TEST REPORT

CERTIFICATE OF CONFORMITY

Standards:	**47 CFR FCC Part 15, Subpart B, Class A** **ANSI C63.4:2014**
Report No.:	FDBDBO-WTW-P21080934
Model No:	EMBC-5000-1185G7E
Series Model:	EMBC-5000 Series, EMBC-5XXXXXXXXXXXX ("X" can be 0-9, A-Z or blank for marketing purpose)
Received Date:	Mar. 10, 2021
Test Date:	Apr. 1 to 6, 2021
Issued Date:	Sep. 8, 2021

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
FCC Registration / Designation Number:	418586 / TW1078

Approved by : Jim Hsiang , **Date:** Sep. 8, 2021

Jim Hsiang / Associate Technical Manager

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Prepared by : Vivian Chen / Senior Specialist

Certificate #4327.01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FDBDBO-WTW-P21080934	Original release.	Sep. 8, 2021

1 Certification

Product:	Industrial Motherboard
Brand:	Vecow
Test Model:	EMBC-5000-1185G7E
Series Model:	EMBC-5000 Series, EMBC-5XXXXXXXXXXX (“X” can be 0-9, A-Z or blank for marketing purpose)
Sample Status:	Engineering sample
Applicant:	Vecow Co., Ltd.
Test Date:	Apr. 1 to 6, 2021
Standards:	47 CFR FCC Part 15, Subpart B, Class A ANSI C63.4:2014

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

FCC Part 15 Clause	Test Item	Result/Remarks	Verdict
15.107	Conducted Emissions from input power ports	Minimum passing Class A margin is -18.61 dB at 0.84808 MHz	Pass
15.109	Radiated Emissions up to 1 GHz	Minimum passing Class A margin is -4.73 dB at 192.86 MHz	Pass
	Radiated Emissions above 1 GHz	Minimum passing Class A margin is -7.49 dB at 5399.94 MHz	Pass

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:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions from input power ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	4.30 dB
Radiated Emissions above 1 GHz	Above 1GHz	4.48 dB

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

2.2 Modification Record

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	Industrial Motherboard
Brand	Vecow
Test Model	EMBC-5000-1185G7E
Series Model	EMBC-5000 Series, EMBC-5XXXXXXXXXXX (“X” can be 0-9, A-Z or blank for marketing purpose)
Model Difference	For marketing purpose
Sample Status	Engineering sample
Operating Software	N/A
Power Supply Rating	DC from host equipment
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. The all test data are copied from the test report (BV CPS report no.: FDBDBO-WTW-P21030356). And all data was verified to meet the standard version.
2. The EUT is an Industrial Motherboard.
3. The EUT was installed into the following host equipment (provided by client) for the test:

Host equipment: SPC-7000			
Components	**Brand**	**Model**	**Specification**
CPU	Intel	i7-1185G7E	2.8GHz
RAM	innodisk	-	DDR4 2133 16GB
SSD	CERVOZ	-	2.5” SATA 256GB
Industrial Motherboard	Vecow	EMBC-5000-1185G7E (EUT)	-

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 2.8GHz from Host equipment clock frequency, 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 A of the report if the applicant has provided additional descriptions of the EUT.

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

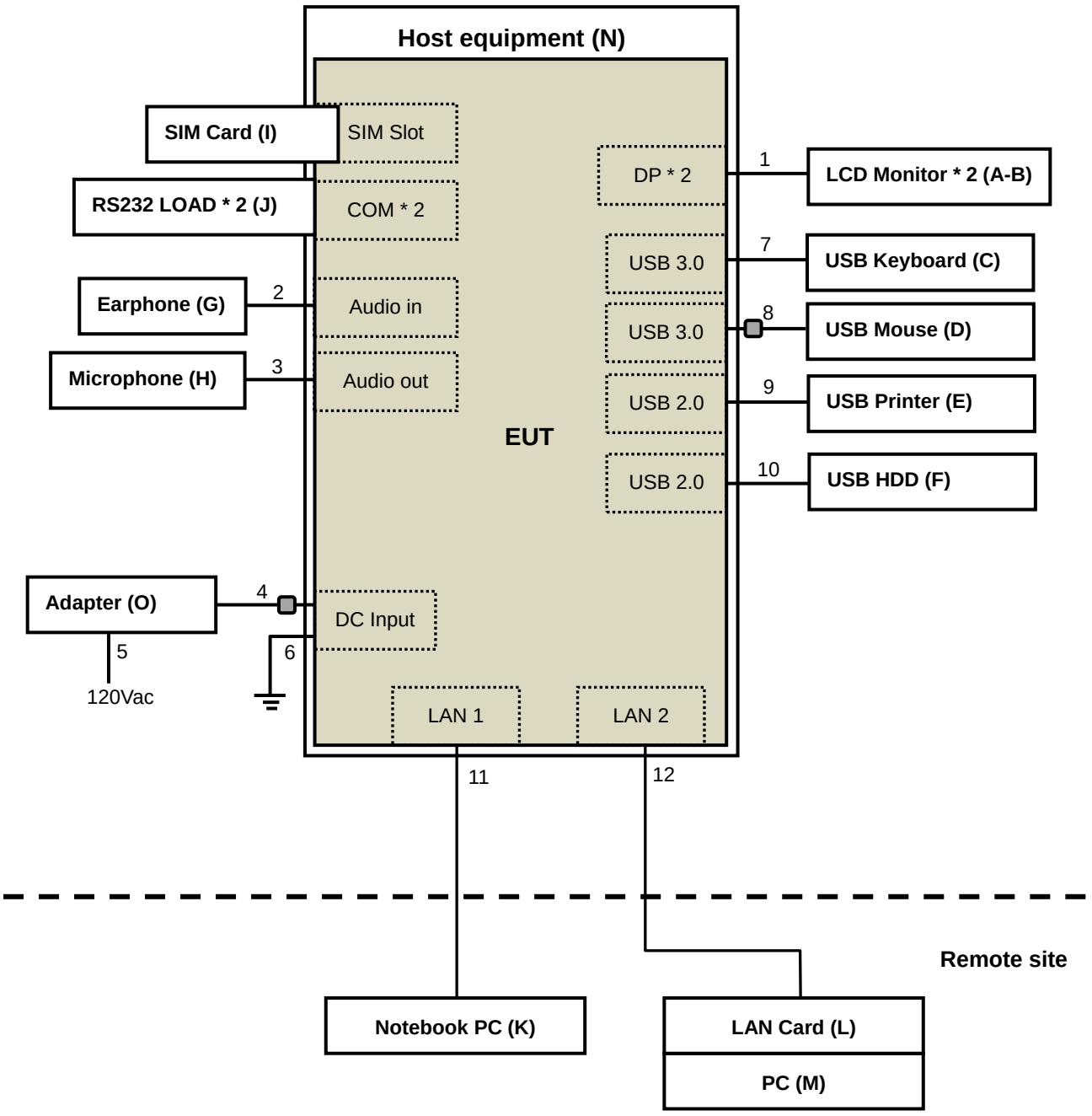
Test modes are presented in the report as below.

Mode	Test Condition	Input Power (System)
Conducted emission test		
1	Full System (Display* 2: 4096*2304, 60Hz)	120Vac/ 60Hz
Radiated emission test		
1	Full System (Display* 2: 4096*2304, 60Hz)	120Vac/ 60Hz

3.5 Test Program Used and Operation Descriptions

a. Installed EUT into host equipment.
b. Turned on the power of all equipment.
c. Host equipment ran a test program to enable all functions.
d. Host equipment read and wrote messages from/to SSD, SIM card and ext. HDD.
e. Host equipment sent and received messages to/from Notebook PC/ PC (kept in a remote area) via two UTP LAN cables (10m each).
f. Host equipment sent “H” messages to ext. LCD Monitors. Then they displayed “H” messages on their screens simultaneously.
g. Host equipment sent messages to printer and printer printed them out.
h. Host equipment sent “1kHz” audio signal to earphone.
i. Steps c-h were repeated.

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.	LCD MONITOR	ASUS	MX27U	JBLMRS007843	NA	Provided by Lab
B.	LCD MONITOR	ASUS	MX27U	K1LMRS022990	NA	Provided by Lab
C.	USB Keyboard	Dell	KB216t	CN-0W33XP-LO300-7CL-1909	NA	Provided by Lab
D.	USB Mouse	Microsoft	1113	9170528318308	FCC DoC Approved	Provided by Lab
E.	USB Printer	HP	HP Officejet Pro 251dw	CN55FCV012	FCC DoC Approved	Provided by Lab
F.	USB 3.1 Hard Disk	Transcend	SSD220S	SK21D1718X009P	NA	Supplied by client
G.	EARPHONE	PHILIPS	SBC HL145	N/A	NA	Provided by Lab
H.	MICROPHONE	Labtec	mic-333	N/A	NA	Provided by Lab
I.	SIM Card	NA	NA	NA	NA	Provided by Lab
J.	RS232 Load * 2	NA	NA	NA	NA	Supplied by client
K.	Notebook PC	SONY	SVS151A12P	275548477001024	NA	Provided by Lab
L.	LAN Card	ASUS	XG-C100C	H4QSRT000342	NA	Provided by Lab
M.	PERSONAL COMPUTER	DELL	VOSTRO 470	JWHKYBX	NA	Provided by Lab
N.	Host equipment	Vecow	SPC-7000	NA	NA	Supplied by client
O.	Adapter	FSP	FSP120-AABN	NA	NA	Supplied by client

Note:
1. All power cords of the above support units are non-shielded (1.8m).
2. Items K-M acted as communication partners to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DP cable	2	1.8	Y	0	Provided by Lab
2.	Audio cable	1	1.2	N	0	Provided by Lab
3.	Audio cable	1	2.5	N	0	Provided by Lab
4.	DC power cable	1	1.5	N	1	Supplied by client
5.	AC power cable	1	1.8	N	0	Supplied by client
6.	GND cable	1	1.5	N	0	Provided by Lab
7.	USB cable	1	1.8	Y	0	Provided by Lab
8.	USB cable	1	1.8	Y	1	Provided by Lab
9.	USB cable	1	1.8	Y	0	Provided by Lab
10.	USB cable	1	1.0	Y	0	Provided by Lab
11.	LAN cable	1	10	N	0	Provided by Lab (RJ45, Cat.5e)
12.	LAN cable	1	10	N	0	Provided by Lab (RJ45, Cat.5e)

Note: The core(s) is(are) originally attached to the cable(s).

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 input power ports

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ Test Receiver	ESR3	102414	Jan. 5, 2021	Jan. 4, 2022
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101197	Jun. 10, 2020	Jun. 9, 2021
LISN With Adapter (for EUT)	101197	NA	Jun. 10, 2020	Jun. 9, 2021
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Dec. 2, 2020	Dec. 1, 2021
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 14, 2020	May 13, 2021
SCHWARZBECK Artificial Mains Network (for EUT)	NNLK 8121	8121-808	Apr. 10, 2020	Apr. 9, 2021
Software	Cond_V7.3.7.4	NA	NA	NA
RF cable (JYEBAO) With 10dB PAD	5D-FB	Cable-C10.01	Feb. 10, 2021	Feb. 9, 2022
LYNICS Terminator (For ROHDE & SCHWARZ LISN)	0900510	E1-011484	May 26, 2020	May 25, 2021

Note: 1. The test was performed in Shielded Room No. 10. (Conduction 10)
2. The VCCI Site Registration No. C-11852.
3. Tested Date: Apr. 6, 2021

4.2 Radiated Emissions up to 1 GHz

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100027	May 19, 2020	May 18, 2021
Schwarzbeck Bilog Antenna	VULB9168	9168-303	Nov. 5, 2020	Nov. 4, 2021
Agilent Preamplifier	8447D	2944A08119	Feb. 18, 2021	Feb. 17, 2022
ADT. Turn Table	TT100	0205	NA	NA
ADT. Tower	AT100	0205	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
ADT RF Switches BOX	EMH-011	1001	Oct. 23, 2020	Oct. 22, 2021
Pacific RF cable With 5dB PAD	8D	CABLE-ST2-01	Oct. 23, 2020	Oct. 22, 2021

Note: 1. The test was performed in Open Site No. 2.
2. The VCCI Site Registration No. R-10237.
3. Tested Date: Apr. 1, 2021

4.3 Radiated Emissions above 1 GHz

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Agilent Spectrum	E4446A	MY51100009	Jun. 23, 2020	Jun. 22, 2021
Agilent Preamplifier	8449B	3008A01292	Feb. 19, 2021	Feb. 18, 2022
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 19, 2021	Feb. 18, 2022
EMCI Preamplifier	EMC184045B	980235	Feb. 19, 2021	Feb. 18, 2022
ETS Preamplifier	3117-PA	00215857	Nov. 23, 2020	Nov. 22, 2021
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 22, 2020	Nov. 21, 2021
EMCO Horn Antenna	3115	6714	Nov. 22, 2020	Nov. 21, 2021
Max Full. Turn Table	MF7802	MF780208216	NA	NA
Software	Radiated_V8.7.08	NA	NA	NA
KIK + WOKEN RF cable With 3/4dB PAD	K1K50-UP0279-K1K50 -3000+WC01	Cable-CH10(3m) -04 +Cable-CH10-03	Jul. 9, 2020	Jul. 8, 2021
MICRO-TRONICS Notch filter	BRC50703-01	010	May 29, 2020	May 28, 2021
MICRO-TRONICS Band Pass Filter	BRM17690	005	May 29, 2020	May 28, 2021

Note: 1. The test was performed in Chamber No. 10.
2. The VCCI Site Registration No. G-10427
3. Tested Date: Apr. 6, 2021

5 Test Arrangement

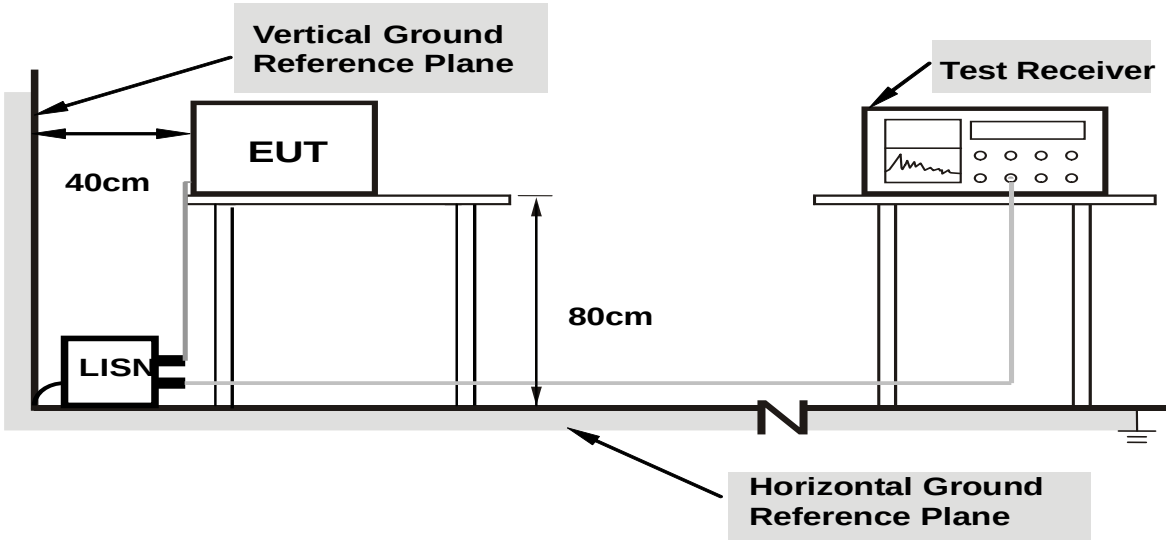
5.1 Conducted Emissions from input power ports

a. The EUT was 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 were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. 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.



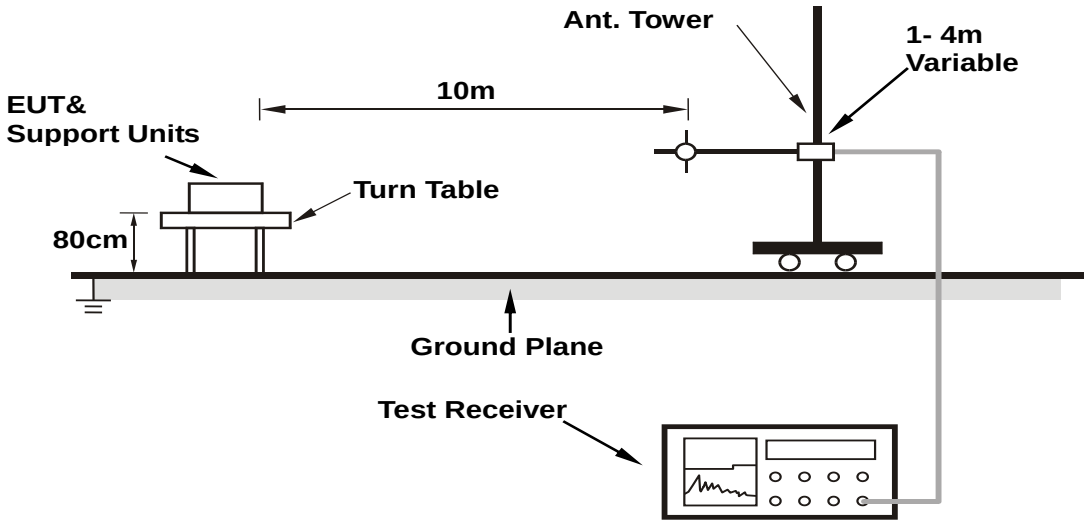
Note: Support units were connected to second LISN.

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

5.2 Radiated Emissions up to 1 GHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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.
e. 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.

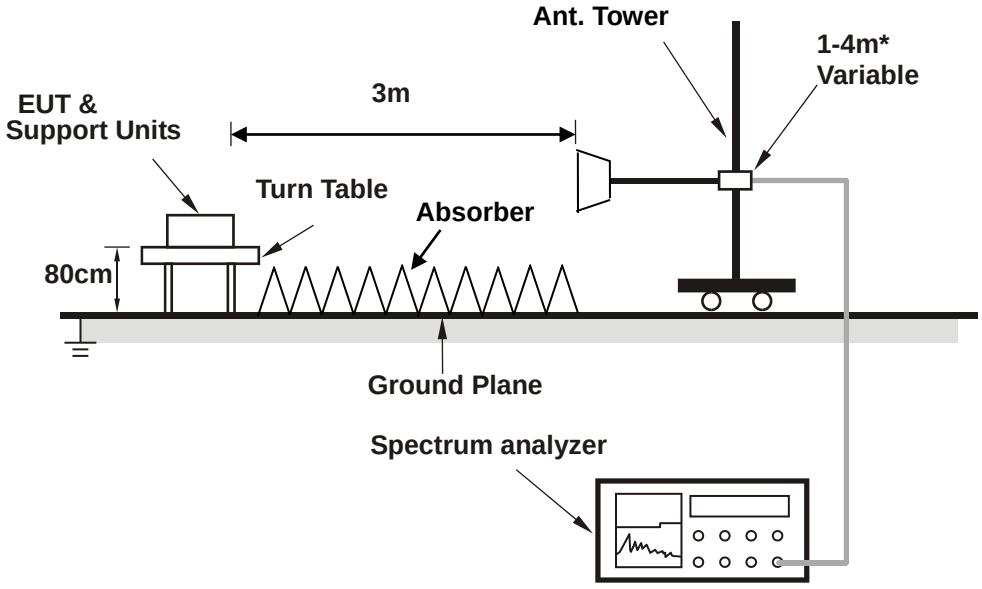


For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

5.3 Radiated Emissions above 1 GHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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.
e. 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.



* :depends on the EUT height and the antenna 3dB beamwidth both.

The test arrangement is in accordance with ANSI C63.4:2014. For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

6 Limits of Emission

6.1 Conducted Emissions from input 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
0.5 - 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.

6.2 Radiated Emissions up to 1 GHz

Radiated Emissions Limits at 10 meters (dBµV/m)				
Frequencies (MHz)	FCC Part 15B, Class A	FCC Part 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		

Radiated Emissions Limits at 3 meters (dBµV/m)				
Frequencies (MHz)	FCC Part 15B, Class A	FCC Part 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960			57.5	47.5
960-1000	60	54		

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

6.3 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 (dBµV/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.

7 Test Results of Emission

7.1 Conducted Emissions from input power ports

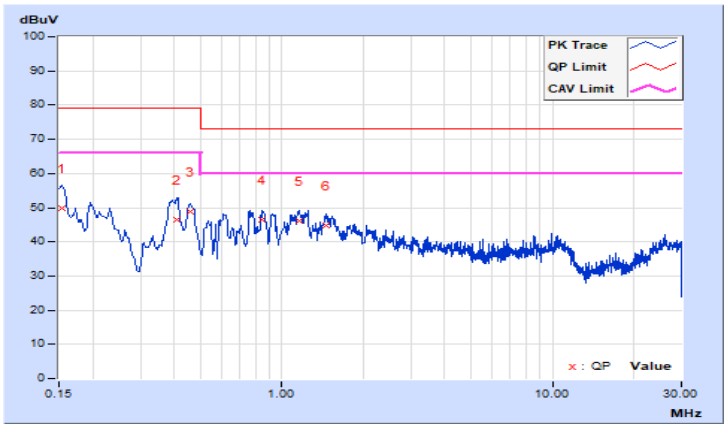
7.1.1 Test Mode 1

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	19℃, 70%RH
Tested by	Chin-Wen Wang	**Test Date**	2021/4/6
Test Mode	Mode 1		

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	0.15391	9.72	40.11	32.41	49.83	42.13	79.00	66.00	-29.17	-23.87
2	0.40801	9.72	36.63	27.30	46.35	37.02	79.00	66.00	-32.65	-28.98
3	0.45696	9.72	39.23	32.05	48.95	41.77	79.00	66.00	-30.05	-24.23
4	**0.84808**	**9.74**	**36.85**	**31.65**	**46.59**	**41.39**	**73.00**	**60.00**	**-26.41**	**-18.61**
5	1.15705	9.76	36.21	29.11	45.97	38.87	73.00	60.00	-27.03	-21.13
6	1.45428	9.77	35.05	28.24	44.82	38.01	73.00	60.00	-28.18	-21.99

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

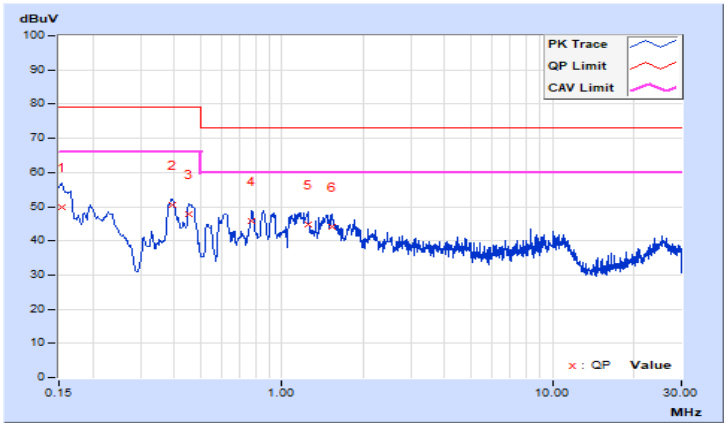


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	19℃, 70%RH
Tested by	Chin-Wen Wang	**Test Date**	2021/4/6
Test Mode	Mode 1		

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	0.15391	9.72	40.08	31.22	49.80	40.94	79.00	66.00	-29.20	-25.06
2	0.39220	9.72	40.92	37.15	50.64	46.87	79.00	66.00	-28.36	-19.13
3	0.45216	9.72	37.99	27.63	47.71	37.35	79.00	66.00	-31.29	-28.65
4	0.77377	9.74	36.08	30.54	45.82	40.28	73.00	60.00	-27.18	-19.72
5	1.24698	9.76	35.04	28.34	44.80	38.10	73.00	60.00	-28.20	-21.90
6	1.53250	9.77	34.25	27.68	44.02	37.45	73.00	60.00	-28.98	-22.55

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

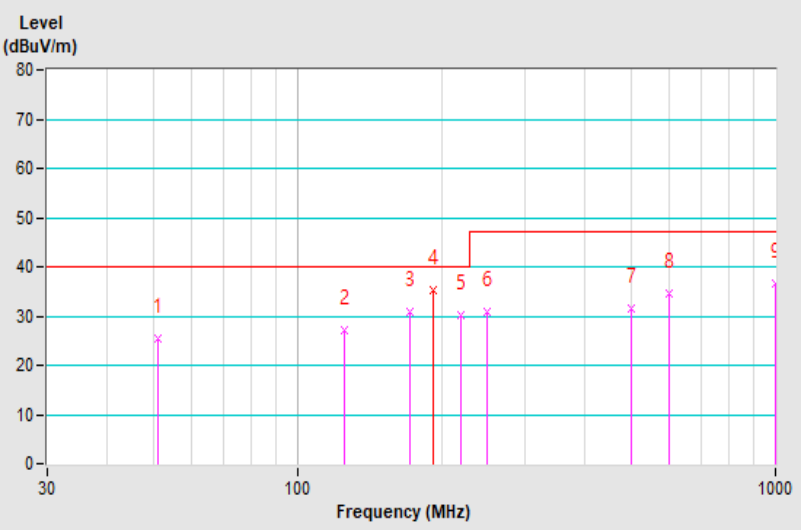
7.2.1 Test Mode 1

Frequency Range	30MHz ~ 1GHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP), 120kHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	25.0℃, 77.0%RH
Tested By	Paul Chen	**Test Date**	2021/4/1
Test Mode	Mode 1		

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	51.13	25.48 QP	40.00	-14.52	4.00 H	329	35.43	-9.95
2	125.01	26.98 QP	40.00	-13.02	4.00 H	329	38.17	-11.19
3	172.36	30.89 QP	40.00	-9.11	4.00 H	360	40.59	-9.70
4	**192.86**	**35.27 QP**	**40.00**	**-4.73**	**4.00 H**	**199**	**47.39**	**-12.12**
5	220.53	30.02 QP	40.00	-9.98	4.00 H	348	41.81	-11.79
6	250.01	30.73 QP	47.00	-16.27	4.00 H	259	40.53	-9.80
7	500.01	31.69 QP	47.00	-15.31	1.98 H	245	35.17	-3.48
8	600.00	34.59 QP	47.00	-12.41	1.47 H	225	35.71	-1.12
9	999.58	36.73 QP	47.00	-10.27	1.00 H	23	30.13	6.60

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. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value

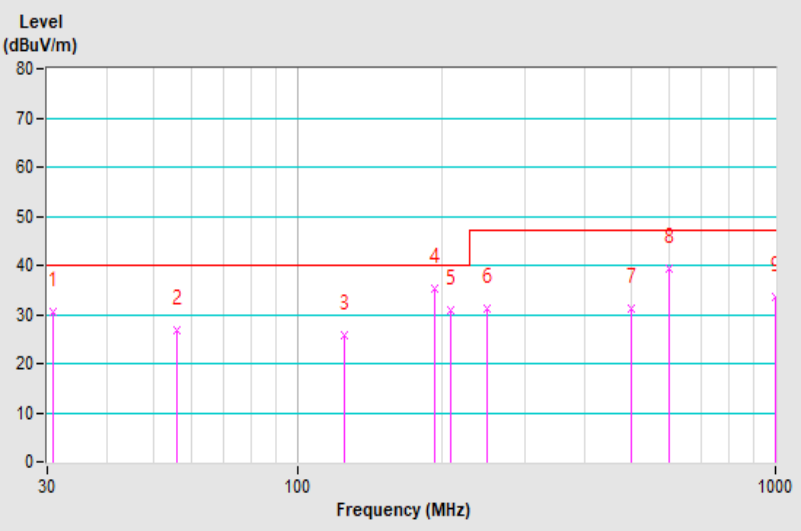


Frequency Range	30MHz ~ 1GHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP), 120kHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	25.0℃, 77.0%RH
Tested By	Paul Chen	**Test Date**	2021/4/1
Test Mode	Mode 1		

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	30.79	30.63 QP	40.00	-9.37	1.21 V	327	42.19	-11.56
2	56.13	26.69 QP	40.00	-13.31	1.63 V	224	36.93	-10.24
3	125.02	25.78 QP	40.00	-14.22	1.00 V	133	36.97	-11.19
4	193.23	35.09 QP	40.00	-4.91	1.00 V	246	47.23	-12.14
5	209.87	30.93 QP	40.00	-9.07	1.00 V	345	43.15	-12.22
6	250.01	31.19 QP	47.00	-15.81	1.00 V	173	40.99	-9.80
7	499.99	31.18 QP	47.00	-15.82	1.00 V	193	34.66	-3.48
8	599.98	39.27 QP	47.00	-7.73	3.39 V	186	40.39	-1.12
9	999.82	33.56 QP	47.00	-13.44	2.17 V	313	26.96	6.60

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. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value



7.3 Radiated Emissions above 1 GHz

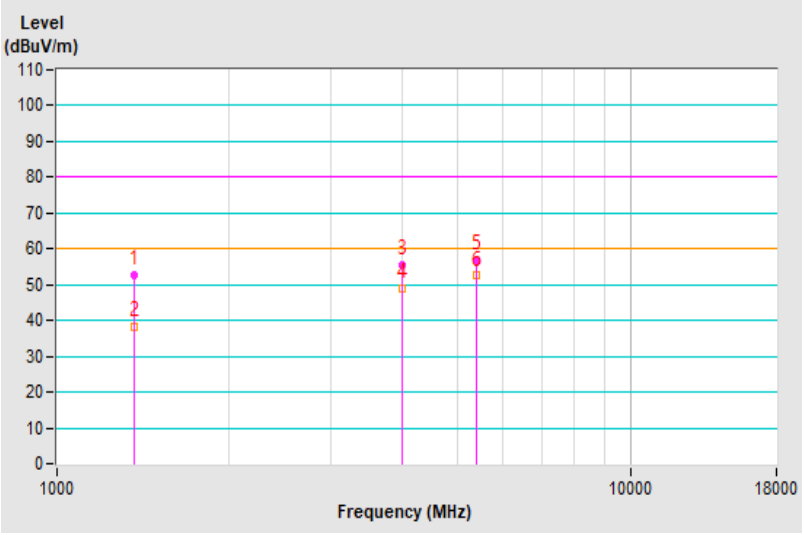
7.3.1 Test Mode 1

Frequency Range	1GHz ~ 14GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	24.0℃, 70.0%RH
Tested By	Paul Chen	**Test Date**	2021/4/6
Test Mode	Mode 1		

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	1363.74	52.75 PK	80.00	-27.25	1.11 H	233	57.76	-5.01
2	1363.74	38.33 AV	60.00	-21.67	1.11 H	233	43.34	-5.01
3	3999.97	55.45 PK	80.00	-24.55	1.27 H	120	52.43	3.02
4	3999.97	48.98 AV	60.00	-11.02	1.27 H	120	45.96	3.02
5	5399.94	56.77 PK	80.00	-23.23	1.35 H	129	51.73	5.04
6	**5399.94**	**52.51 AV**	**60.00**	**-7.49**	**1.35 H**	**129**	**47.47**	**5.04**

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. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value

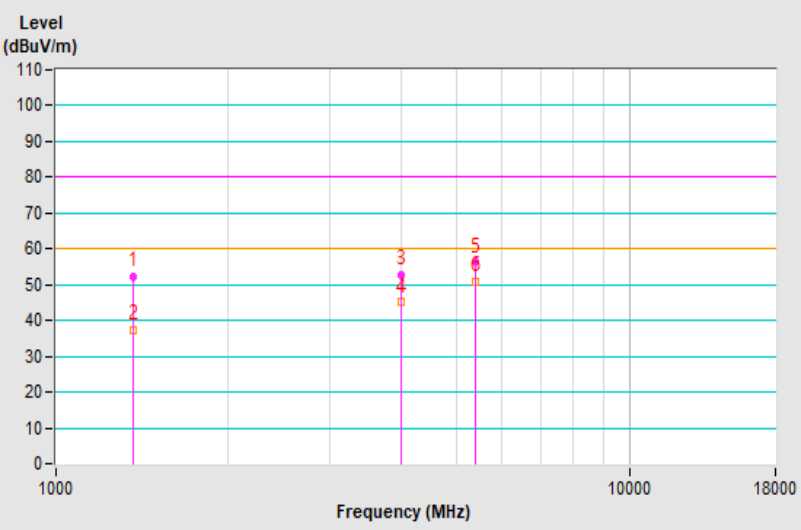


Frequency Range	1GHz ~ 14GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power (System)	120Vac, 60Hz	**Environmental Conditions**	24.0℃, 70.0%RH
Tested By	Paul Chen	**Test Date**	2021/4/6
Test Mode	Mode 1		

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	1363.80	52.33 PK	80.00	-27.67	2.27 V	204	57.34	-5.01
2	1363.80	37.51 AV	60.00	-22.49	2.27 V	204	42.52	-5.01
3	3999.98	52.69 PK	80.00	-27.31	2.18 V	140	49.67	3.02
4	3999.98	45.02 AV	60.00	-14.98	2.18 V	140	42.00	3.02
5	5399.90	56.19 PK	80.00	-23.81	1.55 V	113	51.15	5.04
6	5399.90	50.78 AV	60.00	-9.22	1.55 V	113	45.74	5.04

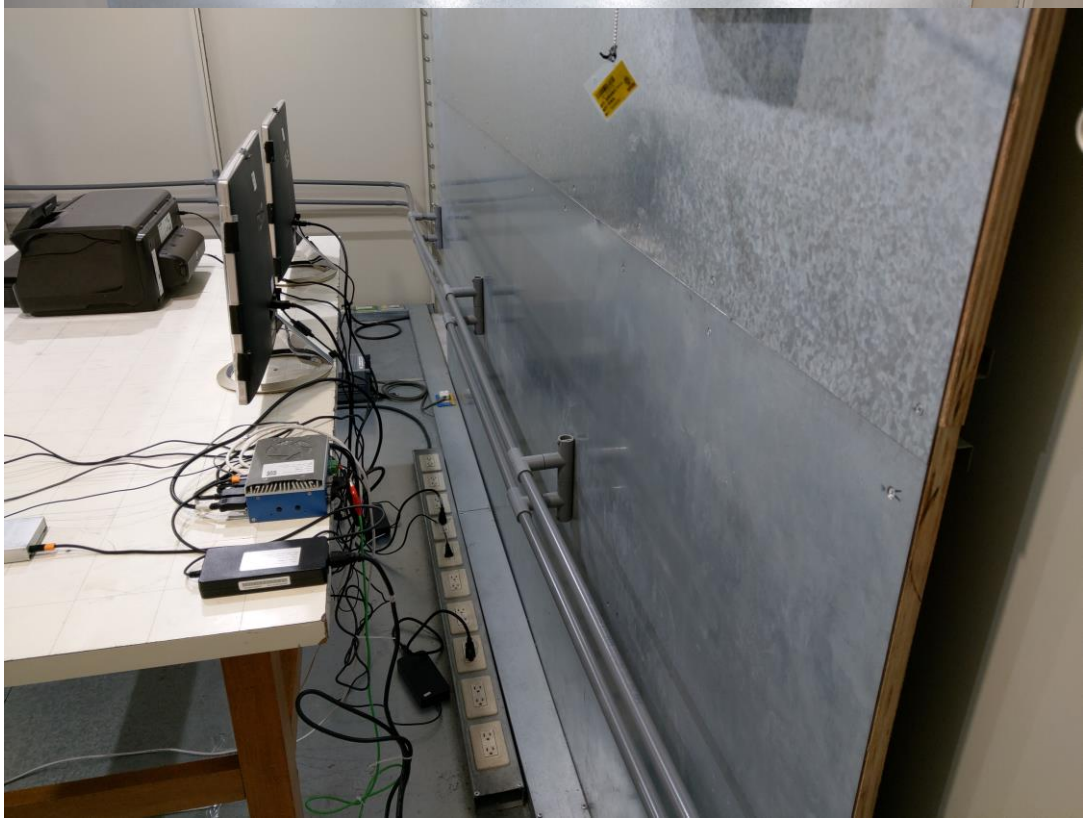
Remarks:

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. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value



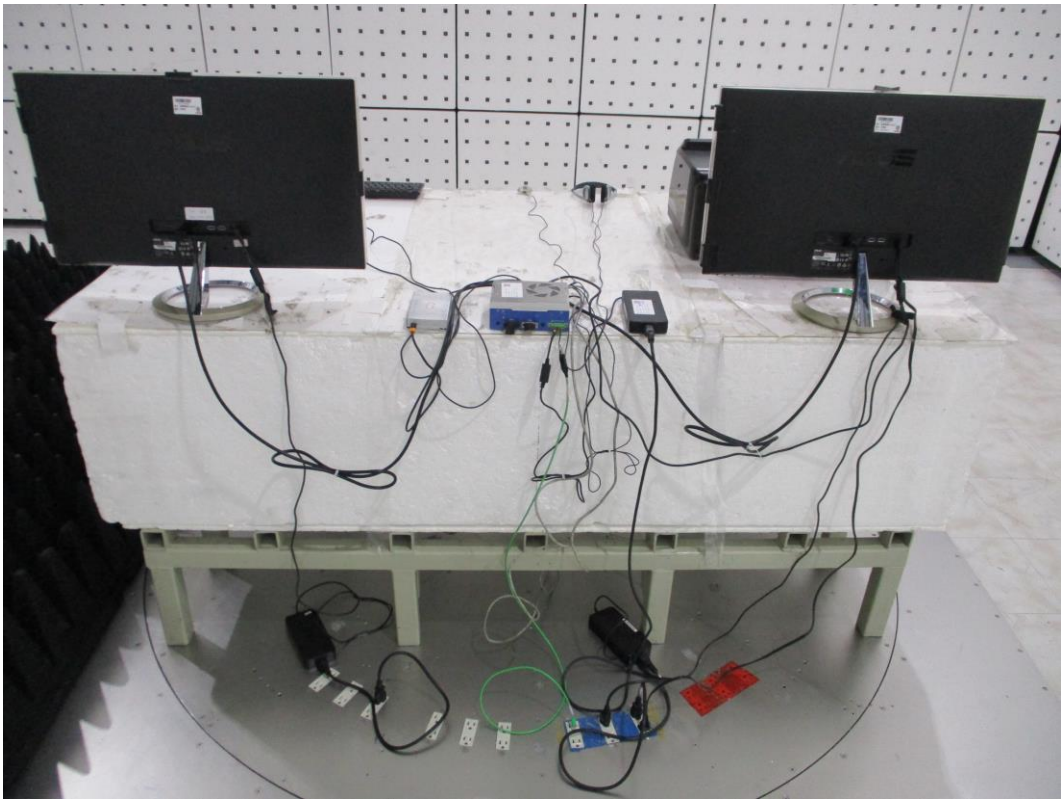
8 Pictures of Test Arrangements

8.1 Conducted Emissions from input power ports



8.2 Radiated Emissions up to 1 GHz

8.3 Radiated Emissions above 1 GHz



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 accredited and approved 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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