FCC&ISED EMC Test Report

Project No.	:	1712C238
Equipment	:	LCD Monitor
Test Model	:	22B1
Series Model	:	N/A
Applicant	:	TPV Electronics (Fujian) Co., Ltd
Address	:	Rongqiao Economic and Technological Development Zone,Fuqing City,Fujian Province,P.R.China

Date of Receipt	:	Dec. 27, 2017
Date of Test	:	Dec. 27, 2017 ~ Jan. 09, 2018
Issued Date	:	Jan. 10, 2018
Tested by	:	BTL Inc.

Testing Engineer : Kang Zhang
(Kang Zhang)

Technical Manager : Bill Zhang
(Bill Zhang)

Authorized Signatory : Kevin Li
(Kevin Li)

BTL INC.

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NVLAP TESTING
NVLAP LAB CODE 200788-0

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Table of Contents

Page

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FICE-1-1712C238	Original Issue.	Jan. 10, 2018

1. CERIFICATION

Equipment	:	LCD Monitor
Brand Name	:	AOC
Test Model	:	22B1
Series Model		N/A
Applicant	:	TPV Electronics (Fujian) Co., Ltd
Date of Test	:	Dec. 27, 2017 ~ Jan. 09, 2018
Test Sample	:	Engineering Sample
Standard(s)	:	FCC Part 15, Subpart B ICES-003 Issue 6: 2016 ANSI C63.4-2014 IEC 61000-4-11

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FICE-1-1712C238) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B ICES-003 Issue 6: 2016 ANSI C63.4-2014	Conducted Emission	Class B	PASS	
	Radiated emission Below 1 GHz	Class B	PASS	
	Radiated emission Above 1 GHz	Class B	PASS	**NOTE(2)**
IEC 61000-4-11:2004	Voltage dips, short interruptions and voltage variations immunity	B / C / C	PASS	**NOTE (3)**

NOTE:

(1) ” N/A” denotes test is not applicable to this device.

(2) The EUT’s max operating frequency is 148.5 MHz which exceeds 108 MHz, so the test will be performed.

(3) Voltage Dips: ＞95% reduction – Performance Criterion B
Voltage Dips: 30% reduction – Performance Criterion C
Voltage Interruptions: ＞95% reduction – Performance Criterion C

2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 854385

BTL's test firm number for IC: 4428B-3

BTL's test designation number for FCC: CN5020

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

The reported uncertainty of measurement **y** ± **U**, where expanded uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95**%.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C01	CISPR	150 kHz ~ 30MHz	3.16

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB08 (3m)	CISPR	30MHz ~ 200MHz	V	4.68
		30MHz ~ 200MHz	H	4.68
		200MHz ~ 1,000MHz	V	4.90
		200MHz ~ 1,000MHz	H	4.90

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-CB08 (3m)	CISPR	1 ~ 6 GHz	4.26
		6 ~18 GHz	5.30

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	LCD Monitor
Brand Name	AOC
Test Model	22B1
Series Model	N/A
Model Difference	N/A
Power Source	DC Voltage supplied from AC/DC adapter. Model: ADPC1925EX Manufacturer: TPV Electronics (Fujian) Co., Ltd
Power Rating	I/P: 100-240V ~1.3A 50-60Hz O/P: 19V⎓1.31A
Connecting I/O ports	1* HDMI port 1* D-SUB port 1* Headphone port 1* AC port

Cable Type	Shielded Type	Ferrite Core	Length(m)	Note
D-SUB	Shielded	YES	1.5/1.8	Bonded two Ferrite Cores
HDMI	Shielded	NO	1.5/1.8	
AC Power Cord	Non-shielded	NO	1.5/1.8	1.8m is worst case Detachable (3 Pin)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. Power cable 1.8m and 1.5m length, worst case is Power cable 1.8m with D-SUB+HDMI 1.8m and 1.5m length testing and recording in test report.

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	D-SUB 1920*1080/60Hz
Mode 2	D-SUB 1280*1024/75Hz
Mode 3	D-SUB 640*480/60Hz
Mode 4	HDMI 1920*1080/60Hz
Mode 5	HDMI 1280*1024/75Hz
Mode 6	HDMI 640*480/60Hz
Mode 7	HDMI 1080P
Mode 8	HDMI 576P
Mode 9	HDMI 480I

For Conducted Test	
Final Test Mode	Description
Mode 1	D-SUB 1920*1080/60Hz
Mode 4	HDMI 1920*1080/60Hz

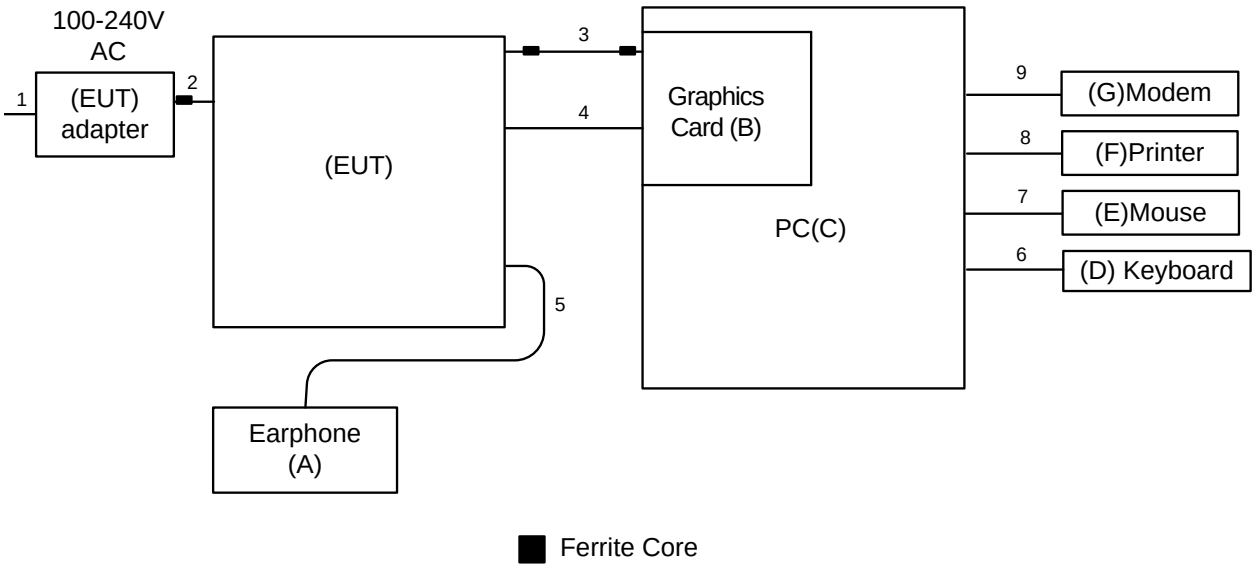
For Radiated Test	
Final Test Mode	Description
Mode 1	D-SUB 1920*1080/60Hz
Mode 4	HDMI 1920*1080/60Hz

3.3 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The standard test signals and output signal as following:
1. Send "H" pattern to serial port device (Modem).
2. Read (write) from (to) mass storage device.
3. EUT Connected to earphone via Audio cable.
4. EUT Connected to PC via D-SUB & HDMI cable.

As the keyboard and mouse are strictly input devices, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Earphone	APPLE	N/A	N/A	N/A
B	Graphics Card	LEADTEK	LR2A5F	DOC	ALF7100123952
C	PC	DELL	320	DOC	J4JQ52X
D	USB Keyboard	DELL	SK-8815(L)	DOC	00975811
E	USB Mouse	DELL	MO28UOL	DOC	23-122591
F	Printer	SII	DPU-414	DOC	3018507 B
G	Modem	ACEEX	DM-1414V	IFAXDM1414	0603002131

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m/1.5m	AC Cable
2	NO	NO	1.0m	DC Cable
3	YES	YES	1.8m/1.5m	D-SUB Cable
4	YES	NO	1.8m/1.5m	HDMI Cable
5	NO	NO	1.2m	Earphone Cable
6	YES	NO	1.8m	USB Cable
7	YES	NO	1.8m	USB Cable
8	YES	NO	1.8m	RS232 Cable
9	YES	NO	1.8m	Parallel Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value - Limit Value

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Measurement Software	Farad	EZ-EMC Ver.NB-03A 1-01	N/A	N/A
2	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 26, 2018
3	TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 26, 2018
4	EMI Test Receiver	R&S	ESR3	101862	Aug. 15, 2018
5	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Aug. 20, 2018
6	Cable	N/A	RG400 12m	N/A	Mar. 07, 2018

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

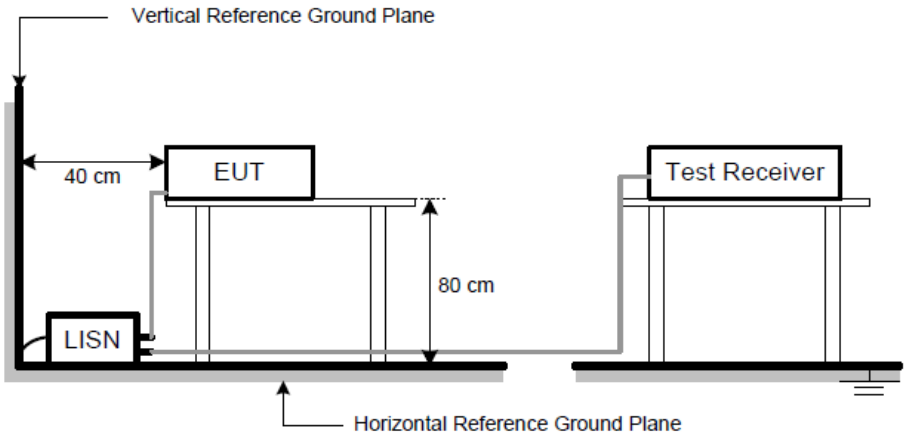
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
f. First the whole spectrum of emission caused by equipment under test(EUT) is recorded with Detector set to peak. Peak value recorded in table if the margin from QP Limit is larger than 2dB,otherwise,QP value is recorded, Measuring frequency range from 150KHz to 30MHz.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP

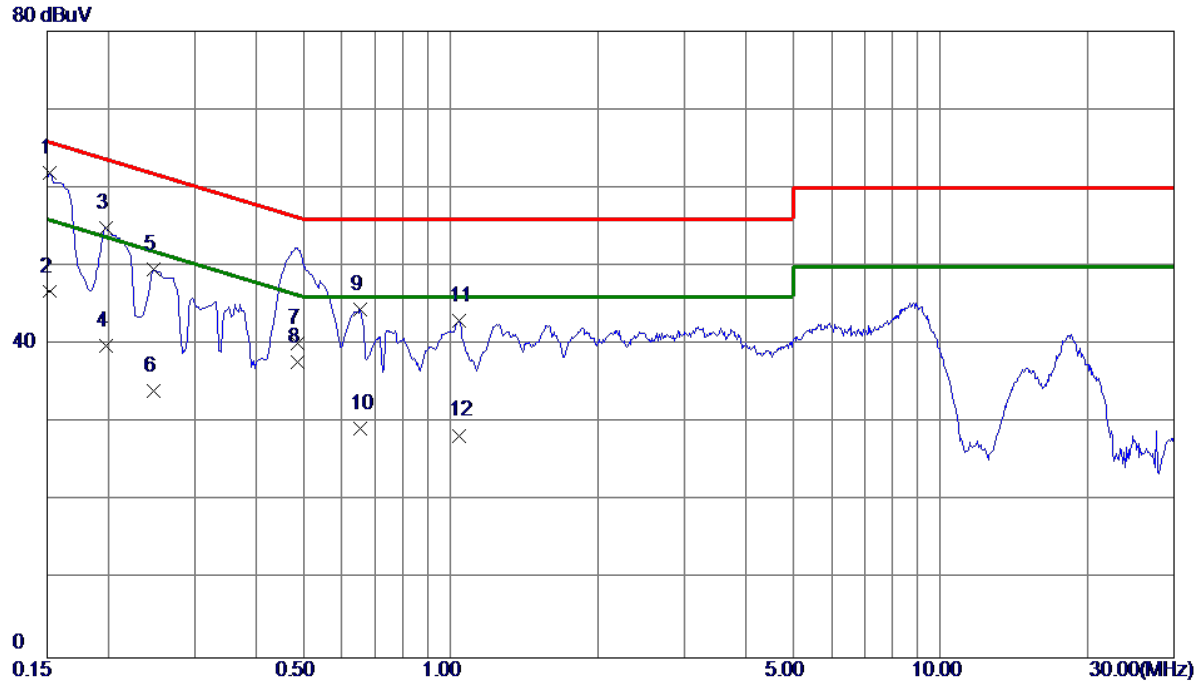


4.1.6 TEST RESULTS

Remark

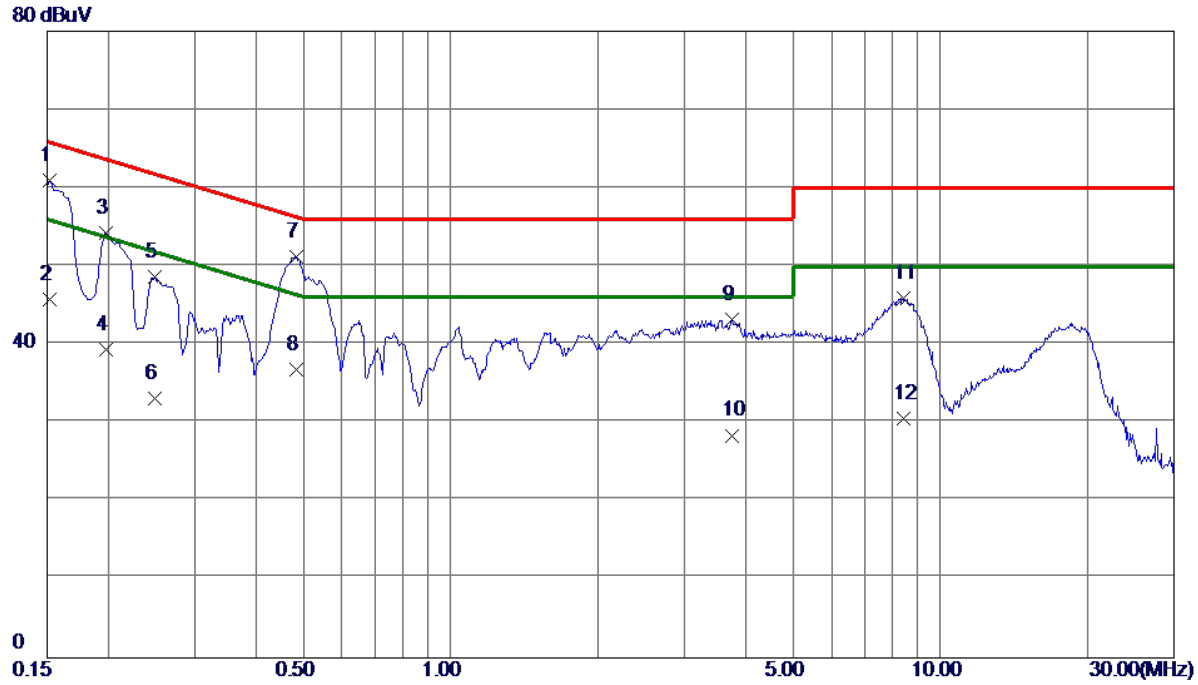
(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz。Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.3 sec./MHz.
(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn‘t perform。In this case, a “ * ” marked in AVG Mode column of Interference Voltage Measured.

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



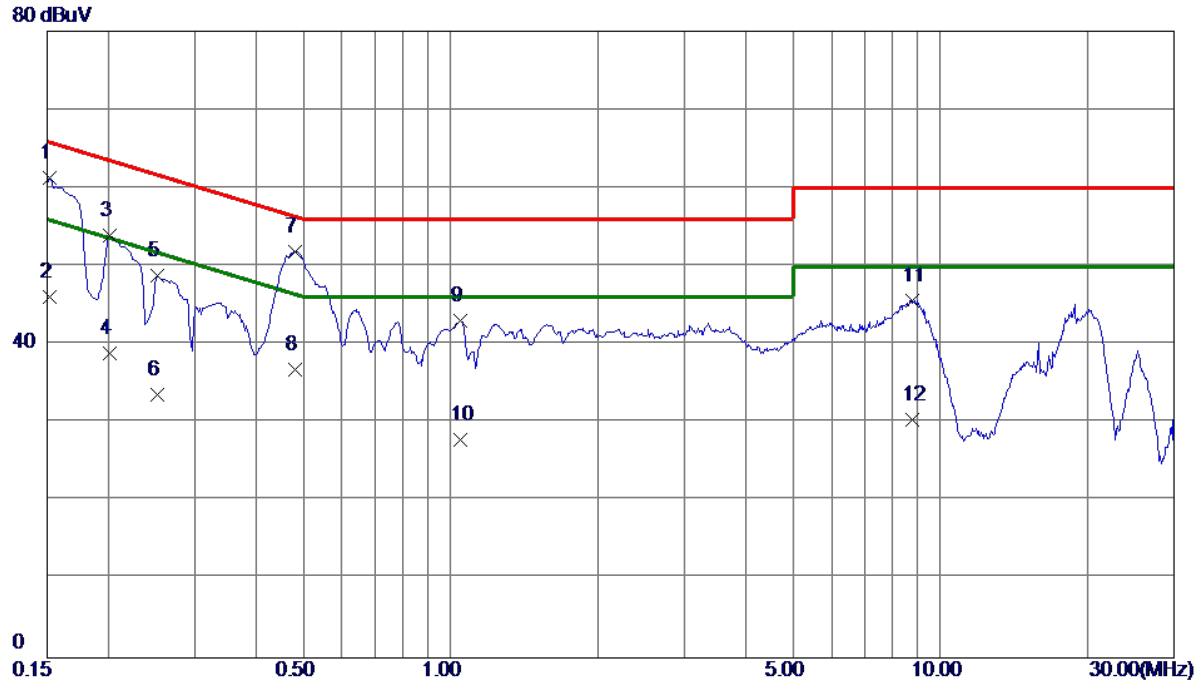
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	52.20	9.67	61.87	65.88	-4.01	QP
2	0.1522	37.13	9.67	46.80	55.88	-9.08	AVG
3	0.1973	45.18	9.69	54.87	63.72	-8.85	QP
4	0.1973	30.11	9.69	39.80	53.72	-13.92	AVG
5	0.2468	39.90	9.69	49.59	61.86	-12.27	QP
6	0.2468	24.41	9.69	34.10	51.86	-17.76	AVG
7	0.4875	30.36	9.74	40.10	56.21	-16.11	QP
8	0.4875	28.06	9.74	37.80	46.21	-8.41	AVG
9	0.6517	34.69	9.75	44.44	56.00	-11.56	QP
10	0.6517	19.55	9.75	29.30	46.00	-16.70	AVG
11	1.0432	33.22	9.79	43.01	56.00	-12.99	QP
12	1.0432	18.61	9.79	28.40	46.00	-17.60	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



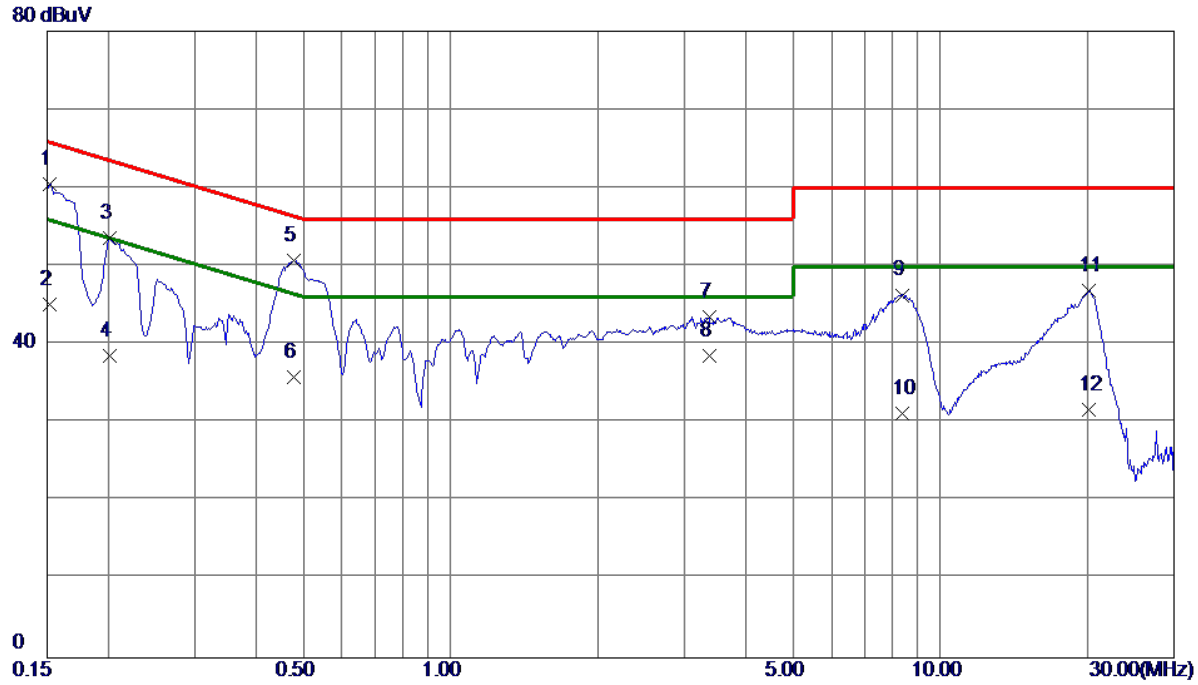
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	51.26	9.66	60.92	65.88	-4.96	QP
2	0.1522	36.14	9.66	45.80	55.88	-10.08	AVG
3	0.1973	44.51	9.69	54.20	63.72	-9.52	QP
4	0.1973	29.71	9.69	39.40	53.72	-14.32	AVG
5	0.2490	39.02	9.68	48.70	61.79	-13.09	QP
6	0.2490	23.42	9.68	33.10	51.79	-18.69	AVG
7	0.4852	41.55	9.72	51.27	56.25	-4.98	QP
8	0.4852	27.08	9.72	36.80	46.25	-9.45	AVG
9	3.7658	33.28	9.96	43.24	56.00	-12.76	QP
10	3.7658	18.44	9.96	28.40	46.00	-17.60	AVG
11	8.4300	35.66	10.27	45.93	60.00	-14.07	QP
12	8.4300	20.23	10.27	30.50	50.00	-19.50	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



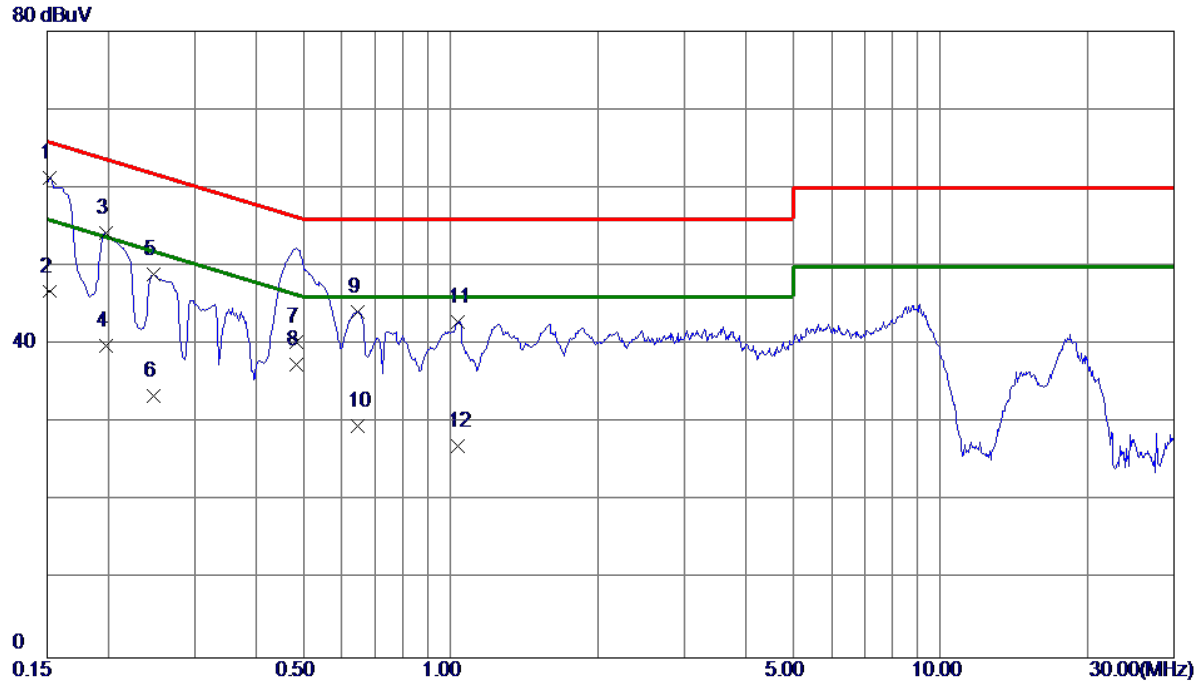
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1522	51.57	9.67	61.24	65.88	-4.64	QP
2	0.1522	36.43	9.67	46.10	55.88	-9.78	AVG
3	0.2017	44.16	9.69	53.85	63.54	-9.69	QP
4	0.2017	29.21	9.69	38.90	53.54	-14.64	AVG
5	0.2513	39.09	9.69	48.78	61.71	-12.93	QP
6	0.2513	23.91	9.69	33.60	51.71	-18.11	AVG
7 *	0.4807	42.14	9.73	51.87	56.33	-4.46	QP
8	0.4807	27.07	9.73	36.80	46.33	-9.53	AVG
9	1.0477	33.18	9.79	42.97	56.00	-13.03	QP
10	1.0477	18.01	9.79	27.80	46.00	-18.20	AVG
11	8.7585	35.41	10.25	45.66	60.00	-14.34	QP
12	8.7585	20.15	10.25	30.40	50.00	-19.60	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



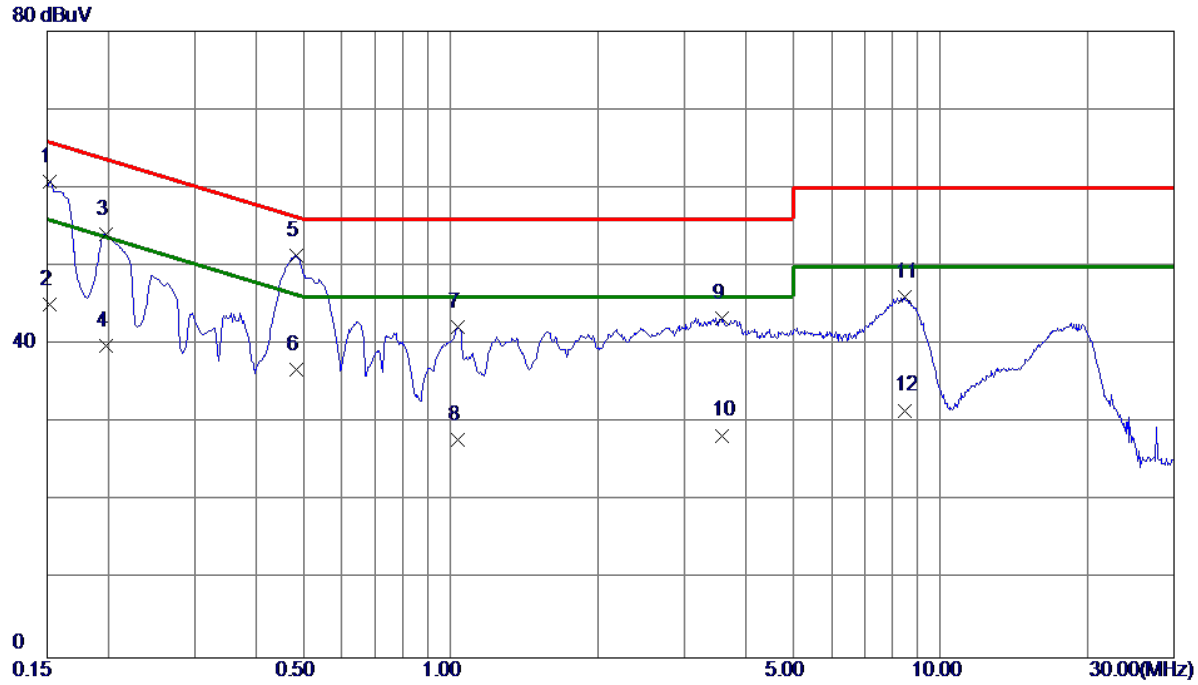
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	50.84	9.66	60.50	65.88	-5.38	QP
2	0.1522	35.44	9.66	45.10	55.88	-10.78	AVG
3	0.2017	43.91	9.69	53.60	63.54	-9.94	QP
4	0.2017	28.91	9.69	38.60	53.54	-14.94	AVG
5	0.4785	40.99	9.72	50.71	56.37	-5.66	QP
6	0.4785	26.08	9.72	35.80	46.37	-10.57	AVG
7	3.3720	33.59	9.93	43.52	56.00	-12.48	QP
8	3.3720	28.67	9.93	38.60	46.00	-7.40	AVG
9	8.3805	36.05	10.27	46.32	60.00	-13.68	QP
10	8.3805	20.93	10.27	31.20	50.00	-18.80	AVG
11	20.1390	36.04	10.83	46.87	60.00	-13.13	QP
12	20.1390	20.87	10.83	31.70	50.00	-18.30	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



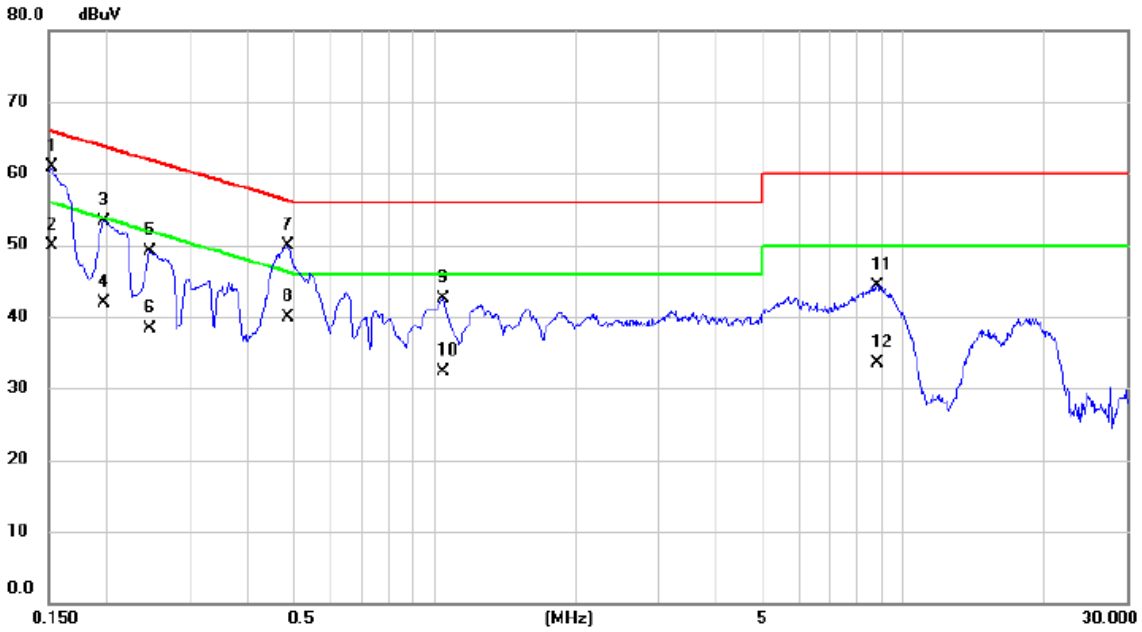
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	51.68	9.67	61.35	65.88	-4.53	QP
2	0.1522	37.13	9.67	46.80	55.88	-9.08	AVG
3	0.1973	44.54	9.69	54.23	63.72	-9.49	QP
4	0.1973	30.11	9.69	39.80	53.72	-13.92	AVG
5	0.2468	39.30	9.69	48.99	61.86	-12.87	QP
6	0.2468	23.71	9.69	33.40	51.86	-18.46	AVG
7	0.4852	30.56	9.74	40.30	56.25	-15.95	QP
8	0.4852	27.76	9.74	37.50	46.25	-8.75	AVG
9	0.6472	34.43	9.74	44.17	56.00	-11.83	QP
10	0.6472	19.86	9.74	29.60	46.00	-16.40	AVG
11	1.0365	33.15	9.78	42.93	56.00	-13.07	QP
12	1.0365	17.32	9.78	27.10	46.00	-18.90	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



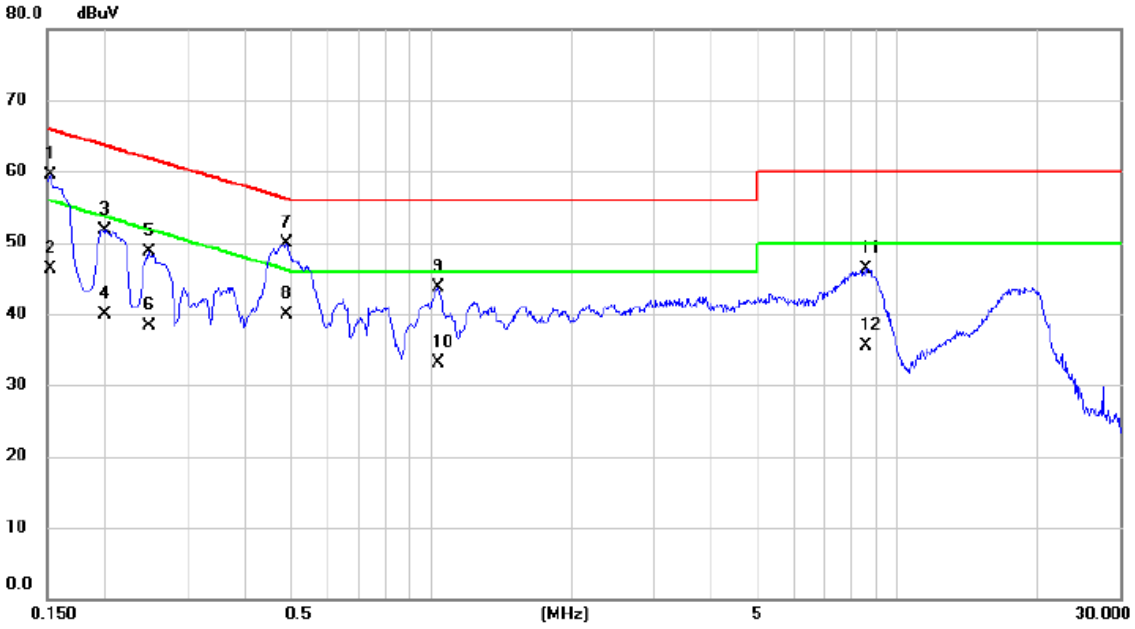
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1522	51.20	9.66	60.86	65.88	-5.02	QP
2	0.1522	35.44	9.66	45.10	55.88	-10.78	AVG
3	0.1973	44.41	9.69	54.10	63.72	-9.62	QP
4	0.1973	30.11	9.69	39.80	53.72	-13.92	AVG
5 *	0.4852	41.60	9.72	51.32	56.25	-4.93	QP
6	0.4852	27.08	9.72	36.80	46.25	-9.45	AVG
7	1.0365	32.42	9.77	42.19	56.00	-13.81	QP
8	1.0365	18.03	9.77	27.80	46.00	-18.20	AVG
9	3.5813	33.48	9.94	43.42	56.00	-12.58	QP
10	3.5813	18.46	9.94	28.40	46.00	-17.60	AVG
11	8.4389	35.82	10.27	46.09	60.00	-13.91	QP
12	8.4389	21.33	10.27	31.60	50.00	-18.40	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1522	51.20	9.67	60.87	65.88	-5.01	QP	
2		0.1522	40.26	9.67	49.93	55.88	-5.95	AVG	
3		0.1970	43.68	9.69	53.37	63.74	-10.37	QP	
4		0.1970	32.26	9.69	41.95	53.74	-11.79	AVG	
5		0.2467	39.41	9.68	49.09	61.87	-12.78	QP	
6		0.2467	28.63	9.68	38.31	51.87	-13.56	AVG	
7		0.4873	40.11	9.74	49.85	56.21	-6.36	QP	
8		0.4873	30.26	9.74	40.00	46.21	-6.21	AVG	
9		1.0430	32.73	9.78	42.51	56.00	-13.49	QP	
10		1.0430	22.62	9.78	32.40	46.00	-13.60	AVG	
11		8.8010	34.07	10.26	44.33	60.00	-15.67	QP	
12		8.8010	23.20	10.26	33.46	50.00	-16.54	AVG	

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1522	49.76	9.66	59.42	65.88	-6.46	QP	
2		0.1522	36.59	9.66	46.25	55.88	-9.63	AVG	
3		0.1995	42.06	9.69	51.75	63.63	-11.88	QP	
4		0.1995	30.26	9.69	39.95	53.63	-13.68	AVG	
5		0.2490	39.03	9.67	48.70	61.79	-13.09	QP	
6		0.2490	28.62	9.67	38.29	51.79	-13.50	AVG	
7		0.4897	40.12	9.72	49.84	56.17	-6.33	QP	
8	*	0.4897	30.26	9.72	39.98	46.17	-6.19	AVG	
9		1.0385	33.91	9.76	43.67	56.00	-12.33	QP	
10		1.0385	23.26	9.76	33.02	46.00	-12.98	AVG	
11		8.5830	36.03	10.27	46.30	60.00	-13.70	QP	
12		8.5830	25.32	10.27	35.59	50.00	-14.41	AVG	

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz
Measurement Method and Applied Limits:
ANSI C63.4:

Frequency (MHz)	Class A (at 10m)		Class B (at 3m)	
	(uV/m) Field strength	(dBuV/m) Field strength	(uV/m) Field strength	(dBuV/m) Field strength
30 - 88	90	39	100	40
88 - 216	150	43.5	150	43.5
216 - 960	210	46.4	200	46
Above 960	300	49.5	500	54

Above 1 GHz
Measurement Method and Applied Limits:
ANSI C63.4:

Frequency (MHz)	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:
(1) The limit for radiated test was performed according to as following:
FCC Part 15, Subpart B; ICES-003 Issue 6: 2016.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m) = 20log Emission level (uV/m).
3m Emission level = 10m Emission level + 20log(10m/3m).
(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

4.2.2 MEASUREMENT INSTRUMENTS LIST

Below 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Pre-Amplifier	Mini-Circuits	EMC 9135	980284	Mar. 26, 2018
2	Pre-Amplifier	Mini-Circuits	EMC 9135	980283	Mar. 26, 2018
3	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	586	Mar. 26, 2018
4	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	587	Mar. 26, 2018
5	Cable	emci	LMR-400(5m +11m+15m)	N/A	Nov. 03, 2018
6	Cable	emci	LMR-400(5m +8m+15m)	N/A	Nov. 03, 2018
7	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
8	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
9	Attenuator	N/A	SA18N-06	6dB	Apr. 14, 2018
10	Attenuator	N/A	SA18N-06	6dB	Apr. 14, 2018
11	Receiver	Keysight	N9038A	MY54450004	Aug. 15, 2018
12	MXE EMI Receiver	Agilent	N9038A	MY53220133	Jun. 20, 2018

Remark: “N/A” denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

Above 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Measurement Software	Farad	EZ-EMC Ver.BTL-2ANT-1	N/A	N/A
2	Cable	emci	SUCOFLEX_15m_5m (0.01GHz－26.5GHz)	N/A	Nov. 03, 2018
3	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
4	Controller	MF	MF-7802	MF780208159	N/A
5	Horn Antenna	EMCO	3115	9605-4803	Mar. 26, 2018
6	Amplifier	Agilent	8449B	3008A02584	Aug. 20, 2018
7	MXE EMI Receiver	Agilent	N9038A	MY53220133	Jun. 20, 2018

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

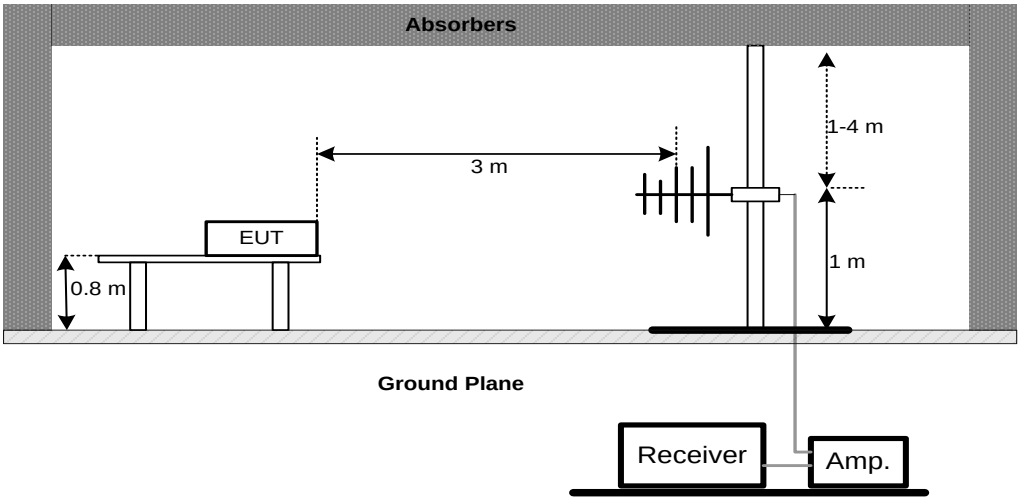
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1GHz)
i. For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.3).

4.2.4 DEVIATION FROM TEST STANDARD

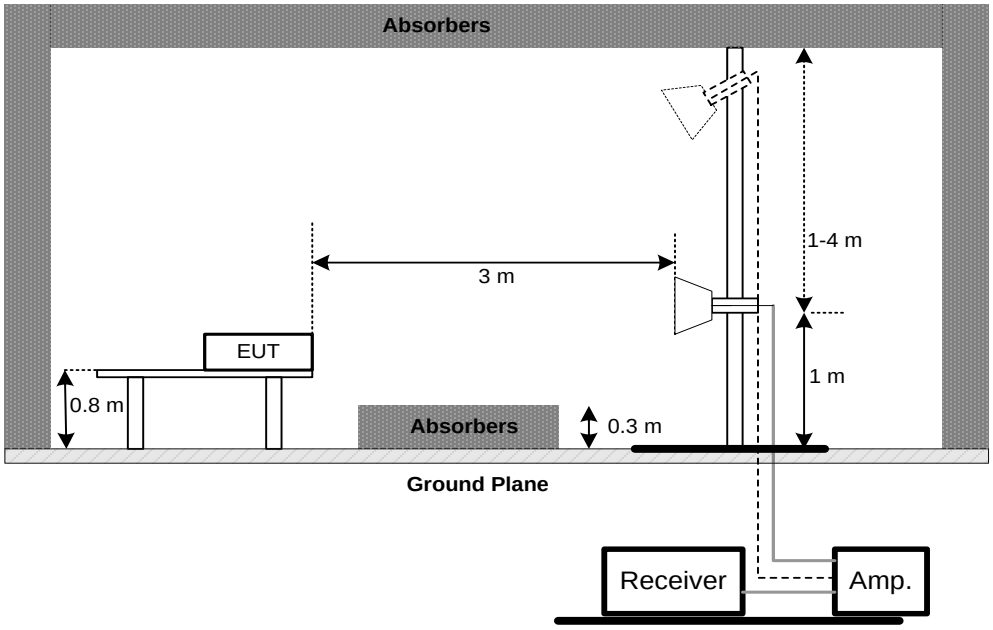
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



4.2.6 TEST RESULTS-BELOW 1GHZ

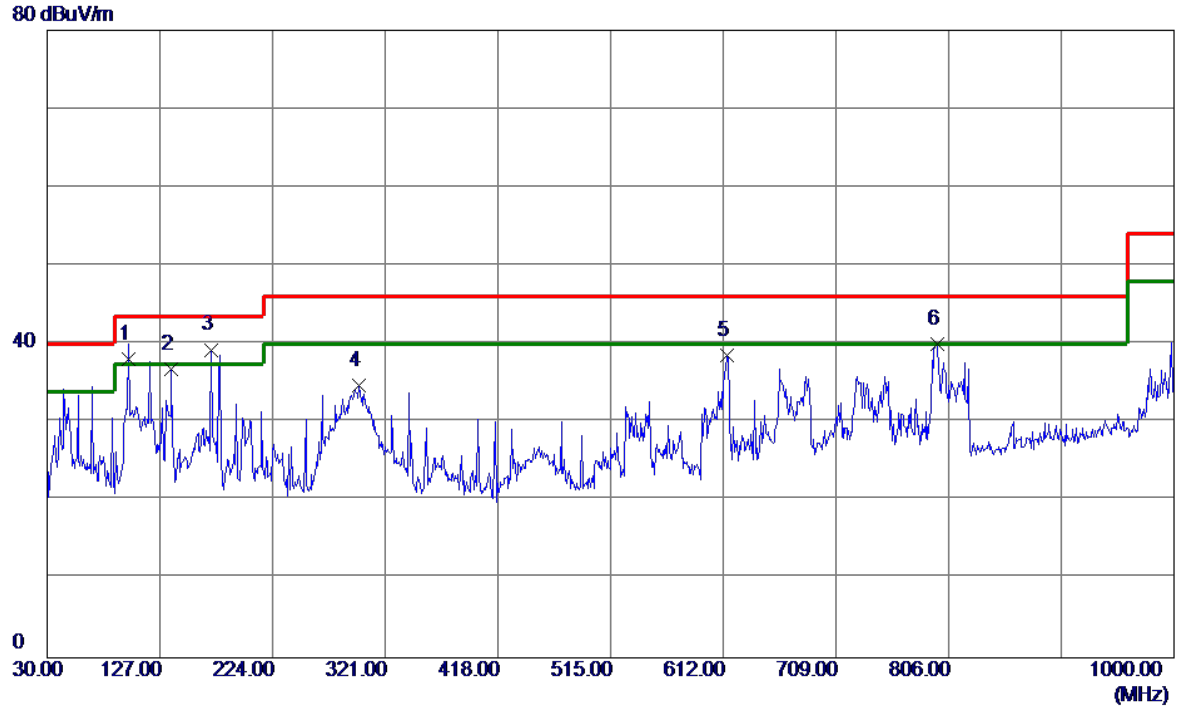
Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz。

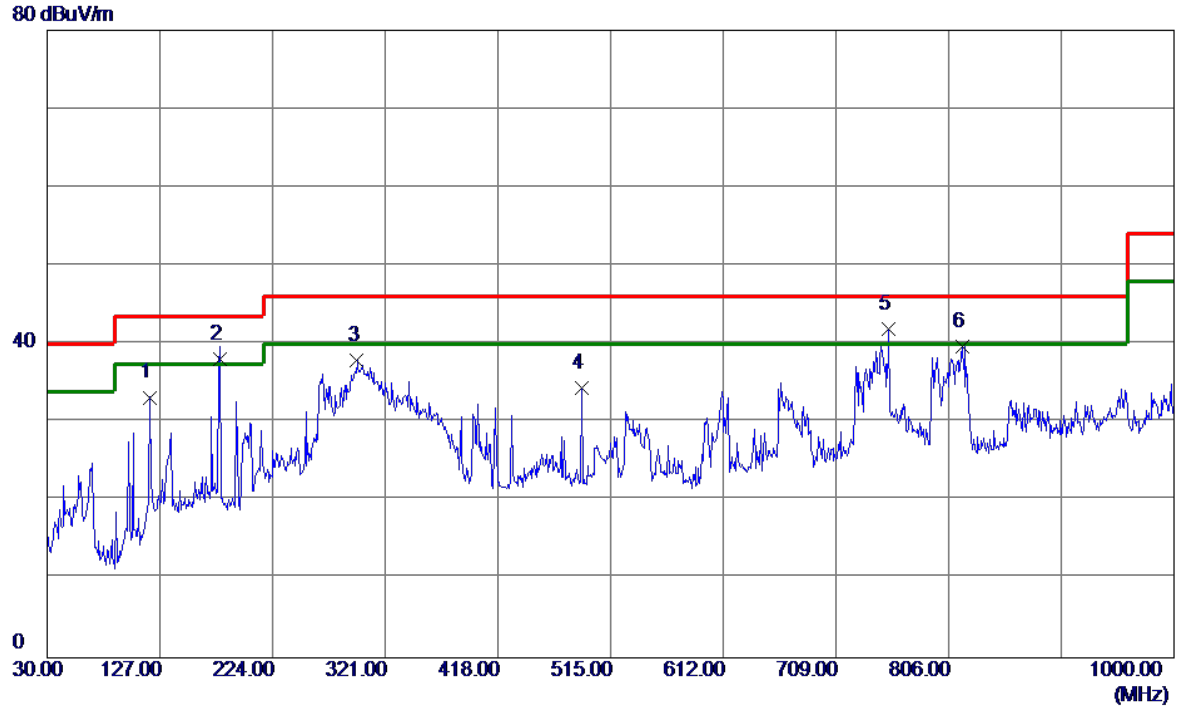
(3) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



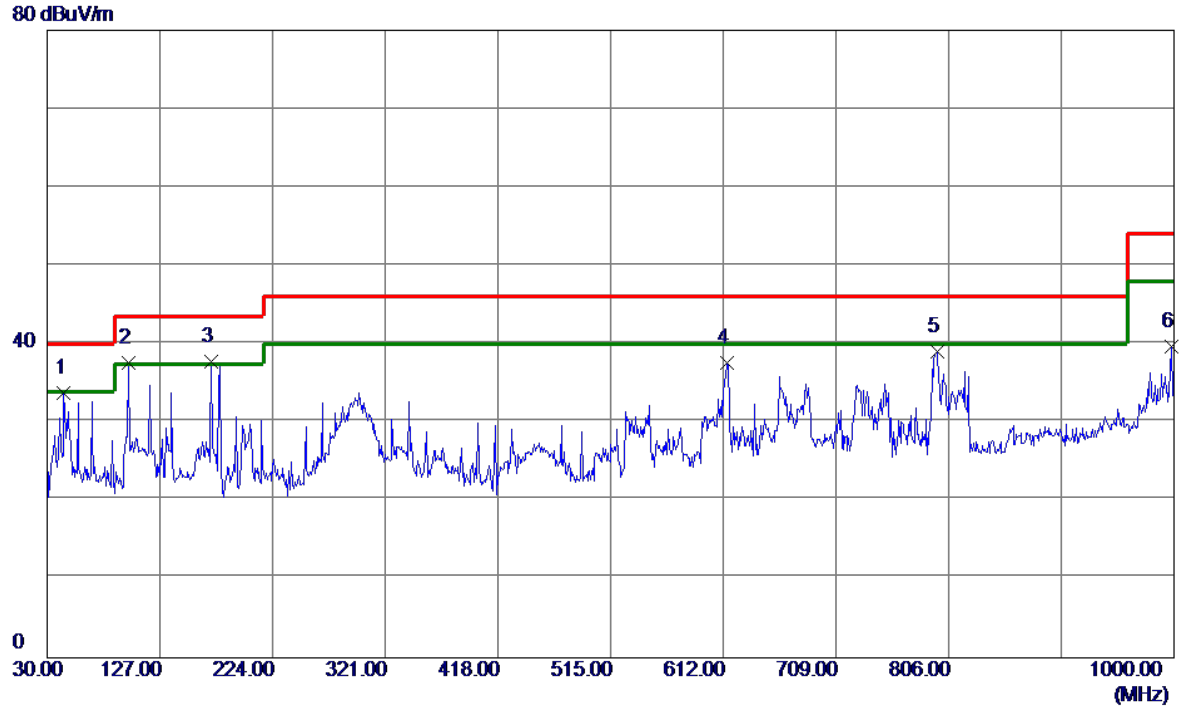
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	99.8399	64.78	-26.63	38.15	43.50	-5.35	QP
2	136.7000	59.23	-22.46	36.77	43.50	-6.73	QP
3 *	171.6200	61.60	-22.32	39.28	43.50	-4.22	QP
4	298.6900	55.48	-20.73	34.75	46.00	-11.25	QP
5	615.3950	52.42	-13.81	38.61	46.00	-7.39	QP
6	795.8150	51.02	-10.98	40.04	46.00	-5.96	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



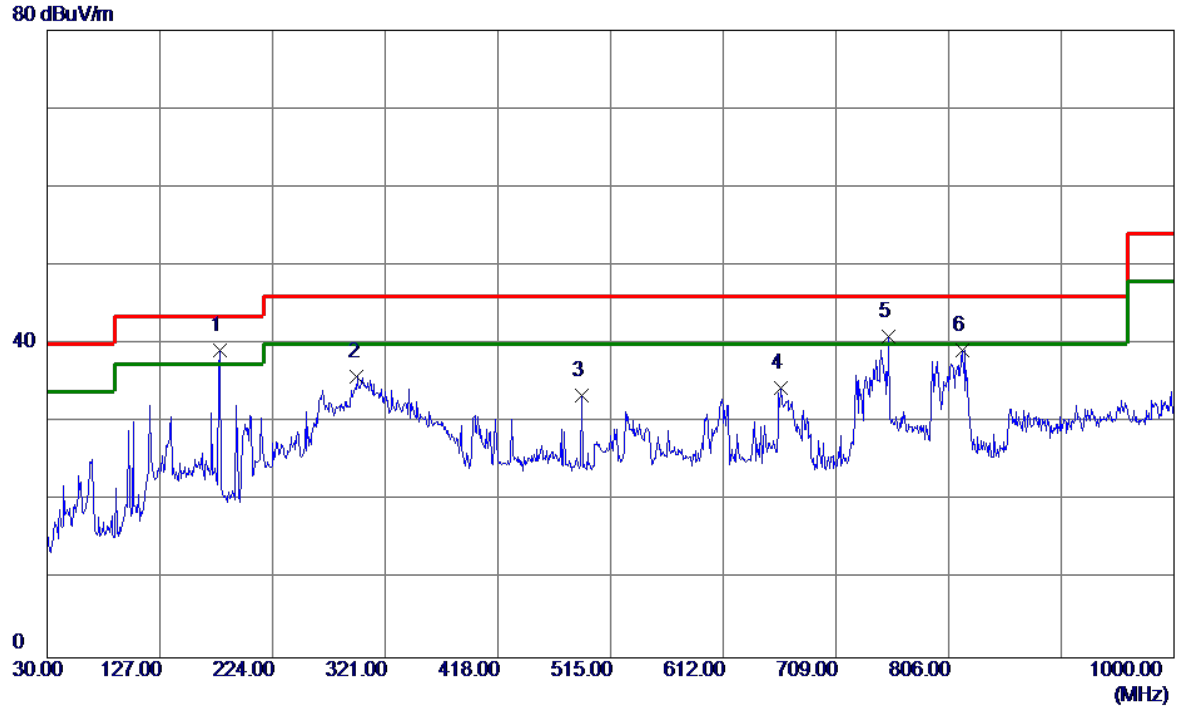
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	118.7550	57.32	-24.12	33.20	43.50	-10.30	QP
2	178.4100	61.08	-22.94	38.14	43.50	-5.36	QP
3	296.7500	58.63	-20.78	37.85	46.00	-8.15	QP
4	490.2650	50.78	-16.38	34.40	46.00	-11.60	QP
5 *	754.5900	53.11	-11.18	41.93	46.00	-4.07	QP
6	817.6400	50.50	-10.76	39.74	46.00	-6.26	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



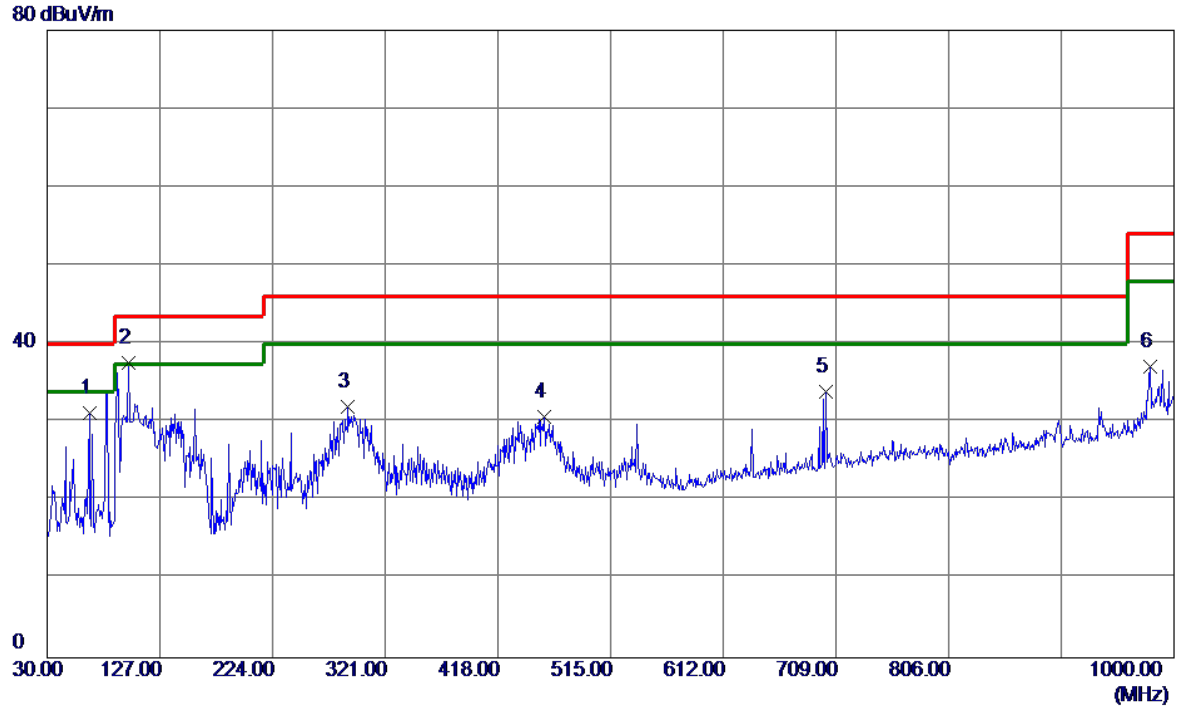
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	44.5500	56.36	-22.60	33.76	40.00	-6.24	QP
2	99.8399	64.20	-26.63	37.57	43.50	-5.93	QP
3 *	171.6200	60.10	-22.32	37.78	43.50	-5.72	QP
4	615.3950	51.42	-13.81	37.61	46.00	-8.39	QP
5	795.8150	50.02	-10.98	39.04	46.00	-6.96	QP
6	997.5750	47.15	-7.47	39.68	54.00	-14.32	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



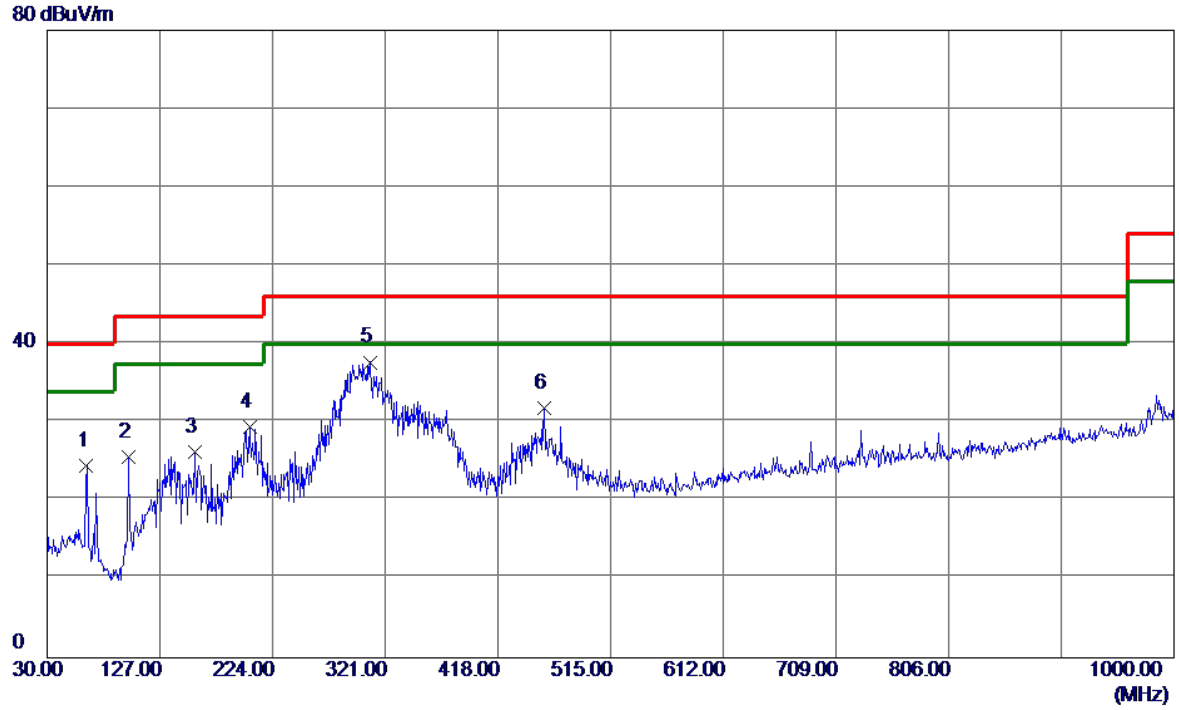
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	178.4100	62.14	-22.94	39.20	43.50	-4.30	QP
2	296.7500	56.63	-20.78	35.85	46.00	-10.15	QP
3	490.2650	49.78	-16.38	33.40	46.00	-12.60	QP
4	661.4699	47.66	-13.19	34.47	46.00	-11.53	QP
5	754.5900	52.11	-11.18	40.93	46.00	-5.07	QP
6	817.6400	50.00	-10.76	39.24	46.00	-6.76	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



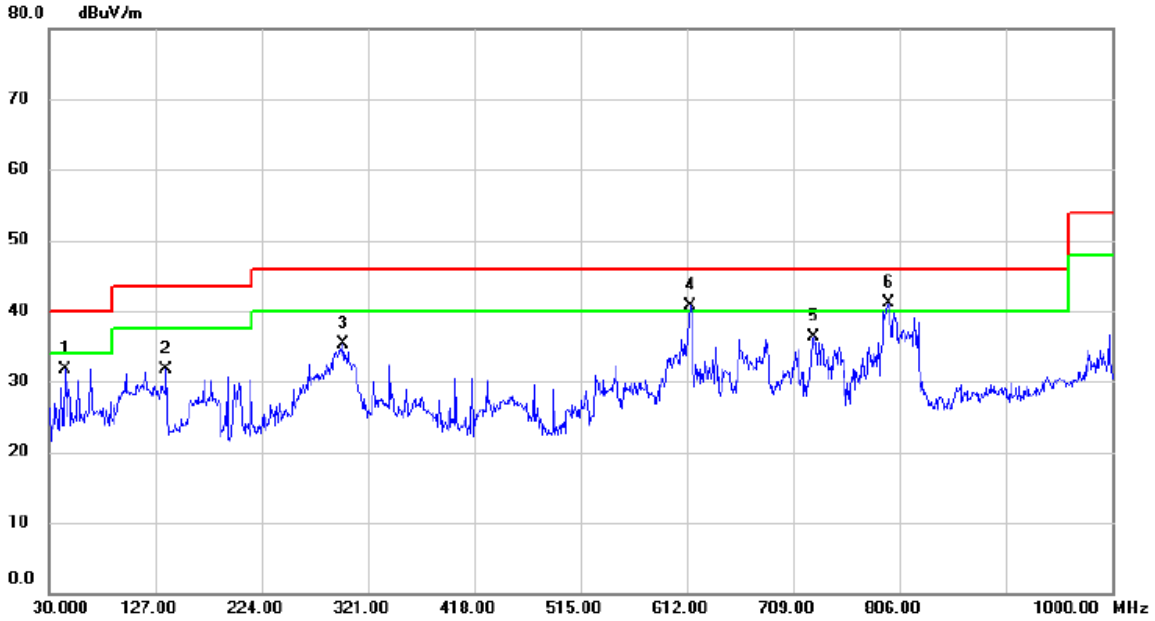
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	66.3750	54.88	-23.63	31.25	40.00	-8.75	QP
2 *	99.8399	64.20	-26.63	37.57	43.50	-5.93	QP
3	288.9900	52.99	-20.96	32.03	46.00	-13.97	QP
4	457.7700	47.41	-16.75	30.66	46.00	-15.34	QP
5	700.7550	46.83	-12.86	33.97	46.00	-12.03	QP
6	979.6300	44.75	-7.65	37.10	54.00	-16.90	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



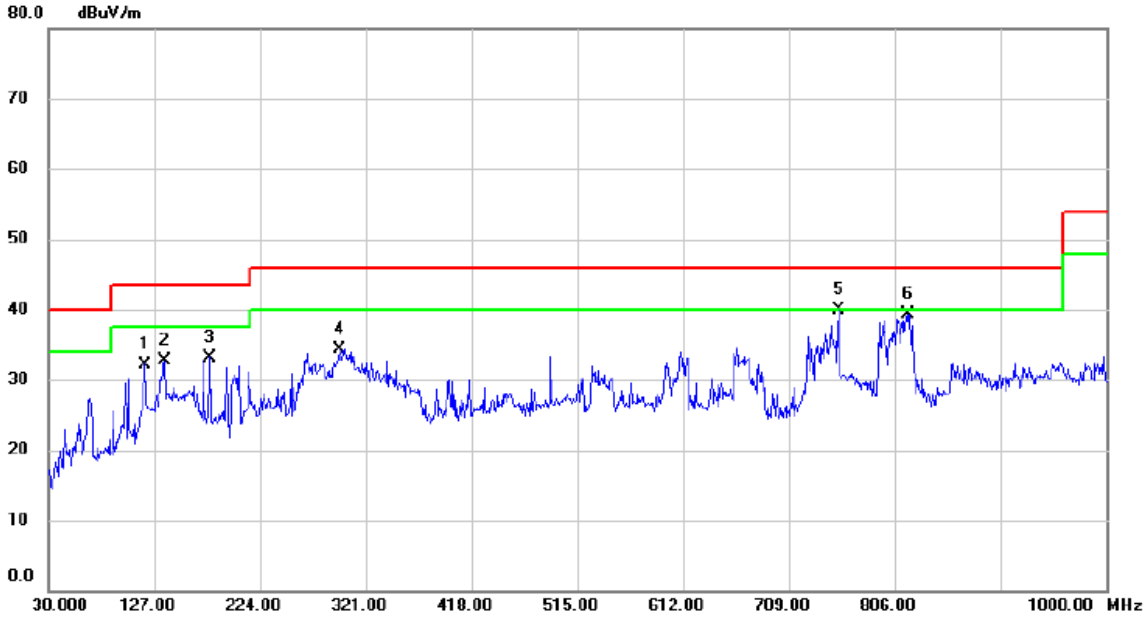
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	63.9500	47.81	-23.27	24.54	40.00	-15.46	QP
2	99.8399	52.29	-26.63	25.66	43.50	-17.84	QP
3	157.5549	47.91	-21.68	26.23	43.50	-17.27	QP
4	204.1150	54.00	-24.62	29.38	43.50	-14.12	QP
5 *	307.9050	58.21	-20.53	37.68	46.00	-8.32	QP
6	458.2550	48.54	-16.75	31.79	46.00	-14.21	QP

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Phase	Vertical
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		44.5500	48.48	-16.72	31.76	40.00	-8.24	QP			
2		136.7000	48.35	-16.58	31.77	43.50	-11.73	QP			
3		298.6900	50.10	-14.85	35.25	46.00	-10.75	QP			
4	!	615.3950	48.51	-7.90	40.61	46.00	-5.39	QP			
5		727.4300	42.32	-6.04	36.28	46.00	-9.72	QP			
6	*	795.8150	46.11	-5.07	41.04	46.00	-4.96	QP			

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Phase	Horizontal
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



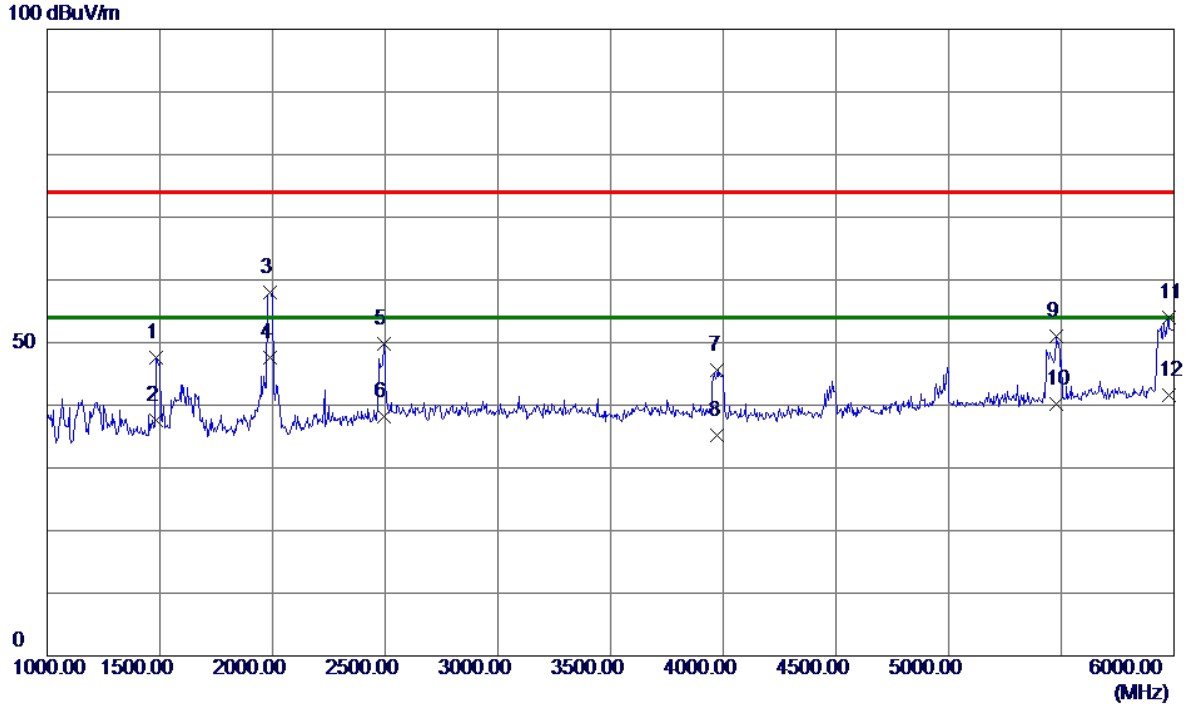
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		118.7550	50.44	-18.24	32.20	43.50	-11.30	QP			
2		136.7000	49.26	-16.58	32.68	43.50	-10.82	QP			
3		178.4100	50.26	-17.06	33.20	43.50	-10.30	QP			
4		296.7500	49.23	-14.88	34.35	46.00	-11.65	QP			
5	*	754.5900	45.18	-5.25	39.93	46.00	-6.07	QP			
6		817.6400	44.08	-4.84	39.24	46.00	-6.76	QP			

4.2.7 TEST RESULTS-ABOVE 1GHZ

Remark：

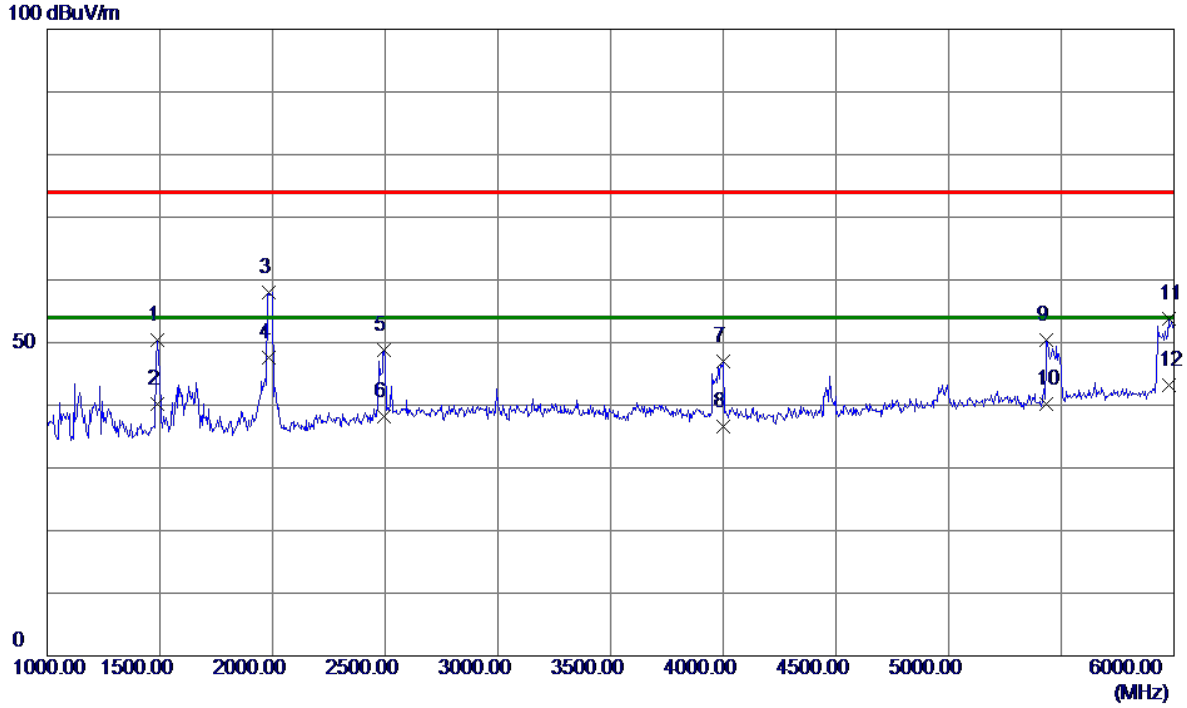
(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
(3) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



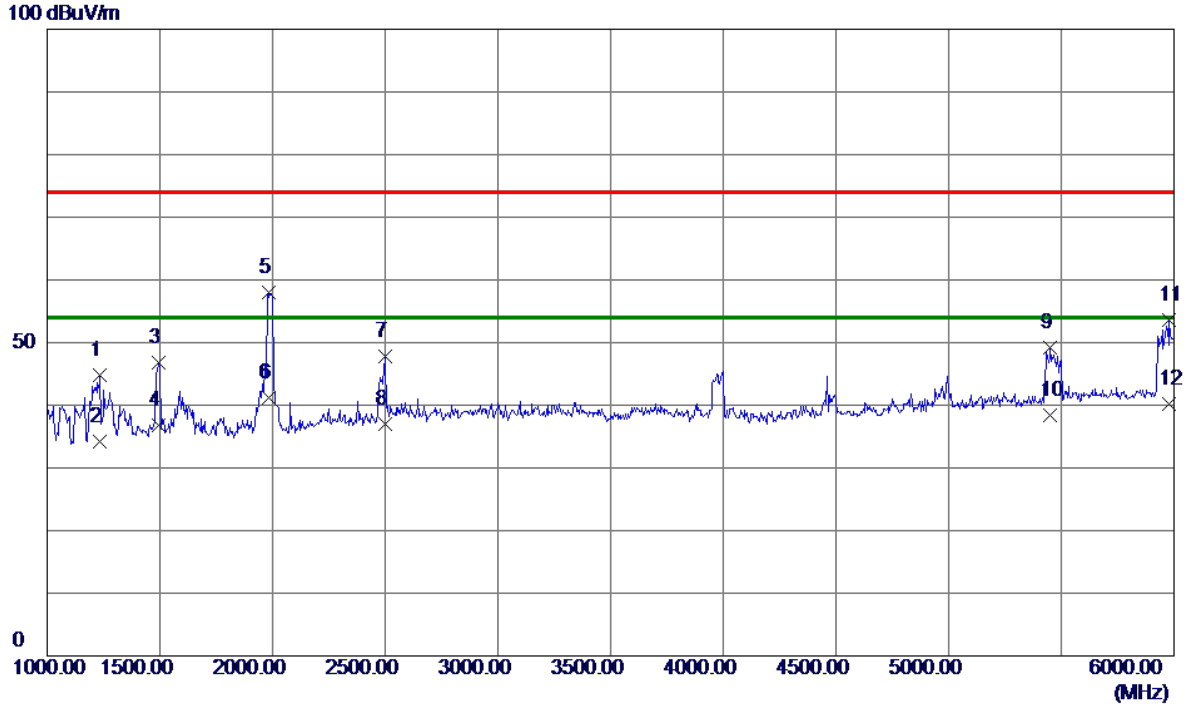
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1482.5000	50.11	-2.60	47.51	74.00	-26.49	Peak
2	1482.5000	40.24	-2.60	37.64	54.00	-16.36	AVG
3	1987.5000	59.46	-1.52	57.94	74.00	-16.06	Peak
4 *	1987.5000	49.10	-1.52	47.58	54.00	-6.42	AVG
5	2492.5000	47.79	2.08	49.87	74.00	-24.13	Peak
6	2492.5000	36.03	2.08	38.11	54.00	-15.89	AVG
7	3975.0000	39.99	5.69	45.68	74.00	-28.32	Peak
8	3975.0000	29.45	5.69	35.14	54.00	-18.86	AVG
9	5477.5000	40.96	10.04	51.00	74.00	-23.00	Peak
10	5477.5000	30.25	10.04	40.29	54.00	-13.71	AVG
11	5977.5000	42.98	11.07	54.05	74.00	-19.95	Peak
12	5977.5000	30.51	11.07	41.58	54.00	-12.42	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



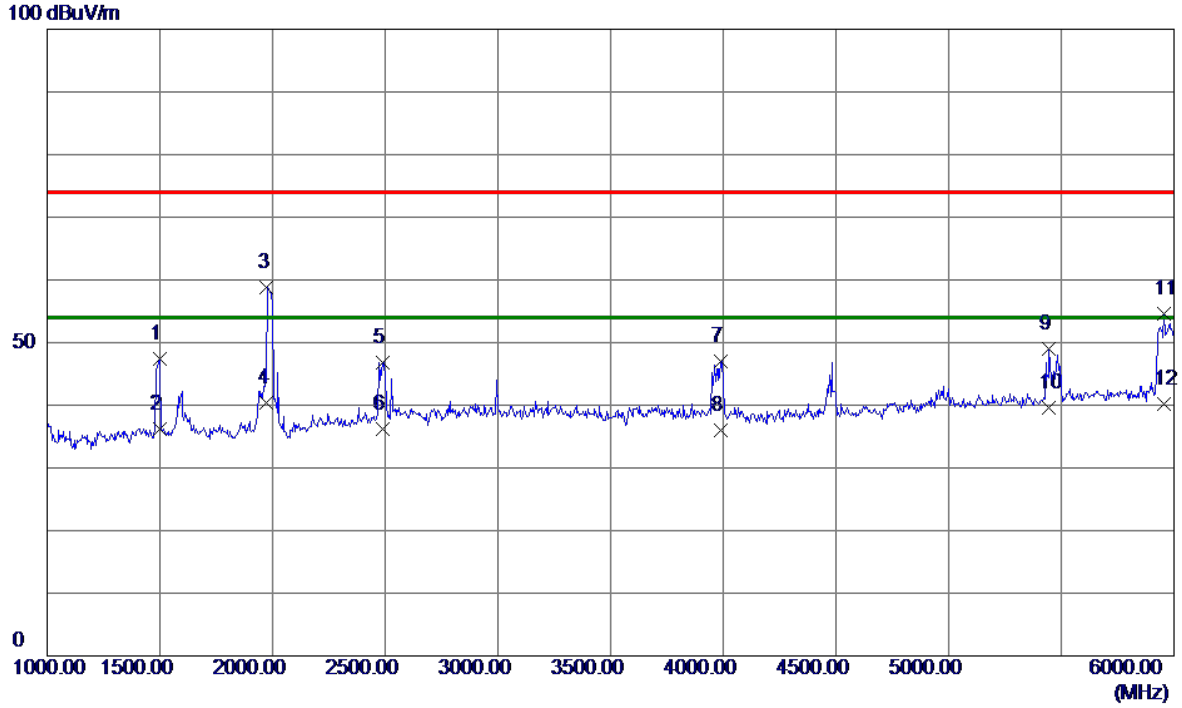
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1487.5000	52.97	-2.57	50.40	74.00	-23.60	Peak
2	1487.5000	42.68	-2.57	40.11	54.00	-13.89	AVG
3	1985.0000	59.51	-1.52	57.99	74.00	-16.01	Peak
4 *	1985.0000	49.18	-1.52	47.66	54.00	-6.34	AVG
5	2495.0000	46.66	2.10	48.76	74.00	-25.24	Peak
6	2495.0000	36.19	2.10	38.29	54.00	-15.71	AVG
7	4000.0000	41.17	5.74	46.91	74.00	-27.09	Peak
8	4000.0000	30.83	5.74	36.57	54.00	-17.43	AVG
9	5435.0000	40.48	9.88	50.36	74.00	-23.64	Peak
10	5435.0000	30.41	9.88	40.29	54.00	-13.71	AVG
11	5977.5000	42.78	11.07	53.85	74.00	-20.15	Peak
12	5977.5000	32.04	11.07	43.11	54.00	-10.89	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



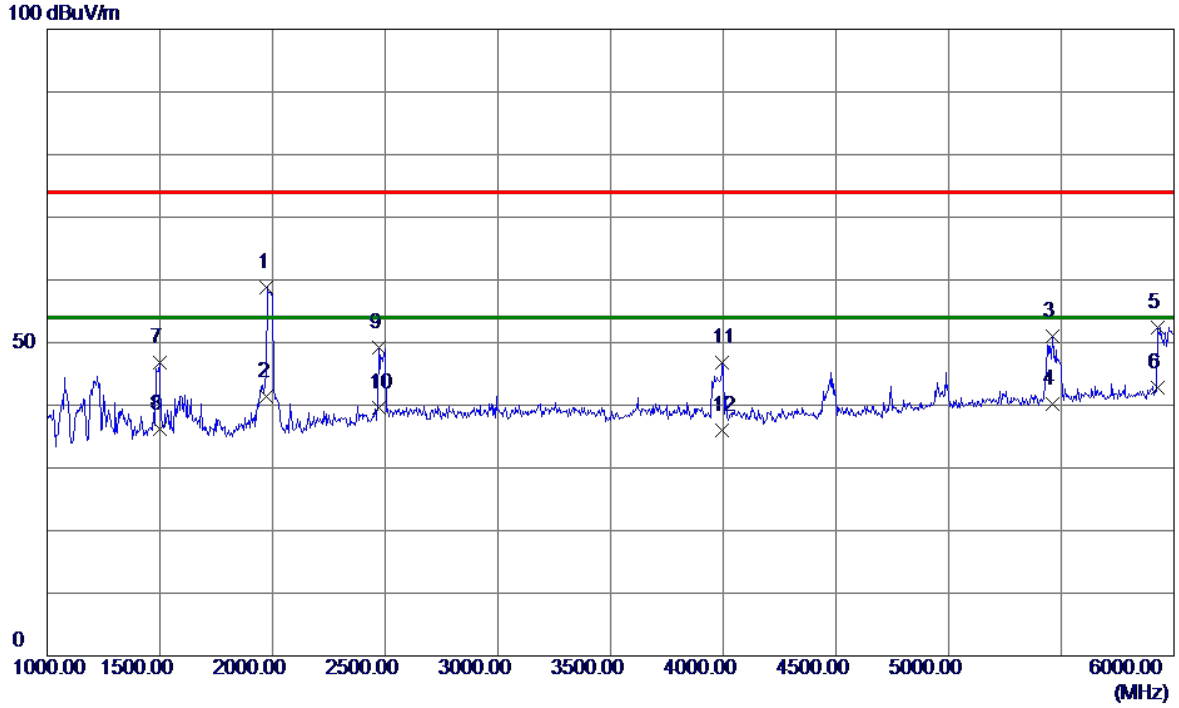
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1235.0000	48.71	-3.96	44.75	74.00	-29.25	Peak
2	1235.0000	38.08	-3.96	34.12	54.00	-19.88	AVG
3	1495.0000	49.36	-2.53	46.83	74.00	-27.17	Peak
4	1495.0000	39.42	-2.53	36.89	54.00	-17.11	AVG
5	1982.5000	59.44	-1.53	57.91	74.00	-16.09	Peak
6 *	1982.5000	42.76	-1.53	41.23	54.00	-12.77	AVG
7	2497.5000	45.75	2.12	47.87	74.00	-26.13	Peak
8	2497.5000	34.93	2.12	37.05	54.00	-16.95	AVG
9	5450.0000	39.29	9.94	49.23	74.00	-24.77	Peak
10	5450.0000	28.39	9.94	38.33	54.00	-15.67	AVG
11	5980.0000	42.55	11.07	53.62	74.00	-20.38	Peak
12	5980.0000	29.06	11.07	40.13	54.00	-13.87	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable: 1.5m		
Test Engineer	Kang Zhang		



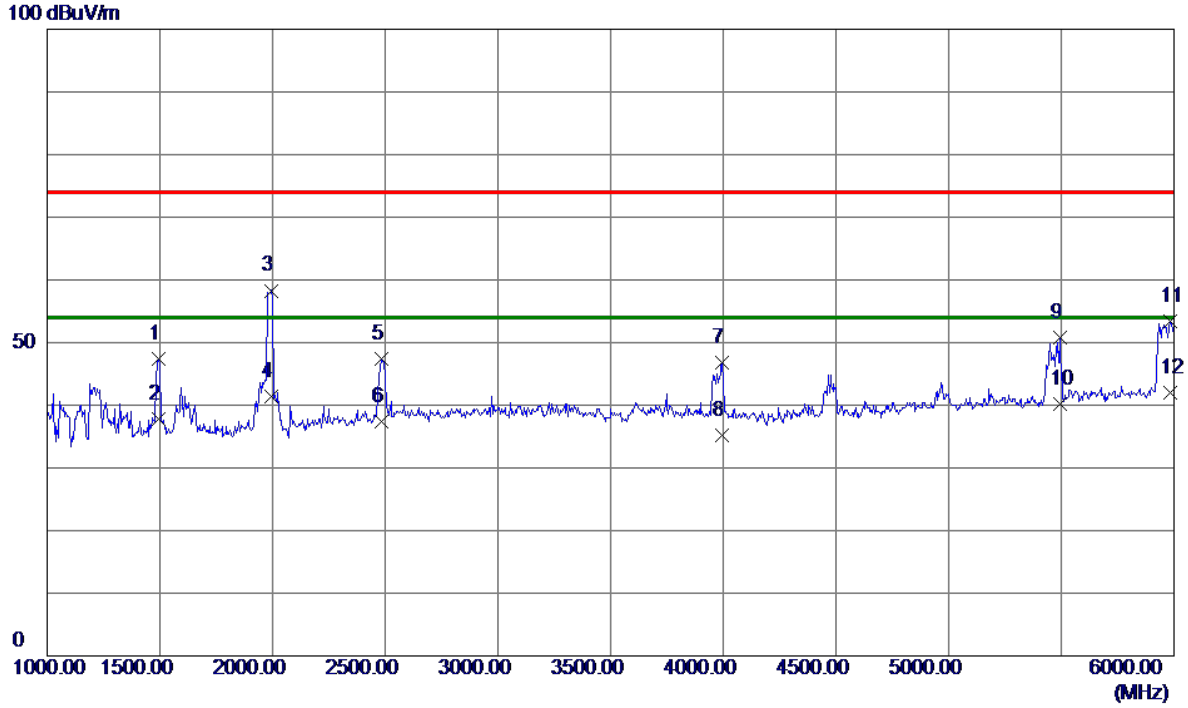
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1497.5000	49.91	-2.51	47.40	74.00	-26.60	Peak
2	1497.5000	38.65	-2.51	36.14	54.00	-17.86	AVG
3	1975.0000	60.40	-1.54	58.86	74.00	-15.14	Peak
4 *	1975.0000	41.85	-1.54	40.31	54.00	-13.69	AVG
5	2487.5000	44.83	2.04	46.87	74.00	-27.13	Peak
6	2487.5000	34.18	2.04	36.22	54.00	-17.78	AVG
7	3990.0000	41.35	5.72	47.07	74.00	-26.93	Peak
8	3990.0000	30.21	5.72	35.93	54.00	-18.07	AVG
9	5445.0000	39.13	9.92	49.05	74.00	-24.95	Peak
10	5445.0000	29.65	9.92	39.57	54.00	-14.43	AVG
11	5955.0000	43.54	11.02	54.56	74.00	-19.44	Peak
12	5955.0000	29.14	11.02	40.16	54.00	-13.84	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Vertical
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



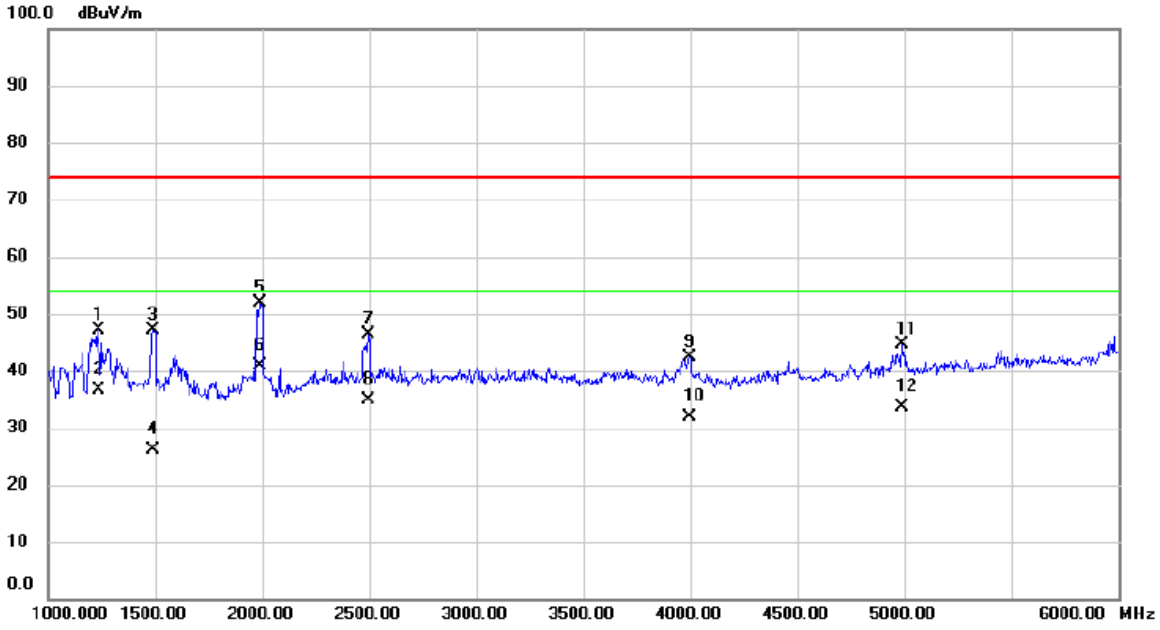
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1975.0000	60.28	-1.54	58.74	74.00	-15.26	Peak
2	1975.0000	42.93	-1.54	41.39	54.00	-12.61	AVG
3	5460.0000	41.11	9.97	51.08	74.00	-22.92	Peak
4	5460.0000	30.32	9.97	40.29	54.00	-13.71	AVG
5	5927.5000	41.50	10.97	52.47	74.00	-21.53	Peak
6 *	5927.5000	31.90	10.97	42.87	54.00	-11.13	AVG
7	1497.5000	49.28	-2.51	46.77	74.00	-27.23	Peak
8	1497.5000	38.62	-2.51	36.11	54.00	-17.89	AVG
9	2472.5000	47.32	1.94	49.26	74.00	-24.74	Peak
10	2472.5000	37.75	1.94	39.69	54.00	-14.31	AVG
11	3995.0000	41.03	5.73	46.76	74.00	-27.24	Peak
12	3995.0000	30.30	5.73	36.03	54.00	-17.97	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	HDMI 1920*1080/60Hz		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



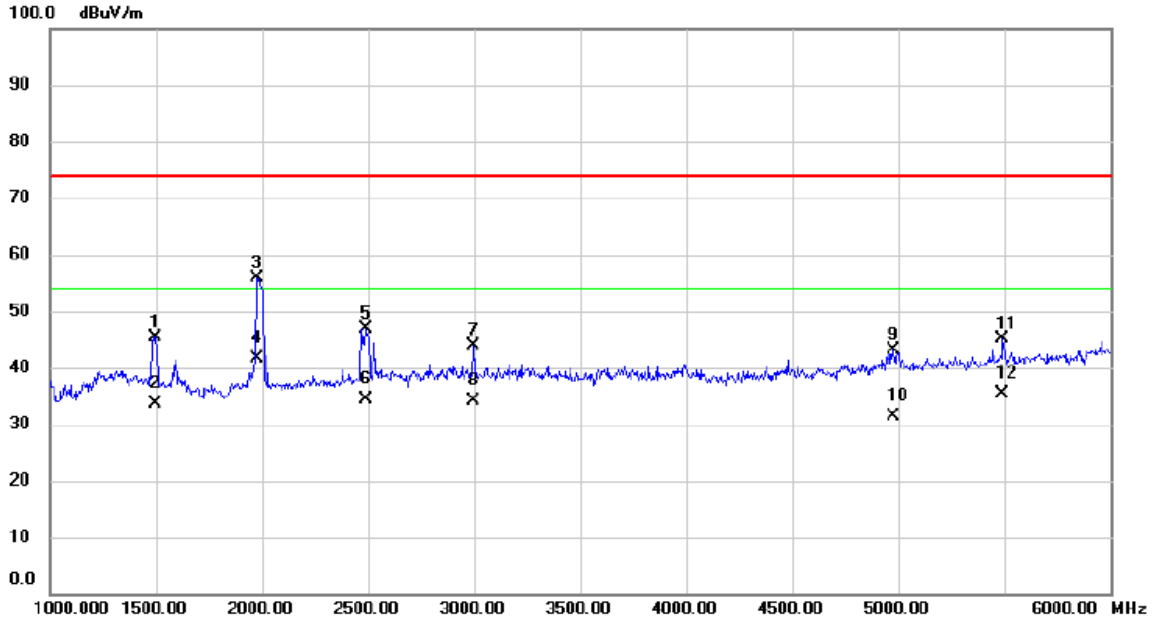
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1495.0000	49.91	-2.53	47.38	74.00	-26.62	Peak
2	1495.0000	40.42	-2.53	37.89	54.00	-16.11	AVG
3	1995.0000	59.80	-1.50	58.30	74.00	-15.70	Peak
4	1995.0000	42.89	-1.50	41.39	54.00	-12.61	AVG
5	2485.0000	45.40	2.03	47.43	74.00	-26.57	Peak
6	2485.0000	35.29	2.03	37.32	54.00	-16.68	AVG
7	3995.0000	41.07	5.73	46.80	74.00	-27.20	Peak
8	3995.0000	29.38	5.73	35.11	54.00	-18.89	AVG
9	5492.5000	40.66	10.09	50.75	74.00	-23.25	Peak
10	5492.5000	30.14	10.09	40.23	54.00	-13.77	AVG
11	5982.5000	42.26	11.08	53.34	74.00	-20.66	Peak
12 *	5982.5000	30.85	11.08	41.93	54.00	-12.07	AVG

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Phase	Vertical
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1235.000	51.21	-3.96	47.25	74.00	-26.75	peak			
2		1235.000	40.60	-3.96	36.64	54.00	-17.36	AVG			
3		1487.500	49.81	-2.57	47.24	74.00	-26.76	peak			
4		1487.500	28.62	-2.57	26.05	54.00	-27.95	AVG			
5		1990.000	53.35	-1.52	51.83	74.00	-22.17	peak			
6	*	1990.000	42.32	-1.52	40.80	54.00	-13.20	AVG			
7		2497.500	44.24	2.13	46.37	74.00	-27.63	peak			
8		2497.500	32.63	2.13	34.76	54.00	-19.24	AVG			
9		3997.500	36.68	5.74	42.42	74.00	-31.58	peak			
10		3997.500	26.25	5.74	31.99	54.00	-22.01	AVG			
11		4992.500	36.37	8.26	44.63	74.00	-29.37	peak			
12		4992.500	25.32	8.26	33.58	54.00	-20.42	AVG			

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Phase	Horizontal
Test Mode	HDMI 1080P		
Note	Cable: 1.8m		
Test Engineer	Kang Zhang		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1497.500	47.91	-2.51	45.40	74.00	-28.60	peak			
2		1497.500	36.05	-2.51	33.54	54.00	-20.46	AVG			
3		1975.000	57.41	-1.55	55.86	74.00	-18.14	peak			
4	*	1975.000	43.26	-1.55	41.71	54.00	-12.29	AVG			
5		2487.500	44.82	2.05	46.87	74.00	-27.13	peak			
6		2487.500	32.26	2.05	34.31	54.00	-19.69	AVG			
7		2995.000	40.09	3.90	43.99	74.00	-30.01	peak			
8		2995.000	30.26	3.90	34.16	54.00	-19.84	AVG			
9		4975.000	34.85	8.22	43.07	74.00	-30.93	peak			
10		4975.000	23.25	8.22	31.47	54.00	-22.53	AVG			
11		5492.500	35.07	10.09	45.16	74.00	-28.84	peak			
12		5492.500	25.32	10.09	35.41	54.00	-18.59	AVG			

4.3 VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS IMMUNITY TEST

4.3.1 TEST SPECIFICATION

Basic Standard	IEC 61000-4-11
Required Performance	B (For >95% Voltage Dips) C (For 30% Voltage Dips) C (For >95% Voltage Interruptions)
Test Duration Time	Minimum three test events in sequence
Interval between Event	Minimum ten seconds
Phase Angle	0°/180°
Test Cycle	3 times

4.3.2 MEASUREMENT INSTRUMENTS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	THE MODULAR SOLUTION FOR 6 KV APPLICATIONS	Teseq	NSG 3060	1423	Aug. 20, 2018
2	Measurement Software	Teseq	Win 3000 Version 1.2.0	N/A	N/A

Remark: “N/A” denotes no model name, no serial No. or no calibration specified.
All calibration period of equipment list is one year.

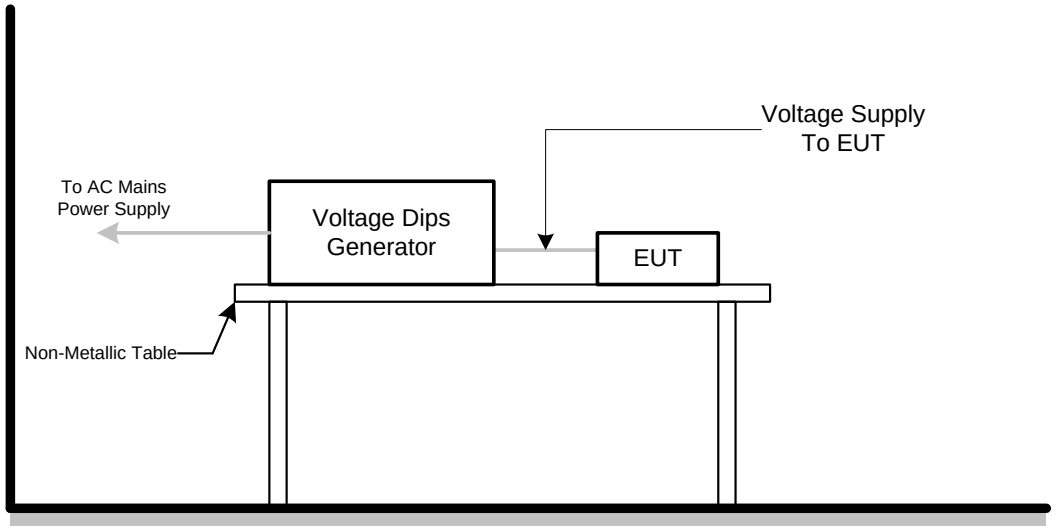
4.3.3 TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 TEST RESULTS

EUT	LCD Monitor	Model Name	22B1
Temperature	25°C	Relative Humidity	50%
Test Voltage	AC 230V/50Hz		
Test Mode	D-SUB 1920*1080/60Hz		

AC 120V/60Hz				
VoltageReduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption＞95%	250	C	C	PASS

AC 230V/50Hz				
VoltageReduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption＞95%	250	C	C	PASS

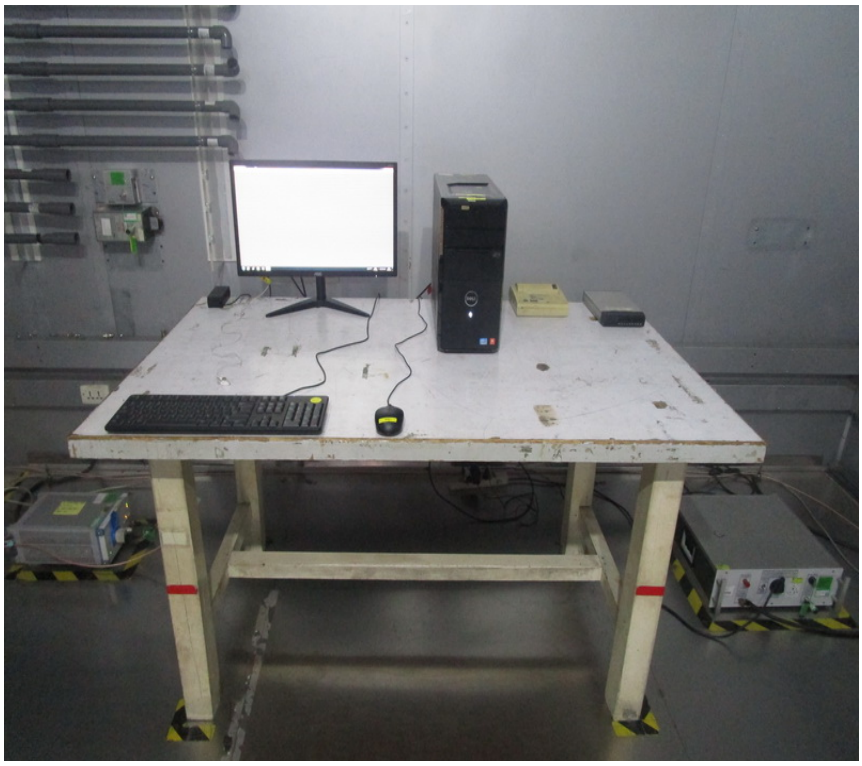
AC 240V/50Hz				
VoltageReduction	Periods	Criteria	Results	Judgment
Voltage dip ＞95%	0.5	B	A	PASS
Voltage dip 30%	25	C	A	PASS
Interruption＞95%	250	C	C	PASS

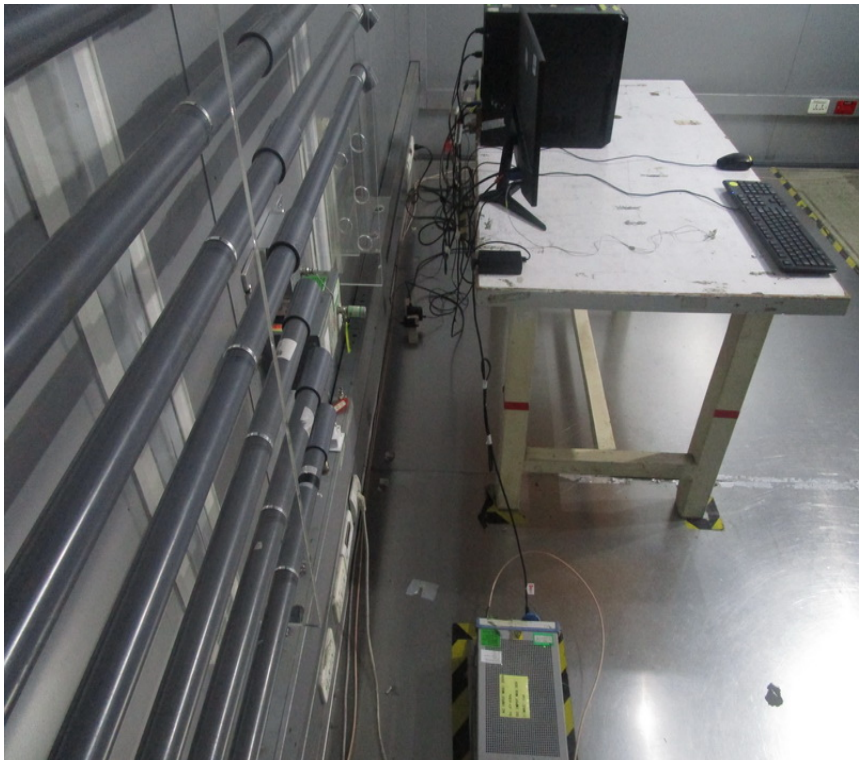
Note:

1). N/A - denotes test is not applicable in this test report.
2) Criterion A: No observation of any performance degradation.
3) Criterion B: Some degradation of performance is observed but the equipment continues to operate as intended.
4) Criterion C: Loss of functionality, but self-recoverable by user, without loss of information or settings.

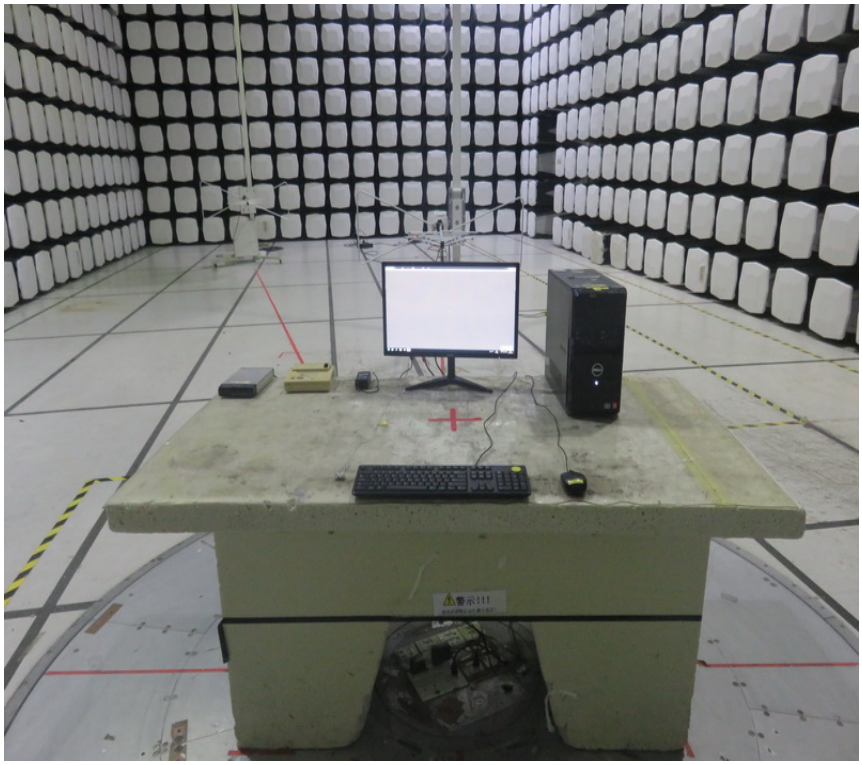
5. EUT TEST PHOTO

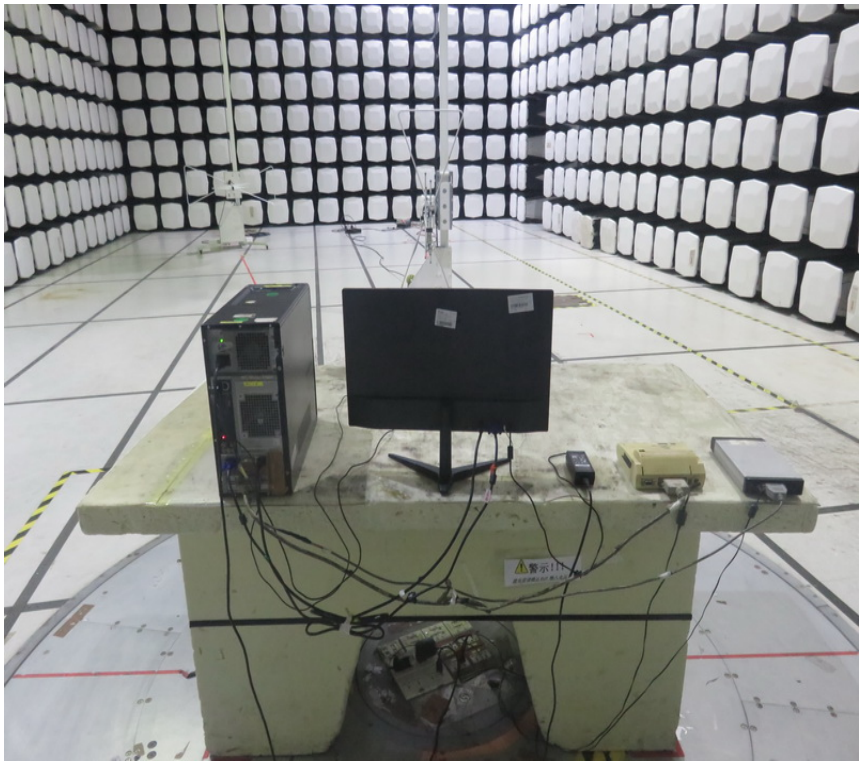
Conducted Emission



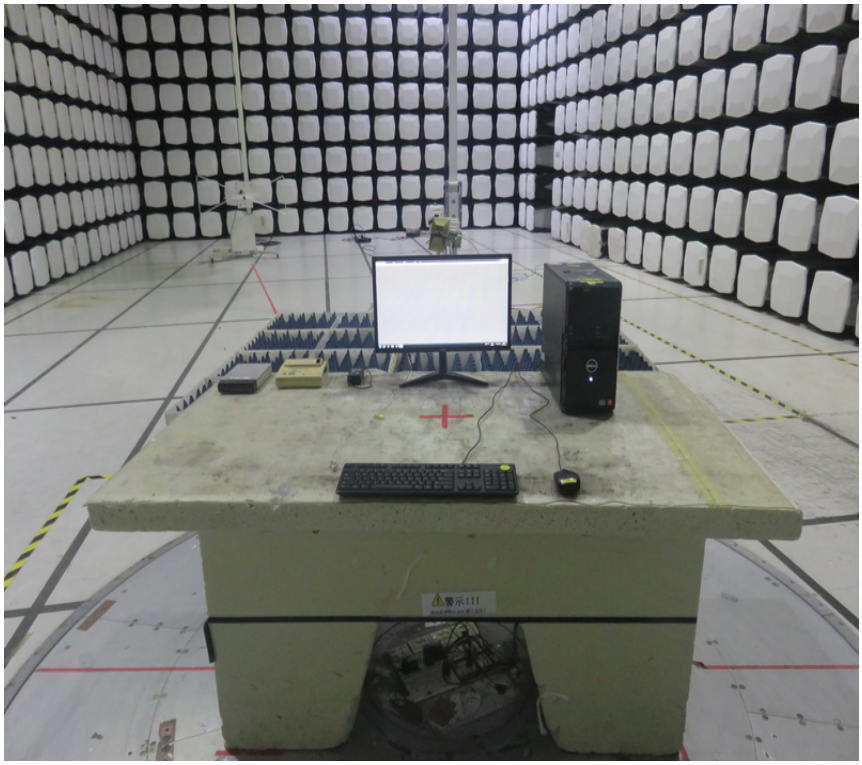


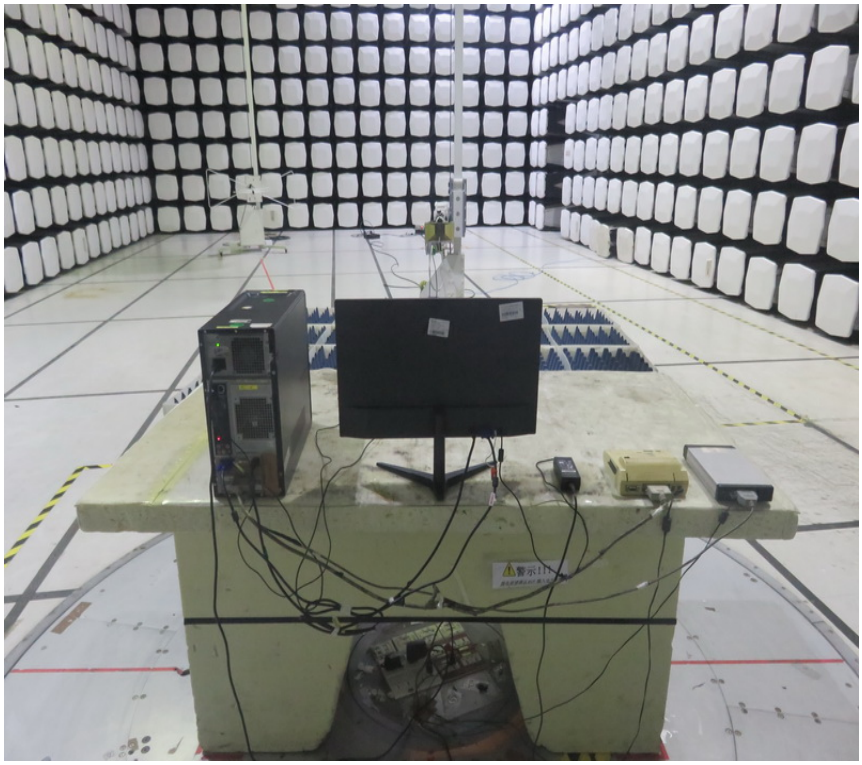
Radiated emission below 1 GHz





Radiated emission above 1 GHz





Voltage dips, short interruptions and voltage variations immunity