In	I/O	1.8 m	Shielded	OPTIONAL
4	VGA In	I/O	1.8 m	Shielded	15 pin D-Sub
5	SDI In, Out	I/O	1.8 m	Shielded	BNC
6	S-Video In, Out	I/O	1.8 m	Shielded	S-Video
7	C-Video In, Out	I/O	1.8 m	Shielded	BNC
8	Component In, Out	I/O	1.8 m	Shielded	BNC
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	-
2	VGA Mode	Worst case condition
3	SDI In/Out Mode	Worst case condition
4	S-VIDEO In/Out Mode	-
5	C-Video In/Out Mode	-
6	Component In/Out Mode	-
* Note: 1. All the configuration described above has been investigated during the preliminary testing and selected two cases as worst-case condition for final measurements. 2. EUT have been performed under continuous displaying "H" Patten for configuration Modes of 1 to 2 3. EUT has been performed under continuous displaying "Color Bar" Patten for configuration Modes of 3 to 6.		

2.5 Modes of Video Resolution:

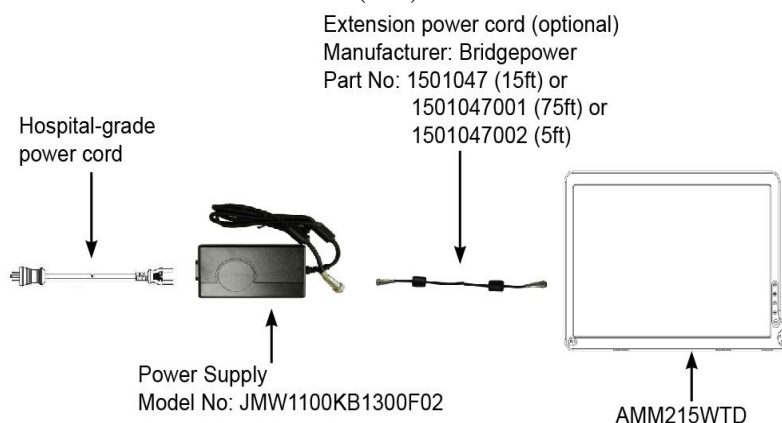
Mode #	Resolution	Comments
1	VGA Mode	800 * 600 @ 60Hz
2		1024 * 768 @ 60Hz
3		1920 * 1200 @ 60Hz Worst case condition (Range of Brightness: 100, Range of contrast: 100 And range of backlight: 100.
4	SDI Mode	1080i Worst case condition (Range of Brightness: 100, Range of contrast: 100 And range of backlight: 100.

*** Note:** Video resolution where it refers from above is representative worst case.

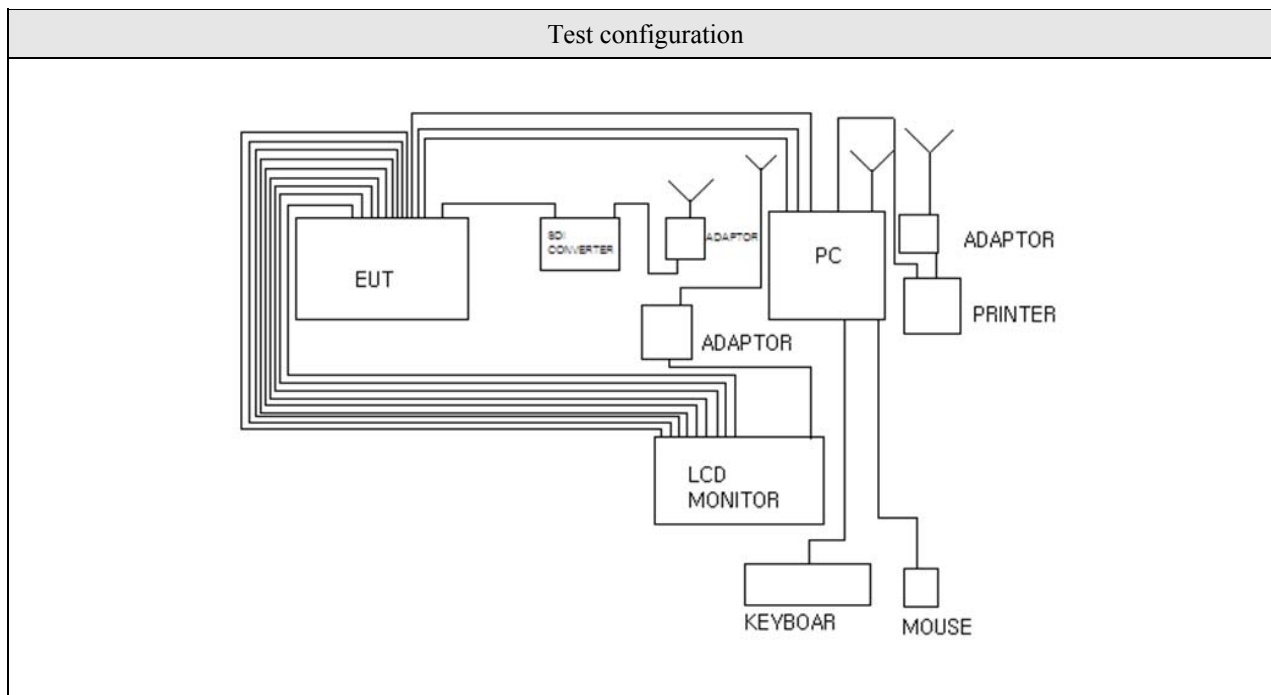
2.6 Used D.C. Extension Cable for Test:

No.	Cable Length	Preliminary Test	Comment
1	5ft	DVI, VGA, SDI, S-Video, C-Video, Component Mode.	-
2	15ft		-
3	75ft		Selected for 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:



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 : SDI Mode

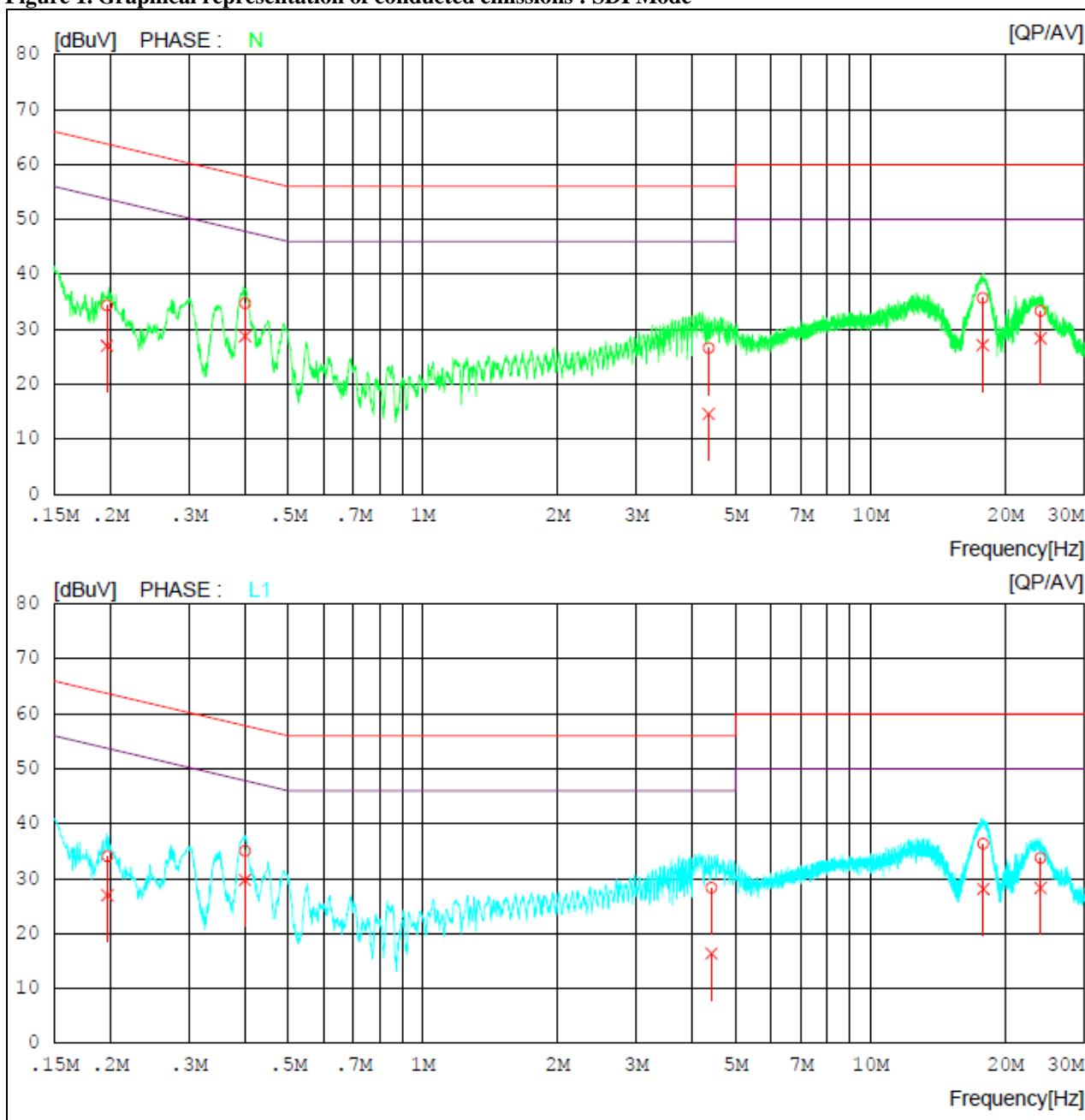


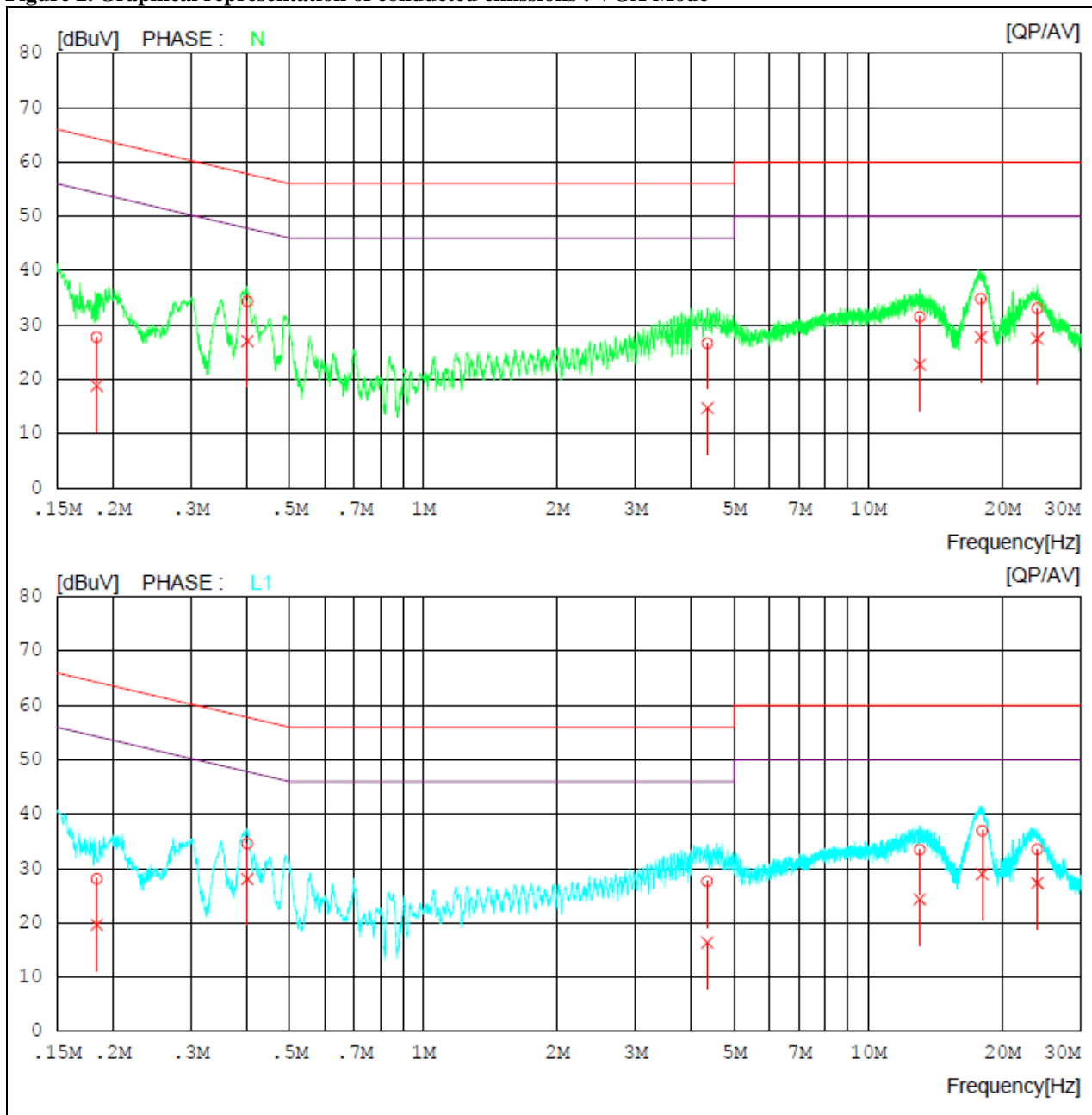
Table 1. Conducted emissions Test data : SDI Mode

NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.19705	34.1	26.8	0.2	34.3	27.0	63.7	53.7	29.4	26.7	N
2	0.40115	34.5	28.5	0.2	34.7	28.7	57.8	47.8	23.1	19.1	N
3	4.35200	26.3	14.3	0.3	26.6	14.6	56.0	46.0	29.4	31.4	N
4	17.82150	34.8	26.2	0.9	35.7	27.1	60.0	50.0	24.3	22.9	N
5	23.99700	32.3	27.4	1.0	33.3	28.4	60.0	50.0	26.7	21.6	N
6	0.19751	33.9	26.8	0.2	34.1	27.0	63.7	53.7	29.6	26.7	L1
7	0.40093	34.8	29.6	0.2	35.0	29.8	57.8	47.8	22.8	18.0	L1
8	4.41500	28.1	16.1	0.3	28.4	16.4	56.0	46.0	27.6	29.6	L1
9	17.87700	35.5	27.2	0.9	36.4	28.1	60.0	50.0	23.6	21.9	L1
10	23.99750	32.8	27.3	1.0	33.8	28.3	60.0	50.0	26.2	21.7	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



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Table 2. Conducted emissions Test data : VGA Mode

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.18445	27.5	18.6	0.2	27.7	18.8	64.3	54.3	36.6	35.5	N
2	0.40226	34.1	26.8	0.2	34.3	27.0	57.8	47.8	23.5	20.8	N
3	4.35150	26.3	14.4	0.3	26.6	14.7	56.0	46.0	29.4	31.3	N
4	13.06350	30.8	22.0	0.7	31.5	22.7	60.0	50.0	28.5	27.3	N
5	17.91500	33.9	26.9	0.9	34.8	27.8	60.0	50.0	25.2	22.2	N
6	23.99750	32.1	26.5	1.0	33.1	27.5	60.0	50.0	26.9	22.5	N
7	0.18446	27.9	19.4	0.2	28.1	19.6	64.3	54.3	36.2	34.7	L1
8	0.40210	34.4	27.9	0.2	34.6	28.1	57.8	47.8	23.2	19.7	L1
9	4.34450	27.4	16.1	0.3	27.7	16.4	56.0	46.0	28.3	29.6	L1
10	13.05700	32.8	23.6	0.7	33.5	24.3	60.0	50.0	26.5	25.7	L1
11	18.03350	36.1	28.1	0.9	37.0	29.0	60.0	50.0	23.0	21.0	L1
12	23.99850	32.6	26.3	1.0	33.6	27.3	60.0	50.0	26.4	22.7	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.

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.				
	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.				
	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 88		40.00		Pass	
88 to 216		43.52		Pass	
216 to 960		46.02		Pass	
960 to 1000		53.97		Pass	
-		Average	Peak	-	
Above 1000		54	74	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	
Radiated Emissions Test Equipment:					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due

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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 : SDI Mode (30 MHz ~ 1 GHz)

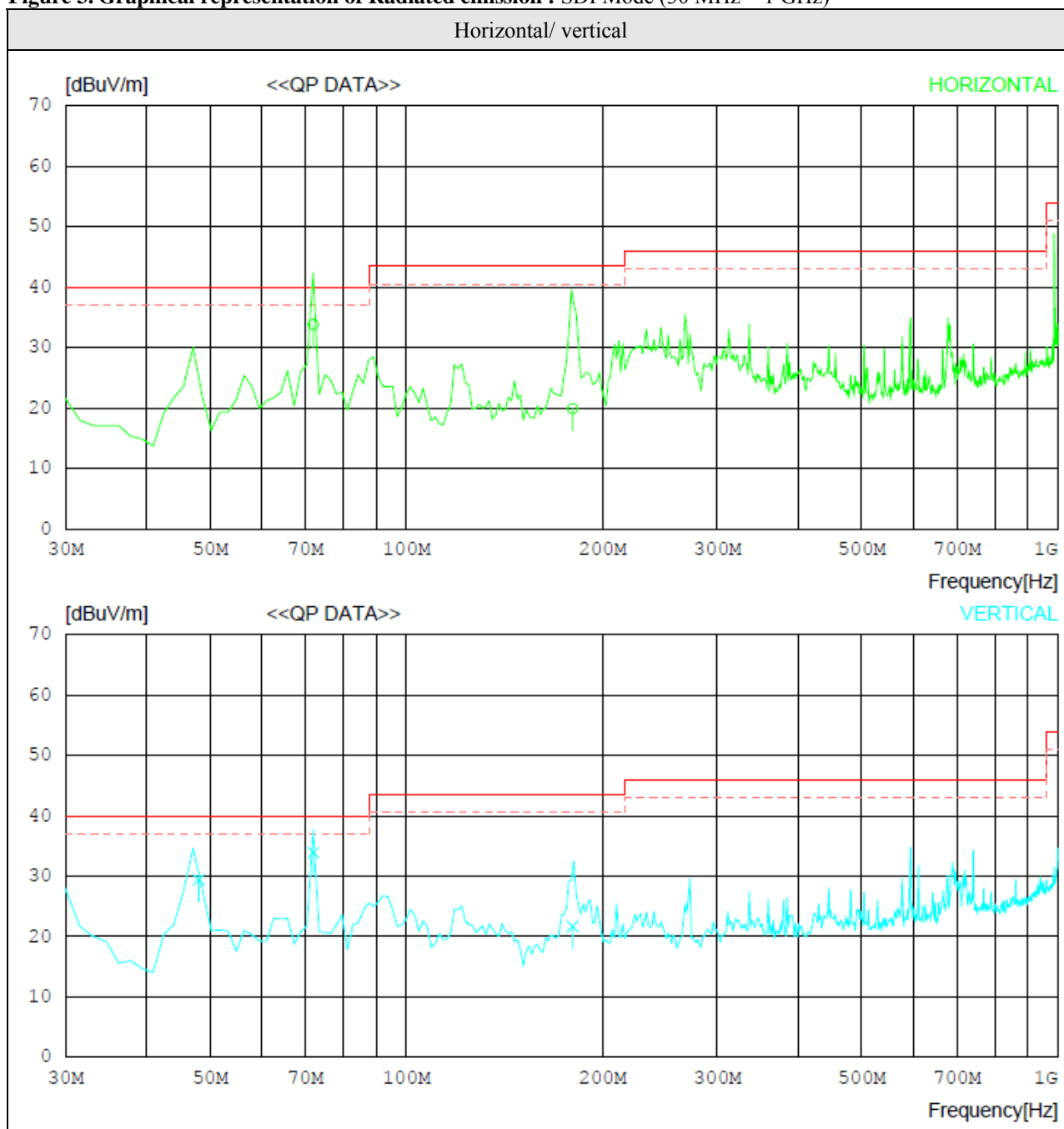


Table 3. Radiated emission Test data : SDI Mode (30 MHz ~ 1 GHz)

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	72.014	48.1	6.7	1.7	22.7	33.8	40.0	6.2	356	153
2	180.105	31.6	9.3	2.2	23.2	19.9	43.5	23.6	291	258
---- Vertical -----										
3	48.025	42.0	9.0	1.2	22.8	29.4	40.0	10.6	130	276
4	72.025	48.2	6.7	1.7	22.7	33.9	40.0	6.1	156	324
5	180.057	33.4	9.3	2.2	23.2	21.7	43.5	21.8	178	34

*** 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 : SDI Mode ((1 ~ 6) GHz _ Peak)

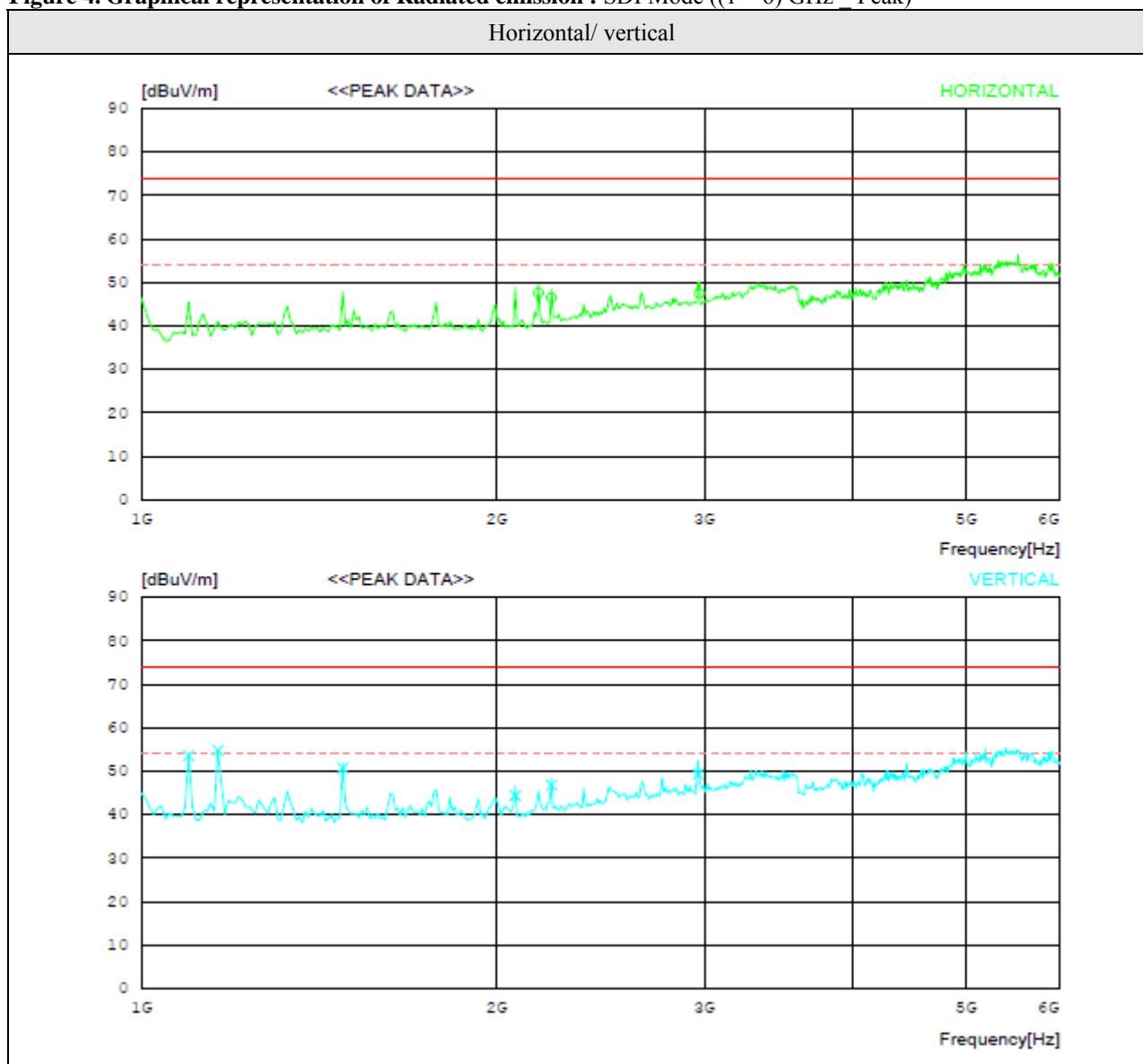


Table 4. **Radiated emission Test data** : SDI Mode ((1 ~ 6) GHz _Peak)

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	43.7	25.5	6.9	28.5	47.6	70.0	22.4	100	358
2	2225.964	42.2	25.9	6.9	28.5	46.5	70.0	23.5	100	175
3	2971.167	39.1	28.9	8.0	28.5	47.5	70.0	22.5	100	143
---- Vertical -----										
4	1096.154	52.4	24.0	5.7	28.5	53.6	70.0	16.4	100	1
5	1160.256	53.1	24.1	6.1	28.5	54.8	70.0	15.2	100	342
6	1480.769	48.5	24.6	6.1	28.5	50.7	70.0	19.3	100	173
7	2073.718	41.6	25.0	6.3	28.5	44.4	70.0	25.6	100	53
8	2225.964	42.0	25.9	7.4	28.5	46.8	70.0	23.2	100	140
9	2963.154	41.5	28.9	7.4	28.5	49.3	70.0	20.7	100	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 5. Graphical representation of Radiated emission : SDI Mode ((1 ~ 6) GHz _ Average)

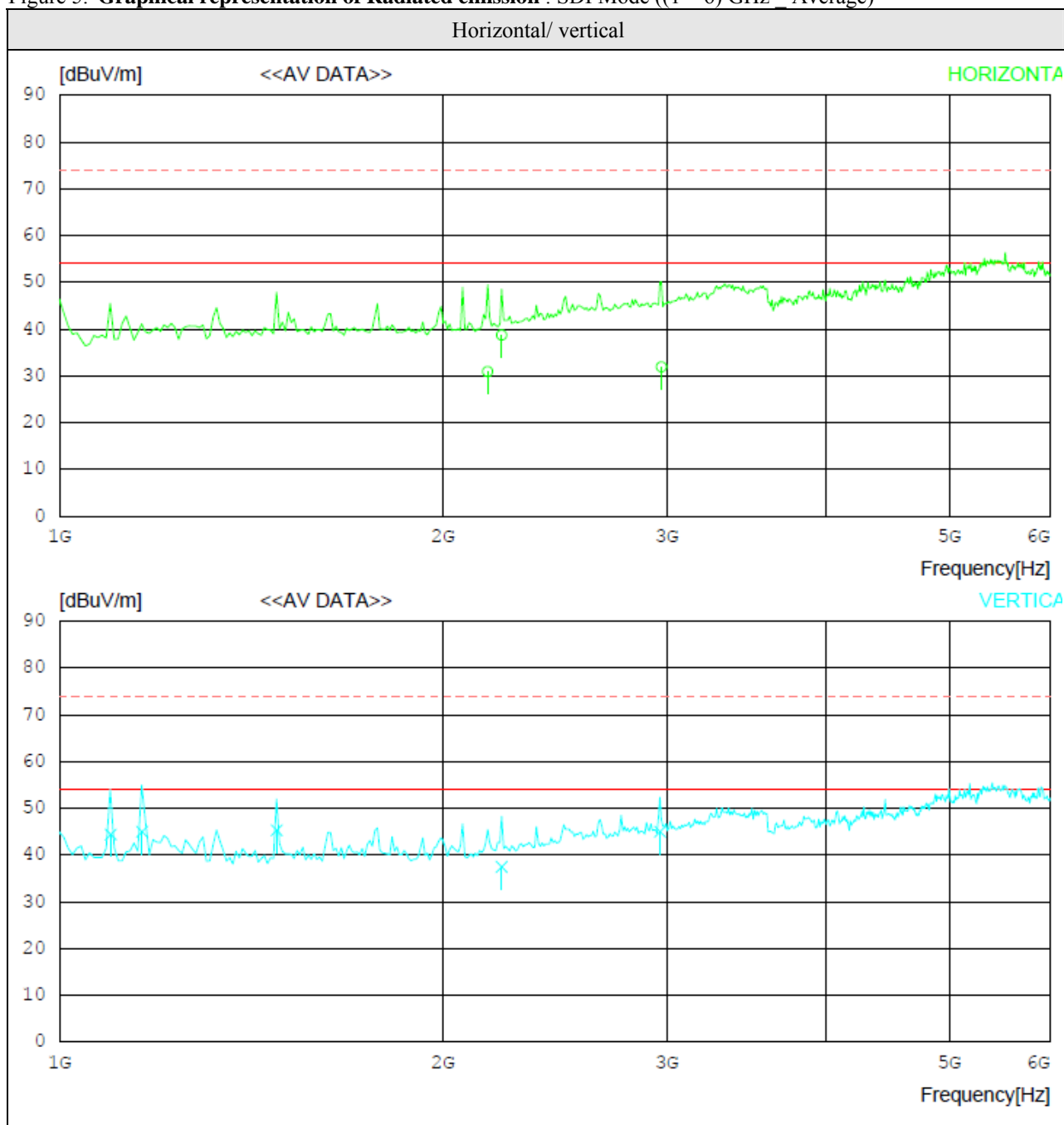


Table 5. Radiated emission Test data : SDI Mode ((1 ~ 6) GHz _Average)

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	2170.210	25.1	25.5	8.8	28.5	30.9	50.0	19.1	100	38
2	2225.114	32.4	25.9	8.9	28.5	38.7	50.0	11.3	100	175
3	2971.241	20.9	28.9	10.5	28.4	31.9	50.0	18.1	100	111
--- Vertical -----										
4	2225.312	31.2	25.9	8.9	28.5	37.5	50.0	12.5	100	35
5	2963.541	34.1	28.9	10.4	28.4	45.0	50.0	5.0	100	1
6	1097.141	42.8	24.0	6.1	28.5	44.4	50.0	5.6	100	1
7	1161.245	43.1	24.1	6.3	28.5	45.0	50.0	5.0	100	342
8	1481.546	41.8	24.6	7.4	28.5	45.3	50.0	4.7	100	173

*** 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)

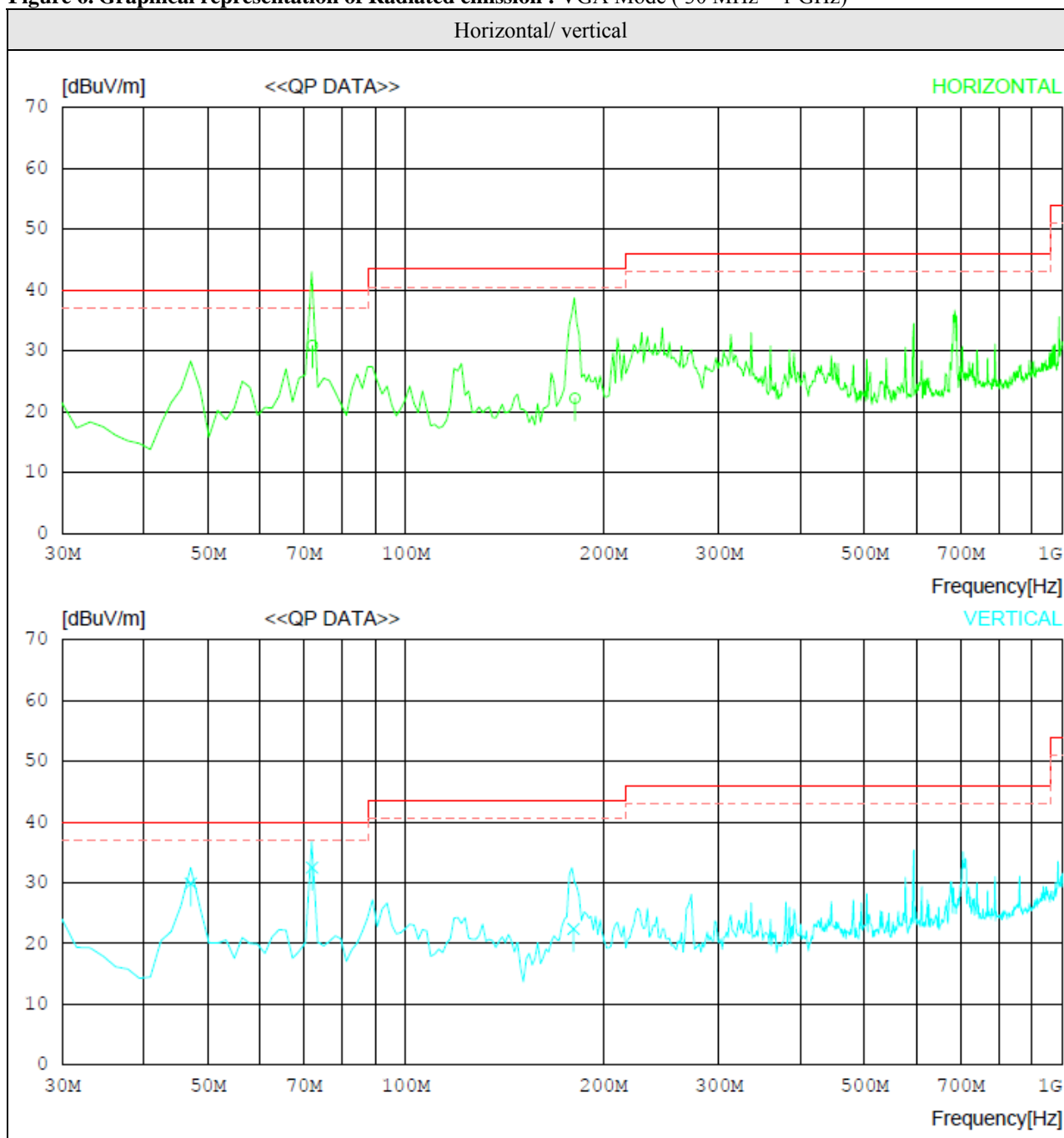


Table 6. Radiated emission Test data : VGA Mode (30 MHz ~ 1 GHz)

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	72.140	45.2	6.7	1.7	22.7	30.9	40.0	9.1	379	110
2	181.245	34.0	9.3	2.2	23.3	22.2	43.5	21.3	180	321
--- Vertical -----										
3	47.120	42.1	9.4	1.2	22.8	29.9	40.0	10.1	329	350
4	72.118	46.8	6.7	1.7	22.7	32.5	40.0	7.5	103	42
5	180.334	34.1	9.3	2.2	23.2	22.4	43.5	21.1	224	189

*** 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)

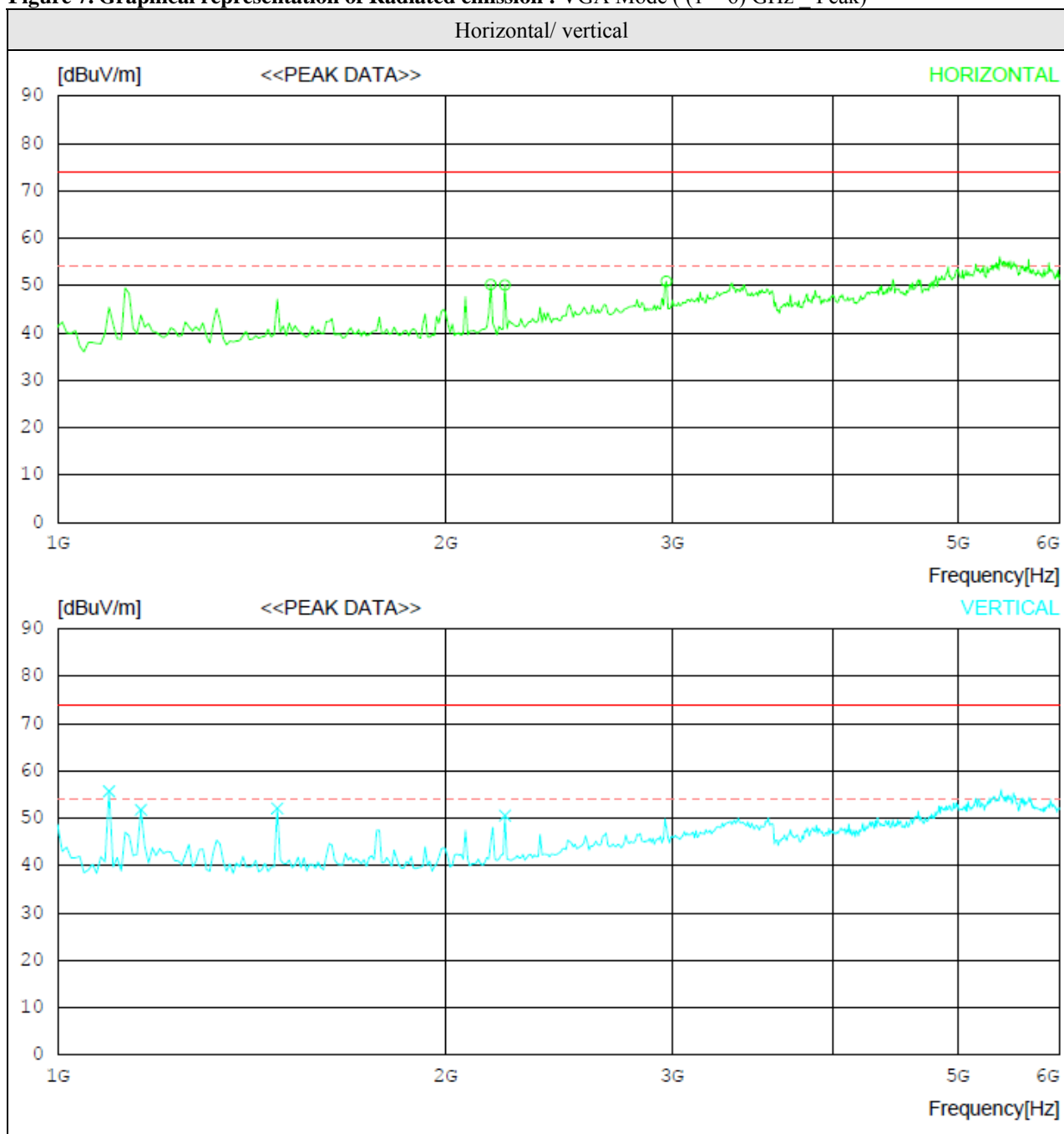


Table 7. **Radiated emission Test data : VGA Mode ((1 ~ 6) GHz Peak)**

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	2169.873	44.4	25.5	8.8	28.5	50.2	70.0	19.8	100	358
2	2225.964	43.8	25.9	8.9	28.5	50.1	70.0	19.9	100	172
3	2971.167	39.9	28.9	10.5	28.4	50.9	70.0	19.1	100	358
--- Vertical -----										
4	1096.154	54.1	24.0	6.1	28.5	55.7	70.0	14.3	100	341
5	1160.256	49.9	24.1	6.3	28.5	51.8	70.0	18.2	100	359
6	1480.769	48.6	24.6	7.4	28.5	52.1	70.0	17.9	100	170
7	2225.964	44.3	25.9	8.9	28.5	50.6	70.0	19.4	100	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.

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

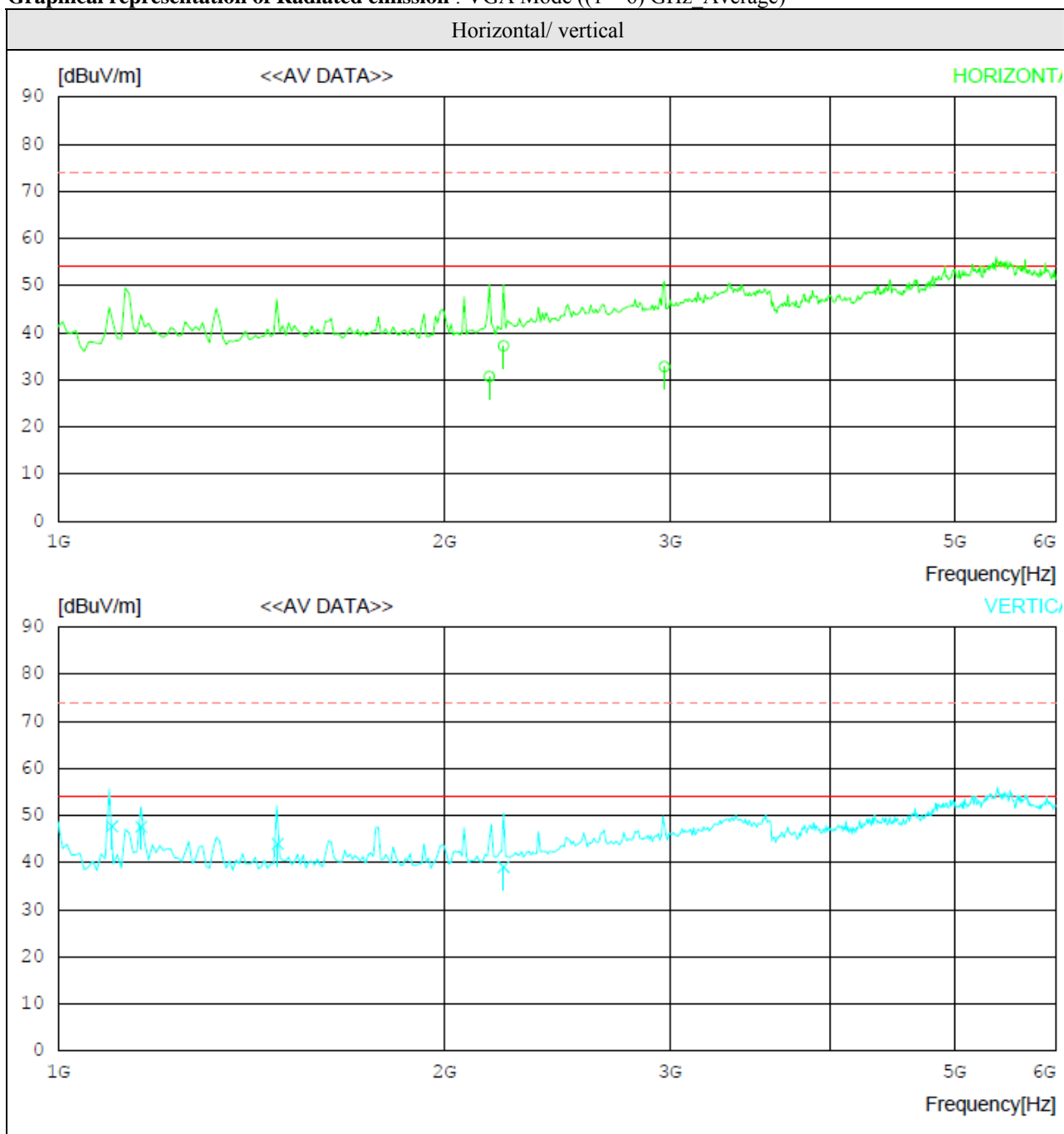


Table 8. Radiated emission Test data : VGA Mode ((1 ~ 6) GHz Average)

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	2170.121	24.9	25.5	8.8	28.5	30.7	50.0	19.3	100	354
2	2225.320	30.9	25.9	8.9	28.5	37.2	50.0	12.8	100	143
3	2971.480	21.8	28.9	10.5	28.4	32.8	50.0	17.2	100	114
--- Vertical ---										
4	1101.608	46.1	24.0	6.1	28.5	47.7	50.0	2.3	100	247
5	1161.153	45.7	24.1	6.3	28.5	47.6	50.0	2.4	100	248
6	1483.525	40.5	24.6	7.4	28.5	44.0	50.0	6.0	100	118
7	2225.320	32.8	25.9	8.9	28.5	39.1	50.0	10.9	100	97

*** 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.