

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)

Report No.: RFCCOG-WTW-P21120247C R1

FCC ID: 2AH7L-UPSC

Product: EcoStruxure™ Panel Server Entry

Brand: Schneider Electric

Model No.: PAS400

Received Date: 2024/8/12

Test Date: 2024/9/4

Issued Date: 2025/8/4

Applicant: Schneider Electric Industries SAS

Address: Electropole Site - 38EQ1, 31 rue Pierre Mendes France, Eybens - 38050 Grenoble cedex 9

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

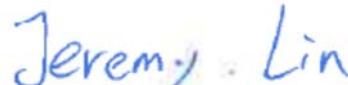
Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

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FCC Registration / 281270 / TW0032

Designation Number:

Approved by:



, Date:

2025/8/4

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFCCOG-WTW-P21120247C	Original release.	2024/12/18
RFCCOG-WTW-P21120247C R1	Revised description from supplementary report to C2PC report.	2025/8/4

1 Certificate

Product: EcoStruxure™ Panel Server Entry

Brand: Schneider Electric

Test Model: PAS400

Sample Status: Engineering sample

Applicant: Schneider Electric Industries SAS

Test Date: 2024/9/4

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)

Measurement

procedure: ANSI C63.10-2013

KDB 558074 D01 15.247 Meas Guidance v05r02

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 RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	NA	Refer to Note 1 below
15.247(e)	Power Spectral Density	NA	Refer to Note 1 below
15.247(a)(2)	6 dB Bandwidth	NA	Refer to Note 1 below
15.247(d)	Conducted Out of Band Emissions	NA	Refer to Note 1 below
15.207	AC Power Conducted Emissions	NA	Refer to Note 1 below
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -11.8 dB at 32.91 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	NA	Refer to Note 1 below
15.203	Antenna Requirement	NA	Refer to Note 1 below

Note:

1. Only unwanted emissions below 1 GHz was verified and recorded in this report. The others testing data refer to original test report.
2. 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) (\pm)
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB

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 General Description

Product	EcoStruxure™ Panel Server Entry
Brand	Schneider Electric
Test Model	PAS400
Status of EUT	Engineering sample
Power Supply Rating	110-277Vac/dc with +/-10% tolerance
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 150Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	0.4198mW (-3.77dBm)

Note:

1. This report is issued as a C2PC report of BV CPS report no.: RFCCOG-WTW-P21120247B. The difference compared to the original report is adding 2.4GHz Access Point Mode through F/W update and the Client and AP modes have the same power settings and only Reduced Power settings. Therefore, only unwanted emissions below 1 GHz was verified and recorded in this report. The others testing data refer to original test report.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

ANT. No.	Brand	Model	Type	Connector	Frequency Range	Gain (dBi)
1	Schneider Electric	ANT1_1	PCB	N/A	2400~2483.5MHz	3.22

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT provide 1 completed transmitter and 1 receiver.

2.4 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX

3.3 Channel List

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422 MHz	7	2442 MHz
4	2427 MHz	8	2447 MHz
5	2432 MHz	9	2452 MHz
6	2437 MHz		

3.4 Test Mode Applicability and Tested Channel Detail

Worst Case:	1. Worst Condition: Y-axis according to original worst case mode.
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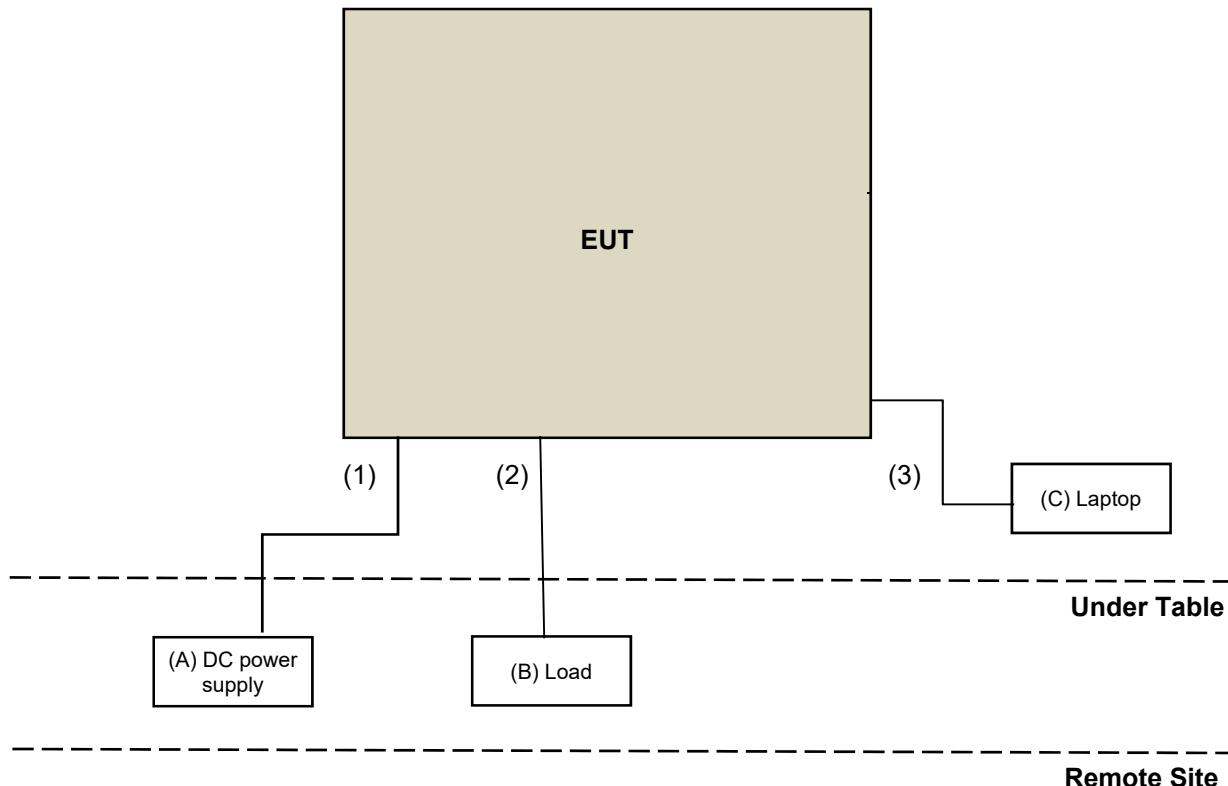
Following channel(s) was (were) selected for the final test as listed below:

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
Unwanted Emissions below 1 GHz	802.11n (HT20)	CDD	11	BPSK	MCS0

3.5 Test Program Used and Operation Descriptions

Controlling software RTTT Version2.0.0.55 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

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	DC power supply	GW	GPR-25H20D	6040046	N/A	Provided by Lab
B	Load	N/A	N/A	N/A	N/A	Provided by Lab
C	Laptop	Lenovo	L440	R9-0GFJJK	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	3	No	0	Supplied by applicant
2	RJ-45 Cable	1	1.5	No	0	Provided by Lab
3	Console Cable	1	1	No	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 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-1213	2023/10/13	2024/10/12
EMI Test Receiver R&S	ESR3	102782	2023/12/7	2024/12/6
Loop Antenna Electro-Metrics	EM-6879	269	2023/9/23	2024/9/22
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXA Signal Analyzer Keysight	N9020B	MY60110513	2023/12/22	2024/12/21
Preamplifier EMCI	EMC330N	980782	2024/1/15	2025/1/14
	EMC001340	980201	2023/9/27	2024/9/26
RF Coaxial Cable EMCI	EMCCFD400-NM-NM- 500	201233	2024/1/15	2025/1/14
	EMCCFD400-NM-NM- 3000	201235	2024/1/15	2025/1/14
	EMCCFD400-NM-NM- 9000	201236(with PAD)	2024/1/15	2025/1/14
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2024/9/4

5 Limits of Test Items

5.1 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

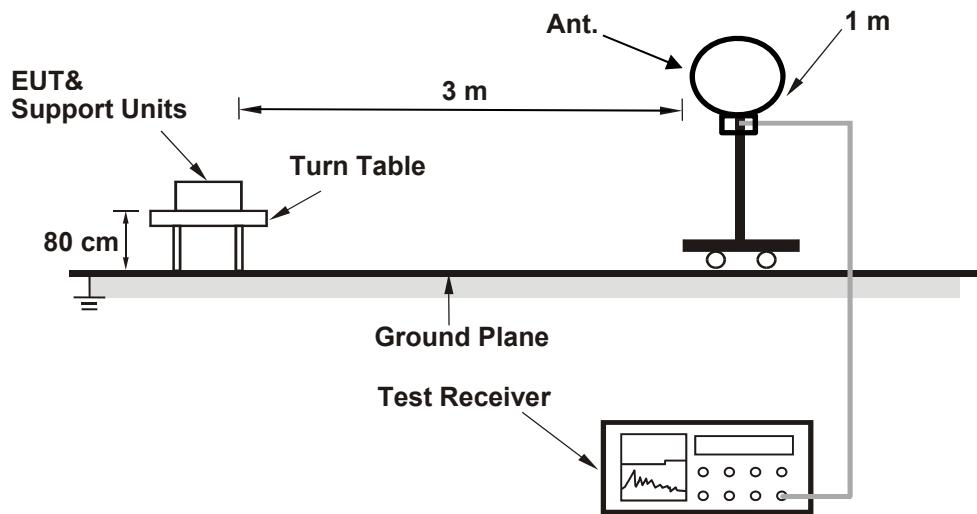
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dB_BV/m) = 20 log Emission level (uV/m).

6 Test Arrangements

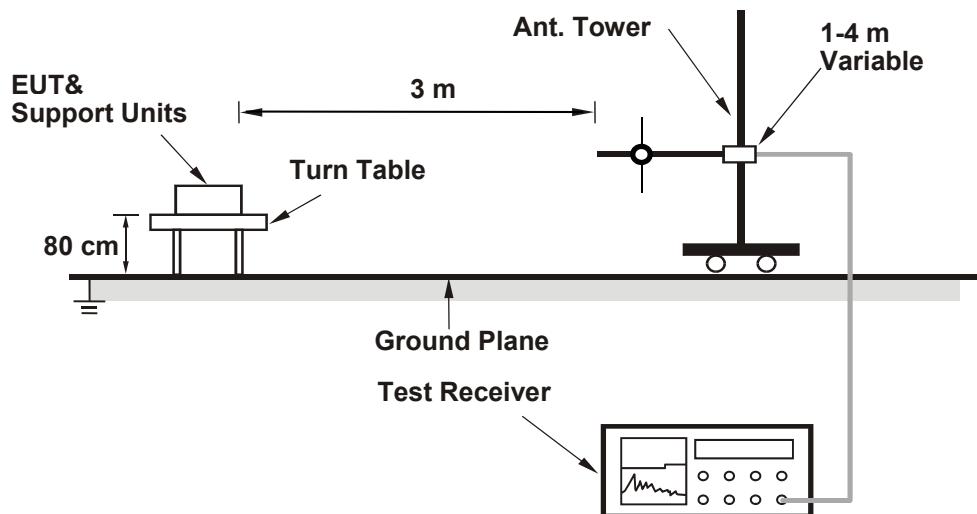
6.1 Unwanted Emissions below 1 GHz

6.1.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.1.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case 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, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. 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 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 below 1 GHz.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

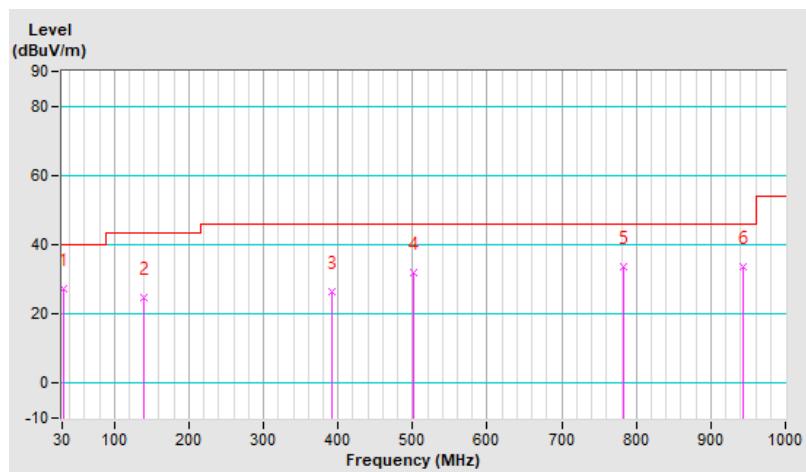
7.1 Unwanted Emissions below 1 GHz

RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 65 % RH
Tested By	Edison Lee		

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	32.91	27.1 QP	40.0	-12.9	1.50 H	18	41.6	-14.5
2	139.61	24.9 QP	43.5	-18.6	1.00 H	120	38.5	-13.6
3	391.81	26.6 QP	46.0	-19.4	1.50 H	225	36.7	-10.1
4	500.45	31.8 QP	46.0	-14.2	1.00 H	54	39.4	-7.6
5	783.69	33.5 QP	46.0	-12.5	2.00 H	245	35.8	-2.3
6	943.74	33.7 QP	46.0	-12.3	1.00 H	336	34.0	-0.3

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

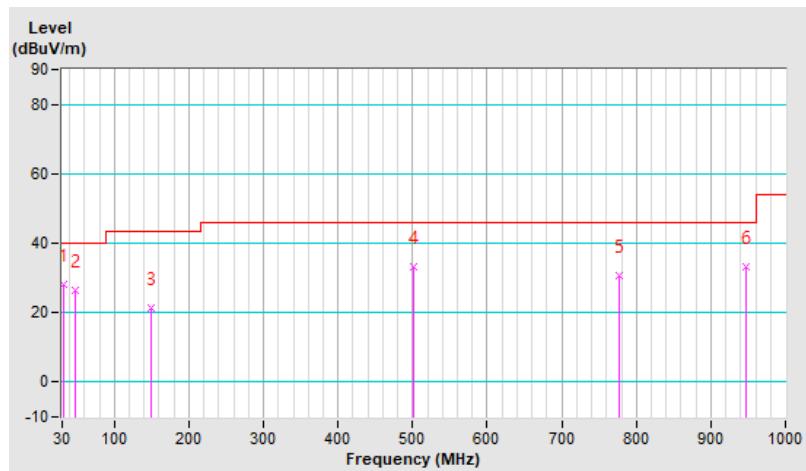


RF Mode	802.11n (HT20)	Channel	CH 11 : 2462 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 65 % RH
Tested By	Edison Lee		

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	32.91	28.2 QP	40.0	-11.8	1.00 V	214	42.7	-14.5
2	48.43	26.4 QP	40.0	-13.6	2.00 V	149	39.5	-13.1
3	149.31	21.5 QP	43.5	-22.0	1.00 V	154	34.6	-13.1
4	500.45	33.3 QP	46.0	-12.7	2.00 V	86	40.9	-7.6
5	776.90	30.6 QP	46.0	-15.4	1.50 V	10	32.9	-2.3
6	947.62	33.2 QP	46.0	-12.8	1.00 V	326	33.5	-0.3

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

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.

If you have any comments, please feel free to contact us at the following:

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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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