



A D T

FCC TEST REPORT (CO-LOCATED)

REPORT NO.: RF131126C13-3
MODEL NO.: OUYA1P
FCC ID: VUI-OUYA1P
RECEIVED: Nov. 26, 2013
TESTED: Dec. 20 ~ Dec. 22, 2013
ISSUED: Dec. 24, 2013

APPLICANT: PEGATRON CORPORATION

ADDRESS: 5F., NO. 76, LIGONG ST., BEITOU DISTRICT,
TAIPEI CITY 112, TAIWAN (R.O.C.)

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

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,
New Taipei City, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.



A D T

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1. CERTIFICATION	4
2. SUMMARY OF TEST RESULTS	5
2.1 MEASUREMENT UNCERTAINTY	5
3. GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 DESCRIPTION OF TEST MODES	8
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	11
3.3 DESCRIPTION OF SUPPORT UNITS	13
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	13
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	13
4. TEST TYPES AND RESULTS	14
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	14
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	14
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	14
4.1.3 TEST INSTRUMENTS	15
4.1.4 TEST PROCEDURES	16
4.1.5 DEVIATION FROM TEST STANDARD	16
4.1.6 TEST SETUP	17
4.1.7 EUT OPERATING CONDITIONS	17
4.1.8 TEST RESULTS	18
4.2 CONDUCTED EMISSION MEASUREMENT	27
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	27
4.2.2 TEST INSTRUMENTS	27
4.2.3 TEST PROCEDURES	28
4.2.4 DEVIATION FROM TEST STANDARD	28
4.2.5 TEST SETUP	29
4.2.6 EUT OPERATING CONDITIONS	29
4.2.7 TEST RESULTS	30
5. PHOTOGRAPHS OF THE TEST CONFIGURATION	36
6. INFORMATION ON THE TESTING LABORATORIES	37
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	38



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131126C13-3	Original release	Dec. 24, 2013



A D T

1. CERTIFICATION

PRODUCT: Game Console
MODEL NO.: OUYA1P
BRAND: OUYA
APPLICANT: PEGATRON CORPORATION
TESTED: Dec. 20 ~ Dec. 22, 2013
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009

The above equipment (model: OUYA1P) 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 : Celine Chou , **DATE** : Dec. 24, 2013
Celine Chou / Specialist

APPROVED BY : Ken Liu , **DATE** : Dec. 24, 2013
Ken Liu / Senior Manager



A D T

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207 15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -18.33dB at 0.16173MHz.
15.247(d) 15.407(b/1/2/3) (b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -2.1dB at 623.66MHz.

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	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~ 1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Game Console	
MODEL NO.	OUYA1P	
POWER SUPPLY	12Vdc from adapter	
MODULATION TYPE	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	BT	GFSK, $\pi/4$ -DQPSK, 8DPSK
MODULATION TECHNOLOGY	WLAN	DSSS, OFDM
	BT	FHSS
TRANSFER RATE	WLAN	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 135.0Mbps
	BT	1/2/3Mbps
OPERATING FREQUENCY	WLAN	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
	BT	2402 ~ 2480MHz
NUMBER OF CHANNEL	WLAN	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
	BT	79
OUTPUT POWER	WLAN	171.002mW for 2412 ~ 2462MHz 21.478mW for 5180 ~ 5240MHz 21.184mW for 5260 ~ 5320MHz 20.893mW for 5500 ~ 5700MHz 114.551mW for 5745 ~ 5825MHz
	BT	7.311mW



ANTENNA TYPE	2.4GHz: PCB antenna with 2.87dBi gain 5GHz: PCB antenna with 4.49dBi gain
ANTENNA CONNECTOR	N/A
I/O PORTS	Refer to user's manual
DATA CABLE	N/A
ACCESSORY DEVICES	Adapter

NOTE:

1. The following colors and capacities are provided to EUT.

Item	Color	Capacity
1	Black, White	8GB
2	Black, White	16GB

* Item 2 (White) was chosen for final test.

2. The EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX

3. The EUT consumes power from the following adapter.

BRAND	Ktec
MODEL	KSASB0241200150HU
INPUT POWER	100-240Vac, 50/60Hz, 0.6A
OUTPUT POWER	12Vdc, 1.5A
POWER LINE:	DC: 1.5m non-shielded cable without core

4. 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 DESCRIPTION OF TEST MODES

FOR BLUETOOTH:

79 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461		



FOR 2412 ~ 2462MHz:

11 channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

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

7 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz



A D T

FOR 5500 ~ 5700MHz

8 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	134	5670 MHz
110	5550 MHz		

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	RE≥1G	RE<1G	PLC	
-	√	√	√	-

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission

NOTE: The EUT had been pre-tested four side of EUT. The worst case was found when side on **top**.

RADIATED EMISSION TEST (ABOVE 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	BT + 802.11g	2402 ~ 2480	0 to 78	0 + 6	GFSK
		2412 ~ 2462	1 to 11		BPSK
-	BT + 802.11a	2402 ~ 2480	0 to 78	0 + 48	GFSK
		5180 ~ 5240	36 to 48		BPSK
		5260 ~ 5320	52 to 64		BPSK
		5500 ~ 5700	100 to 140		BPSK
		5745 ~ 5825	149 to 165		BPSK
-	BT + 802.11n (20MHz)	2402 ~ 2480	0 to 78	0 + 157	GFSK
		5745 ~ 5825	149 to 165		BPSK

RADIATED EMISSION TEST (BELOW 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
-	BT + 802.11g	2402 ~ 2480	0 to 78	0 + 6	GFSK
		2412 ~ 2462	1 to 11		BPSK
-	BT + 802.11a	2402 ~ 2480	0 to 78	0 + 48	GFSK
		5180 ~ 5240	36 to 48		BPSK
		5260 ~ 5320	52 to 64		BPSK
		5500 ~ 5700	100 to 140		BPSK
		5745 ~ 5825	149 to 165		BPSK
-	BT + 802.11n (20MHz)	2402 ~ 2480	0 to 78	0 + 157	GFSK
		5745 ~ 5825	149 to 165		BPSK



A D T

CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY
	BT + 802.11g	2402 ~ 2480	0 to 78	0 + 6	GFSK
		2412 ~ 2462	1 to 11		BPSK
	BT + 802.11a	2402 ~ 2480	0 to 78	0 + 48	GFSK
		5180 ~ 5240	36 to 48		BPSK
		5260 ~ 5320	52 to 64		BPSK
		5500 ~ 5700	100 to 140		BPSK
	BT + 802.11n (20MHz)	2402 ~ 2480	0 to 78	0 + 157	GFSK
		5745 ~ 5825	149 to 165		BPSK

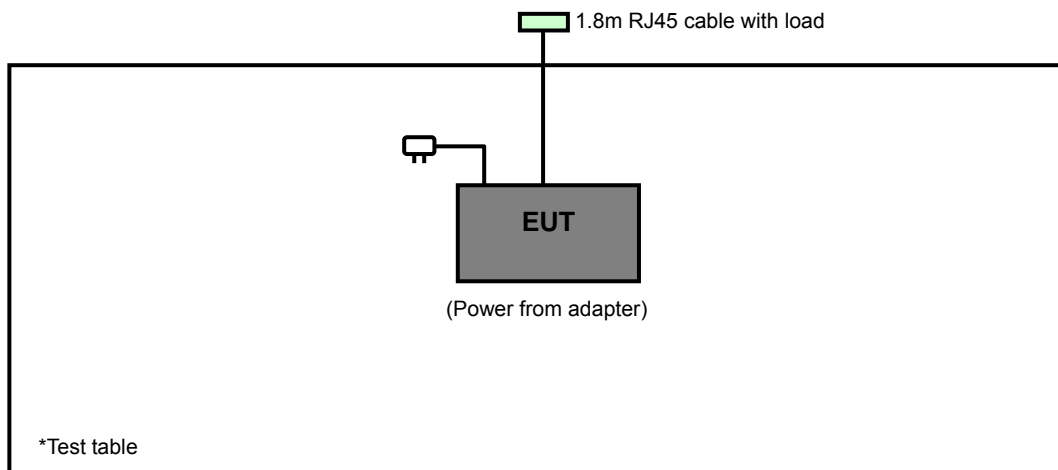
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	22deg. C, 69%RH	120Vac, 60Hz	Jones Chang
RE<1G	22deg. C, 69%RH	120Vac, 60Hz	Jones Chang
PLC	22deg. C, 66%RH	120Vac, 60Hz	Jones Chang

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (Section 15.247)

FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.



4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$



A D T

4.1.3 TEST INSTRUMENTS

Tested date: Dec. 22, 2013

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Oct. 24, 2013	Oct. 23, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Dec. 22, 2013	Dec. 21, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Preamplifier Agilent	8449B	3008A01961	Oct. 28, 2013	Oct. 27, 2014
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 26, 2013	Aug. 25, 2014
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA

- 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 HwaYa Chamber 4.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 460141.
 5. The IC Site Registration No. is IC7450F-4.



A D T

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

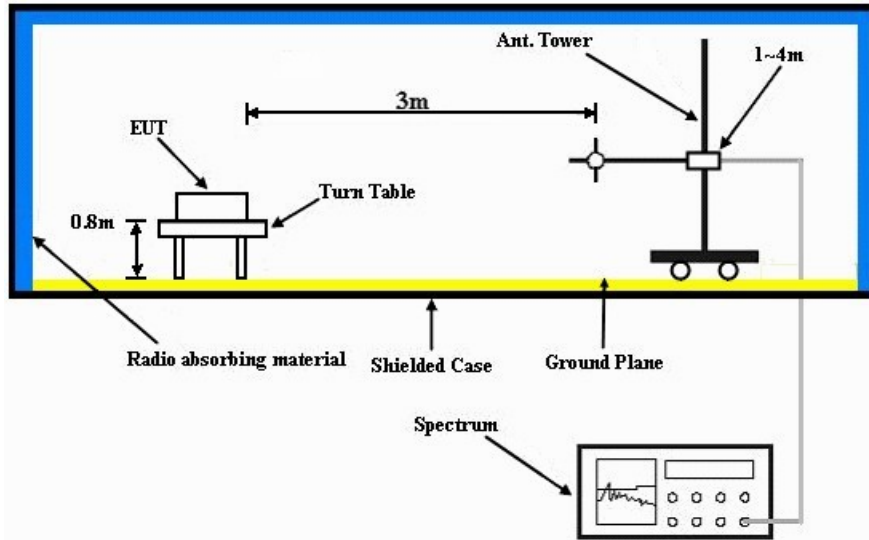
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

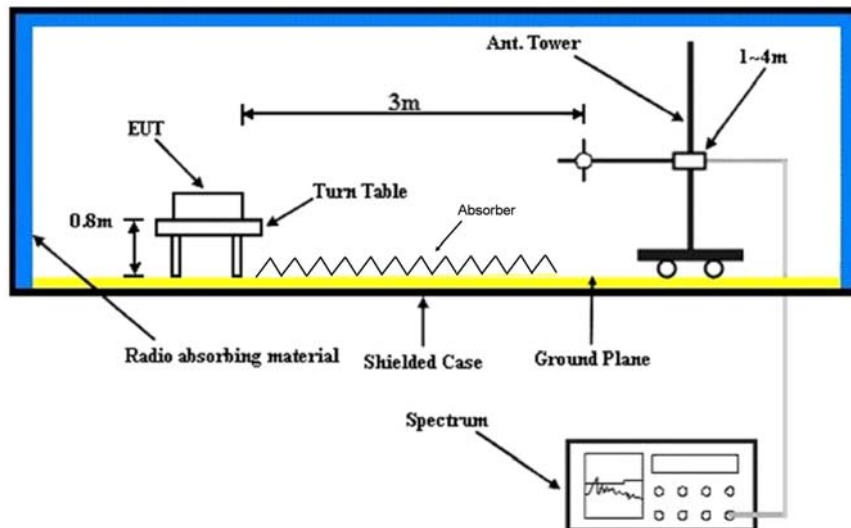
No deviation.

4.1.6 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



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

4.1.7 EUT OPERATING CONDITIONS

Set the EUT under transmission condition continuously at specific channel frequency.



A D T

4.1.8 TEST RESULTS

Above 1GHz data

BT+802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 06	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	58.8 PK	74.0	-15.2	1.83 H	95	26.90	31.90
2	2390.00	46.8 AV	54.0	-7.2	1.83 H	95	14.90	31.90
3	#2400.00	61.5 PK	91.8	-30.3	1.00 H	90	64.00	-2.50
4	#2400.00	31.4 AV	61.7	-30.3	1.00 H	90	33.90	-2.50
5	*2402.00	111.8 PK			1.96 H	93	79.90	31.90
6	*2402.00	81.7 AV			1.96 H	93	49.80	31.90
7	*2437.00	111.1 PK			1.92 H	103	79.10	32.00
8	*2437.00	101.6 AV			1.92 H	103	69.60	32.00
9	4804.00	46.9 PK	74.0	-27.1	1.00 H	301	42.30	4.60
10	4804.00	16.8 AV	54.0	-37.2	1.00 H	301	12.20	4.60
11	4874.00	46.9 PK	74.0	-27.1	1.00 H	56	41.90	5.00
12	4874.00	35.9 AV	54.0	-18.1	1.00 H	56	30.90	5.00

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1 \text{ dB}$
- Average value = peak reading + $20\log(\text{duty cycle})$
- "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 06	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	55.8 PK	74.0	-18.2	1.13 V	155	23.90	31.90
2	2390.00	44.9 AV	54.0	-9.1	1.13 V	155	13.00	31.90
3	#2400.00	52.0 PK	81.8	-29.8	1.00 V	163	54.50	-2.50
4	#2400.00	21.9 AV	51.7	-29.8	1.00 V	163	24.40	-2.50
5	*2402.00	101.8 PK			1.00 V	163	69.90	31.90
6	*2402.00	71.7 AV			1.00 V	163	39.80	31.90
7	*2437.00	102.0 PK			1.90 V	173	70.00	32.00
8	*2437.00	91.6 AV			1.90 V	173	59.60	32.00
9	4804.00	45.5 PK	74.0	-28.5	1.00 V	251	40.90	4.60
10	4804.00	15.4 AV	54.0	-38.6	1.00 V	251	10.80	4.60
11	4874.00	46.5 PK	74.0	-27.5	1.00 V	323	41.50	5.00
12	4874.00	35.0 AV	54.0	-19.0	1.00 V	323	30.00	5.00

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
5. “ * “: Fundamental frequency.
6. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1 \text{ dB}$
7. Average value = peak reading + $20\log(\text{duty cycle})$
8. "#":The radiated frequency is out the restricted band.



A D T

BT+802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 48	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	58.2 PK	74.0	-15.8	1.96 H	101	26.30	31.90
2	2390.00	46.9 AV	54.0	-7.1	1.96 H	101	15.00	31.90
3	#2400.00	61.5 PK	91.5	-30.0	1.96 H	104	64.00	-2.50
4	#2400.00	31.4 AV	61.4	-30.0	1.96 H	104	33.90	-2.50
5	*2402.00	111.5 PK			1.96 H	104	79.60	31.90
6	*2402.00	81.4 AV			1.96 H	104	49.50	31.90
7	4804.00	47.2 PK	74.0	-26.8	1.10 H	188	42.60	4.60
8	4804.00	17.1 AV	54.0	-36.9	1.10 H	188	12.50	4.60
9	*5240.00	104.7 PK			1.68 H	107	65.40	39.30
10	*5240.00	94.5 AV			1.68 H	107	55.20	39.30
11	5350.00	56.5 PK	74.0	-17.5	1.63 H	91	51.00	5.50
12	5350.00	45.2 AV	54.0	-8.8	1.63 H	91	39.70	5.50
13	#10480.00	58.5 PK	91.5	-33.0	1.00 H	292	41.70	16.80
14	#10480.00	46.8 AV	61.4	-14.6	1.00 H	292	30.00	16.80

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1$ dB
- Average value = peak reading + $20\log(\text{duty cycle})$
- "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 48	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	55.7 PK	74.0	-18.3	1.16 V	144	23.80	31.90
2	2390.00	44.6 AV	54.0	-9.4	1.16 V	144	12.70	31.90
3	#2400.00	52.1 PK	82.0	-29.9	1.16 V	144	54.60	-2.50
4	#2400.00	22.0 AV	51.9	-29.9	1.16 V	144	24.50	-2.50
5	*2402.00	102.0 PK			1.16 V	144	70.10	31.90
6	*2402.00	71.9 AV			1.16 V	144	40.00	31.90
7	4804.00	45.6 PK	74.0	-28.4	1.00 V	346	41.00	4.60
8	4804.00	15.5 AV	54.0	-38.5	1.00 V	346	10.90	4.60
9	*5240.00	99.3 PK			1.38 V	88	60.00	39.30
10	*5240.00	89.5 AV			1.38 V	88	50.20	39.30
11	5350.00	56.8 PK	74.0	-17.2	1.38 V	91	51.30	5.50
12	5350.00	45.5 AV	54.0	-8.5	1.38 V	91	40.00	5.50
13	#10480.00	57.4 PK	82.0	-24.6	1.00 V	282	40.60	16.80
14	#10480.00	46.0 AV	51.9	-5.9	1.00 V	282	29.20	16.80

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1 \text{ dB}$
7. Average value = peak reading + $20\log(\text{duty cycle})$
8. "#":The radiated frequency is out the restricted band.



A D T

BT+802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 157	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	58.4 PK	74.0	-15.6	1.89 H	99	26.50	31.90
2	2390.00	46.3 AV	54.0	-7.7	1.89 H	99	14.40	31.90
3	#2400.00	61.4 PK	91.5	-30.1	1.89 H	99	63.90	-2.50
4	#2400.00	31.3 AV	61.4	-30.1	1.89 H	99	33.80	-2.50
5	*2402.00	111.5 PK			1.89 H	99	79.60	31.90
6	*2402.00	81.4 AV			1.89 H	99	49.50	31.90
7	4804.00	46.9 PK	74.0	-27.1	1.02 H	331	42.30	4.60
8	4804.00	16.8 AV	54.0	-37.2	1.02 H	331	12.20	4.60
9	*5785.00	105.3 PK			1.45 H	121	65.00	40.30
10	*5785.00	94.1 AV			1.45 H	121	53.80	40.30
11	11570.00	61.3 PK	74.0	-12.7	1.08 H	123	43.10	18.20
12	11570.00	48.3 AV	54.0	-5.7	1.08 H	123	30.10	18.20

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1$ dB
- Average value = peak reading + $20\log(\text{duty cycle})$
- "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 157	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	2390.00	55.6 PK	74.0	-18.4	1.09 V	111	23.70	31.90
2	2390.00	44.4 AV	54.0	-9.6	1.09 V	111	12.50	31.90
3	#2400.00	51.8 PK	81.9	-30.1	1.09 V	111	54.30	-2.50
4	#2400.00	21.7 AV	51.8	-30.1	1.09 V	111	24.20	-2.50
5	*2402.00	101.9 PK			1.09 V	111	70.00	31.90
6	*2402.00	71.8 AV			1.09 V	111	39.90	31.90
7	4804.00	45.4 PK	74.0	-28.6	1.00 V	11	40.80	4.60
8	4804.00	15.3 AV	54.0	-38.7	1.00 V	11	10.70	4.60
9	*5785.00	100.4 PK			1.40 V	80	60.10	40.30
10	*5785.00	89.1 AV			1.40 V	80	48.80	40.30
11	11570.00	61.4 PK	74.0	-12.6	1.05 V	201	43.20	18.20
12	11570.00	48.4 AV	54.0	-5.6	1.05 V	201	30.20	18.20

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle correlation factor be equal to: $20\log(3.125 / 100) = -30.1$ dB
- Average value = peak reading + $20\log(\text{duty cycle})$
- "#":The radiated frequency is out the restricted band.



A D T

Below 1GHz data

BT+802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	431.56	34.9 QP	46.0	-11.1	1.74 H	210	44.90	-10.00
2	528.58	31.0 QP	46.0	-15.0	1.74 H	30	39.60	-8.60
3	594.56	32.2 QP	46.0	-13.8	1.74 H	6	39.30	-7.10
4	625.60	43.8 QP	46.0	-2.2	1.24 H	172	50.10	-6.30
5	720.68	33.7 QP	46.0	-12.3	1.24 H	189	38.60	-4.90
6	817.70	34.6 QP	46.0	-11.4	1.00 H	10	37.40	-2.80

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	57.07	30.7 QP	40.0	-9.3	1.01 V	75	45.40	-14.70
2	76.47	27.0 QP	40.0	-13.0	1.26 V	8	44.60	-17.60
3	431.56	30.2 QP	46.0	-15.8	1.74 V	165	40.20	-10.00
4	528.58	32.7 QP	46.0	-13.3	1.01 V	104	41.30	-8.60
5	594.56	34.6 QP	46.0	-11.4	1.01 V	114	41.70	-7.10
6	625.60	43.4 QP	46.0	-2.6	1.01 V	114	49.70	-6.30

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



A D T

BT+802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 48	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	431.56	34.9 QP	46.0	-11.1	1.74 H	191	44.90	-10.00
2	528.58	31.7 QP	46.0	-14.3	1.51 H	13	40.30	-8.60
3	594.56	34.7 QP	46.0	-11.3	1.51 H	13	41.80	-7.10
4	623.66	43.0 QP	46.0	-3.0	1.25 H	165	49.40	-6.40
5	720.68	33.2 QP	46.0	-12.8	1.01 H	178	38.10	-4.90
6	817.70	34.6 QP	46.0	-11.4	1.01 H	13	37.40	-2.80
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	37.66	31.7 QP	40.0	-8.3	1.00 V	32	46.70	-15.00
2	62.89	32.3 QP	40.0	-7.7	1.49 V	206	47.00	-14.70
3	431.56	29.7 QP	46.0	-16.3	1.74 V	190	39.70	-10.00
4	528.58	33.1 QP	46.0	-12.9	1.00 V	97	41.70	-8.60
5	594.56	33.8 QP	46.0	-12.2	1.00 V	120	40.90	-7.10
6	625.60	43.5 QP	46.0	-2.5	1.00 V	124	49.80	-6.30

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



A D T

BT+802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 0 + CH 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH	TESTED BY	Jones 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	431.56	35.6 QP	46.0	-10.4	2.00 H	205	45.60	-10.00
2	528.58	32.2 QP	46.0	-13.8	1.51 H	204	40.80	-8.60
3	594.56	34.2 QP	46.0	-11.8	1.01 H	13	41.30	-7.10
4	623.66	43.9 QP	46.0	-2.1	1.51 H	9	50.30	-6.40
5	720.68	34.0 QP	46.0	-12.0	1.01 H	13	38.90	-4.90
6	815.76	35.2 QP	46.0	-10.8	1.01 H	6	38.00	-2.80

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	33.78	30.4 QP	40.0	-9.6	1.00 V	226	46.20	-15.80
2	55.13	35.6 QP	40.0	-4.4	1.00 V	12	49.70	-14.10
3	431.56	30.4 QP	46.0	-15.6	2.00 V	182	40.40	-10.00
4	528.58	32.6 QP	46.0	-13.4	1.00 V	94	41.20	-8.60
5	594.56	33.3 QP	46.0	-12.7	1.00 V	50	40.40	-7.10
6	625.60	43.5 QP	46.0	-2.5	1.00 V	121	49.80	-6.30

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



4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 29, 2013	Nov. 28, 2014
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 08, 2013	Jul. 07, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 04, 2013	Feb. 03, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- 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 HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.



A D T

4.2.3 TEST PROCEDURES

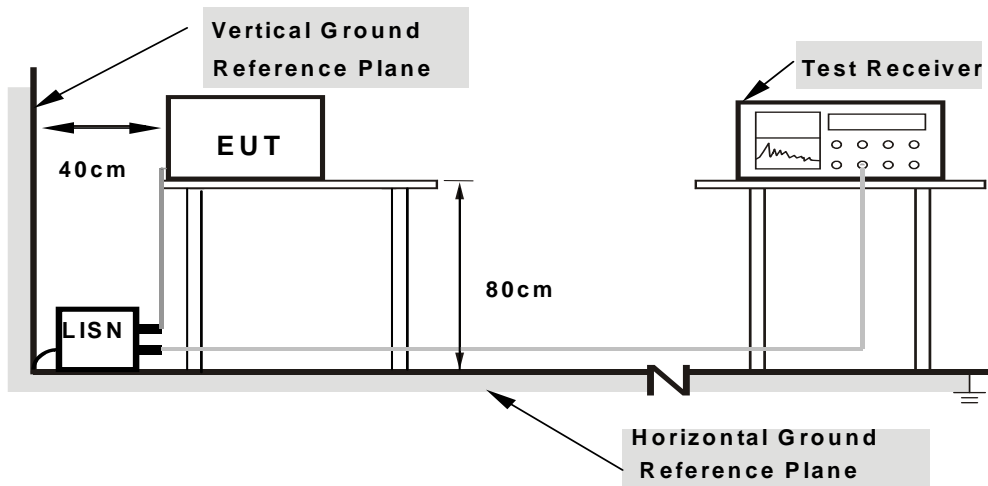
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



- Note:**
- 1.Support units were connected to second LISN.
 - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

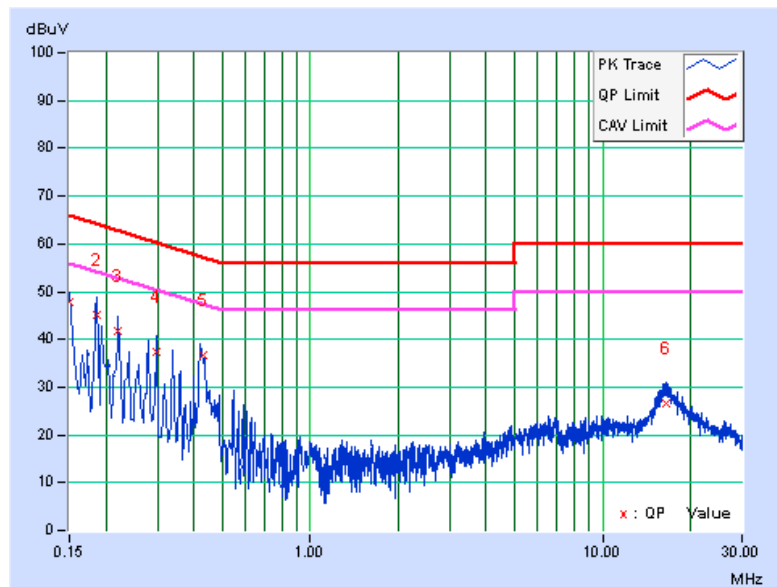
BT+802.11g

CHANNEL	CH 0 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.16	47.50	27.62	47.66	27.78	66.00
2	0.18519	0.16	44.82	25.27	44.98	25.43	64.25	54.25	-19.27	-28.82
3	0.22038	0.17	41.59	22.10	41.76	22.27	62.80	52.80	-21.05	-30.54
4	0.29858	0.19	37.22	20.74	37.41	20.93	60.28	50.28	-22.87	-29.35
5	0.42955	0.23	36.42	23.42	36.65	23.65	57.26	47.26	-20.61	-23.61
6	16.48207	1.05	25.51	16.82	26.56	17.87	60.00	50.00	-33.44	-32.13

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





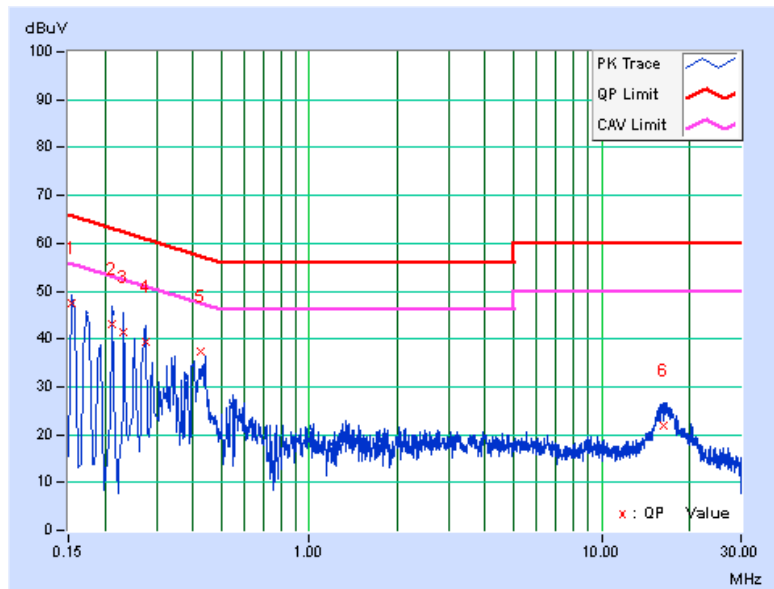
A D T

CHANNEL	CH 0 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.17	47.26	27.23	47.43	27.40	65.79	55.79	-18.36	-28.39
2	0.21256	0.17	42.78	20.85	42.95	21.02	63.10	53.10	-20.15	-32.08
3	0.23211	0.18	41.24	19.94	41.42	20.12	62.37	52.37	-20.95	-32.25
4	0.27512	0.20	39.17	19.83	39.37	20.03	60.96	50.96	-21.60	-30.94
5	0.42617	0.24	37.24	24.54	37.48	24.78	57.33	47.33	-19.85	-22.55
6	16.29439	0.80	21.22	12.88	22.02	13.68	60.00	50.00	-37.98	-36.32

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





A D T

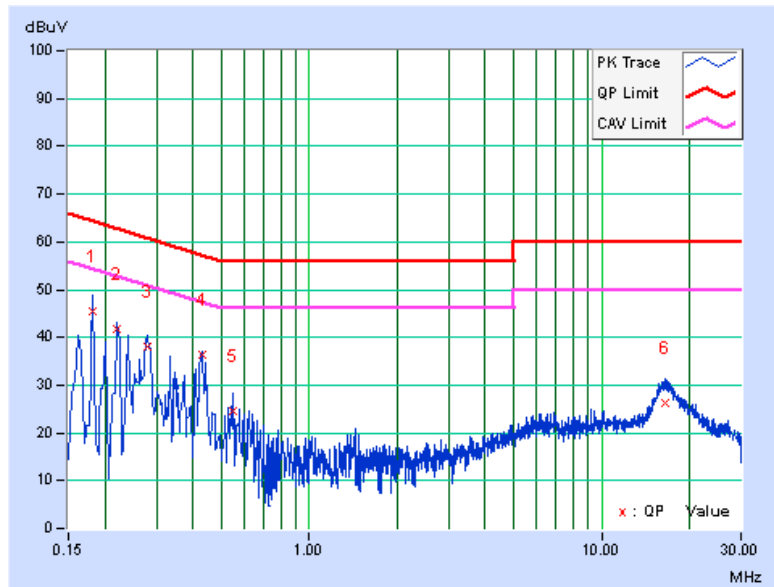
BT+802.11a

CHANNEL	CH 0 + CH 48	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1		0.18128	0.16	45.28	25.92	45.44	26.08	64.43	54.43
2	0.22038	0.17	41.49	22.03	41.66	22.20	62.80	52.80	-21.15	-30.61
3	0.27903	0.19	37.83	20.16	38.02	20.35	60.84	50.84	-22.83	-30.50
4	0.43008	0.23	36.27	23.42	36.50	23.65	57.25	47.25	-20.75	-23.60
5	0.54491	0.23	24.22	8.37	24.45	8.60	56.00	46.00	-31.55	-37.40
6	16.54854	1.05	25.23	16.71	26.28	17.76	60.00	50.00	-33.72	-32.24

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





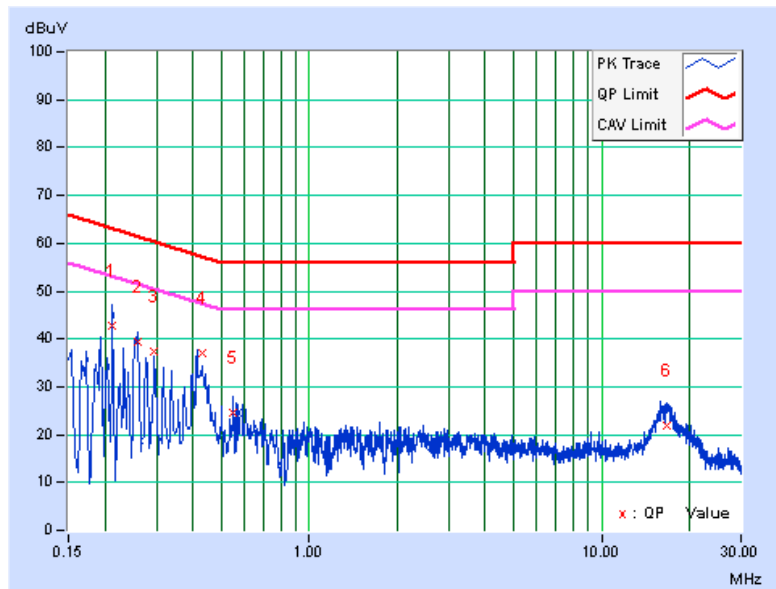
A D T

CHANNEL	CH 0 + CH 48	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.21256	0.17	42.56	20.73	42.73	20.90	63.10	53.10	-20.37	-32.20
2	0.25932	0.19	39.12	18.27	39.31	18.46	61.45	51.45	-22.14	-32.99
3	0.29467	0.20	37.10	18.65	37.30	18.85	60.39	50.39	-23.09	-31.54
4	0.42803	0.24	36.80	24.61	37.04	24.85	57.29	47.29	-20.25	-22.44
5	0.54882	0.24	24.35	10.54	24.59	10.78	56.00	46.00	-31.41	-35.22
6	16.64238	0.82	20.94	12.41	21.76	13.23	60.00	50.00	-38.24	-36.77

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





A D T

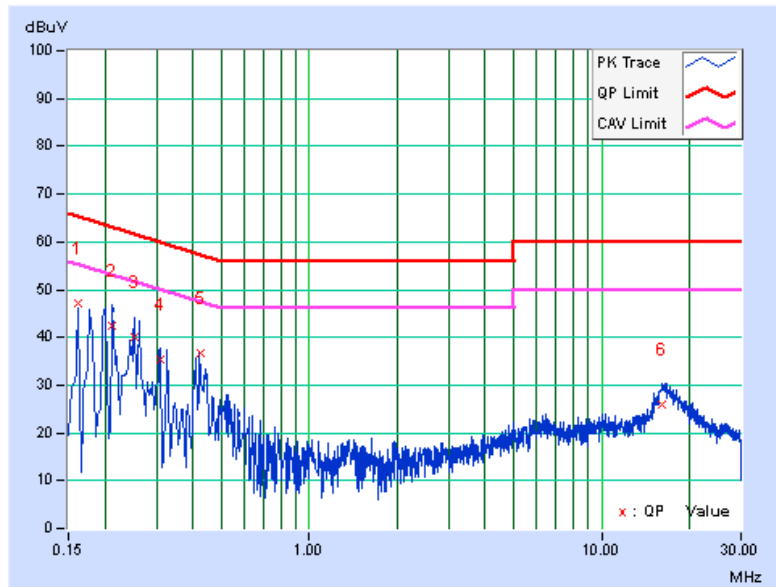
BT+802.11n (20MHz)

CHANNEL	CH 0 + CH 157	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	0.16	46.89	25.94	47.05	26.10	65.37	55.37	-18.33	-29.28
2	0.21256	0.16	42.36	22.77	42.52	22.93	63.10	53.10	-20.58	-30.17
3	0.25166	0.18	39.80	21.91	39.98	22.09	61.70	51.70	-21.72	-29.61
4	0.31021	0.20	35.11	16.26	35.31	16.46	59.96	49.96	-24.66	-33.51
5	0.42659	0.23	36.63	23.47	36.86	23.70	57.32	47.32	-20.46	-23.62
6	16.07934	1.03	25.03	16.61	26.06	17.64	60.00	50.00	-33.94	-32.36

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





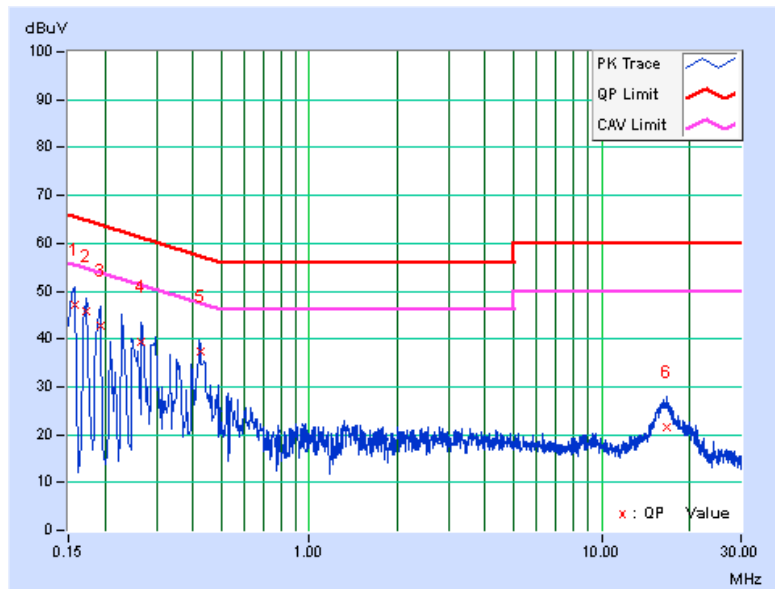
A D T

CHANNEL	CH 0 + CH 157	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15760	0.17	46.98	26.35	47.15	26.52	65.59	55.59	-18.44	-29.07
2	0.17328	0.17	45.63	22.58	45.80	22.75	64.80	54.80	-19.00	-32.05
3	0.19301	0.17	42.51	19.81	42.68	19.98	63.91	53.91	-21.23	-33.93
4	0.26730	0.19	39.04	19.13	39.23	19.32	61.20	51.20	-21.97	-31.88
5	0.42463	0.24	37.28	24.36	37.52	24.60	57.36	47.36	-19.84	-22.76
6	16.81833	0.82	20.76	12.02	21.58	12.84	60.00	50.00	-38.42	-37.16

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





A D T

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

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:

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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



A D T

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.

---END---