FCC TEST REPORT

REPORT NO.: FC121009D04A

MODEL NO.: LPS-6

FCC ID: 2ACWFLPS-6

RECEIVED: Jun. 5, 2012

TESTED: Jun. 5 ~ 7, 2012

ISSUED: Aug. 29, 2014

APPLICANT: Jentafon Oy

ADDRESS: Teerisuontie 8 P, 00700 Helsinki, Finland

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB LOCATION: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

LAB CODE: 200836-0

Testing Laboratory 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FC121009D04A	Original release	Aug. 29, 2014

1 CERTIFICATION

PRODUCT:	Wireless Loopset
BRAND NAME:	Jentafon
MODEL NO.:	LPS-6
TEST ITEM:	ENGINEERING SAMPLE
APPLICANT:	Jentafon Oy
TESTED:	Jun. 5 ~ 7, 2012
STANDARDS:	FCC Part 15, Subpart B, Class B
	ICES-003:2012 Issue 5, Class B
	ANSI C63.4-2009

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.

Prepared by : Jessica Cheng , **Date:** Aug. 29, 2014

Jessica Cheng / Senior Specialist

Approved by : Kenny Meng , **Date:** Aug. 29, 2014

Kenny Meng / Assistant Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Remarks
FCC Part 15, Subpart B, Class B	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is –10.24 dB at 21.16925 MHz
ICES-003:2012 Issue 5, Class B	Radiated Test (30MHz ~ 12.5GHz)	PASS	Meets Class B Limit Minimum passing margin is –6.13 dB at 261.75 MHz

Note: The EUT highest frequency generated **2.5GHz** and therefore the test frequency range was performed up to 12.5GHz for radiated emission test.

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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz ~ 30MHz	3.46 dB
Radiated emissions	30MHz~1GHz	3.78 dB
	Above 1GHz	3.36 dB

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless Loopset
MODEL NO.	LPS-6
POWER SUPPLY	5Vdc from host equipment 5Vdc from AC adapter 3.7Vdc from battery
DATA CABLE SUPPLIED	Shielded USB cable (0.8m)

NOTE:

1. The EUT is a Wireless Loopset.

2. The EUT equipped the following accessories:

Item	Brand	Model	Spec.
AC Adapter	NOKIA	AC-20E	AC I/P: 100-240V, 50/60Hz, 120mA DC O/P: 5V, 750mA AC 2 Pin, Shielded USB cable (1.8m)
Battery 1	Synergy	AHB652228PI	3.7Vdc, 355mAh
Battery 2	FT	FT672029PB	3.7Vdc, 340mAh

3. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

3.2 DESCRIPTION OF TEST MODES

The EUT was tested under following modes:

Test Item	Test Mode	Configuration	Battery Source
Conducted Test	1A	EUT w. Notebook	Synergy
	1B		FT
	2A	EUT w. adapter	Synergy
	2B		FT
Radiated Test	1A	EUT w. Notebook	Synergy
	1B		FT
	2A	EUT w. adapter	Synergy
	2B		FT
	3A	EUT stand alone	Synergy
	3B		FT

3.3 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.

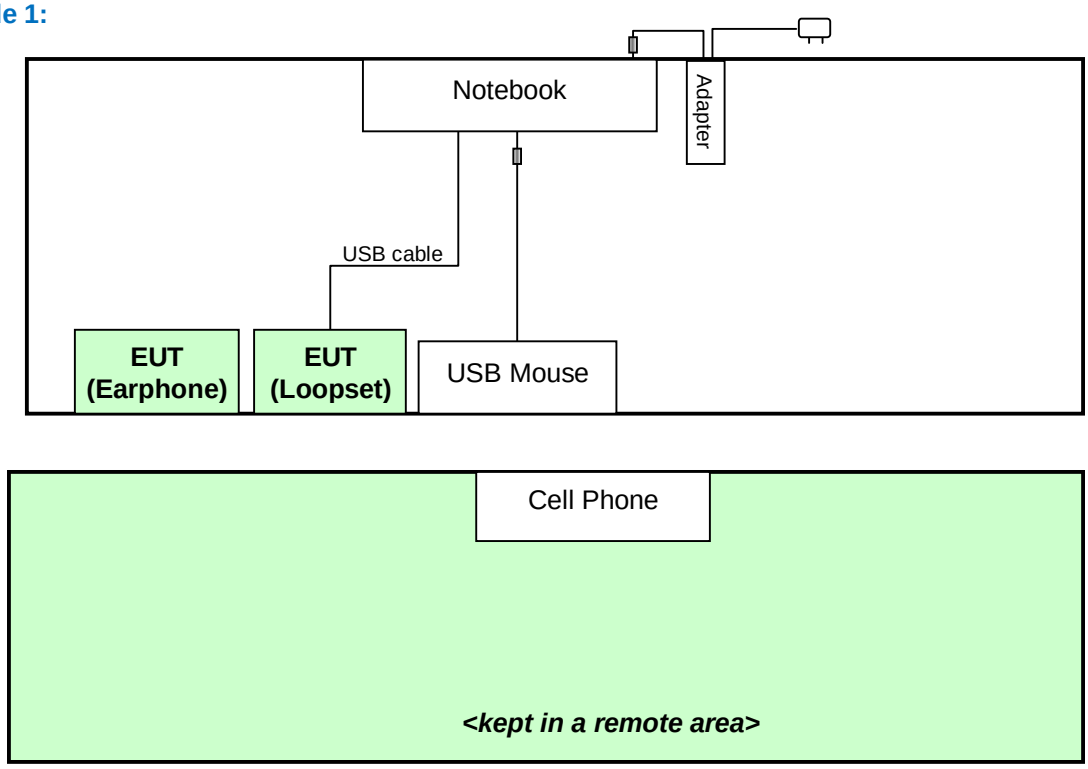
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	DELL	D830	4C53R1S	E2K4965AGNM
2	USB MOUSE	MICROSOFT	X800898	9280592-30608	FCC DoC Approved
3	Cell Phone	NOKIA	C7-00	N/A	QFXRM-675X

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	1.8 m foil shielded wire, terminated with USB connector via drain wire, with 1 core.
3	Wireless Transmission

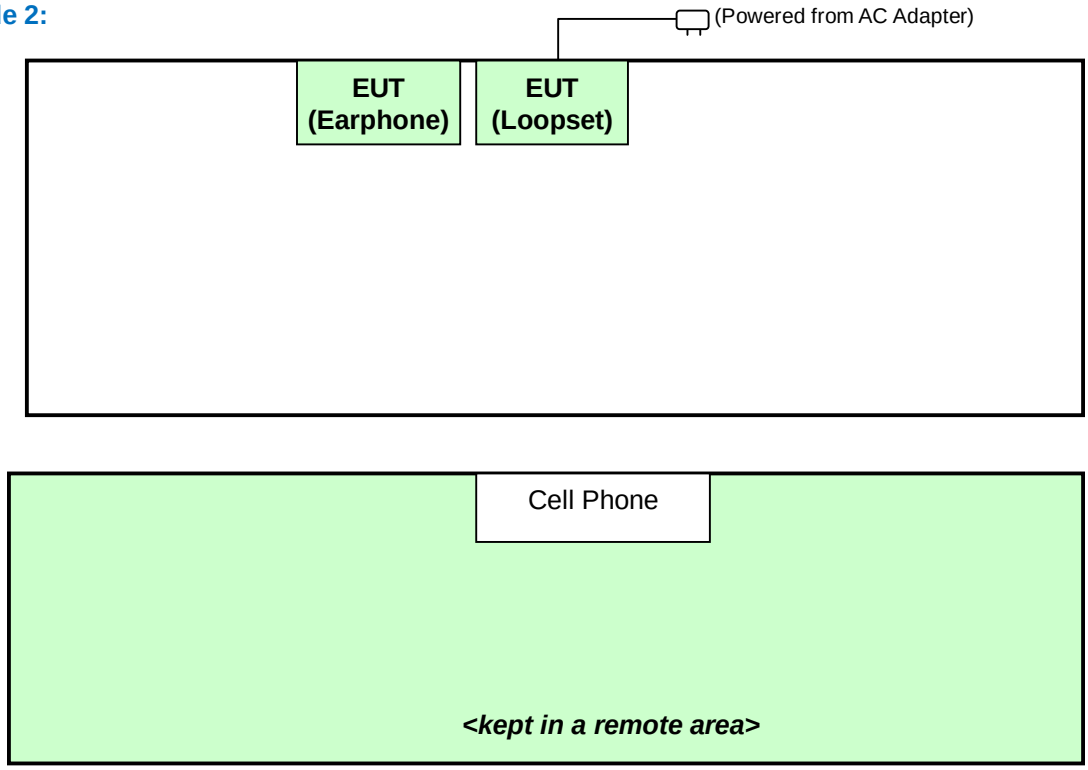
NOTE: All power cords of the above support units are non shielded (1.8m).

TEST CONFIGURATION

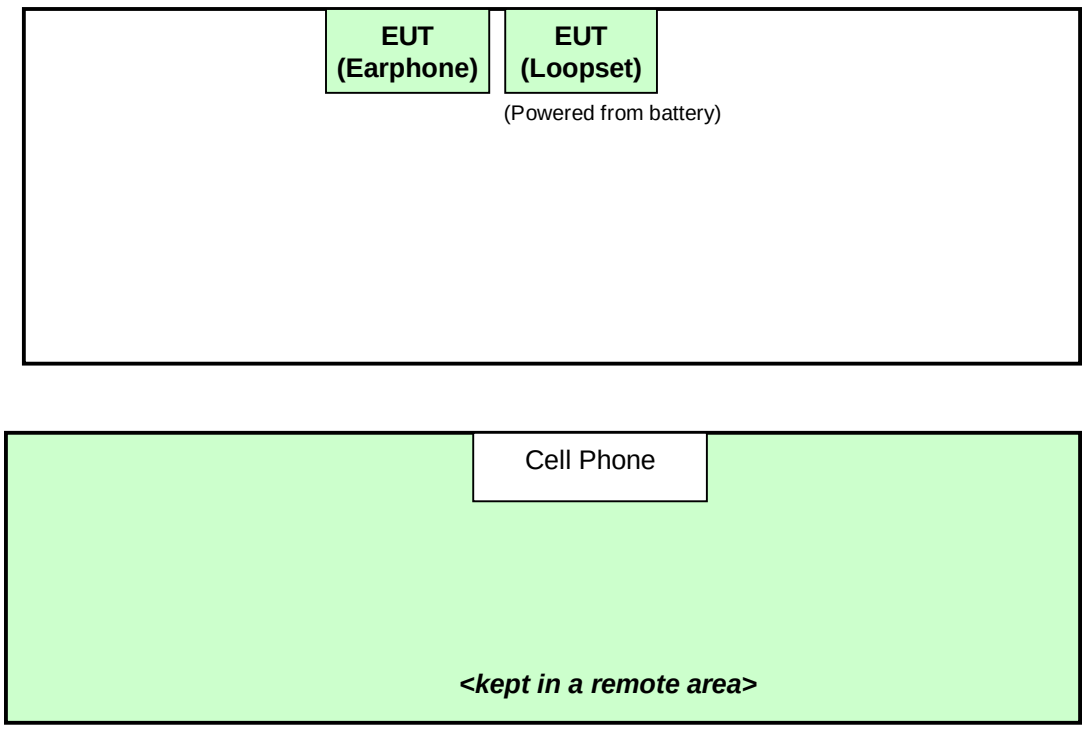
Mode 1:



Mode 2:


(Powered from AC Adapter)
EUT (Earphone)
EUT (Loopset)
Cell Phone
<kept in a remote area>

Mode 3:


EUT (Earphone)
EUT (Loopset)
(Powered from battery)
Cell Phone
<kept in a remote area>

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.107)
ICES-003:2012 Issue 5 (section: 6.1)

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

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	834115/016	Apr. 13, 2012	Apr. 12, 2013
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH2-Z5	828075/003	Aug. 29, 2011	Aug. 28, 2012
LISN With Adapter (for EUT)	AD10	C03Ada-001	Aug. 29, 2011	Aug. 28, 2012
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	Jul. 16, 2011	Jul. 15, 2012
Software	ADT_Cond_V7.3.7	NA	NA	NA
Software	ADT_ISN_V7.3.7	NA	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C03.01	Jan. 08, 2012	Jan. 07, 2013
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-300	Jan. 30, 2012	Jan. 29, 2013
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-301	Feb. 10, 2012	Feb. 09, 2013

NOTE: 1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 3.
3. The VCCI Site Registration No. C-274.
4. Tested Date: Aug. 29, 2012.
5. Tested Date: Jun. 7, 2012

4.1.3 TEST PROCEDURE

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.

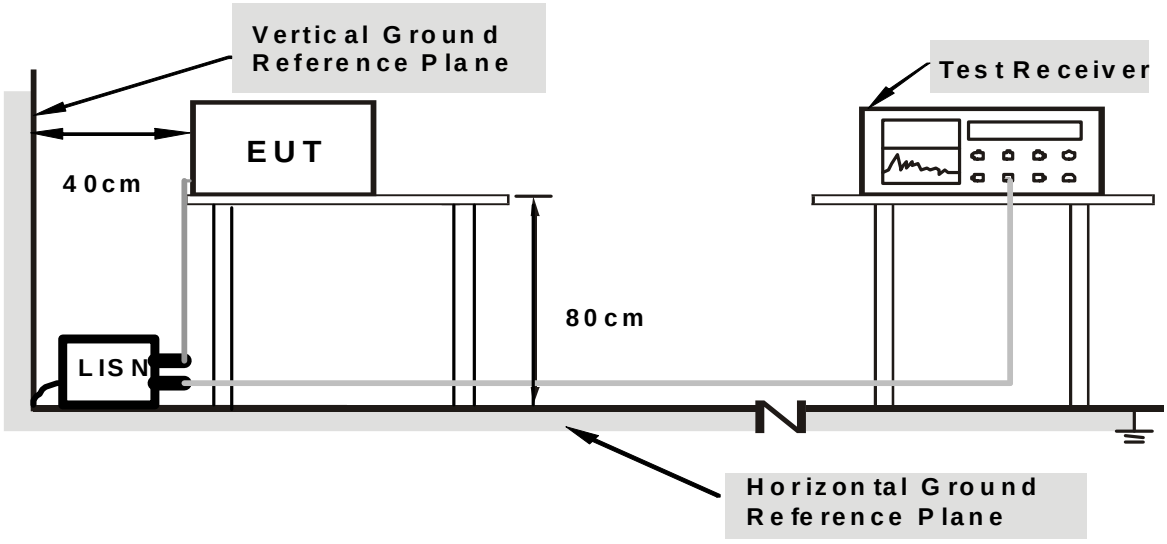
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20dB) were not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: Support units were connected to second LISN.

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

4.1.6 EUT OPERATING CONDITIONS

For Mode 1:

a. Connected the EUT with Notebook placed on testing table.
b. Set the EUT under transmission/receiving condition continuously at specific channel frequency.
c. Set EUT under charging condition continuously.
d. EUT received messages from cell phone (kept in a remote area) via Bluetooth function, then sent messages to earphone (EUT).

For Mode 2:

a. Connected the EUT with AC adapter placed on testing table.
b. Set the EUT under transmission/receiving condition continuously at specific channel frequency.
c. Set EUT under charging condition continuously.
d. EUT received messages from cell phone (kept in a remote area) via Bluetooth function, then sent messages to earphone (EUT).

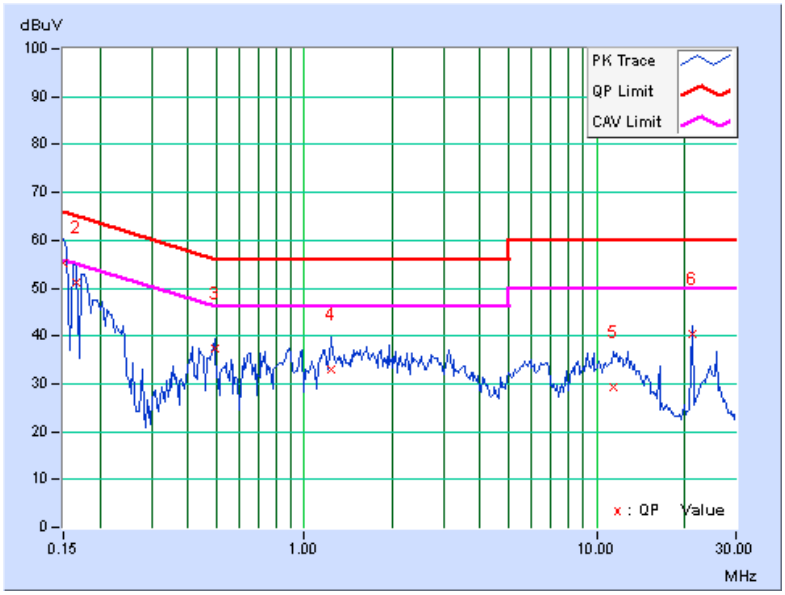
4.1.7 TEST RESULTS (1A)

TEST MODE	1A	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	TESTED BY: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.21	55.16	33.90	55.37	34.11	66.00	56.00	-10.63	-21.89
2	0.16562	0.22	50.94	32.74	51.16	32.96	65.18	55.18	-14.02	-22.22
3	0.49375	0.28	37.25	31.07	37.53	31.35	56.10	46.10	-18.58	-14.76
4	1.23438	0.33	32.70	24.24	33.03	24.57	56.00	46.00	-22.97	-21.43
5	11.39453	0.68	28.67	22.88	29.35	23.56	60.00	50.00	-30.65	-26.44
6	21.16797	0.92	39.45	38.60	40.37	39.52	60.00	50.00	-19.63	-10.48

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.

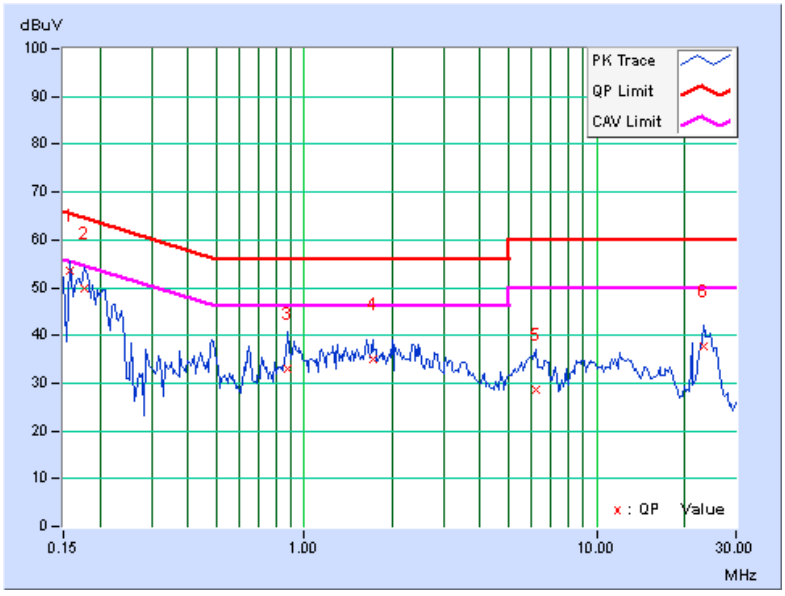


TEST MODE	1A	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	**TESTED BY**: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.22	53.23	34.02	53.45	34.24	65.58	55.58	-12.12	-21.33
2	0.17734	0.24	49.52	33.07	49.76	33.31	64.61	54.61	-14.85	-21.30
3	0.88047	0.30	32.86	23.98	33.16	24.28	56.00	46.00	-22.84	-21.72
4	1.71484	0.37	34.69	28.21	35.06	28.58	56.00	46.00	-20.94	-17.42
5	6.16797	0.58	27.99	21.93	28.57	22.51	60.00	50.00	-31.43	-27.49
6	23.28906	0.89	36.73	30.08	37.62	30.97	60.00	50.00	-22.38	-19.03

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.



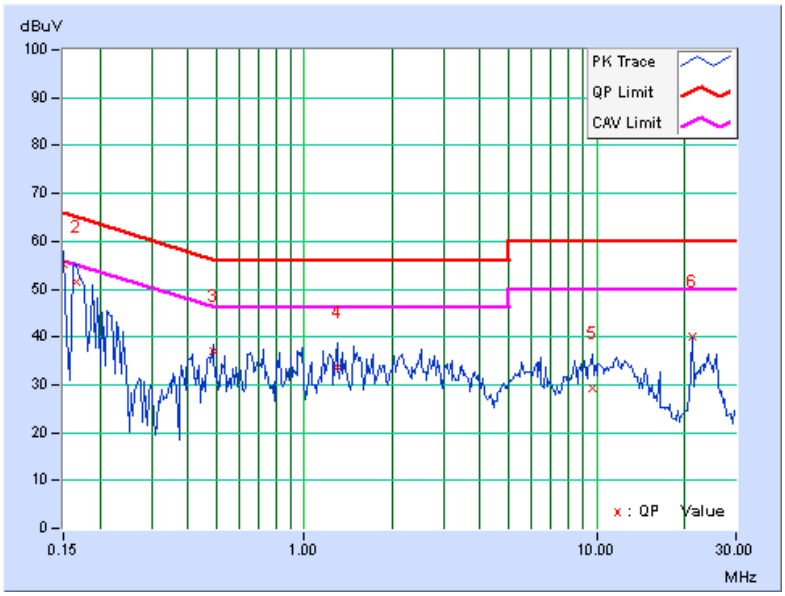
4.1.8 TEST RESULTS (1B)

TEST MODE	1B	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	TESTED BY: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.21	55.09	33.84	55.30	34.05	66.00	56.00	-10.70	-21.95
2	0.16562	0.22	51.22	32.96	51.44	33.18	65.18	55.18	-13.74	-22.00
3	0.48594	0.28	36.81	31.71	37.09	31.99	56.24	46.24	-19.15	-14.25
4	1.29688	0.33	33.19	26.32	33.52	26.65	56.00	46.00	-22.48	-19.35
5	9.62500	0.62	28.66	23.84	29.28	24.46	60.00	50.00	-30.72	-25.54
6	21.16797	0.92	39.25	38.40	40.17	39.32	60.00	50.00	-19.83	-10.68

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.

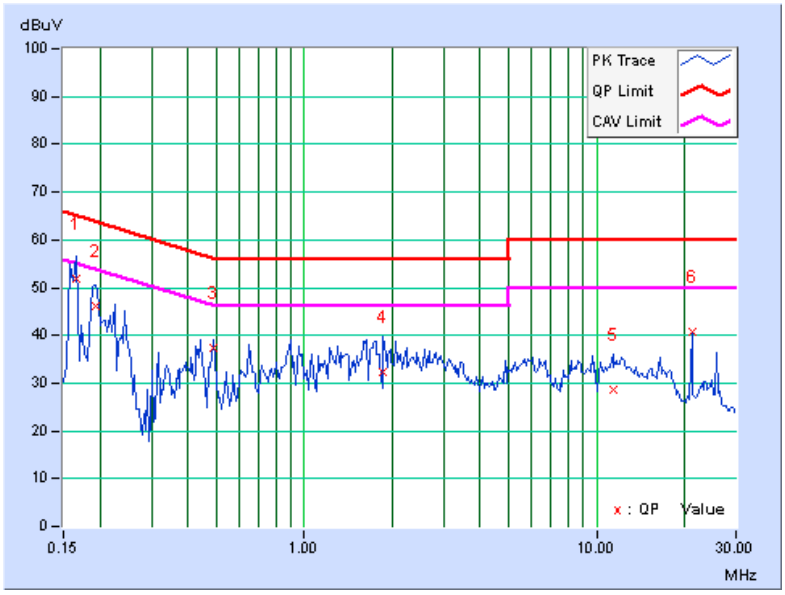


TEST MODE	1B	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	**TESTED BY**: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.23	51.49	33.83	51.72	34.06	65.18	55.18	-13.46	-21.12
2	0.19297	0.25	45.96	29.53	46.21	29.78	63.91	53.91	-17.70	-24.13
3	0.48984	0.28	37.23	32.92	37.51	33.20	56.17	46.17	-18.66	-12.97
4	1.86719	0.38	32.02	24.83	32.40	25.21	56.00	46.00	-23.60	-20.79
5	11.40625	0.71	28.06	22.29	28.77	23.00	60.00	50.00	-31.23	-27.00
6	**21.16925**	**0.96**	**39.62**	**38.80**	**40.58**	**39.76**	**60.00**	**50.00**	**-19.42**	**-10.24**

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.



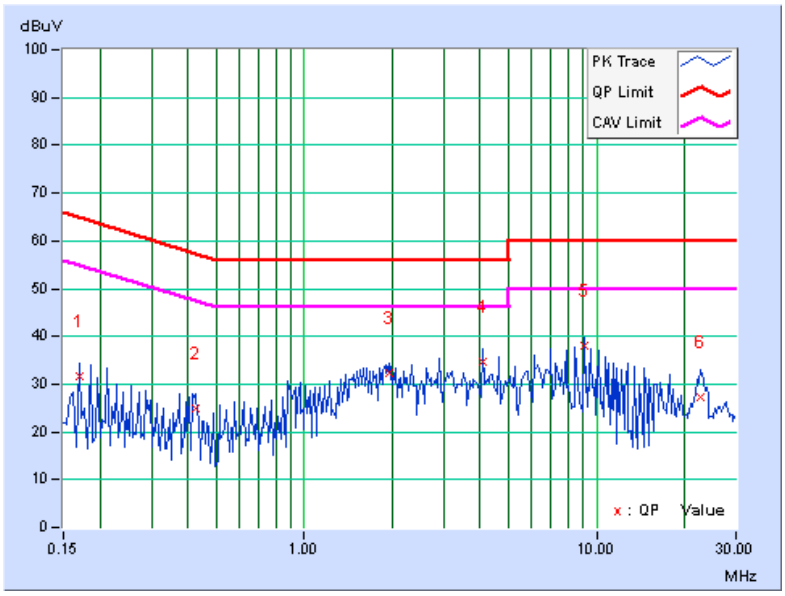
4.1.9 TEST RESULTS (2A)

TEST MODE	2A	6dB BANDWIDTH	9 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	TESTED BY: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.23	31.45	21.85	31.68	22.08	64.98	54.98	-33.31	-32.91
2	0.42344	0.29	24.79	19.22	25.08	19.51	57.38	47.38	-32.30	-27.87
3	1.94531	0.43	31.89	24.38	32.32	24.81	56.00	46.00	-23.68	-21.19
4	4.07813	0.58	34.15	29.77	34.73	30.35	56.00	46.00	-21.27	-15.65
5	9.03125	0.69	37.39	33.12	38.08	33.81	60.00	50.00	-21.92	-16.19
6	22.76953	1.02	26.21	12.60	27.23	13.62	60.00	50.00	-32.77	-36.38

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.

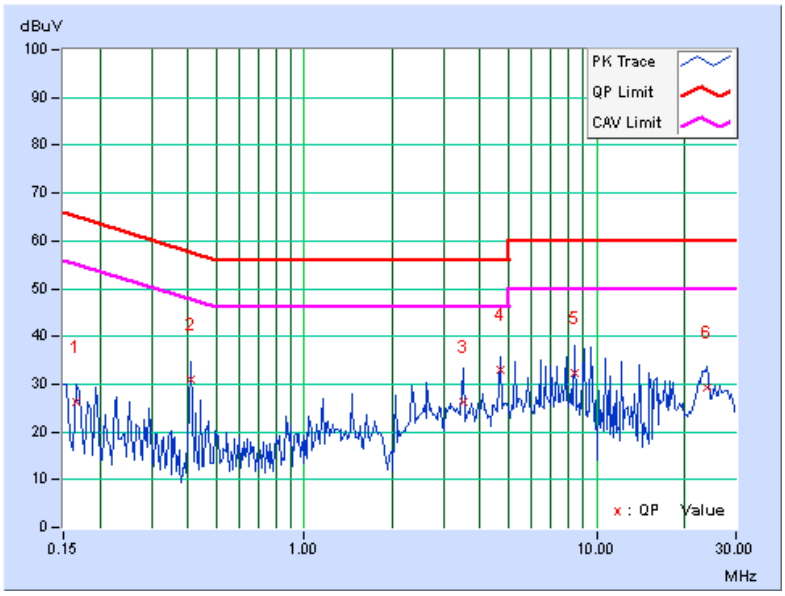


TEST MODE	2A	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	**TESTED BY**: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.24	26.06	10.57	26.30	10.81	65.18	55.18	-38.88	-44.37
2	0.41172	0.31	30.73	17.28	31.04	17.59	57.61	47.61	-26.57	-30.02
3	3.49219	0.60	25.83	16.07	26.43	16.67	56.00	46.00	-29.57	-29.33
4	4.66406	0.65	32.45	24.18	33.10	24.83	56.00	46.00	-22.90	-21.17
5	8.44922	0.73	31.65	21.68	32.38	22.41	60.00	50.00	-27.62	-27.59
6	23.88672	1.07	28.25	21.02	29.32	22.09	60.00	50.00	-30.68	-27.91

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.



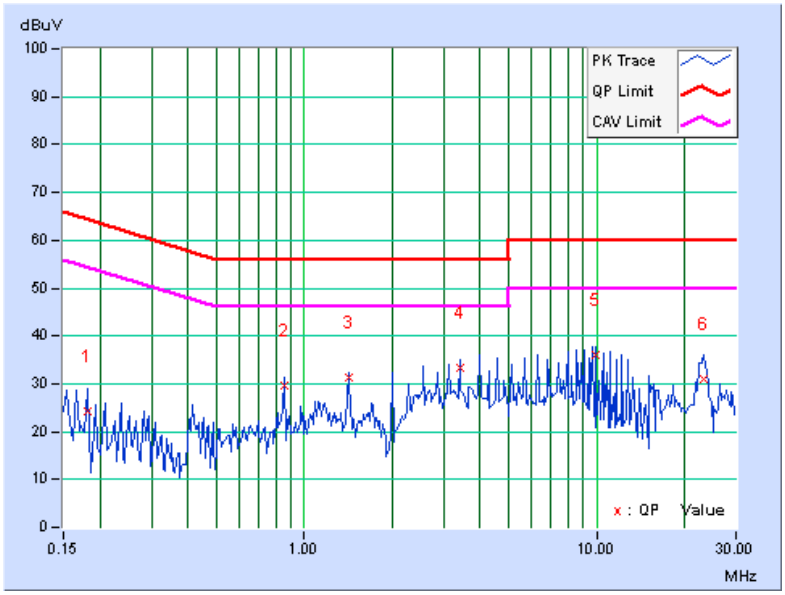
4.1.10 TEST RESULTS (2B)

TEST MODE	2B	6dB BANDWIDTH	9 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	TESTED BY: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	0.23	24.10	11.05	24.33	11.28	64.43	54.43	-40.09	-43.14
2	0.85313	0.33	29.33	24.36	29.66	24.69	56.00	46.00	-26.34	-21.31
3	1.42188	0.38	30.95	26.48	31.33	26.86	56.00	46.00	-24.67	-19.14
4	3.41406	0.54	32.78	27.70	33.32	28.24	56.00	46.00	-22.68	-17.76
5	9.95703	0.71	35.35	31.36	36.06	32.07	60.00	50.00	-23.94	-17.93
6	23.33203	1.00	30.01	17.49	31.01	18.49	60.00	50.00	-28.99	-31.51

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.

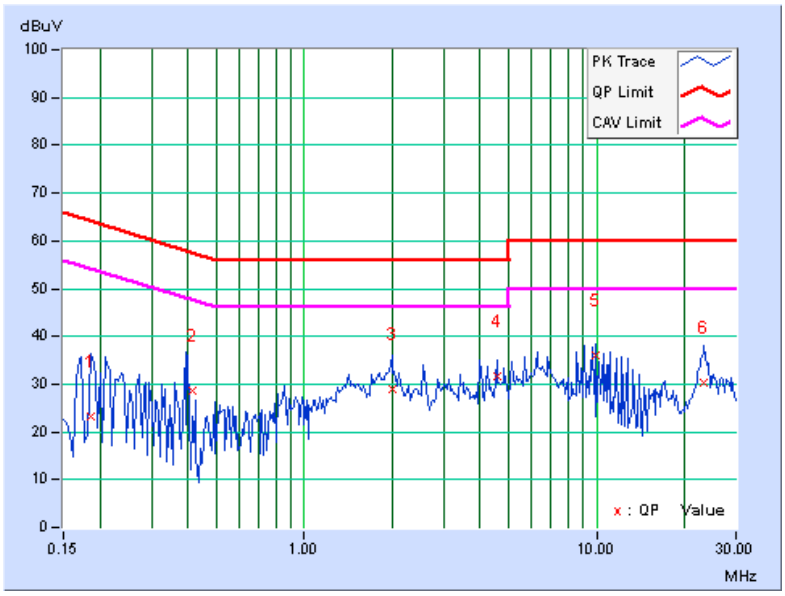


TEST MODE	2B	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 75% RH	**TESTED BY**: Vincent Chen	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18516	0.26	22.83	11.27	23.09	11.53	64.25	54.25	-41.16	-42.72
2	0.41380	0.31	28.43	14.72	28.74	15.03	57.57	47.57	-28.83	-32.54
3	1.99219	0.47	28.36	21.42	28.83	21.89	56.00	46.00	-27.17	-24.11
4	4.55078	0.65	31.02	22.99	31.67	23.64	56.00	46.00	-24.33	-22.36
5	9.95703	0.76	35.33	26.67	36.09	27.43	60.00	50.00	-23.91	-22.57
6	23.33203	1.08	29.29	21.53	30.37	22.61	60.00	50.00	-29.63	-27.39

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.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (section: 15.109)
ICES-003:2012 Issue 5 (section: 6.2)

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

Radiated Emissions Limits at 10 meters (dBµV/m)				
Frequencies (MHz)	***FCC 15B/ ICES-003,* Class A**	***FCC 15B / ICES-003,* 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		
1000-3000	Avg: 49.5 Peak: 69.5	Avg: 43.5 Peak: 63.5	Not defined	Not defined
Above 3000			Not defined	Not defined

Radiated Emissions Limits at 3 meters (dBµV/m)				
Frequencies (MHz)	***FCC 15B / ICES-003,* Class A**	***FCC 15B / ICES-003,* 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		
1000-3000	Avg: 60 Peak: 80	Avg: 54 Peak: 74	Avg: 56 Peak: 76	Avg: 50 Peak: 70
Above 3000			Avg: 60 Peak: 80	Avg: 54 Peak: 74

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. QP detector shall be applied if not specified.

FREQUENCY RANGE OF RADIATED MEASUREMENT (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

4.2.2 TEST INSTRUMENTS

Frequency Range 30MHz~1GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Preamplifier	8447D	2944A11062	Mar. 01, 2012	Feb. 28, 2013
Agilent Preamplifier	8447D	2944A11064	Mar. 01, 2012	Feb. 28, 2013
Agilent Test Spectrum	E4443A	MY46182050	Aug. 06, 2011	Aug. 05, 2012
Agilent Test Spectrum	E4443A	MY46182049	Jul. 23, 2011	Jul. 22, 2012
Agilent Test Preselector	N9039A	MY46520284	Aug. 06, 2011	Aug. 05, 2012
Agilent Test Preselector	N9039A	MY46520283	Jul. 23, 2011	Jul. 22, 2012
Agilent Signal Generator	N5181A	MY47421329	Jul. 13, 2011	Jul. 12, 2012
Schwarzbeck Antenna	VULB9168	9168-316	Apr. 09, 2012	Apr. 08, 2013
Schwarzbeck Antenna	VULB9168	9168-317	Apr. 09, 2012	Apr. 08, 2013
Max Full. Turn Table & Tower	MF7802	MF7802121	NA	NA
Max Full. Tower	MF7802	MF780208105	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
WOKEN RF cable	8D	CABLE-CH8-01.V	Dec. 22, 2011	Dec. 21, 2012
JYE BAO RF cable	8D	CABLE-CH8-02.H	Dec. 22, 2011	Dec. 21, 2012
JYE BAO RF cable	8D	CABLE-CH8-03.3M	Dec. 22, 2011	Dec. 21, 2012

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Chamber No. 8.
3. The Industry Canada Reference No. IC 7450E-8.
4. The VCCI Site Registration No. R-2946
5. The FCC Site Registration No. 493821.
6. Tested Date: Jun. 5, 2012.

Frequency Range above 1GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum	E4446A	MY46180403	Jun. 13, 2012	Jun. 12, 2013
Agilent Preamplifier	8449B	3008A01924	Mar. 01, 2012	Feb. 28, 2013
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Mar. 02, 2012	Mar. 01, 2013
Schwarzbeck Horn Antenna	BBHA-9170	BBHA9170190	Oct. 04, 2011	Oct. 03, 2012
ETS Horn Antenna	3117	00123980	Jan. 12, 2012	Jan. 11, 2013
Max Full. Turn Table	MF7802	MF7802121	NA	NA
Max Full. Tower	MF7802	MF780208105	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
SUHNER RF cable	SF106-18	Cable-CH8	Aug. 19, 2011	Aug. 18, 2012

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Chamber No. 8.
3. The Industry Canada Reference No. IC 7450E-8.
4. The VCCI Site Registration No. G-19
5. The FCC Site Registration No. 493821.
6. Tested Date: Jun. 6, 2012

4.2.3 TEST PROCEDURE

<Frequency Range 30MHz ~ 1GHz >

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. 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 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 turn 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.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.

<Frequency Range above 1GHz>

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic 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 test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

NOTE:

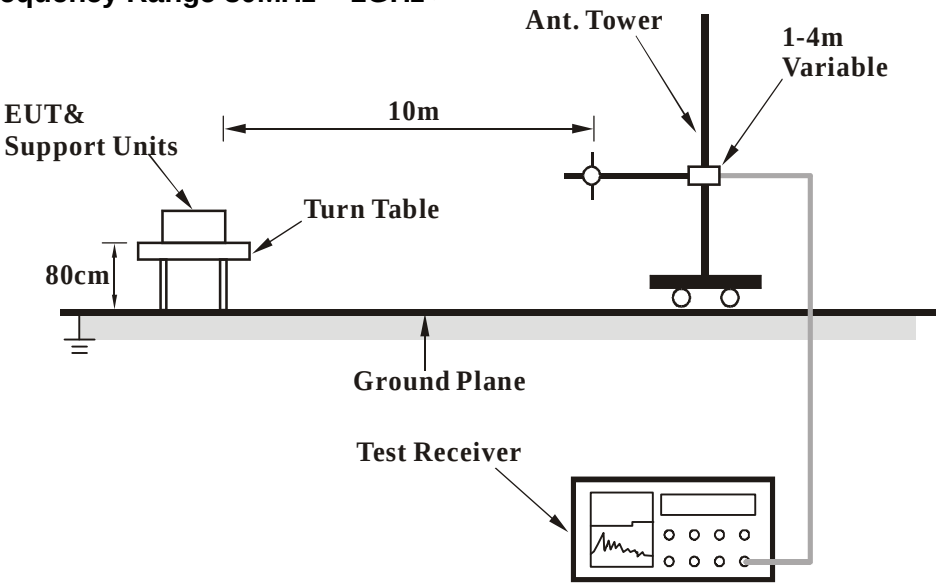
1. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
2. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.

4.2.4 DEVIATION FROM TEST STANDARD

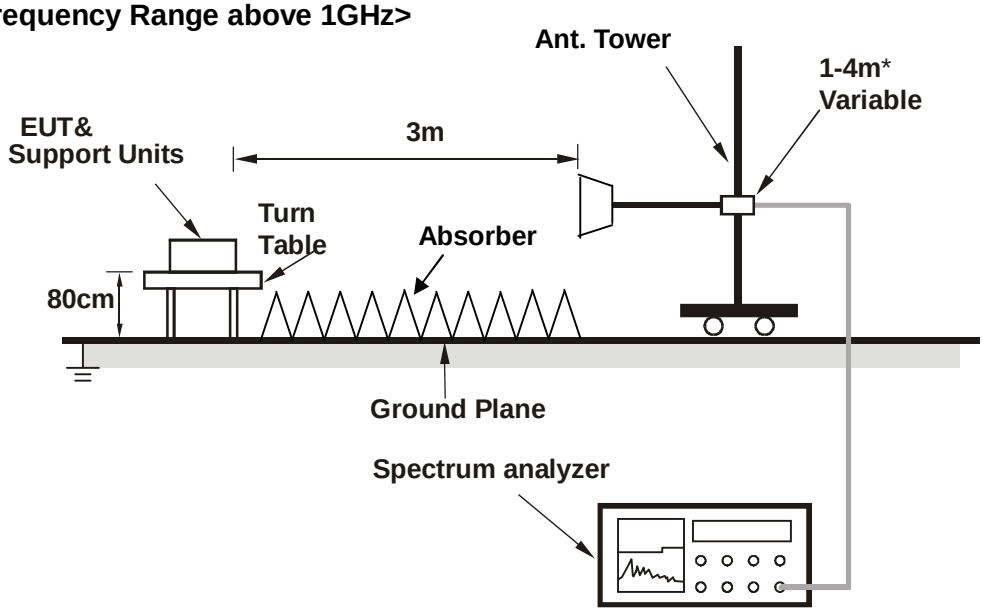
No deviation

4.2.5 TEST SETUP

<Frequency Range 30MHz ~ 1GHz >



<Frequency Range above 1GHz>



* : depends on the EUT height and the antenna 3dB beamwidth both, refer to section 8.3.2.2 of ANSI C63.4: 2009.

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

4.2.6 EUT OPERATING CONDITIONS

For Mode 1:

a. Connected the EUT with Notebook placed on testing table.
b. Set the EUT under transmission/receiving condition continuously at specific channel frequency.
c. Set EUT under charging condition continuously.
d. EUT received messages from cell phone (kept in a remote area) via Bluetooth function, then sent messages to earphone (EUT).

For Mode 2:

a. Connected the EUT with AC adapter placed on testing table.
b. Set the EUT under transmission/receiving condition continuously at specific channel frequency.
c. Set EUT under charging condition continuously.
d. EUT received messages from cell phone (kept in a remote area) via Bluetooth function, then sent messages to earphone (EUT).

For Mode 3:

a. Set the EUT under transmission/receiving condition continuously at specific channel frequency.
b. Set EUT under charging condition continuously.
c. EUT received messages from cell phone (kept in a remote area) via Bluetooth function, then sent messages to earphone (EUT).

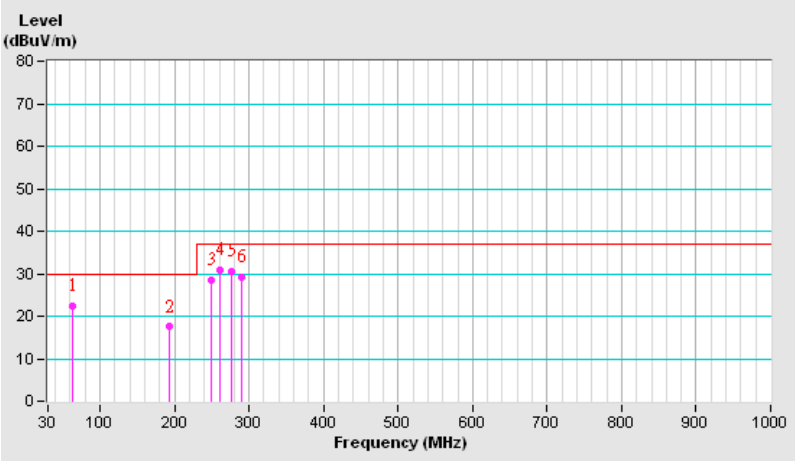
4.2.7 TEST RESULTS (1A)

TEST MODE	Mode 1A	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	62.45	22.44 QP	30.00	-7.56	3.00 H	18	8.30	14.14
2	192.00	17.50 QP	30.00	-12.50	4.00 H	189	4.96	12.54
3	249.91	28.64 QP	37.00	-8.36	4.00 H	136	14.42	14.22
4	**261.75**	**30.87 QP**	**37.00**	**-6.13**	**4.00 H**	**172**	**16.16**	**14.71**
5	275.73	30.55 QP	37.00	-6.45	3.00 H	125	15.30	15.25
6	289.82	29.12 QP	37.00	-7.88	3.00 H	115	13.31	15.81

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

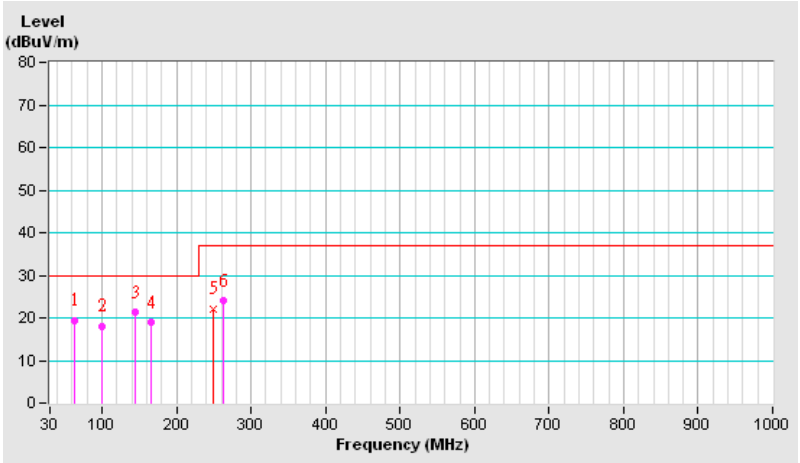


TEST MODE	Mode 1A	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	62.57	19.24 QP	30.00	-10.76	2.00 V	59	5.50	13.74
2	99.51	17.93 QP	30.00	-12.07	1.00 V	124	7.78	10.15
3	143.80	21.20 QP	30.00	-8.80	1.00 V	315	6.36	14.84
4	166.54	18.89 QP	30.00	-11.11	1.00 V	138	4.33	14.56
5	249.06	22.17 QP	37.00	-14.83	1.00 V	10	8.02	14.15
6	262.70	23.96 QP	37.00	-13.04	1.00 V	147	9.26	14.70

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

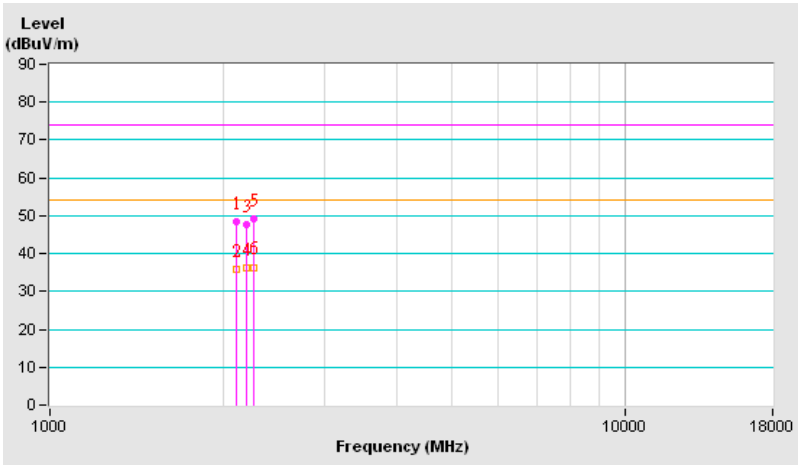


TEST MODE	Mode 1A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2110.26	48.29 PK	74.00	-25.71	1.32 H	49	13.03	35.26
2	2110.26	35.76 AV	54.00	-18.24	1.32 H	49	0.50	35.26
3	2193.13	47.59 PK	74.00	-26.41	1.19 H	205	12.13	35.46
4	2193.13	36.05 AV	54.00	-17.95	1.19 H	205	0.59	35.46
5	2263.76	49.11 PK	74.00	-24.89	1.24 H	148	13.39	35.72
6	2263.76	36.41 AV	54.00	-17.59	1.24 H	148	0.69	35.72

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

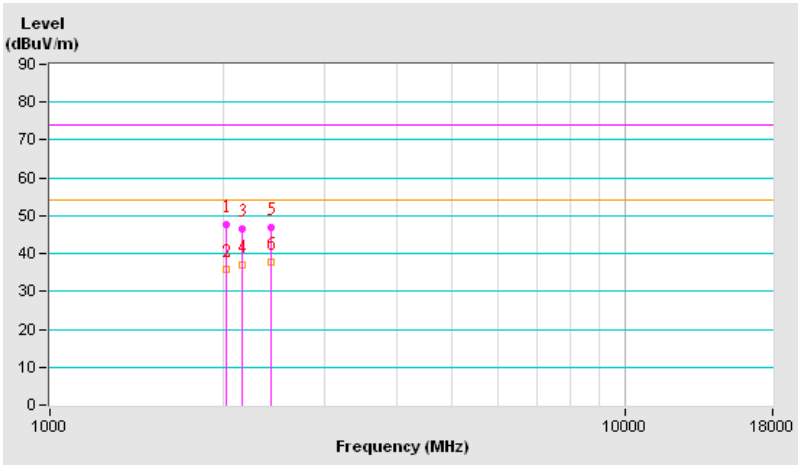


TEST MODE	Mode 1A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2023.84	47.81 PK	74.00	-26.19	1.12 V	186	12.79	35.02
2	2023.84	35.86 AV	54.00	-18.14	1.12 V	186	0.84	35.02
3	2154.71	46.52 PK	74.00	-27.48	1.26 V	51	11.15	35.37
4	2154.71	36.83 AV	54.00	-17.17	1.26 V	51	1.46	35.37
5	2421.19	46.96 PK	74.00	-27.04	1.19 V	164	10.80	36.16
6	2421.19	37.82 AV	54.00	-16.18	1.19 V	164	1.66	36.16

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



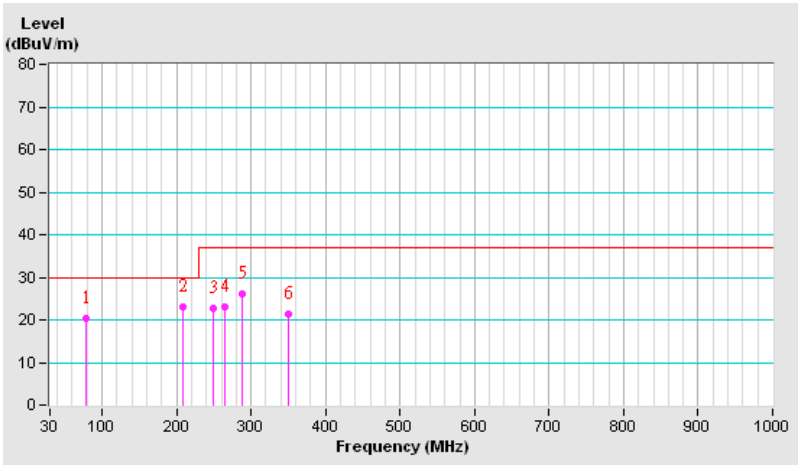
4.2.8 TEST RESULTS (1B)

TEST MODE	Mode 1B	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	77.61	20.41 QP	30.00	-9.59	4.00 H	341	9.37	11.04
2	209.06	23.04 QP	30.00	-6.96	4.00 H	174	10.87	12.17
3	249.91	22.72 QP	37.00	-14.28	2.00 H	269	8.50	14.22
4	263.88	23.20 QP	37.00	-13.80	2.00 H	199	8.41	14.79
5	287.81	26.18 QP	37.00	-10.82	2.00 H	269	10.45	15.73
6	349.86	21.29 QP	37.00	-15.71	3.00 H	172	3.58	17.71

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

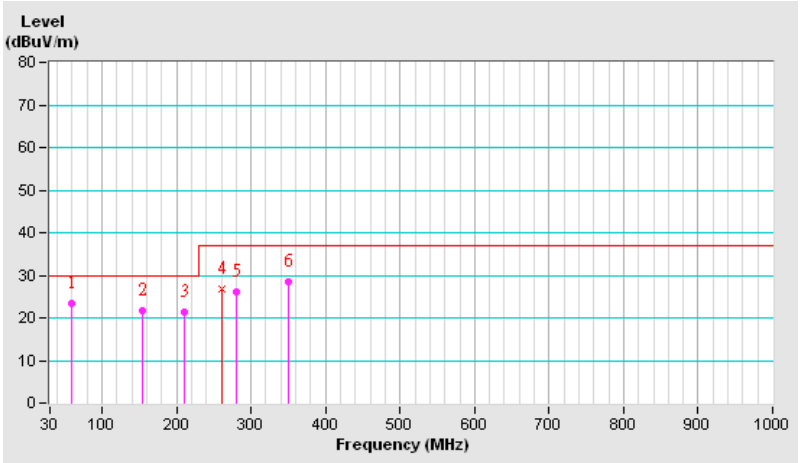


TEST MODE	Mode 1B	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	58.78	23.31 QP	30.00	-6.69	1.00 V	3	9.25	14.06
2	154.46	21.82 QP	30.00	-8.18	1.00 V	315	6.62	15.20
3	210.00	21.48 QP	30.00	-8.52	1.00 V	60	9.14	12.34
4	261.48	26.77 QP	37.00	-10.23	1.00 V	135	12.12	14.65
5	279.87	26.21 QP	37.00	-10.79	1.00 V	314	10.83	15.38
6	349.86	28.47 QP	37.00	-8.53	1.00 V	102	10.93	17.54

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

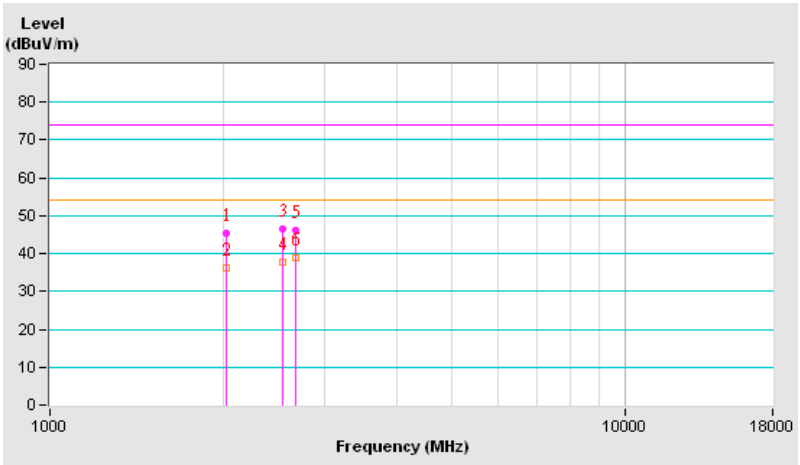


TEST MODE	Mode 1B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2027.00	45.52 PK	74.00	-28.48	1.50 H	65	10.49	35.03
2	2027.00	36.13 AV	54.00	-17.87	1.50 H	65	1.10	35.03
3	2537.26	46.63 PK	74.00	-27.37	1.00 H	54	10.16	36.47
4	2537.26	37.70 AV	54.00	-16.30	1.00 H	54	1.23	36.47
5	2668.25	46.21 PK	74.00	-27.79	1.00 H	171	9.43	36.78
6	2668.25	38.77 AV	54.00	-15.23	1.00 H	171	1.99	36.78

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

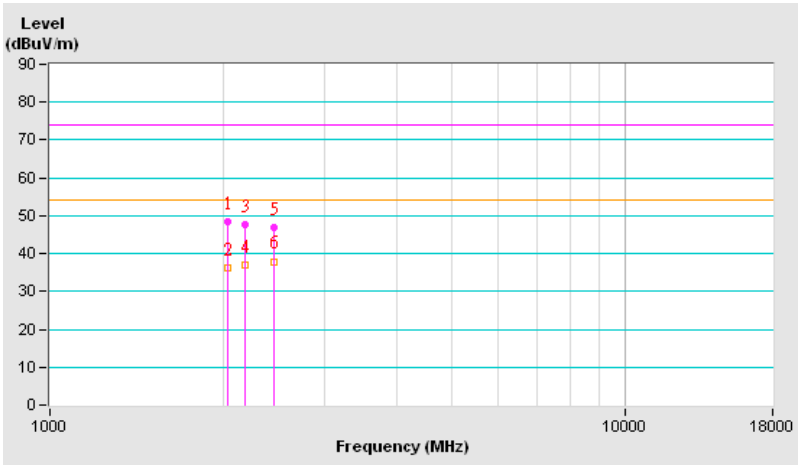


TEST MODE	Mode 1B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER (SYSEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2037.70	48.51 PK	74.00	-25.49	1.00 V	160	13.45	35.06
2	2037.70	36.28 AV	54.00	-17.72	1.00 V	160	1.22	35.06
3	2182.27	47.75 PK	74.00	-26.25	1.00 V	155	12.31	35.44
4	2182.27	37.00 AV	54.00	-17.00	1.00 V	155	1.56	35.44
5	2443.26	46.74 PK	74.00	-27.26	1.50 V	309	10.53	36.21
6	2443.26	37.93 AV	54.00	-16.07	1.50 V	309	1.72	36.21

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



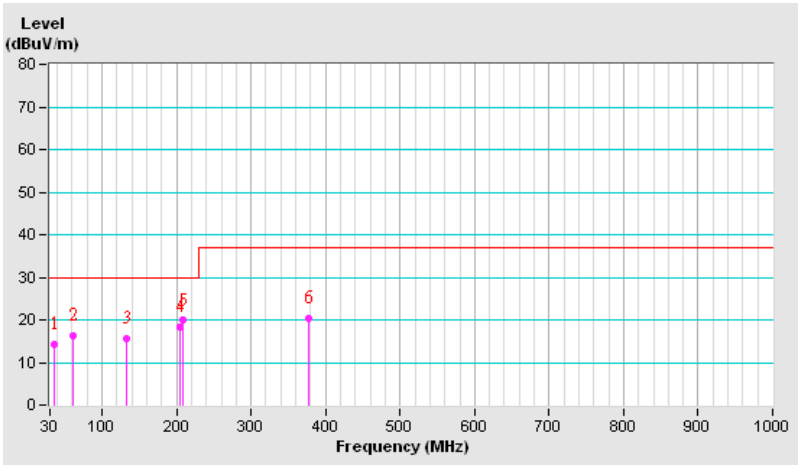
4.2.9 TEST RESULTS (2A)

TEST MODE	Mode 2A	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	36.16	14.31 QP	30.00	-15.69	3.00 H	343	1.60	12.71
2	60.20	16.28 QP	30.00	-13.72	4.00 H	161	1.90	14.38
3	132.67	15.54 QP	30.00	-14.46	2.00 H	74	1.47	14.07
4	203.96	18.33 QP	30.00	-11.67	4.00 H	122	6.41	11.92
5	207.99	19.87 QP	30.00	-10.13	3.00 H	84	7.75	12.12
6	377.10	20.36 QP	37.00	-16.64	3.00 H	54	1.87	18.49

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

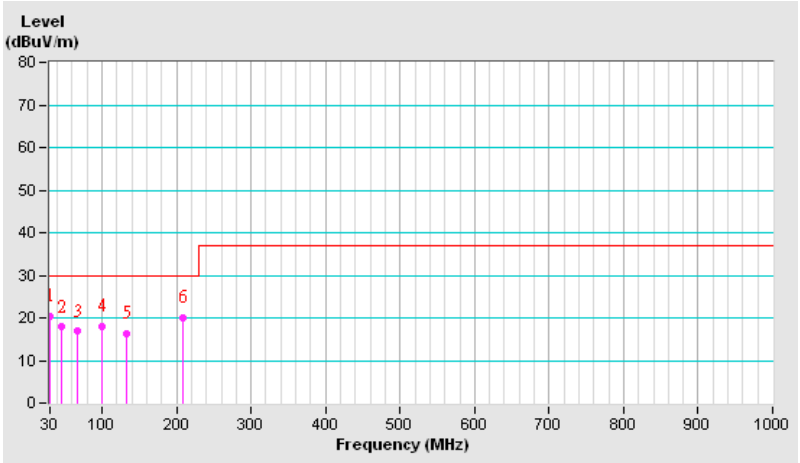


TEST MODE	Mode 2A	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.95	20.33 QP	30.00	-9.67	1.00 V	132	7.85	12.48
2	45.87	17.86 QP	30.00	-12.14	2.00 V	262	3.33	14.53
3	66.71	16.84 QP	30.00	-13.16	2.00 V	36	3.53	13.31
4	99.51	17.98 QP	30.00	-12.02	1.00 V	221	7.83	10.15
5	132.67	16.32 QP	30.00	-13.68	1.00 V	0	2.41	13.91
6	207.99	20.05 QP	30.00	-9.95	1.00 V	41	7.80	12.25

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

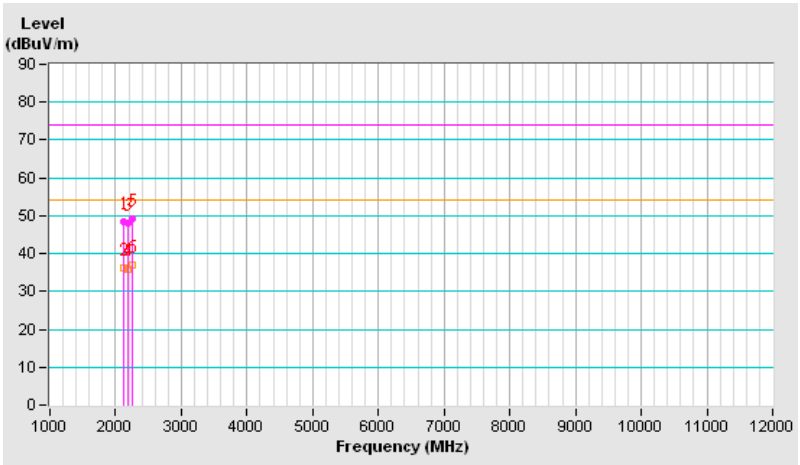


TEST MODE	Mode 2A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2111.06	48.26 PK	74.00	-25.74	1.44 H	52	13.00	35.26
2	2111.06	36.14 AV	54.00	-17.86	1.44 H	52	0.88	35.26
3	2194.06	47.91 PK	74.00	-26.09	1.06 H	171	12.44	35.47
4	2194.06	36.03 AV	54.00	-17.97	1.06 H	171	0.56	35.47
5	2262.29	49.05 PK	74.00	-24.95	1.06 H	52	13.33	35.72
6	2262.29	36.81 AV	54.00	-17.19	1.06 H	52	1.09	35.72

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

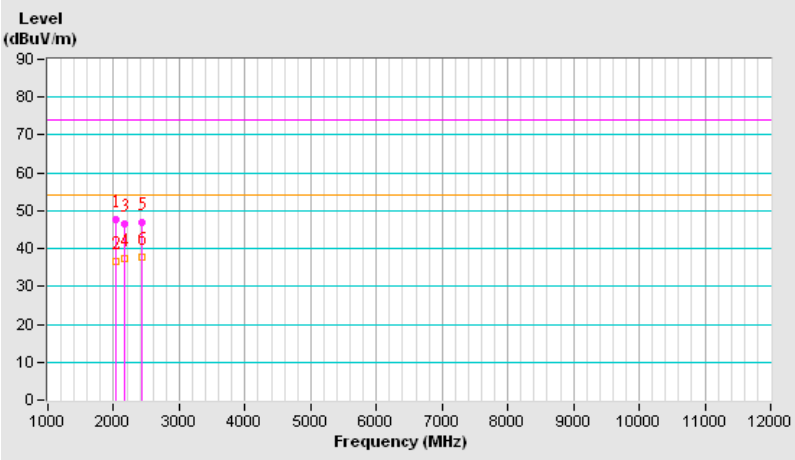


TEST MODE	Mode 2A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2043.16	47.69 PK	74.00	-26.31	1.11 V	19	12.62	35.07
2	2043.16	36.72 AV	54.00	-17.28	1.11 V	19	1.65	35.07
3	2173.13	46.51 PK	74.00	-27.49	1.22 V	51	11.10	35.41
4	2173.13	37.29 AV	54.00	-16.71	1.22 V	51	1.88	35.41
5	2420.72	47.03 PK	74.00	-26.97	1.23 V	108	10.87	36.16
6	2420.72	37.81 AV	54.00	-16.19	1.23 V	108	1.65	36.16

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



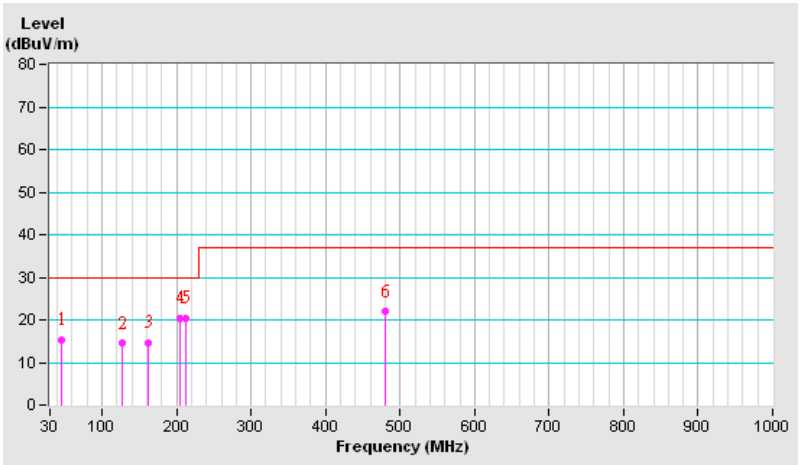
4.2.10 TEST RESULTS (2B)

TEST MODE	Mode 2B	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.80	15.30 QP	30.00	-14.70	2.00 H	293	0.86	14.44
2	127.46	14.41 QP	30.00	-15.59	3.00 H	62	0.82	13.59
3	161.45	14.64 QP	30.00	-15.36	1.00 H	73	0.17	14.47
4	203.96	20.38 QP	30.00	-9.62	4.00 H	296	8.46	11.92
5	212.02	20.48 QP	30.00	-9.52	4.00 H	104	8.16	12.32
6	479.89	21.93 QP	37.00	-15.07	3.00 H	132	0.58	21.35

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

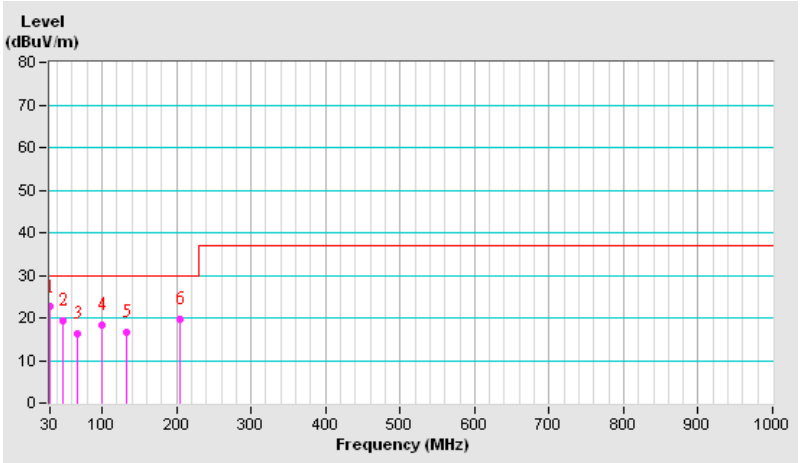


TEST MODE	Mode 2B	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	22.55 QP	30.00	-7.45	4.00 V	315	10.20	12.35
2	47.17	19.42 QP	30.00	-10.58	1.00 V	138	4.91	14.51
3	66.36	16.39 QP	30.00	-13.61	4.00 V	1	3.05	13.34
4	99.51	18.41 QP	30.00	-11.59	1.00 V	64	8.26	10.15
5	132.67	16.65 QP	30.00	-13.35	1.00 V	127	2.74	13.91
6	203.96	19.73 QP	30.00	-10.27	1.00 V	92	7.67	12.06

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

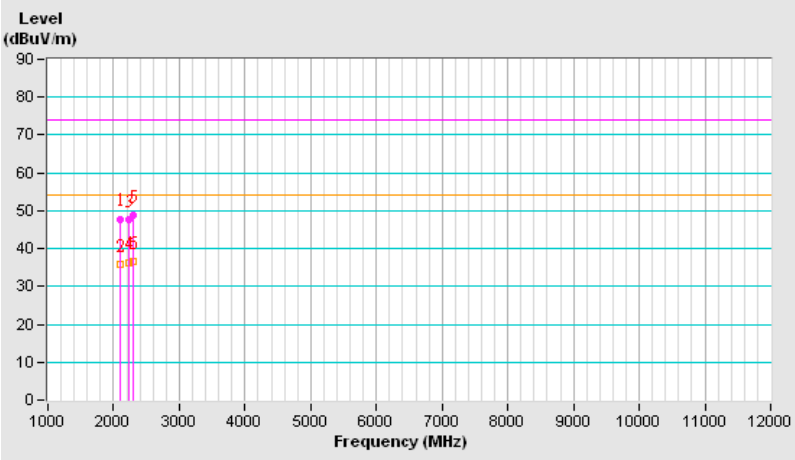


TEST MODE	Mode 2B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2104.16	47.83 PK	74.00	-26.17	1.51 H	43	12.59	35.24
2	2104.16	35.79 AV	54.00	-18.21	1.51 H	43	0.55	35.24
3	2231.42	47.61 PK	74.00	-26.39	1.08 H	127	12.01	35.60
4	2231.42	36.39 AV	54.00	-17.61	1.08 H	127	0.79	35.60
5	2294.53	48.71 PK	74.00	-25.29	1.51 H	59	12.87	35.84
6	2294.53	36.52 AV	54.00	-17.48	1.51 H	59	0.68	35.84

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

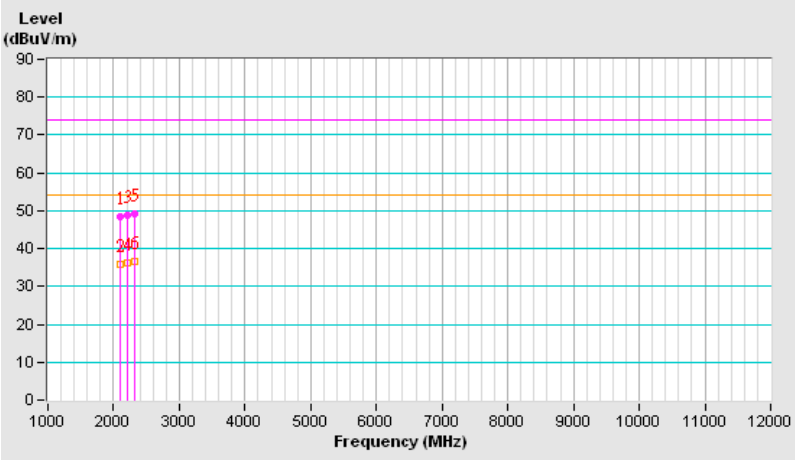


TEST MODE	Mode 2B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	120Vac, 60 Hz	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2096.42	48.29 PK	74.00	-25.71	1.09 V	24	13.07	35.22
2	2096.42	35.73 AV	54.00	-18.27	1.09 V	24	0.51	35.22
3	2219.72	48.76 PK	74.00	-25.24	1.28 V	224	13.21	35.55
4	2219.72	36.16 AV	54.00	-17.84	1.28 V	224	0.61	35.55
5	2309.44	49.31 PK	74.00	-24.69	1.53 V	29	13.43	35.88
6	2309.44	36.74 AV	54.00	-17.26	1.53 V	29	0.86	35.88

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



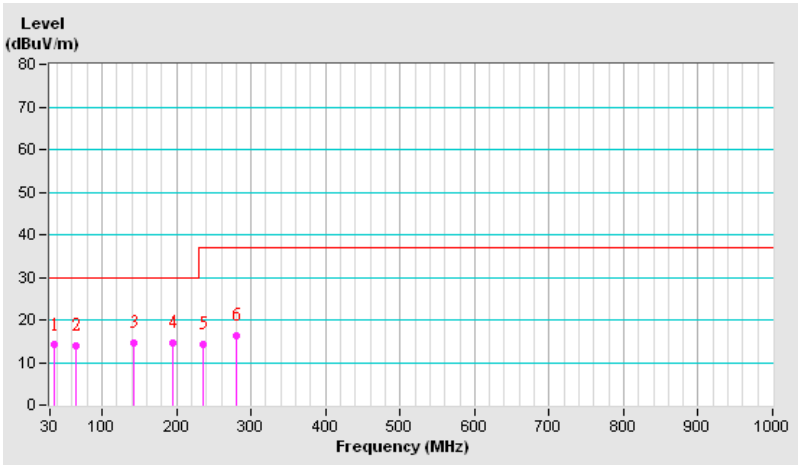
4.2.11 TEST RESULTS (3A)

TEST MODE	Mode 3A	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	3.7Vdc	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	36.16	14.10 QP	30.00	-15.90	3.00 H	280	1.39	12.71
2	65.41	13.98 QP	30.00	-16.02	2.00 H	18	0.16	13.82
3	142.74	14.65 QP	30.00	-15.35	3.00 H	261	0.04	14.61
4	195.32	14.61 QP	30.00	-15.39	1.00 H	2	2.41	12.20
5	235.94	14.25 QP	37.00	-22.75	4.00 H	300	0.73	13.52
6	280.11	16.21 QP	37.00	-20.79	3.00 H	80	0.78	15.43

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

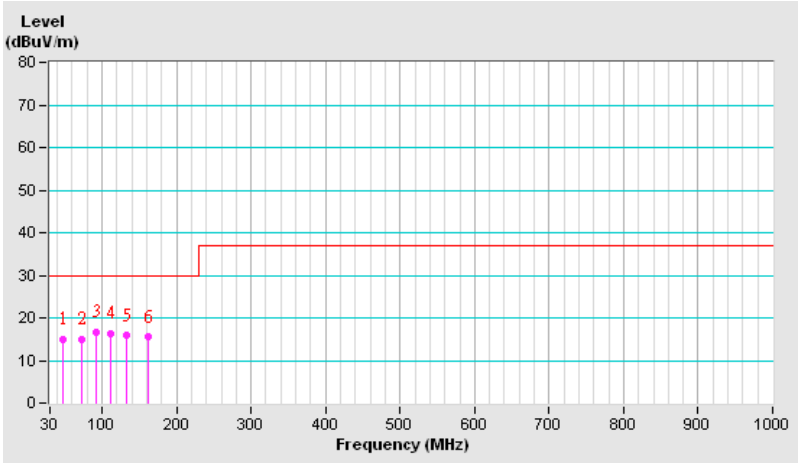


TEST MODE	Mode 3A	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	47.17	14.94 QP	30.00	-15.06	3.00 V	266	0.43	14.51
2	72.75	15.02 QP	30.00	-14.98	2.00 V	7	2.80	12.22
3	92.17	16.59 QP	30.00	-13.41	1.00 V	40	7.33	9.26
4	110.65	16.32 QP	30.00	-13.68	1.00 V	114	4.65	11.67
5	132.67	15.80 QP	30.00	-14.20	1.00 V	6	1.89	13.91
6	161.45	15.47 QP	30.00	-14.53	1.00 V	25	0.68	14.79

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

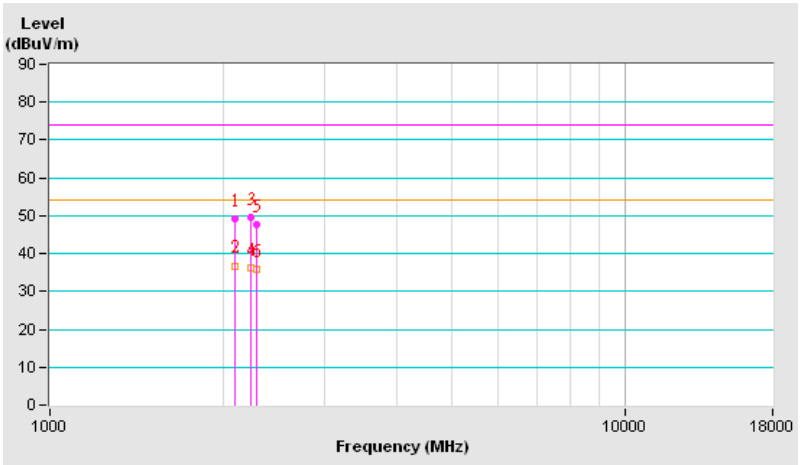


TEST MODE	Mode 3A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2097.00	49.31 PK	74.00	-24.69	1.40 H	82	14.09	35.22
2	2097.00	36.76 AV	54.00	-17.24	1.40 H	82	1.54	35.22
3	2233.06	49.49 PK	74.00	-24.51	1.06 H	59	13.88	35.61
4	2233.06	36.12 AV	54.00	-17.88	1.06 H	59	0.51	35.61
5	2284.34	47.53 PK	74.00	-26.47	1.39 H	65	11.73	35.80
6	2284.34	35.93 AV	54.00	-18.07	1.39 H	65	0.13	35.80

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

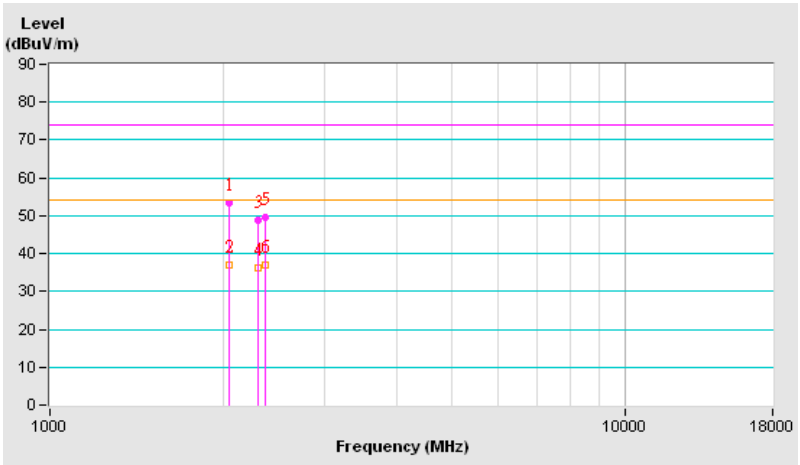


TEST MODE	Mode 3A	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2049.93	53.20 PK	74.00	-20.80	1.06 V	158	18.11	35.09
2	2049.93	36.84 AV	54.00	-17.16	1.06 V	158	1.75	35.09
3	2303.94	48.91 PK	74.00	-25.09	1.02 V	349	13.04	35.87
4	2303.94	36.18 AV	54.00	-17.82	1.02 V	349	0.31	35.87
5	2368.71	49.55 PK	74.00	-24.45	1.00 V	145	13.52	36.03
6	2368.71	36.97 AV	54.00	-17.03	1.00 V	145	0.94	36.03

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



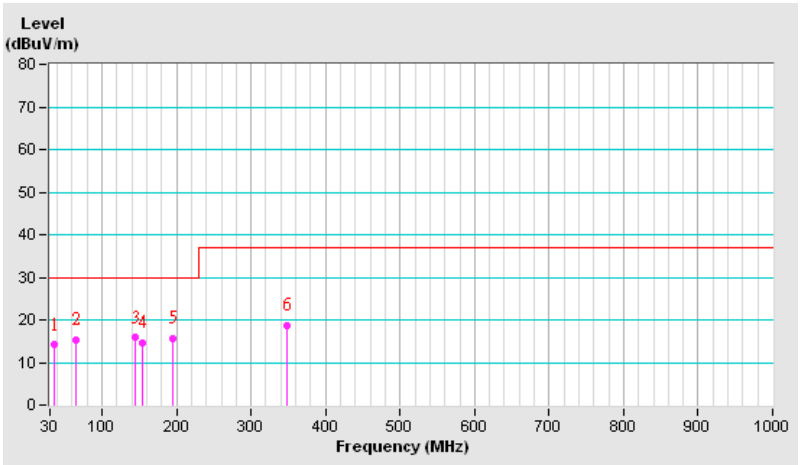
4.2.12 TEST RESULTS (3B)

TEST MODE	Mode 3B	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	3.7Vdc	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	36.28	14.13 QP	30.00	-15.87	3.00 H	18	1.38	12.75
2	64.58	15.28 QP	30.00	-14.72	4.00 H	251	1.37	13.91
3	144.63	15.84 QP	30.00	-14.16	2.00 H	38	1.32	14.52
4	154.82	14.67 QP	30.00	-15.33	1.00 H	71	0.30	14.37
5	195.32	15.56 QP	30.00	-14.44	1.00 H	154	3.36	12.20
6	347.73	18.76 QP	37.00	-18.24	3.00 H	146	1.11	17.65

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

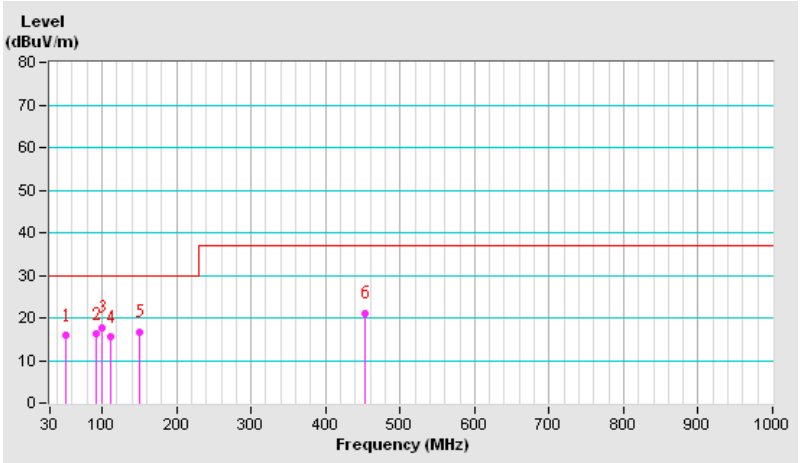


TEST MODE	Mode 3B	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Quasi-Peak, 120 kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 80% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	52.03	15.84 QP	30.00	-14.16	4.00 V	4	1.48	14.36
2	92.17	16.12 QP	30.00	-13.88	1.00 V	156	6.86	9.26
3	99.51	17.66 QP	30.00	-12.34	1.00 V	281	7.51	10.15
4	110.65	15.43 QP	30.00	-14.57	1.00 V	244	3.76	11.67
5	149.84	16.69 QP	30.00	-13.31	3.00 V	142	1.24	15.45
6	453.24	21.04 QP	37.00	-15.96	4.00 V	78	0.61	20.43

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

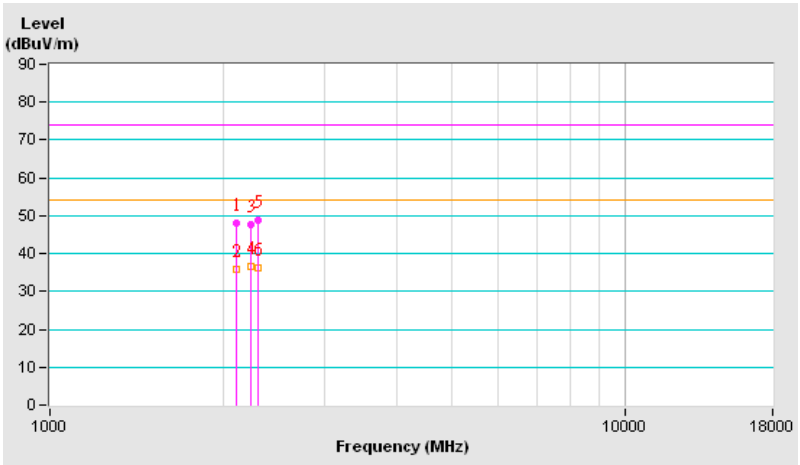


TEST MODE	Mode 3B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2102.43	47.92 PK	74.00	-26.08	1.31 H	51	12.68	35.24
2	2102.43	35.84 AV	54.00	-18.16	1.31 H	51	0.60	35.24
3	2230.83	47.64 PK	74.00	-26.36	1.08 H	192	12.04	35.60
4	2230.83	36.53 AV	54.00	-17.47	1.08 H	192	0.93	35.60
5	2293.51	48.71 PK	74.00	-25.29	1.37 H	209	12.87	35.84
6	2293.51	36.28 AV	54.00	-17.72	1.37 H	209	0.44	35.84

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

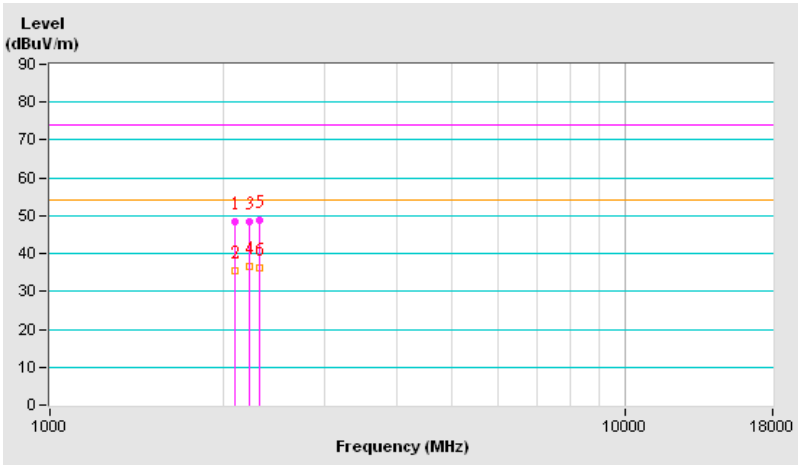


TEST MODE	Mode 3B	**FREQUENCY RANGE**	1-12.5GHz
INPUT POWER	3.7Vdc	**DETECTOR FUNCTION & RESOLUTION BANDWIDTH**	Peak/ Average , 1MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 77% RH	**TESTED BY:** Ian Chang	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2092.71	48.26 PK	74.00	-25.74	1.06 V	28	13.05	35.21
2	2092.71	35.33 AV	54.00	-18.67	1.06 V	28	0.12	35.21
3	2220.16	48.53 PK	74.00	-25.47	1.31 V	243	12.97	35.56
4	2220.16	36.43 AV	54.00	-17.57	1.31 V	243	0.87	35.56
5	2308.16	48.73 PK	74.00	-25.27	1.51 V	71	12.85	35.88
6	2308.16	36.19 AV	54.00	-17.81	1.51 V	71	0.31	35.88

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



5 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6 INFORMATION ON 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.

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

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Web Site: www.bureauveritas-adt.com

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

7 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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