

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart B, Class A

**ANSI C63.4-2014**

**ANSI C63.4a-2017**

**Report No.:** FDBDBO-WTW-P25040436

**Product:** High Performance Fanless System

**Brand:** Vecow

**Model No.:** ECX-4000-PoE

**Series Model:** ECX-4XXXXXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)

**Received Date:** 2025/4/21

**Test Date:** 2025/4/29 ~ 2025/4/30

**Issued Date:** 2025/5/29

**Applicant:** Vecow Co., Ltd.

**Address:** 3F., No.10, Jiankang Rd., Zhonghe Dist., New Taipei City 23586, Taiwan

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories


**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**FCC Registration /**

**Designation Number:** 418586 / TW1078

**Approved by:**



Jim Hsiang / Associate Technical Manager

**Date:**

2025/5/29

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Prepared by : Ivy Lin / Specialist



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## Release Control Record

Issue No.	Description	Date Issued
FDBDBO-WTW-P25040436	Original release.	2025/5/29

## 1 Certificate

**Product:** High Performance Fanless System

**Brand:** Vecow

**Test Model:** ECX-4000-PoE

**Series Model:** ECX-4XXXXXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)

**Sample Status:** Engineering sample

**Applicant:** Vecow Co., Ltd.

**Test Date:** 2025/4/29 ~ 2025/4/30

**Standard:** 47 CFR FCC Part 15, Subpart B, Class A  
ANSI C63.4–2014  
ANSI C63.4a–2017

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

## 2 Summary of Test Results

The test items that the EUT need to perform in accordance with its interfaces, evaluated functions, are as follows:

Standard / Clause	Test Item	Result	Remark
FCC Part 15.107	Conducted Emissions from Power Ports	Pass	Minimum passing Class A margin is -19.58 dB at 18.46557 MHz
FCC Part 15.109	Radiated Emissions up to 1 GHz	Pass	Minimum passing Class A margin is -2.74 dB at 615.99 MHz
FCC Part 15.109	Radiated Emissions above 1 GHz	Pass	Minimum passing Class A margin is -7.07 dB at 2463.99 MHz

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 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:

Measurement	Specification	Expanded Uncertainty (k=2) (±)	Maximum allowable uncertainty (±)
Conducted Emissions from Power Ports	9 kHz ~ 30 MHz	2.9 dB	3.4 dB ( $U_{\text{CISPR}}$ )
Radiated Emissions up to 1 GHz	30 MHz ~ 1 GHz	3m : 5.54 dB 10m : 4.16 dB	6.3 dB ( $U_{\text{CISPR}}$ )
	1 GHz ~ 6 GHz	4.86 dB	5.2 dB ( $U_{\text{CISPR}}$ )
Radiated Emissions above 1 GHz	6 GHz ~ 18 GHz	4.72 dB	5.5 dB ( $U_{\text{CISPR}}$ )

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

### 2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

### 3 General Information

#### 3.1 Description of EUT

Product	High Performance Fanless System
Brand	Vecow
Test Model	ECX-4000-PoE
Series Model	ECX-4XXXXXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Model Difference	Marketing Differentiation
Sample Status	Engineering sample
Power Supply Rating	Refer to note as below

Note:

The EUT uses following accessories.

Item	Brand	Model	Specification
AC Adapter	LITEON	PA-1181-28E	AC Input: AC 100-240V, 2.34A 50-60Hz (3 pin) DC Output: 24V, 7.5A, 180.0W (1.5m, with two cores)

#### 3.2 Primary Clock Frequencies of Internal Source

The highest frequency generated or used within the EUT or on which the EUT operates or tunes is 1.4 GHz, provided by Vecow Co., Ltd., for detailed internal source, please refer to the manufacturer's specifications.

#### 3.3 Features of EUT

The tests reported herein were performed according to the method specified by Vecow Co., Ltd., for detailed feature description, please refer to the manufacturer's specifications or user's manual.

Please refer to appendix of the report if the applicant has provided additional descriptions of the EUT.

The EUT was configured with the following key components:

Component	Description
CPU	Intel® Core™ Ultra 9 285T 1.4GHz
RAM	Innodisk 32GB DDR5 4800 SODIMM x 2
SSD	Innodisk M.2 (P80) 1TB 4TG2-P

#### 3.4 Operating Modes of EUT and Determination of Worst Case Operating Mode

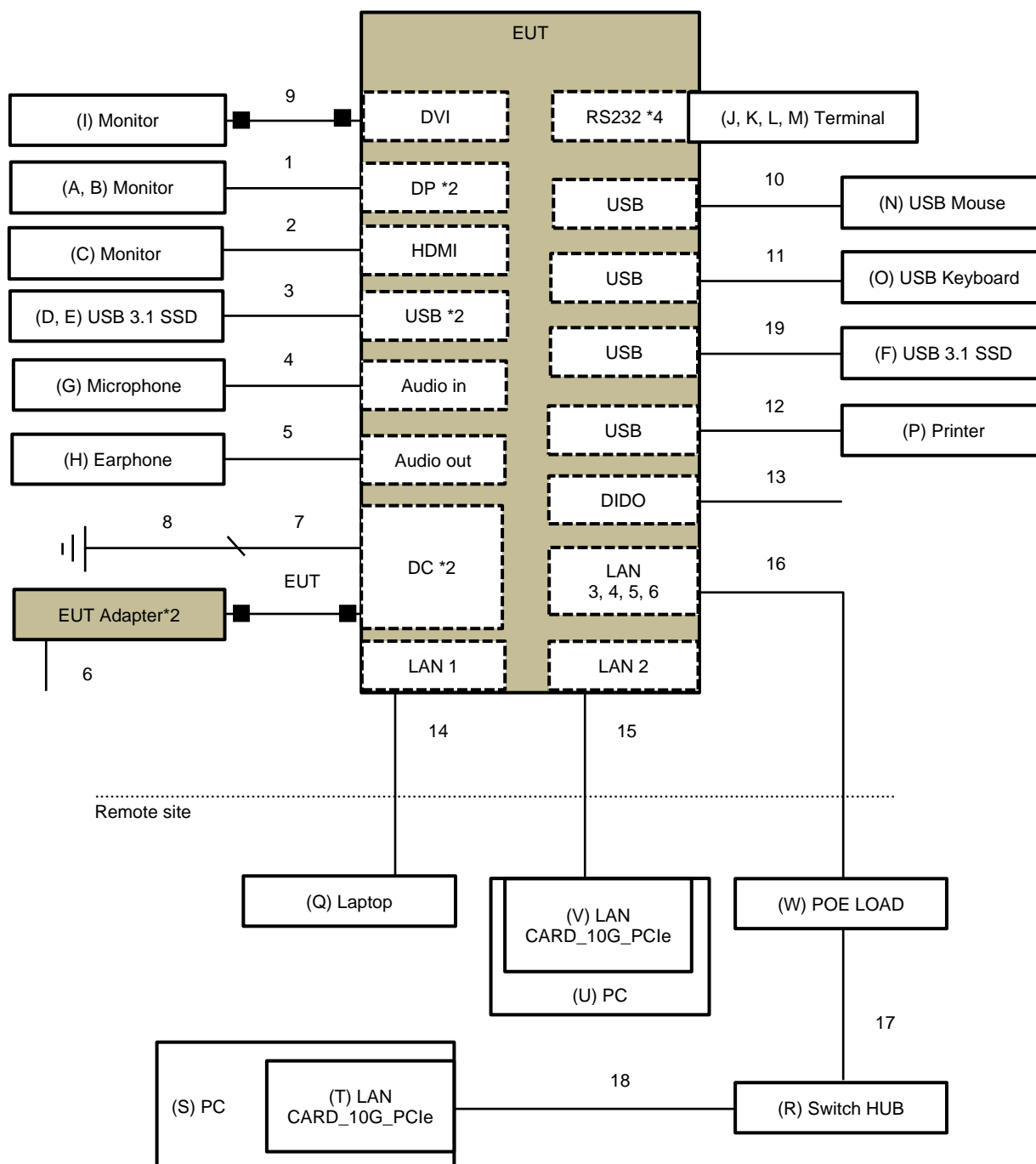
Test modes are presented in the report as below.

Test Condition	
Mode	Conducted Emissions from Power Ports
A	Full system,DP*2:3840*2106,60Hz+HDMI:3840*2160,60Hz+DVI-I:1920*1080,60Hz + Input Power(120 Vac, 60 Hz)
Mode	Radiated Emissions up to 1 GHz
A	Full system,DP*2:3840*2106,60Hz+HDMI:3840*2160,60Hz+DVI-I:1920*1080,60Hz + Input Power(120 Vac, 60 Hz)
Mode	Radiated Emissions above 1 GHz
A	Full system,DP*2:3840*2106,60Hz+HDMI:3840*2160,60Hz+DVI-I:1920*1080,60Hz + Input Power(120 Vac, 60 Hz)

### 3.5 Test Program Used and Operation Descriptions

- a. Turned on the power of all equipment.
- b. EUT ran test program (Burnintest) to enable all functions.
- c. EUT read and wrote messages to/ from internal storage devices, external storage devices.
- d. PC, Laptop sent and received messages to/ from EUT via LAN cable.
- e. EUT sent ( H ) messages to monitor, then they displayed message on their screens simultaneously.
- f. EUT sent ( 1kHz audio ) signal to earphone.
- g. EUT sent messages to printer and printed them out.

### 3.6 Connection Diagram of EUT and Peripheral Devices



### 3.7 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Monitor	ASUS	PA279CV	M7LMTF235960	DoC	Provided by Lab
B	Monitor	ASUS	PA279CV	M7LMTF236012	DoC	Provided by Lab
C	Monitor	ASUS	PA279CV	M7LMTF235958	DoC	Provided by Lab
D	USB 3.1 SSD	Crucial	CT500X8SSD9	1943E3201B6D	N/A	Provided by Lab
E	USB 3.1 SSD	Crucial	CT500X8SSD9	1942E32014B5	N/A	Provided by Lab
F	USB 3.1 SSD	Crucial	CT500X8SSD9	1940E3200CFB	N/A	Provided by Lab
G	Microphone	E-books	E-EPB099	N/A	N/A	Provided by Lab
H	Earphone	PHILIPS	SBC HL145	N/A	N/A	Provided by Lab
I	Monitor	DELL	U2410	CN082WXD728720CC0KCL	DoC	Provided by Lab
J	Terminal	N/A	N/A	N/A	N/A	Supplied by applicant
K	Terminal	N/A	N/A	N/A	N/A	Supplied by applicant
L	Terminal	N/A	N/A	N/A	N/A	Supplied by applicant
M	Terminal	N/A	N/A	N/A	N/A	Supplied by applicant
N	USB Mouse	DELL	MOCZUL	CN-049TWY-PRC00-77B-007R	N/A	Provided by Lab
O	USB Keyboard	Dell	KB216t	CN-0W33XP-LO300-7CL-191E	N/A	Provided by Lab
P	Printer	HP	HP Officejet Pro 251dW	N/A	B94SDGOB1191	Provided by Lab
Q	Laptop	LENOVO	T480	PF1EK03U	N/A	Provided by Lab
R	Switch HUB	tp-link	TL-SX105	221C7A9000993	N/A	Provided by Lab
S	PC	DELL	VOSTRO 470	1WBJYBX	DoC	Provided by Lab
T	LAN CARD_10G_PCIe	ASUS	XG-C100C	K5QSRT001889	DoC	Provided by Lab
U	PC	DELL	VOSTRO 470	7VBJYBX	DoC	Provided by Lab
V	LAN CARD_10G_PCIe	ASUS	XG-C100C	K5QSRT001882	DoC	Provided by Lab
W	POE LOAD	Korenix	JetWave 3220	N/A	N/A	Supplied by applicant





ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DP	2	1.8	Y	0	Provided by Lab
2	HDMI	1	2	Y	0	Provided by Lab
3	USB	2	1	Y	0	Provided by Lab
4	Audio	1	2	N	0	Provided by Lab
5	Audio	1	1.5	N	0	Provided by Lab
6	Power	2	1.8	N	0	Provided by Lab
7	GND (PE)	2	0.1	N	0	Provided by Lab
8	GND (PE)	2	1.5	N	0	Provided by Lab
9	DVI	1	1.8	Y	2	Provided by Lab
10	USB	1	1.8	Y	0	Provided by Lab
11	USB	1	1.8	Y	0	Provided by Lab
12	USB	1	1.8	Y	0	Provided by Lab
13	DIDO	16	0.4	N	0	Supplied by applicant
14	Cat. 5e	1	10	Y	0	Provided by Lab
15	Cat. 5e	1	10	Y	0	Provided by Lab
16	Cat. 5e	4	10	Y	0	Provided by Lab
17	Cat. 5e	4	1	Y	0	Provided by Lab
18	Cat. 5e	1	1	Y	0	Provided by Lab
19	USB	1	1	Y	0	Provided by Lab

## 4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.1 Conducted Emissions from Power Ports

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance LYNICS	0900510	E1-011284	2024/9/16	2025/9/15
50 ohm terminal resistance SUHNER	65BNC-5001	E1-010789	2024/6/20	2025/6/19
EMI Test Receiver R&S	ESR3	102413	2025/1/22	2026/1/21
		102414	2024/12/11	2025/12/10
Fixed Attenuator STI	STI02-2200-10	NO.2	2024/7/5	2025/7/4
LISN R&S	ENV216	101196	2024/5/22	2025/5/21
	ESH2-Z5	100104	2024/12/11	2025/12/10
	ESH3-Z5	847265/023	2024/10/23	2025/10/22
LISN Schwarzbeck	NNLK 8121	8121-731	2024/6/12	2025/6/11
		8121-808	2025/4/23	2026/4/22
	NNLK 8129	8129229	2024/10/14	2025/10/13
RF Coaxial Cable PEWC	5D-FB	Cable-CO9-01	2024/7/5	2025/7/4
Software BVADT	Cond_V7.4.1.0	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2024/8/28	2025/8/27

Notes:

1. The test was performed in Linkou Conduction 9.
2. The VCCI Site Registration No. C-11312.
3. Tested Date: 2025/4/30

## 4.2 Radiated Emissions up to 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
ADT. Tower	AT100	0205	N/A	N/A
ADT. Turn Table	TT100	0205	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-303	2024/10/14	2025/10/13
Coupling / Decoupling Network Schwarzbeck	CDNE-M2	00097	2024/5/28	2025/5/27
	CDNE-M3	00091	2025/3/20	2026/3/19
EMI Test Receiver R&S	ESCS 30	100292	2024/9/18	2025/9/17
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ST2-01	2024/10/19	2025/10/18
Preamplifier HP	8447D	2727A05786	2025/2/14	2026/2/13
RF Coaxial Cable Pacific	8D-FB	Cable-ST2-01	2024/11/6	2025/11/5
Software BVADT	Radiated_V8.8.09	N/A	N/A	N/A

Notes:

1. The test was performed in Linkou Open Site 2. The test site validated date: 2024/7/13 (NSA).
2. The VCCI Site Registration No. R-10237.
3. Tested Date: 2025/4/29

### 4.3 Radiated Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until	
Fix tool for Boresight antenna tower BV	BAF-01	4	N/A	N/A	
Fixed Attenuator Mini-Circuits	BW-K3-2W44+	PAD-CH7-03	2024/7/5	2025/7/4	
	BW-N4W5+	PAD-CH7-02	2024/7/5	2025/7/4	
Horn Antenna EMCO	3115	9312-4192	2024/11/10	2025/11/9	
Horn Antenna ETS-Lindgren	3117-PA	00215857	2024/11/10	2025/11/9	
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170190	2024/11/10	2025/11/9	
MXA Signal Analyzer Keysight	N9020B	MY60110438	2024/12/5	2025/12/4	
		MY60112260	2024/5/29	2025/5/28	
Notch Filter Micro-Tronics	BRC50703-01	010	2024/5/24	2025/5/23	
	BRM17690	005	2024/5/24	2025/5/23	
Preamplifier EMCI	EMC184045B	EMC0126545	980076	2025/2/14	2026/2/13
		980175	2024/8/25	2025/8/24	
		980235	2025/2/14	2026/2/13	
RF Coaxial Cable EMEC	EM102-KMKM	01	2024/7/5	2025/7/4	
RF Coaxial Cable HUBER+SUHNER	SF-102	Cable-CH7(3m)-02	2024/7/5	2025/7/4	
Software BVADT	Radiated_V8.8.09	N/A	N/A	N/A	
Turn Table & Tower Max Full	MF7802	MF780208103	N/A	N/A	

Notes:

1. The test was performed in Linkou 966 Chamber 2 (CH 7).
2. The VCCI Site Registration No. G-10039.
3. Tested Date: 2025/4/29

## 5 Limits of Test Items

### 5.1 Conducted Emissions from Power Ports

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Notes: 1. The lower limit shall apply at the transition frequencies.  
 2. The limit decreases linearly with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

### 5.2 Radiated Emissions up to 1 GHz

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dB $\mu$ V/m)				
Frequencies (MHz)	FCC 15B, Class A	FCC 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39.1	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960				
960-1000	49.5	43.5	47	37

Radiated Emissions Limits at 3 meters (dB $\mu$ V/m)				
Frequencies (MHz)	FCC 15B, Class A	FCC 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40.0	50.5	40.5
88-216	54.0	43.5		
216-230	56.9	46.0		
230-960				
960-1000	60.0	54.0	57.5	47.5

Notes: 1. The lower limit shall apply at the transition frequencies.

### 5.3 Radiated Emissions above 1 GHz

Frequency Range (For unintentional radiators)

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

Radiated Emissions Limits at 3 meters (dB $\mu$ V/m)		
Frequency range	Class A	Class B
Above 1GHz	Avg: 60 Peak: 80	Avg: 54 Peak: 74

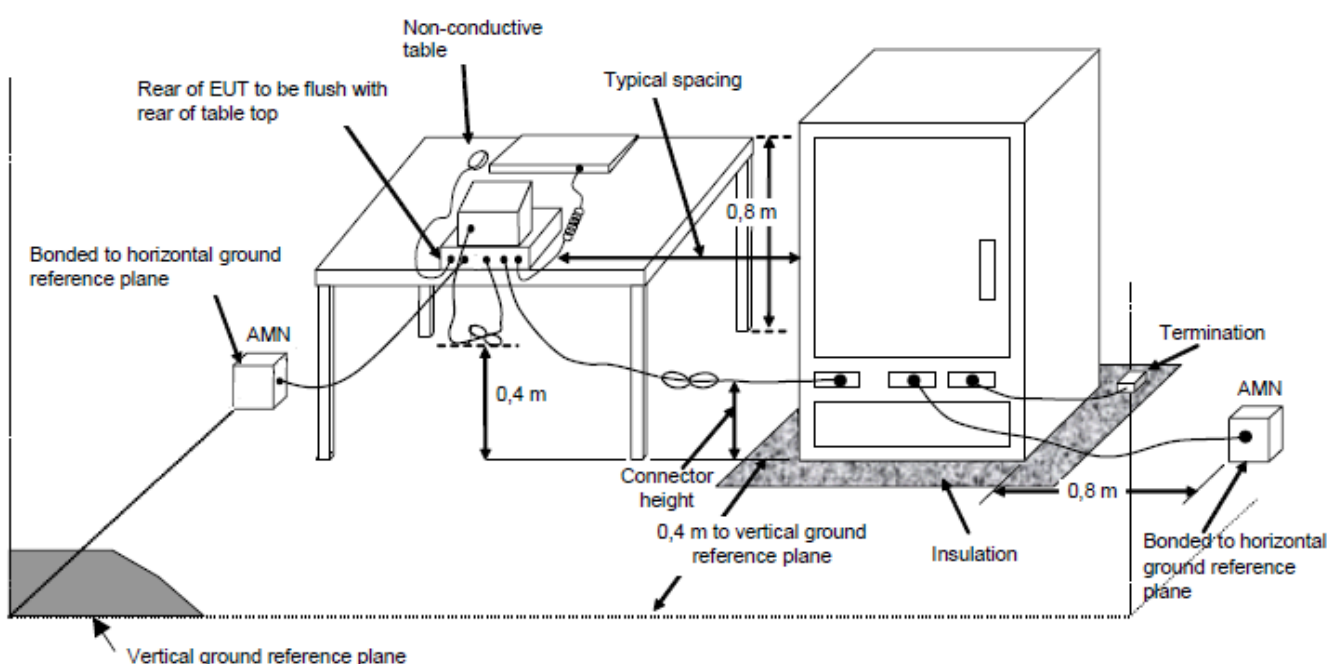
Notes: 1. These limit levels apply for a measurement distance of 3 m. If using a different measurement distance, the measured levels shall be extrapolated to the 3 m limit distance using a factor of 20 dB per decade of distance. The measurement distance shall place the measurement antenna in the far field of the ITE or digital apparatus under test.

## 6 Test Arrangements

### 6.1 Conducted Emissions from Power Ports

- For the table-top EUT is placed on a 0.8 meter insulation table; for the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The EUT is placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units are connected to the power mains through another LISN. They provide coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

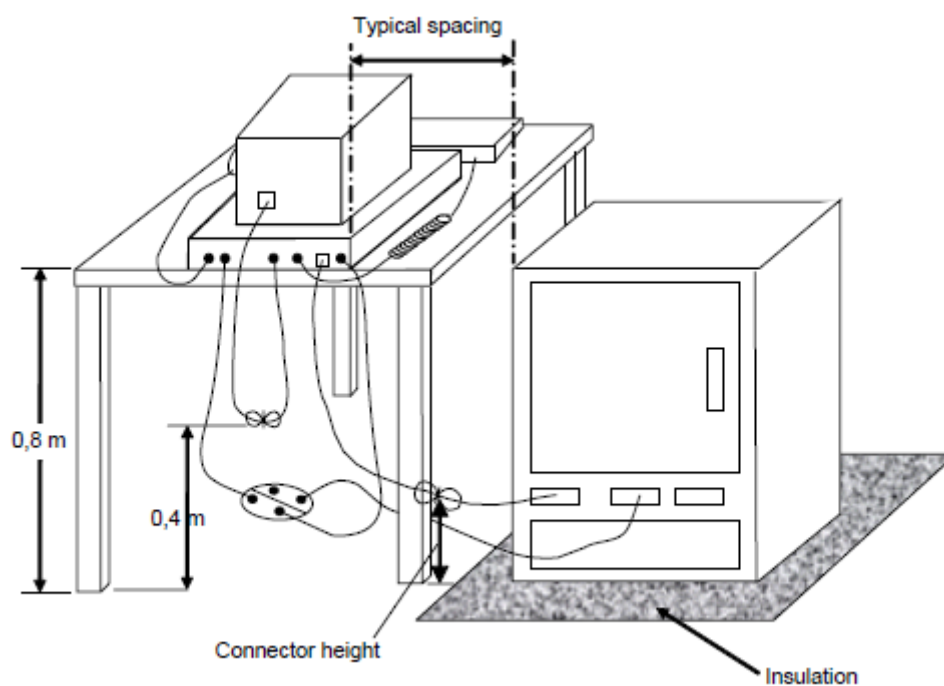


For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

## 6.2 Radiated Emissions up to 1 GHz

- For the table-top EUT is placed on a 0.8 meter to the top of rotating table; for the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The rotating table is rotated 360 degrees to determine the position of the highest radiation. If the equipment requires a dedicated ground connection, this shall be provided and bonded to the RGP.
- The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is up to 1 GHz.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency up to 1GHz.

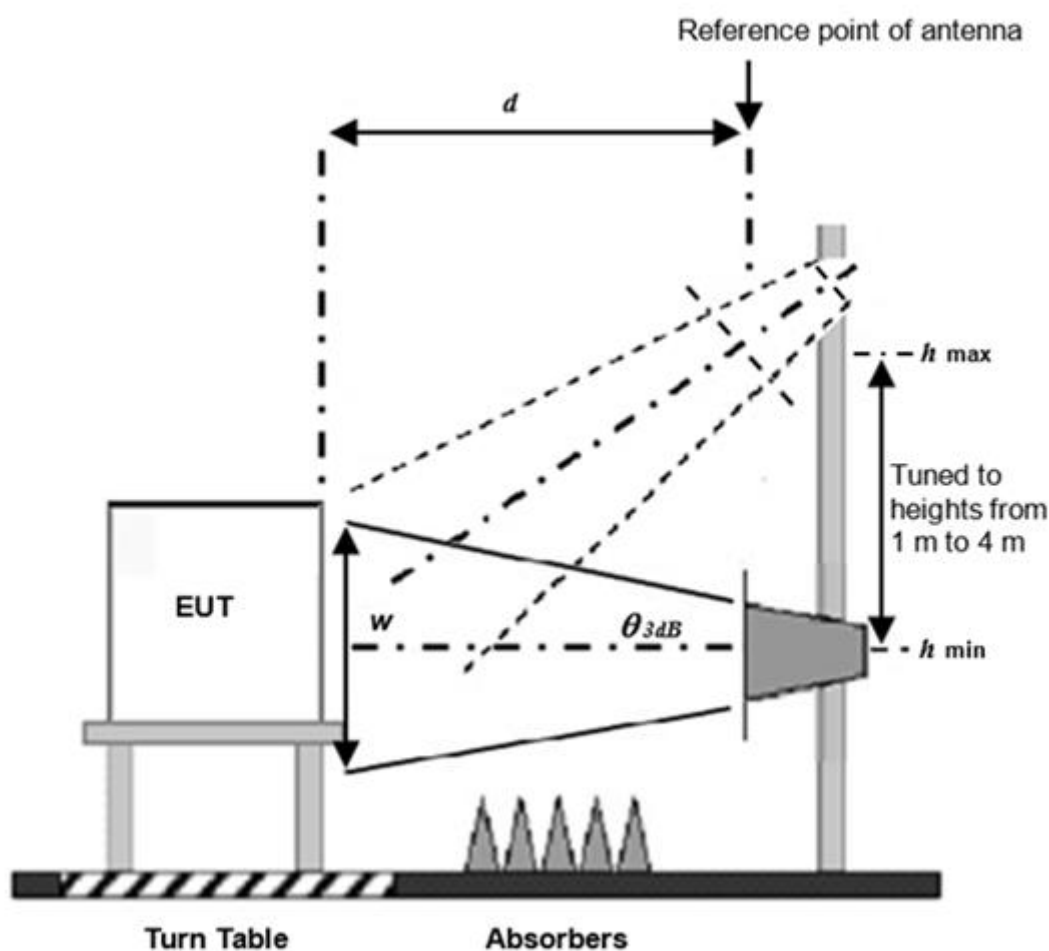


For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

### 6.3 Radiated Emissions above 1 GHz

- For the table-top EUT is placed on a 0.8 meter to the top of rotating table; for the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The rotating table is rotated 360 degrees to determine the position of the highest radiation. If the equipment requires a dedicated ground connection, this shall be provided and bonded to the RGP.
- The EUT was set  $d = 3$  meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The spectrum analyzer system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

Note: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection (PK) at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



## 7 Test Results of Test Item

### 7.1 Conducted Emissions from Power Ports

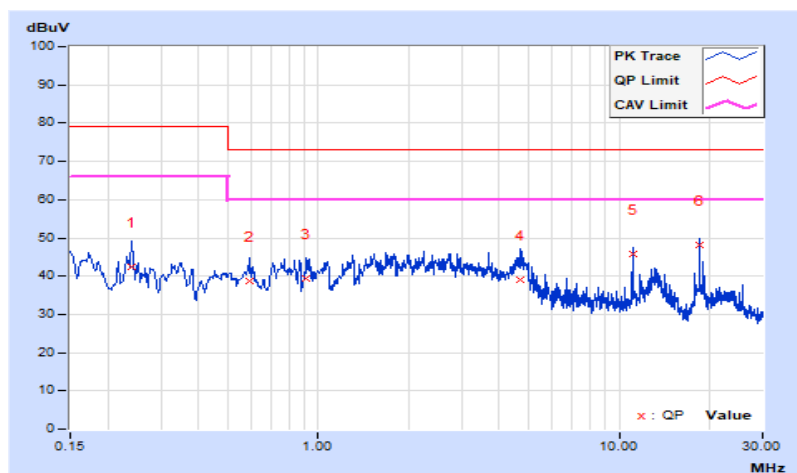
#### Mode A

Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 72 % RH, 1003.4 mbar
Tested by	Abraham Sun		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23995	9.94	32.43	21.33	42.37	31.27	79.00	66.00	-36.63	-34.73
2	0.59386	9.95	28.73	15.60	38.68	25.55	73.00	60.00	-34.32	-34.45
3	0.91457	9.96	29.53	17.54	39.49	27.50	73.00	60.00	-33.51	-32.50
4	4.67695	10.09	28.95	20.06	39.04	30.15	73.00	60.00	-33.96	-29.85
5	11.07378	10.27	35.41	27.58	45.68	37.85	73.00	60.00	-27.32	-22.15
6	18.46557	10.47	37.76	29.95	48.23	40.42	73.00	60.00	-24.77	-19.58

#### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

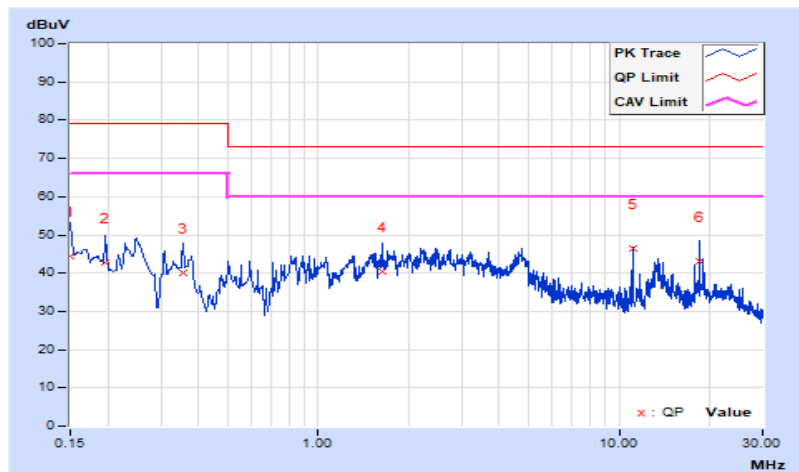


<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22 °C, 72 % RH, 1003.5 mbar
<b>Tested by</b>	Abraham Sun		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15002	9.94	34.62	24.21	44.56	34.15	79.00	66.00	-34.44	-31.85
2	0.19693	9.94	32.93	17.89	42.87	27.83	79.00	66.00	-36.13	-38.17
3	0.35475	9.94	30.02	19.88	39.96	29.82	79.00	66.00	-39.04	-36.18
4	1.62637	10.01	30.44	18.88	40.45	28.89	73.00	60.00	-32.55	-31.11
5	11.07769	10.28	36.02	29.76	46.30	40.04	73.00	60.00	-26.70	-19.96
6	18.51251	10.44	32.57	21.74	43.01	32.18	73.00	60.00	-29.99	-27.82

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



## 7.2 Radiated Emissions up to 1 GHz

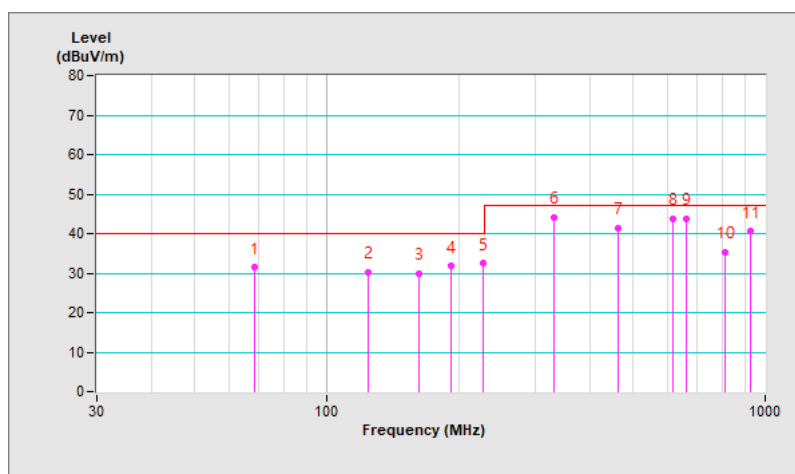
### Mode A

Frequency Range	30 MHz ~ 1 GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 67 % RH, 1000 mbar
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Horizontal at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	68.42	31.36 QP	40.00	-8.64	4.00 H	205	41.70	-10.34
2	124.99	30.29 QP	40.00	-9.71	4.00 H	253	39.25	-8.96
3	162.72	29.86 QP	40.00	-10.14	4.00 H	337	36.72	-6.86
4	192.72	31.73 QP	40.00	-8.27	4.00 H	169	42.15	-10.42
5	227.28	32.40 QP	40.00	-7.60	4.00 H	118	42.06	-9.66
6	331.25	44.05 QP	47.00	-2.95	3.21 H	42	49.11	-5.06
7	461.99	41.45 QP	47.00	-5.55	2.07 H	249	43.92	-2.47
8	615.99	43.83 QP	47.00	-3.17	1.56 H	0	42.87	0.96
9	662.50	43.72 QP	47.00	-3.28	1.34 H	182	42.22	1.50
10	812.46	35.22 QP	47.00	-11.78	1.00 H	236	30.46	4.76
11	923.98	40.52 QP	47.00	-6.48	1.00 H	299	34.27	6.25

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)  
– Pre-Amplifier Factor (dB)
3. Margin value = Emission level – Limit value
4. The other emission levels were very low against the limit.

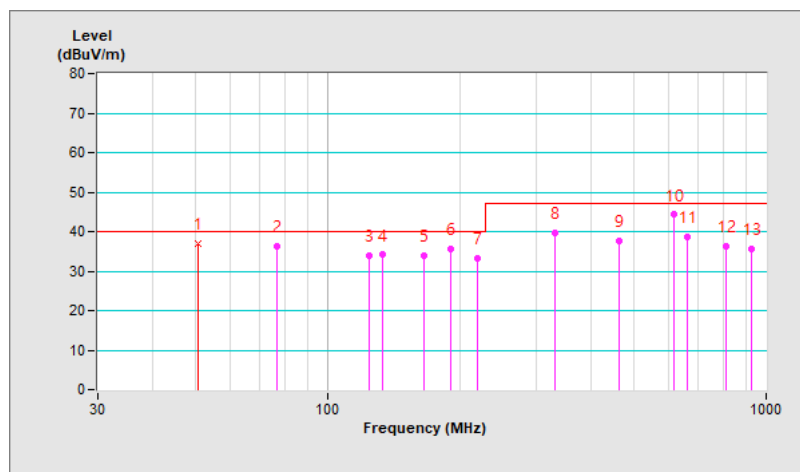


Frequency Range	30 MHz ~ 1 GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 67 % RH, 1000 mbar
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Vertical at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	50.60	36.88 QP	40.00	-3.12	1.43 V	54	45.01	-8.13
2	76.98	36.39 QP	40.00	-3.61	1.86 V	259	48.82	-12.43
3	124.99	34.00 QP	40.00	-6.00	1.00 V	80	42.96	-8.96
4	133.25	34.15 QP	40.00	-5.85	1.00 V	187	42.43	-8.28
5	166.48	33.94 QP	40.00	-6.06	1.00 V	289	40.94	-7.00
6	190.80	35.58 QP	40.00	-4.42	1.00 V	257	45.82	-10.24
7	220.16	33.39 QP	40.00	-6.61	1.00 V	124	43.77	-10.38
8	331.25	39.74 QP	47.00	-7.26	1.00 V	151	44.80	-5.06
9	462.00	37.70 QP	47.00	-9.30	1.00 V	53	40.17	-2.47
<b>10</b>	<b>615.99</b>	<b>44.26 QP</b>	<b>47.00</b>	<b>-2.74</b>	<b>3.22 V</b>	<b>129</b>	<b>43.30</b>	<b>0.96</b>
11	662.51	38.61 QP	47.00	-8.39	3.07 V	281	37.10	1.51
12	812.50	36.26 QP	47.00	-10.74	2.37 V	61	31.48	4.78
13	923.98	35.60 QP	47.00	-11.40	2.12 V	216	29.35	6.25

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. Margin value = Emission level – Limit value
4. The other emission levels were very low against the limit.



### 7.3 Radiated Emissions above 1 GHz

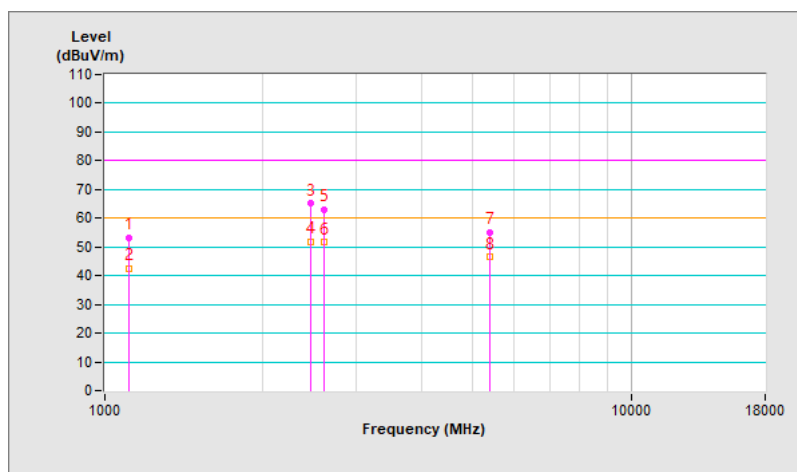
#### Mode A

<b>Frequency Range</b>	1 GHz ~ 7 GHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Peak (PK) / Average (AV), 1 MHz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25 °C, 66 % RH, 1004.4 mbar
<b>Tested By</b>	Paul Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1108.80	53.31 PK	80.00	-26.69	1.33 H	177	58.27	-4.96
2	1108.80	42.36 AV	60.00	-17.64	1.33 H	177	47.32	-4.96
3	2463.99	65.04 PK	80.00	-14.96	1.28 H	146	66.37	-1.33
4	2463.99	51.70 AV	60.00	-8.30	1.28 H	146	53.03	-1.33
5	2617.93	63.10 PK	80.00	-16.90	1.43 H	270	63.84	-0.74
6	2617.93	51.51 AV	60.00	-8.49	1.43 H	270	52.25	-0.74
7	5399.92	55.04 PK	80.00	-24.96	1.79 H	234	49.36	5.68
8	5399.92	46.41 AV	60.00	-13.59	1.79 H	234	40.73	5.68

#### Remarks:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
- Margin value = Emission level – Limit value
- The other emission levels were very low against the limit.

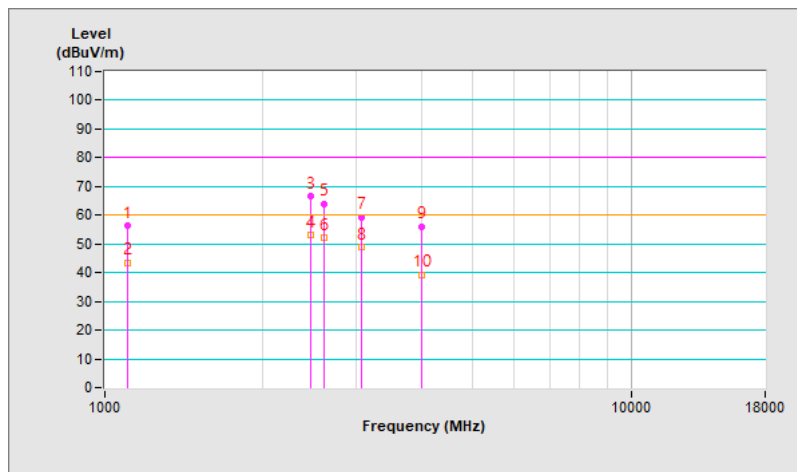


Frequency Range	1 GHz ~ 7 GHz	Detector Function & Resolution Bandwidth	Peak (PK) / Average (AV), 1 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 66 % RH, 1004.6 mbar
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1106.32	56.29 PK	80.00	-23.71	1.68 V	289	61.29	-5.00
2	1106.32	43.34 AV	60.00	-16.66	1.68 V	289	48.34	-5.00
3	2463.99	66.45 PK	80.00	-13.55	1.39 V	2	67.78	-1.33
<b>4</b>	<b>2463.99</b>	<b>52.93 AV</b>	<b>60.00</b>	<b>-7.07</b>	<b>1.39 V</b>	<b>2</b>	<b>54.26</b>	<b>-1.33</b>
5	2618.00	64.00 PK	80.00	-16.00	1.77 V	355	64.74	-0.74
6	2618.00	52.08 AV	60.00	-7.92	1.77 V	355	52.82	-0.74
7	3079.98	59.18 PK	80.00	-20.82	2.04 V	146	57.70	1.48
8	3079.98	48.81 AV	60.00	-11.19	2.04 V	146	47.33	1.48
9	3999.93	56.10 PK	80.00	-23.90	1.52 V	338	53.13	2.97
10	3999.93	39.14 AV	60.00	-20.86	1.52 V	338	36.17	2.97

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. Margin value = Emission level – Limit value
4. The other emission levels were very low against the limit.



## 8 Pictures of Test Arrangements

### 8.1 Conducted Emissions from Power Ports

#### Mode A





## 8.2 Radiated Emissions up to 1 GHz

### Mode A





### 8.3 Radiated Emissions above 1 GHz

#### Mode A



## 9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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