FCC TEST REPORT (15.247)

REPORT NO.:	RF130305C13
MODEL NO.:	QVF7309 (Refer to item 3.1 for the more details)
FCC ID:	2ABEZQVF7309
RECEIVED:	Mar. 05, 2013
TESTED:	Mar. 07 ~ Mar. 14, 2013
ISSUED:	Mar. 15, 2013

APPLICANT:	Qno Technology Inc.
ADDRESS:	10F-2, No. 25, Puding RD., Hsinchu, Taiwan

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.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130305C13	Original release	Mar. 15, 2013

1. CERTIFICATION

PRODUCT:	QoS Security Wireless Router
MODEL NO.:	QVF7309 (Refer to item 3.1 for the more details)
BRAND:	QNO
APPLICANT:	Qno Technology Inc.
TESTED:	Mar. 07 ~ Mar. 14, 2013
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: QVF7309) 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 : _____ **, DATE :** Mar. 15, 2013

Pettie Chen / Senior Specialist

APPROVED BY : _____ **, DATE :** Mar. 15, 2013

Ken Liu / Senior Manager

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)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.71dB at 0.17737MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 2345.00, 2378.00 & 2490.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is SMARP not a standard connector.

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	3.34 dB
	200MHz ~1000MHz	3.35 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	QoS Security Wireless Router
MODEL NO.	QVF7309 (Refer to NOTE for the more details)
POWER SUPPLY	12Vdc (Adapter)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	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 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	2412 ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
OUTPUT POWER	299.426mW
ANTENNA TYPE	Dipole antenna with 5dBi gain
ANTENNA CONNECTOR	SMARP
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter

NOTE:

1. All models are listed as below.

Brand	Model	Difference
QNO	QVF7309, QVF8027, QVM280w, QVM280we, SVM9062, SVM9563, SVM9655, SVM9721, SVM9811, SVM9047, SVM9548, SVM9638, SVM9711, SVM9822, QVF8029, SVM8637, SVM8738, QVF7312, QVF7738, QVF7928, SVM9071, SVM9566, SVM9664, SVM9720, SVM9829, QVM580we, SVM9049, SVM9549, SVM9639, SVM9716, SVM9826, QVF8074, SVM8642, SVM8740, QVF7310, QVF7739, QVF7929, QVM575we, SVM9215, SVM9558, SVM9661, SVM9715, SVM9825, QVM275we, SVM9155, SVM9562, SVM9653, SVM9710, SVM9821, QVF8088, SVM8652, SVM8758, QVF7321, QVF7753, QVF7961	All models are electrically identical, different models and RJ45 port definitions are for marketing purpose.

RJ45 Port / Different Firmware	port 1	port 2	port 3	port 4	port 5
Product Type 1	WAN1	LAN4/WAN2	LAN3	LAN2	LAN1
Product Type 2	WAN1	LAN4/WAN2	LAN3/WAN3	LAN2/WAN4	LAN1

2. The EUT provides two completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

3. The EUT consumes power from the following adapters.

ADAPTER 1	
BRAND:	LEADER ELECTRONICS INC.
MODEL:	MU18-D120150-A1
INPUT:	100-240Vac~50/60Hz 0.6A
OUTPUT:	12.0Vdc / 1.5A
POWER LINE:	1.5m cable without core attached on adapter

ADAPTER 2	
BRAND:	UMEC
MODEL:	UP0121A-12PA
INPUT:	100-240Vac~50/60Hz 0.4A MAX.
OUTPUT:	12Vdc / 1A 12W MAX.
POWER LINE:	1.5m cable without core attached on adapter

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

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
6	2437MHz		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter 1
B	-	√	√	-	Power from adapter 2

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

NOTE:
The antenna of EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane.**

NOTE: "-"means no effect.

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11n (20MHz)	1 to 11	1	OFDM	BPSK	7.2

POWER LINE 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11n (20MHz)	1 to 11	1	OFDM	BPSK	7.2

BANDEDGE MEASUREMENT:

☒ 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	15.0

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Brad Tung
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Brad Tung
PLC	25deg. C, 65%RH	120Vac, 60Hz	Ted Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Frank Liu

3.3 DESCRIPTION OF SUPPORT UNITS

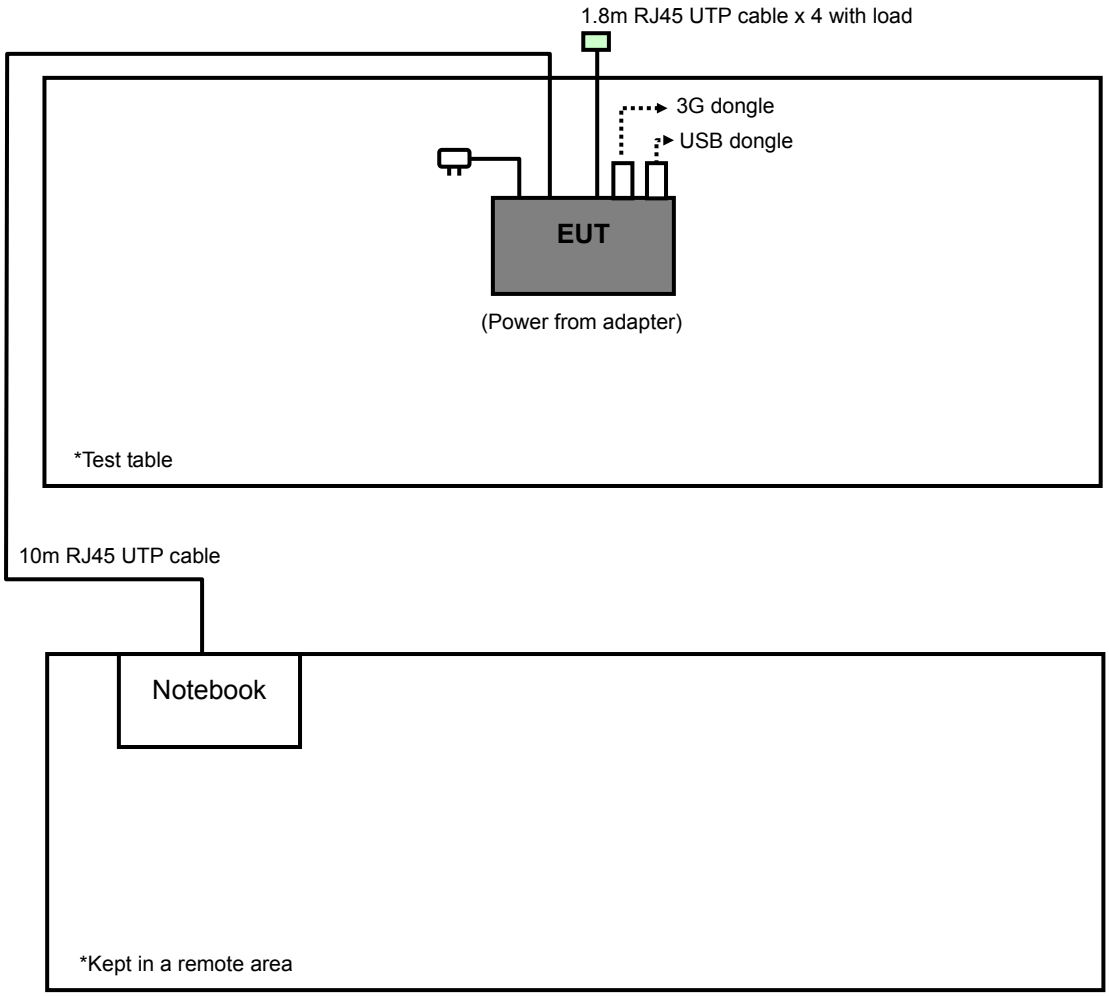
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	3G Dongle	HUAWEI	E169u	NA	NA
2	USB Dongle	Transcend	V85	569992-8208	NA
3	Notebook	DELL	E5420	33MLMQ1	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	10m RJ45 cable

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 3 acted as a communication partner to transfer data.

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 (15.247)
558074 D01 DTS Meas Guidance v03r01
662911 D01 Multiple Transmitter Output v01 r02
ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

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 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jan. 31, 2013	Jan. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/4	Aug. 28, 2012	Aug. 27, 2013
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100	TT93021703	NA	NA
Turn Table Controller ADT.	SC100	SC93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 460141.
6. The IC Site Registration No. is IC7450F-4.

4.1.3 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.

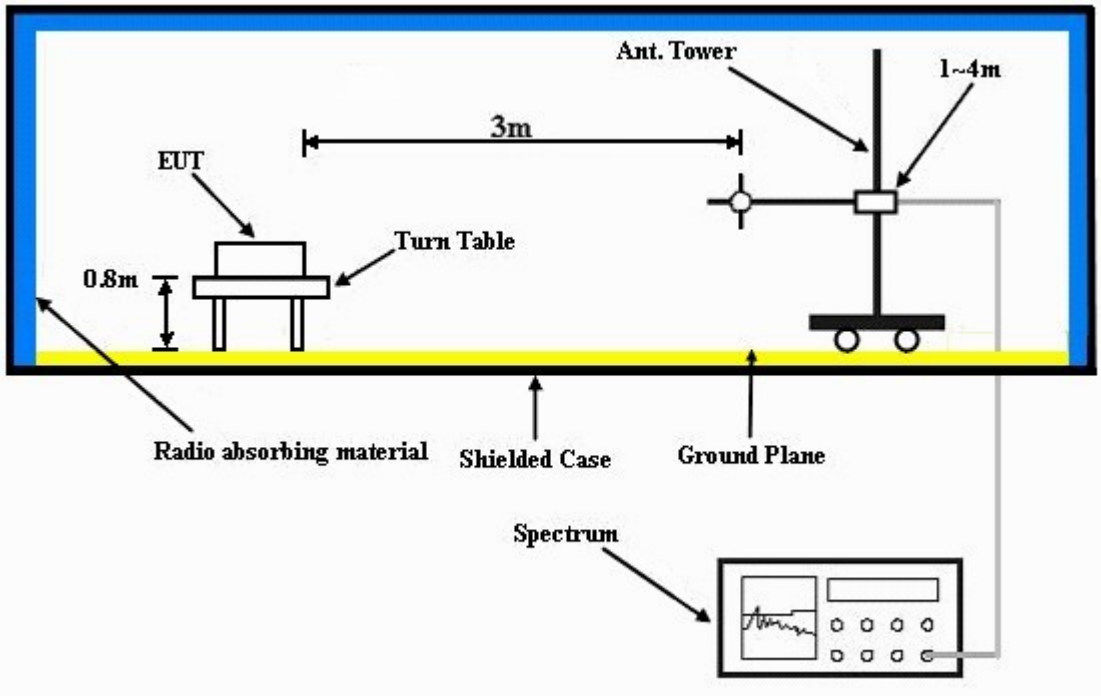
NOTE:

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 100kHz and video bandwidth is 300kHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

a. Placed the EUT on the testing table.
b. Prepared notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enabled the system in full functions.

4.1.7 TEST RESULTS

ABOVE 1GHz DATA：

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	2329.00	54.7 PK	74.0	-19.3	1.00 H	200	24.10	30.60
2	2329.00	43.2 AV	54.0	-10.8	1.00 H	200	12.60	30.60
3	*2412.00	89.9 PK			1.00 H	176	59.00	30.90
4	*2412.00	85.3 AV			1.00 H	176	54.40	30.90
5	4824.00	46.9 PK	74.0	-27.1	1.00 H	102	9.90	37.00
6	4824.00	37.8 AV	54.0	-16.2	1.00 H	102	0.80	37.00
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	2331.00	60.3 PK	74.0	-13.7	1.25 V	50	29.70	30.60
2	2331.00	52.8 AV	54.0	-1.2	1.25 V	50	22.20	30.60
3	*2412.00	109.7 PK			1.30 V	78	78.80	30.90
4	*2412.00	105.1 AV			1.30 V	78	74.20	30.90
5	2490.00	61.8 PK	74.0	-12.2	1.30 V	79	30.60	31.20
6	**2490.00**	**52.9 AV**	**54.0**	**-1.1**	**1.30 V**	**79**	**21.70**	**31.20**
7	4824.00	48.8 PK	74.0	-25.2	1.11 V	104	11.80	37.00
8	4824.00	43.3 AV	54.0	-10.7	1.11 V	104	6.30	37.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	2359.00	54.5 PK	74.0	-19.5	1.10 H	214	23.80	30.70
2	2359.00	43.2 AV	54.0	-10.8	1.10 H	214	12.50	30.70
3	*2437.00	92.6 PK			1.09 H	111	61.60	31.00
4	*2437.00	88.9 AV			1.09 H	111	57.90	31.00
5	4874.00	46.4 PK	74.0	-27.6	1.27 H	214	9.30	37.10
6	4874.00	37.5 AV	54.0	-16.5	1.27 H	214	0.40	37.10
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	2357.00	60.8 PK	74.0	-13.2	1.41 V	147	30.10	30.70
2	2357.00	52.7 AV	54.0	-1.3	1.41 V	147	22.00	30.70
3	*2437.00	108.6 PK			1.41 V	4	77.60	31.00
4	*2437.00	104.2 AV			1.41 V	4	73.20	31.00
5	4874.00	48.5 PK	74.0	-25.5	1.35 V	153	11.40	37.10
6	4874.00	41.2 AV	54.0	-12.8	1.35 V	153	4.10	37.10

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. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2462.00	91.8 PK			1.09 H	223	60.70	31.10
2	*2462.00	87.4 AV			1.09 H	223	56.30	31.10
3	2483.50	54.3 PK	74.0	-19.7	1.05 H	45	23.10	31.20
4	2483.50	43.0 AV	54.0	-11.0	1.05 H	45	11.80	31.20
5	4924.00	46.6 PK	74.0	-27.4	1.12 H	216	9.40	37.20
6	4924.00	38.1 AV	54.0	-15.9	1.12 H	216	0.90	37.20
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	2383.00	61.0 PK	74.0	-13.0	1.00 V	270	30.20	30.80
2	2383.00	52.8 AV	54.0	-1.2	1.00 V	270	22.00	30.80
3	*2462.00	108.9 PK			1.00 V	317	77.80	31.10
4	*2462.00	104.1 AV			1.00 V	317	73.00	31.10
5	2483.50	55.9 PK	74.0	-18.1	1.00 V	28	24.70	31.20
6	2483.50	44.0 AV	54.0	-10.0	1.00 V	28	12.80	31.20
7	4924.00	47.8 PK	74.0	-26.2	1.00 V	157	10.60	37.20
8	4924.00	41.5 AV	54.0	-12.5	1.00 V	157	4.30	37.20

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. " * ": Fundamental frequency.

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	2330.00	54.9 PK	74.0	-19.1	1.00 H	345	24.30	30.60
2	2330.00	42.4 AV	54.0	-11.6	1.00 H	345	11.80	30.60
3	*2412.00	89.2 PK			1.00 H	178	58.30	30.90
4	*2412.00	79.5 AV			1.00 H	178	48.60	30.90
5	4824.00	43.7 PK	74.0	-30.3	1.18 H	57	6.70	37.00
6	4824.00	31.8 AV	54.0	-22.2	1.18 H	57	-5.20	37.00
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	2331.00	60.2 PK	74.0	-13.8	1.00 V	134	29.60	30.60
2	2331.00	49.8 AV	54.0	-4.2	1.00 V	134	19.20	30.60
3	*2412.00	107.5 PK			1.00 V	317	76.60	30.90
4	*2412.00	97.2 AV			1.00 V	317	66.30	30.90
5	2494.00	60.9 PK	74.0	-13.1	1.00 V	155	29.60	31.30
6	2494.00	50.5 AV	54.0	-3.5	1.00 V	155	19.20	31.30
7	4824.00	44.7 PK	74.0	-29.3	1.25 V	28	7.70	37.00
8	4824.00	33.0 AV	54.0	-21.0	1.25 V	28	-4.00	37.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2437.00	89.9 PK			1.00 H	144	58.90	31.00
2	*2437.00	80.0 AV			1.00 H	144	49.00	31.00
3	4874.00	43.5 PK	74.0	-30.5	1.06 H	38	6.40	37.10
4	4874.00	31.7 AV	54.0	-22.3	1.06 H	38	-5.40	37.10
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	2357.00	60.6 PK	74.0	-13.4	1.10 V	7	29.90	30.70
2	2357.00	51.0 AV	54.0	-3.0	1.10 V	7	20.30	30.70
3	*2437.00	106.9 PK			1.00 V	8	75.90	31.00
4	*2437.00	97.6 AV			1.00 V	8	66.60	31.00
5	4874.00	46.1 PK	74.0	-27.9	1.13 V	72	9.00	37.10
6	4874.00	32.8 AV	54.0	-21.2	1.13 V	72	-4.30	37.10

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. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2462.00	88.8 PK			1.00 H	23	57.70	31.10
2	*2462.00	78.3 AV			1.00 H	23	47.20	31.10
3	2483.50	53.6 PK	74.0	-20.4	1.00 H	350	22.40	31.20
4	2483.50	43.0 AV	54.0	-11.0	1.00 H	350	11.80	31.20
5	4924.00	44.7 PK	74.0	-29.3	1.24 H	72	7.50	37.20
6	4924.00	32.1 AV	54.0	-21.9	1.24 H	72	-5.10	37.20
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	2386.00	60.2 PK	74.0	-13.8	1.00 V	5	29.40	30.80
2	2386.00	50.7 AV	54.0	-3.3	1.00 V	5	19.90	30.80
3	*2462.00	108.0 PK			1.00 V	316	76.90	31.10
4	*2462.00	97.1 AV			1.00 V	316	66.00	31.10
5	2483.50	57.7 PK	74.0	-16.3	1.00 V	3	26.50	31.20
6	2483.50	45.1 AV	54.0	-8.9	1.00 V	3	13.90	31.20
7	4924.00	45.1 PK	74.0	-28.9	1.03 V	258	7.90	37.20
8	4924.00	32.7 AV	54.0	-21.3	1.03 V	258	-4.50	37.20

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. " * ": Fundamental frequency.

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	58.3 PK	74.0	-15.7	1.20 H	15	27.50	30.80
2	2390.00	44.5 AV	54.0	-9.5	1.20 H	15	13.70	30.80
3	*2412.00	97.6 PK			1.21 H	150	66.70	30.90
4	*2412.00	88.0 AV			1.21 H	150	57.10	30.90
5	4824.00	43.2 PK	74.0	-30.8	1.36 H	38	6.20	37.00
6	4824.00	31.8 AV	54.0	-22.2	1.36 H	38	-5.20	37.00
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	2345.00	62.4 PK	74.0	-11.6	1.00 V	150	31.70	30.70
2	**2345.00**	**52.9 AV**	**54.0**	**-1.1**	**1.00 V**	**150**	**22.20**	**30.70**
3	*2412.00	110.2 PK			1.00 V	150	79.30	30.90
4	*2412.00	101.1 AV			1.00 V	150	70.20	30.90
5	2489.00	62.4 PK	74.0	-11.6	1.00 V	124	31.20	31.20
6	2489.00	52.7 AV	54.0	-1.3	1.00 V	124	21.50	31.20
7	4824.00	44.9 PK	74.0	-29.1	1.07 V	239	7.90	37.00
8	4824.00	32.6 AV	54.0	-21.4	1.07 V	239	-4.40	37.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2437.00	96.4 PK			1.22 H	200	65.40	31.00
2	*2437.00	86.8 AV			1.22 H	200	55.80	31.00
3	4874.00	43.6 PK	74.0	-30.4	1.11 H	149	6.50	37.10
4	4874.00	32.2 AV	54.0	-21.8	1.11 H	149	-4.90	37.10
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	2370.00	61.7 PK	74.0	-12.3	1.02 V	80	31.00	30.70
2	2370.00	52.6 AV	54.0	-1.4	1.02 V	80	21.90	30.70
3	*2437.00	109.1 PK			1.03 V	142	78.10	31.00
4	*2437.00	99.9 AV			1.03 V	142	68.90	31.00
5	2489.00	62.6 PK	74.0	-11.4	1.05 V	300	31.40	31.20
6	2489.00	52.8 AV	54.0	-1.2	1.05 V	300	21.60	31.20
7	4874.00	44.9 PK	74.0	-29.1	1.06 V	98	7.80	37.10
8	4874.00	32.3 AV	54.0	-21.7	1.06 V	98	-4.80	37.10

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. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2462.00	97.0 PK			1.12 H	140	65.90	31.10
2	*2462.00	87.3 AV			1.12 H	140	56.20	31.10
3	2483.50	53.9 PK	74.0	-20.1	1.21 H	200	22.70	31.20
4	2483.50	43.3 AV	54.0	-10.7	1.21 H	200	12.10	31.20
5	4924.00	43.6 PK	74.0	-30.4	1.06 H	87	6.40	37.20
6	4924.00	32.1 AV	54.0	-21.9	1.06 H	87	-5.10	37.20
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	2378.00	63.0 PK	74.0	-11.0	1.00 V	100	32.20	30.80
2	**2378.00**	**52.9 AV**	**54.0**	**-1.1**	**1.00 V**	**100**	**22.10**	**30.80**
3	*2462.00	110.7 PK			1.00 V	120	79.60	31.10
4	*2462.00	101.7 AV			1.00 V	120	70.60	31.10
5	2483.50	60.9 PK	74.0	-13.1	1.00 V	120	29.70	31.20
6	2483.50	47.4 AV	54.0	-6.6	1.00 V	120	16.20	31.20
7	4924.00	44.2 PK	74.0	-29.8	1.07 V	322	7.00	37.20
8	4924.00	32.7 AV	54.0	-21.3	1.07 V	322	-4.50	37.20

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. " * ": Fundamental frequency.

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	53.2 PK	74.0	-20.8	1.22 H	160	22.40	30.80
2	2390.00	42.9 AV	54.0	-11.1	1.22 H	160	12.10	30.80
3	*2422.00	92.7 PK			1.22 H	148	61.80	30.90
4	*2422.00	82.7 AV			1.22 H	148	51.80	30.90
5	4844.00	43.5 PK	74.0	-30.5	1.06 H	68	6.50	37.00
6	4844.00	31.9 AV	54.0	-22.1	1.06 H	68	-5.10	37.00
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	2318.00	59.5 PK	74.0	-14.5	1.15 V	122	28.90	30.60
2	2318.00	49.1 AV	54.0	-4.9	1.15 V	122	18.50	30.60
3	*2422.00	105.5 PK			1.15 V	260	74.60	30.90
4	*2422.00	96.0 AV			1.15 V	260	65.10	30.90
5	4844.00	44.7 PK	74.0	-29.3	1.37 V	50	7.70	37.00
6	4844.00	32.3 AV	54.0	-21.7	1.37 V	50	-4.70	37.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2437.00	93.1 PK			1.18 H	153	62.10	31.00
2	*2437.00	82.7 AV			1.18 H	153	51.70	31.00
3	4874.00	43.2 PK	74.0	-30.8	1.00 H	45	6.10	37.10
4	4874.00	31.7 AV	54.0	-22.3	1.00 H	45	-5.40	37.10
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	2334.00	59.3 PK	74.0	-14.7	1.20 V	233	28.70	30.60
2	2334.00	49.0 AV	54.0	-5.0	1.20 V	233	18.40	30.60
3	*2437.00	105.8 PK			1.20 V	245	74.80	31.00
4	*2437.00	96.3 AV			1.20 V	245	65.30	31.00
5	4874.00	43.8 PK	74.0	-30.2	1.30 V	259	6.70	37.10
6	4874.00	32.0 AV	54.0	-22.0	1.30 V	259	-5.10	37.10

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. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

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	*2452.00	92.0 PK			1.19 H	140	60.90	31.10
2	*2452.00	81.9 AV			1.19 H	140	50.80	31.10
3	2483.50	52.7 PK	74.0	-21.3	1.20 H	180	21.50	31.20
4	2483.50	43.3 AV	54.0	-10.7	1.20 H	180	12.10	31.20
5	4904.00	43.5 PK	74.0	-30.5	1.07 H	143	6.30	37.20
6	4904.00	31.2 AV	54.0	-22.8	1.07 H	143	-6.00	37.20
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	2356.00	60.4 PK	74.0	-13.6	1.19 V	255	29.70	30.70
2	2356.00	48.9 AV	54.0	-5.1	1.19 V	255	18.20	30.70
3	*2452.00	106.2 PK			1.12 V	237	75.10	31.10
4	*2452.00	97.3 AV			1.12 V	237	66.20	31.10
5	2483.50	61.0 PK	74.0	-13.0	1.12 V	240	29.80	31.20
6	2483.50	51.1 AV	54.0	-2.9	1.12 V	240	19.90	31.20
7	4904.00	44.1 PK	74.0	-29.9	1.30 V	265	6.90	37.20
8	4904.00	32.5 AV	54.0	-21.5	1.30 V	265	-4.70	37.20

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. " * ": Fundamental frequency.

BELOW 1GHz WORST-CASE DATA：802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung
TEST MODE	A		

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	57.12	26.3 QP	40.0	-13.7	1.50 H	301	12.70	13.60
2	138.78	25.0 QP	43.5	-18.5	1.00 H	218	11.80	13.20
3	224.33	25.7 QP	46.0	-20.3	1.50 H	68	13.60	12.10
4	278.77	28.1 QP	46.0	-17.9	1.00 H	127	13.80	14.30
5	599.58	28.4 QP	46.0	-17.6	1.00 H	145	5.90	22.50
6	840.67	29.6 QP	46.0	-16.4	1.25 H	308	3.50	26.10
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	49.34	30.2 QP	40.0	-9.8	1.25 V	101	16.40	13.80
2	173.78	34.3 QP	43.5	-9.2	1.50 V	221	21.10	13.20
3	294.32	32.5 QP	46.0	-13.5	1.00 V	206	17.60	14.90
4	449.87	26.6 QP	46.0	-19.4	1.00 V	206	7.80	18.80
5	603.47	27.2 QP	46.0	-18.8	2.00 V	204	4.70	22.50
6	959.27	31.3 QP	46.0	-14.7	1.00 V	166	3.70	27.60

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung
TEST MODE	B		

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	51.27	25.8 QP	40.0	-14.2	1.50 H	100	12.10	13.70
2	117.75	31.6 QP	43.5	-11.9	1.50 H	88	20.20	11.40
3	165.24	32.4 QP	43.5	-11.1	1.00 H	60	18.70	13.70
4	292.03	35.4 QP	46.0	-10.6	1.25 H	36	20.60	14.80
5	317.57	25.4 QP	46.0	-20.6	2.00 H	3	9.90	15.50
6	599.98	26.2 QP	46.0	-19.8	1.25 H	175	3.70	22.50
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	46.28	30.7 QP	40.0	-9.3	1.25 V	25	16.90	13.80
2	121.03	31.8 QP	43.5	-11.7	1.50 V	258	20.00	11.80
3	160.29	32.3 QP	43.5	-11.2	1.25 V	300	18.30	14.00
4	311.98	35.2 QP	46.0	-10.8	1.00 V	3	19.80	15.40
5	334.53	25.5 QP	46.0	-20.5	1.00 V	116	9.60	15.90
6	619.98	26.9 QP	46.0	-19.1	2.00 V	18	4.20	22.70

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.

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 0.50MHz.

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. 16, 2012	Nov. 15, 2013
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 02, 2012	Jul. 01, 2013
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.

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.

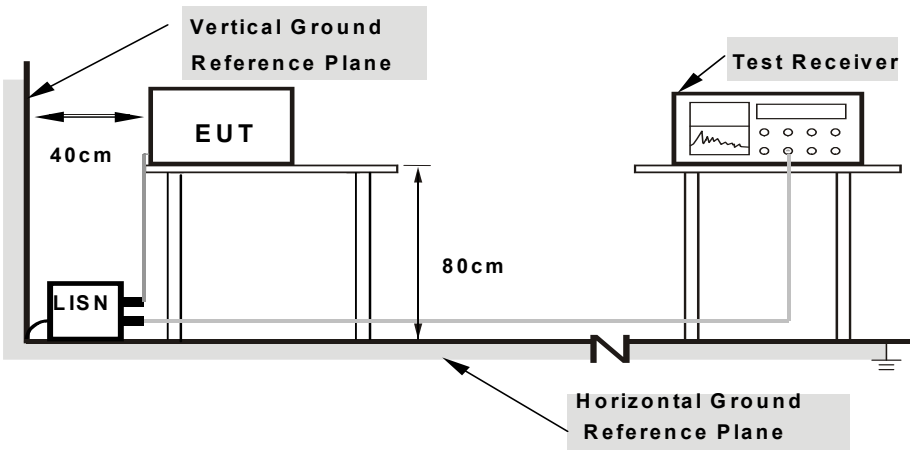
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

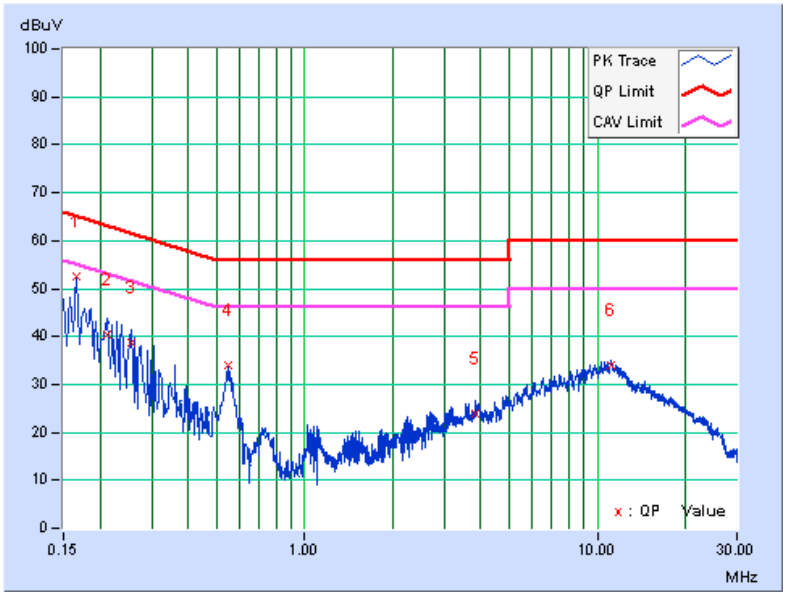
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11n(20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	0.17	52.47	34.39	52.64	34.56	65.18	55.18	-12.53	-20.61
2	0.21226	0.23	40.10	34.12	40.33	34.35	63.12	53.12	-22.79	-18.77
3	0.25526	0.22	38.62	21.11	38.84	21.33	61.58	51.58	-22.74	-30.25
4	0.54882	0.21	33.81	24.25	34.02	24.46	56.00	46.00	-21.98	-21.54
5	3.85277	0.34	23.49	18.24	23.83	18.58	56.00	46.00	-32.17	-27.42
6	11.20357	0.62	33.55	27.88	34.17	28.50	60.00	50.00	-25.83	-21.50

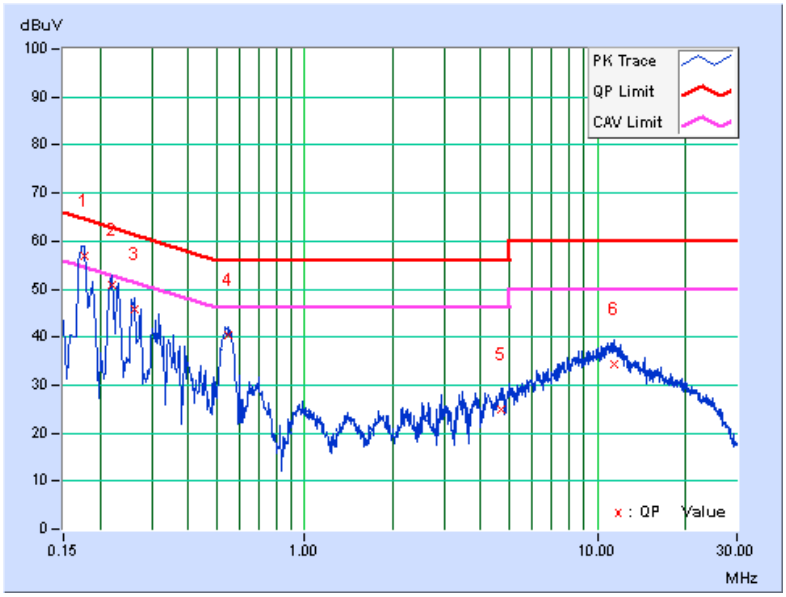
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.17737**	**0.28**	**56.62**	**45.31**	**56.90**	**45.59**	**64.61**	**54.61**	**-7.71**	**-9.02**
2	0.22024	0.31	50.53	38.74	50.84	39.05	62.81	52.81	-11.97	-13.76
3	0.26339	0.31	45.53	33.82	45.84	34.13	61.32	51.32	-15.49	-17.20
4	0.54951	0.30	40.15	31.53	40.45	31.83	56.00	46.00	-15.55	-14.17
5	4.67778	0.48	24.46	19.12	24.94	19.60	56.00	46.00	-31.06	-26.40
6	11.37170	0.71	33.50	27.80	34.21	28.51	60.00	50.00	-25.79	-21.49

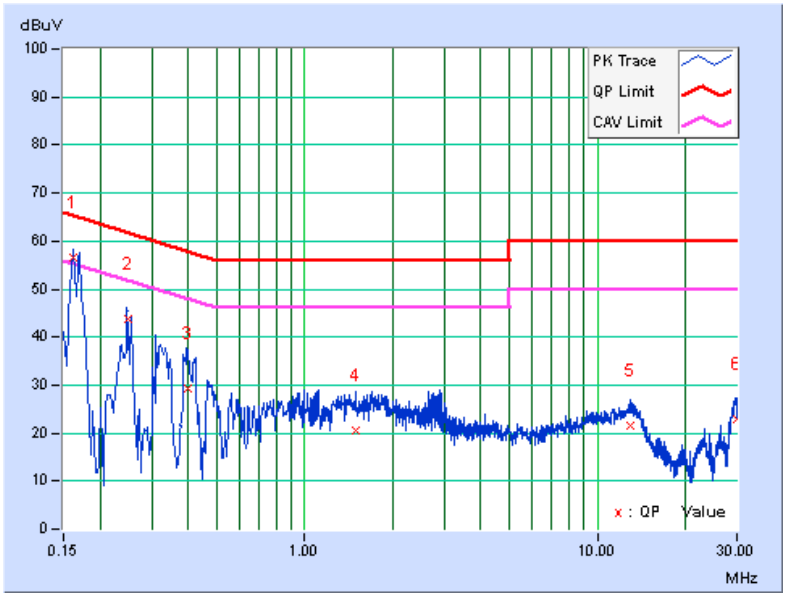
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading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



PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16096	0.16	56.43	43.06	56.59	43.22	65.41	55.41	-8.82	-12.19
2	0.24796	0.23	43.59	28.08	43.82	28.31	61.83	51.83	-18.01	-23.52
3	0.40024	0.21	29.13	15.90	29.34	16.11	57.85	47.85	-28.51	-31.74
4	1.48774	0.24	20.29	8.62	20.53	8.86	56.00	46.00	-35.47	-37.14
5	12.90833	0.68	20.73	16.84	21.41	17.52	60.00	50.00	-38.59	-32.48
6	29.83081	1.19	21.76	12.30	22.95	13.49	60.00	50.00	-37.05	-36.51

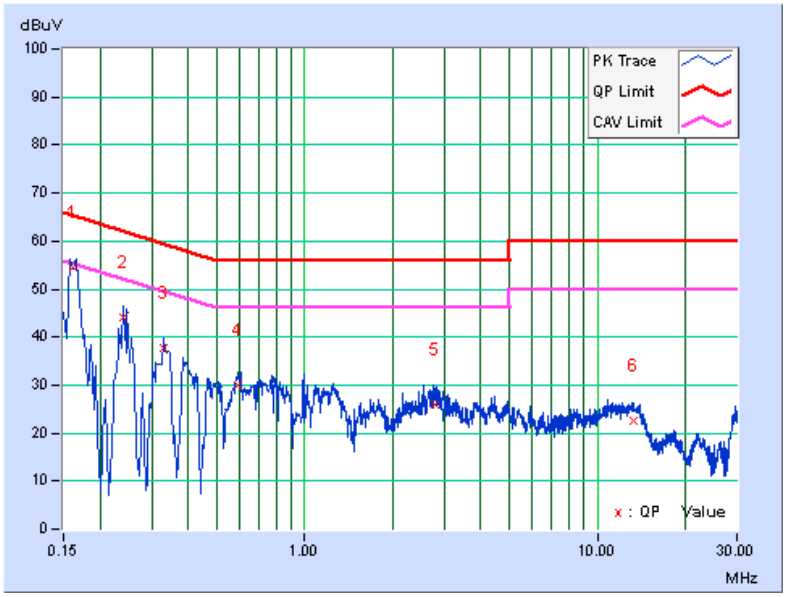
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading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



PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16224	0.26	54.35	40.06	54.61	40.32	65.35	55.35	-10.74	-15.03
2	0.23898	0.31	43.73	29.65	44.04	29.96	62.13	52.13	-18.09	-22.17
3	0.32786	0.30	37.55	25.03	37.85	25.33	59.51	49.51	-21.65	-24.17
4	0.59002	0.30	29.54	13.98	29.84	14.28	56.00	46.00	-26.16	-31.72
5	2.77798	0.40	25.43	15.90	25.83	16.30	56.00	46.00	-30.17	-29.70
6	13.25288	0.78	21.93	17.79	22.71	18.57	60.00	50.00	-37.29	-31.43

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.

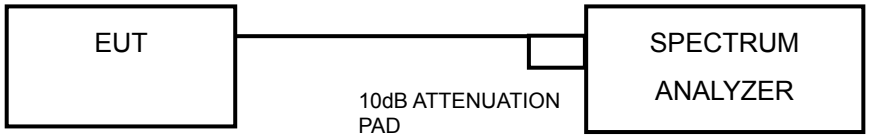


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.11	0.5	PASS
6	2437	12.10	0.5	PASS
11	2462	12.11	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.39	0.5	PASS
6	2437	16.42	0.5	PASS
11	2462	16.41	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.02	17.10	0.5	PASS
6	2437	17.05	17.00	0.5	PASS
11	2462	17.12	17.10	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	35.71	35.60	0.5	PASS
6	2437	35.74	35.82	0.5	PASS
9	2452	35.75	35.68	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

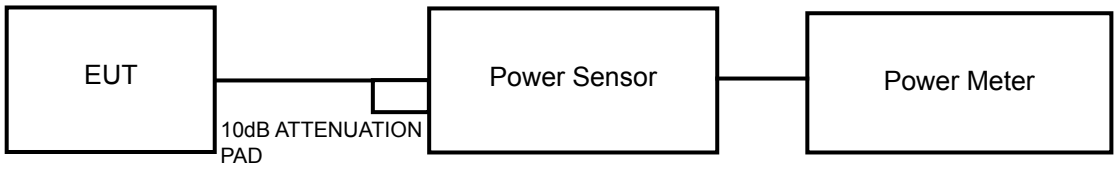
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

A peak / average power sensor were used on the output port of the EUT. A power meter was used to read the response of the peak / average power sensor. Record the peak power level.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

FOR PEAK POWER

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	91.201	19.60	30	PASS
6	2437	97.724	19.90	30	PASS
11	2462	95.499	19.80	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	165.959	22.20	30	PASS
6	2437	181.970	22.60	30	PASS
11	2462	165.959	22.20	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	21.90	21.60	**299.426**	24.76	30	PASS
6	2437	20.30	19.90	204.876	23.11	30	PASS
11	2462	21.80	21.20	283.182	24.52	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	19.60	19.20	174.377	22.41	30	PASS
6	2437	19.40	19.30	172.210	22.36	30	PASS
9	2452	19.50	19.50	178.250	22.51	30	PASS

FOR AVERAGE POWER

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	54.954	17.40
6	2437	58.884	17.70
11	2462	57.544	17.60

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	22.909	13.60
6	2437	23.988	13.80
11	2462	21.380	13.30

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	13.30	12.90	40.878	16.11
6	2437	11.40	11.00	26.393	14.21
11	2462	12.80	12.30	36.037	15.57

802.11n (40MHz)

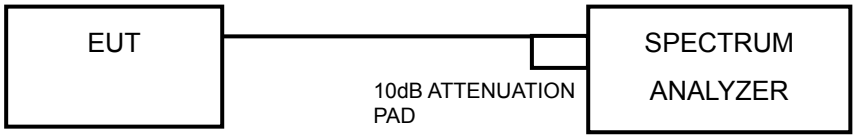
CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
3	2422	10.80	10.20	22.494	13.52
6	2437	10.50	10.20	21.691	13.36
9	2452	10.50	10.50	22.440	13.51

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

a. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
b. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
c. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	5.70	8	PASS
6	2437	6.00	8	PASS
11	2462	5.52	8	PASS

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-12.68	8	PASS
6	2437	-13.74	8	PASS
11	2462	-13.38	8	PASS

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-13.50	3.01	-10.49	6	PASS
	6	2437	-15.48	3.01	-12.47	6	PASS
	11	2462	-14.69	3.01	-11.68	6	PASS
1	1	2412	-11.42	3.01	-8.41	6	PASS
	6	2437	-13.83	3.01	-10.82	6	PASS
	11	2462	-12.85	3.01	-9.84	6	PASS

NOTE: Directional gain = 5dBi + 10log(2) = 8dBi > 6dBi , so the power density limit shall be reduced to 8-(8-6) = 6dBm.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-18.99	3.01	-15.98	6	PASS
	6	2437	-18.48	3.01	-15.47	6	PASS
	9	2452	-18.71	3.01	-15.70	6	PASS
1	3	2422	-15.97	3.01	-12.96	6	PASS
	6	2437	-14.39	3.01	-11.38	6	PASS
	9	2452	-15.17	3.01	-12.16	6	PASS

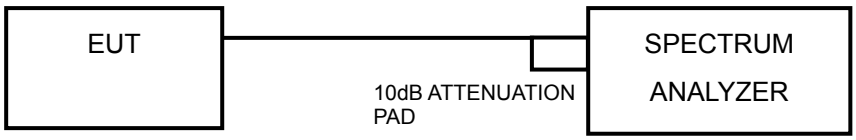
NOTE: Directional gain = 5dBi + 10log(2) = 8dBi > 6dBi , so the power density limit shall be reduced to 8-(8-6) = 6dBm.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined.
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

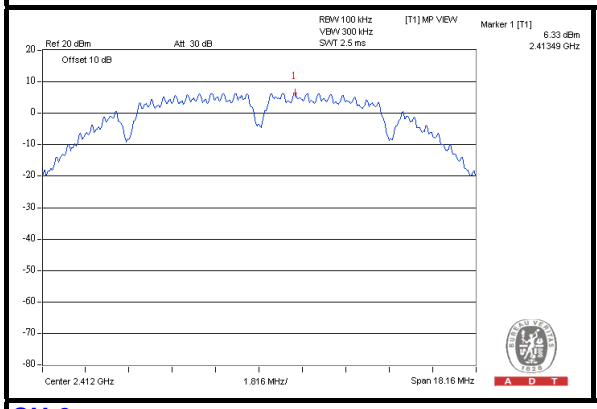
4.6.7 TEST RESULTS

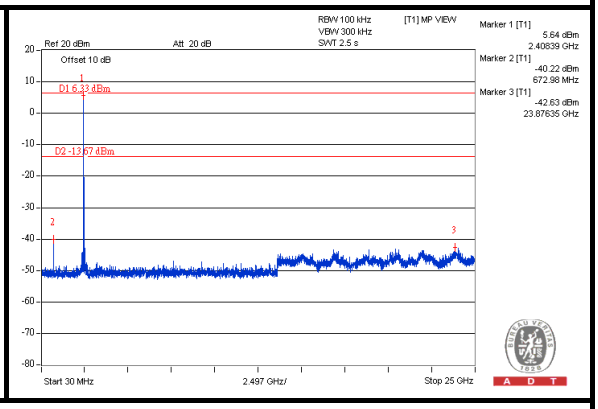
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

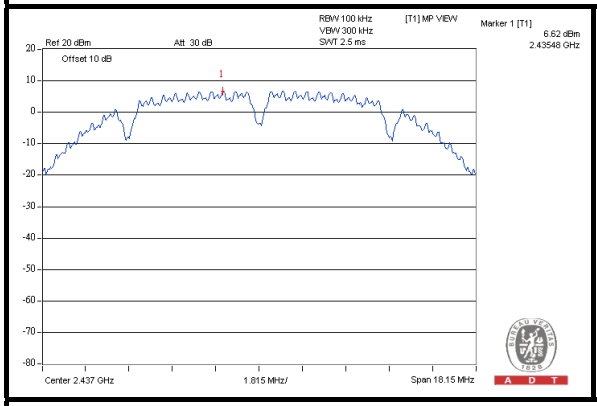
802.11b

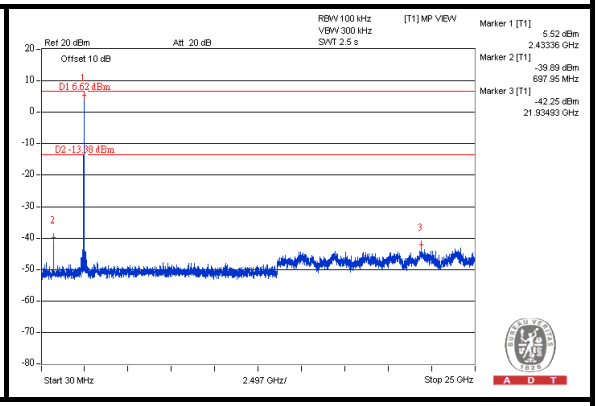
CH 1



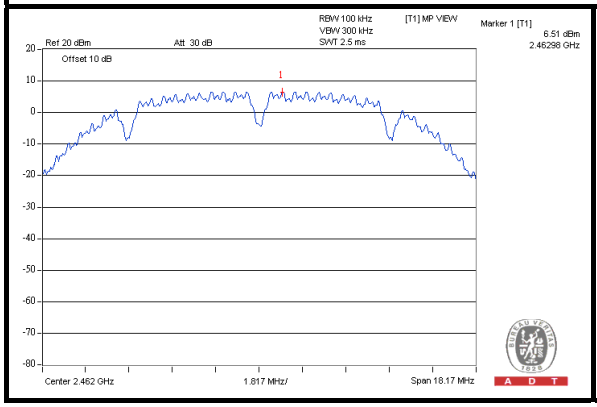


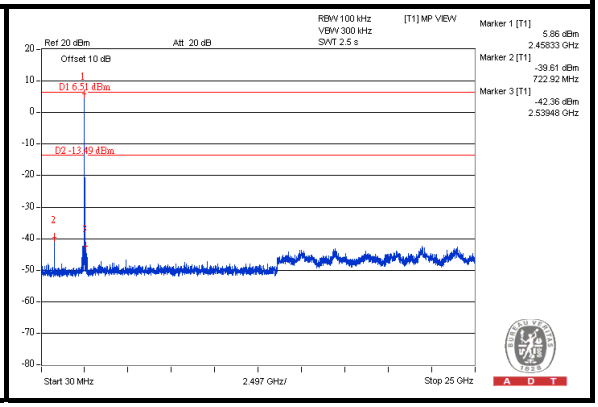
CH 6





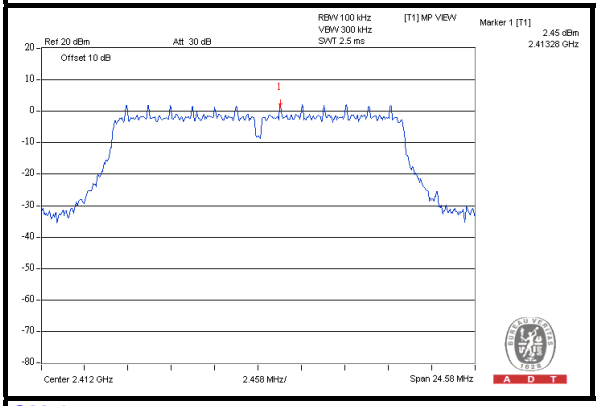
CH 11

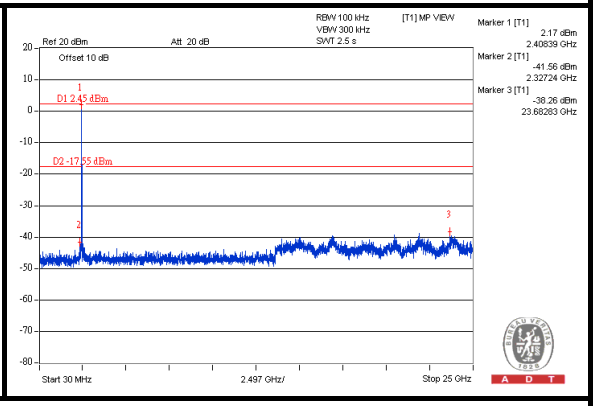




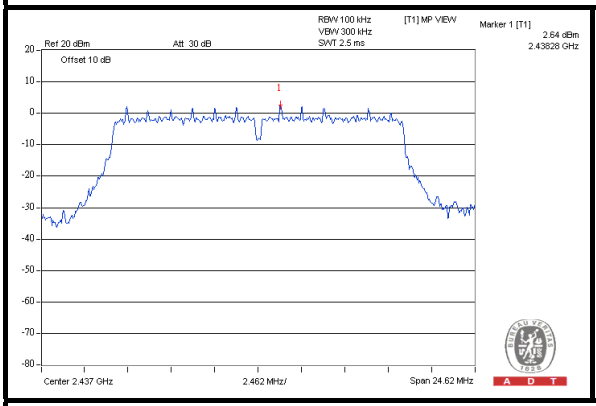
802.11g

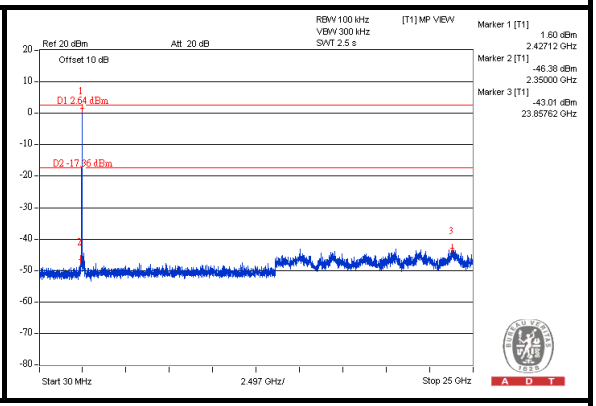
CH 1



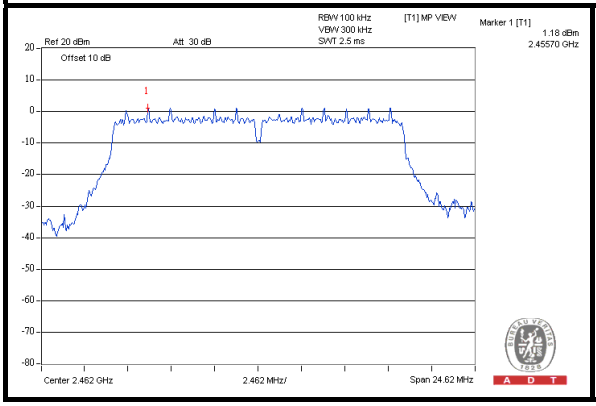


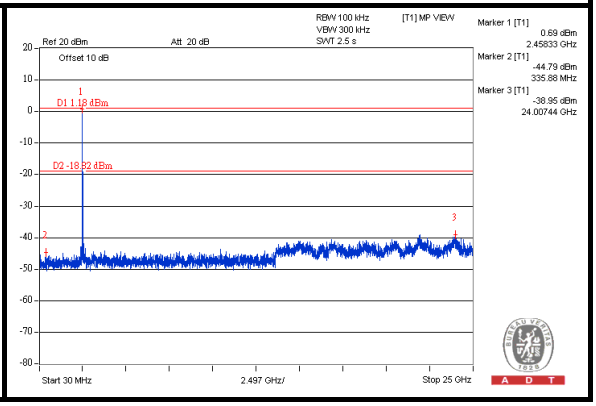
CH 6





CH 11

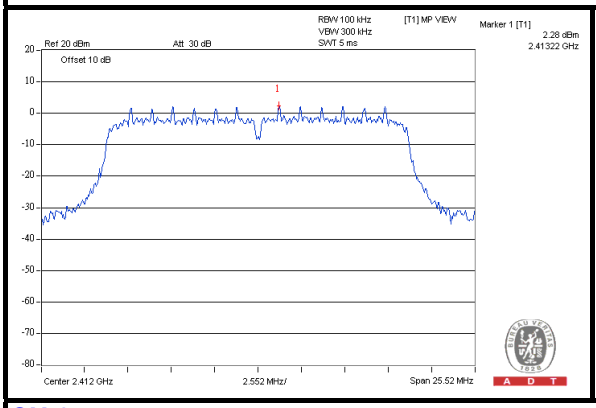


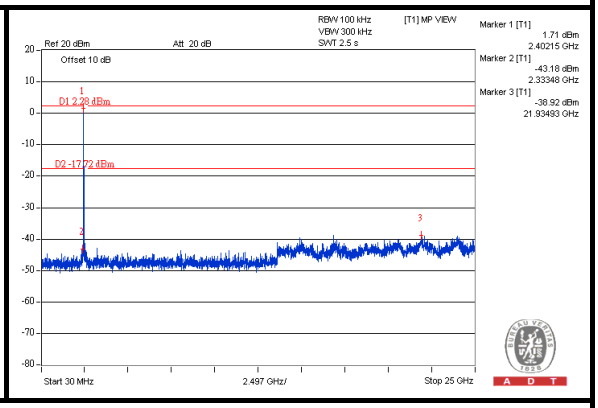


802.11n (20MHz)

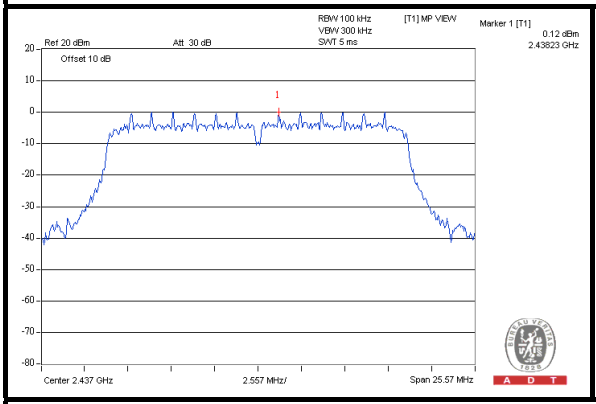
CHAIN 0

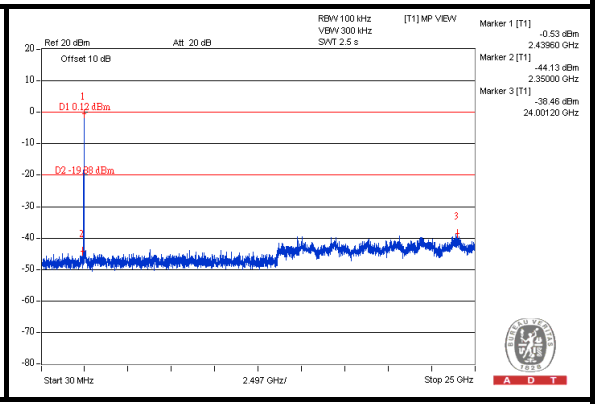
CH 1



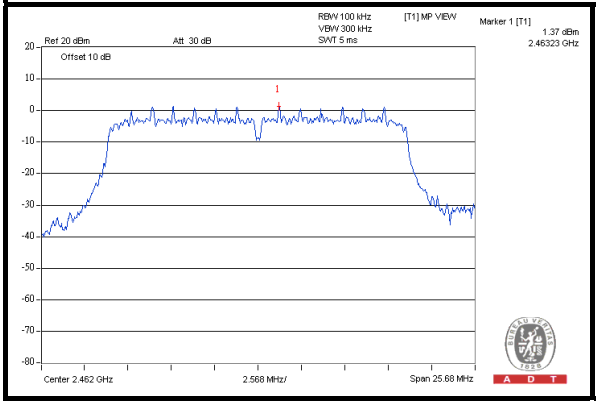


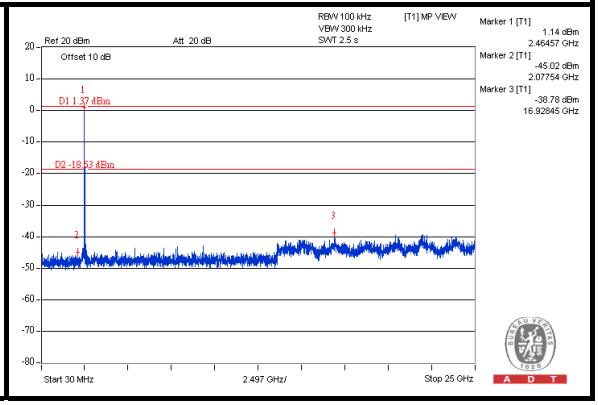
CH 6





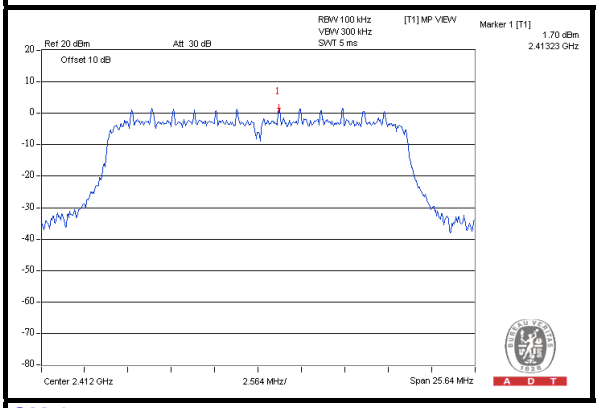
CH 11

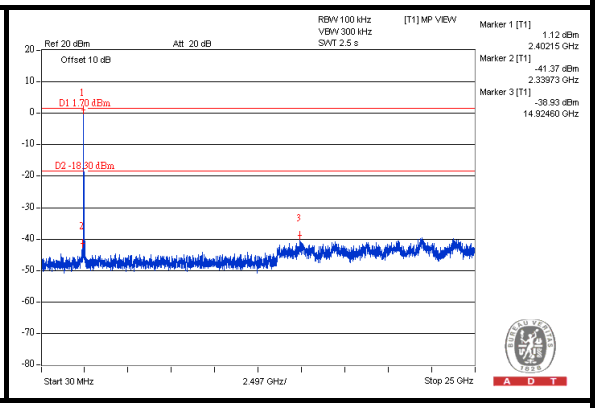




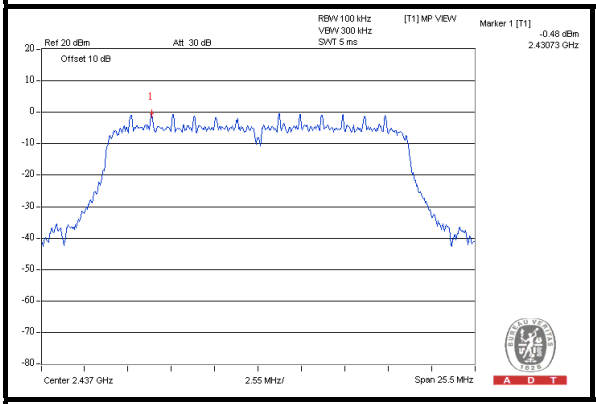
CHAIN 1

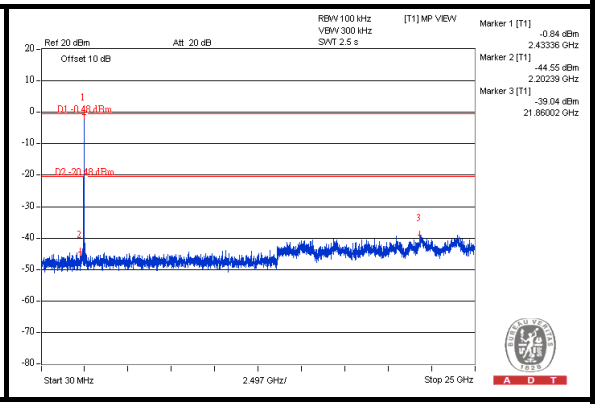
CH 1



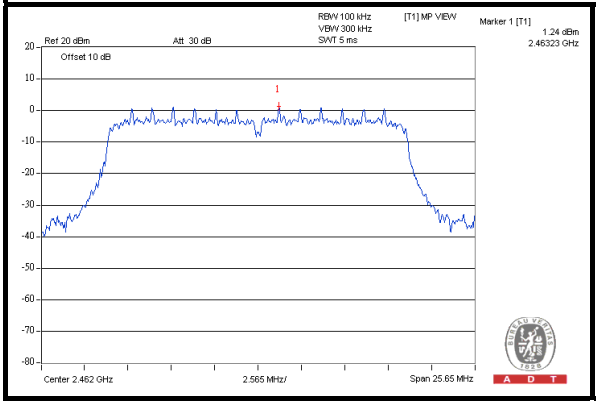


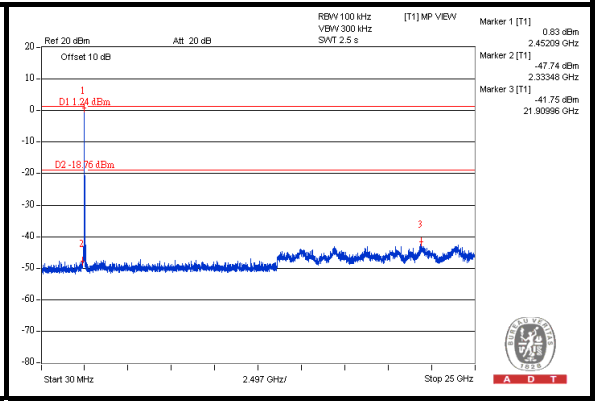
CH 6





CH 11

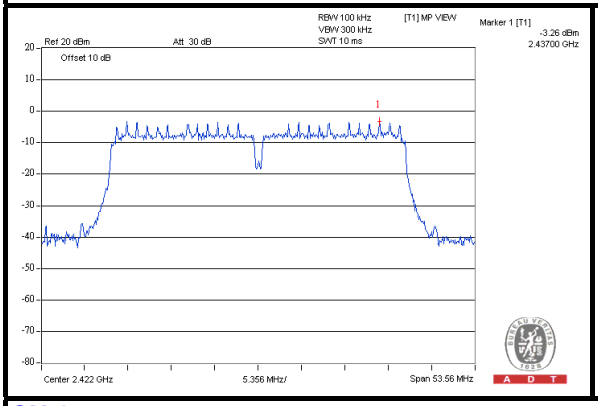


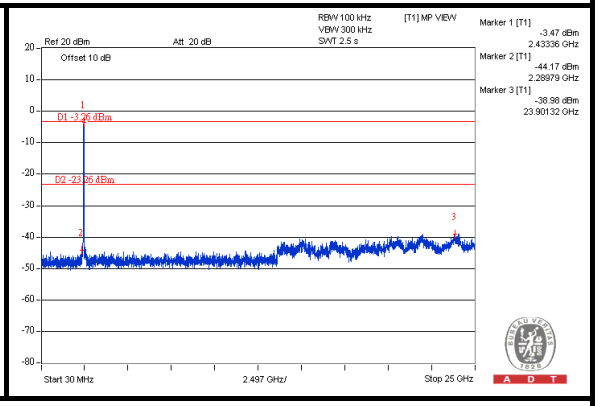


802.11n (40MHz)

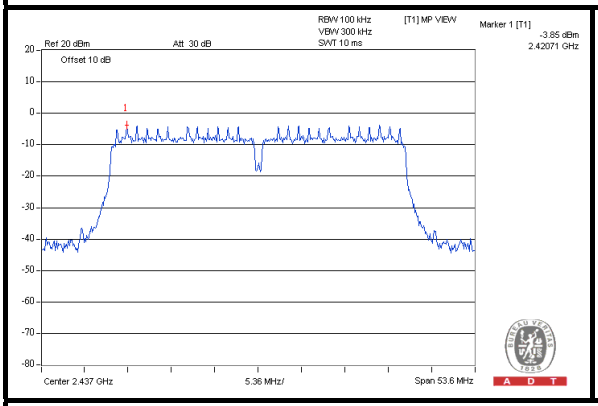
CHAIN 0

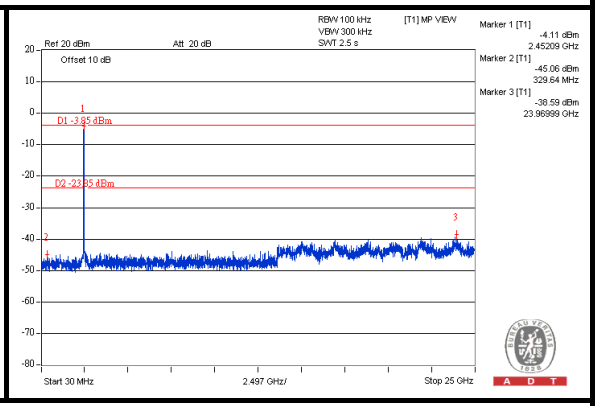
CH 3



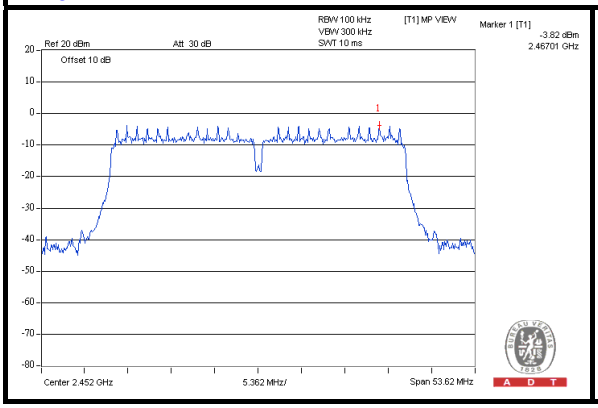


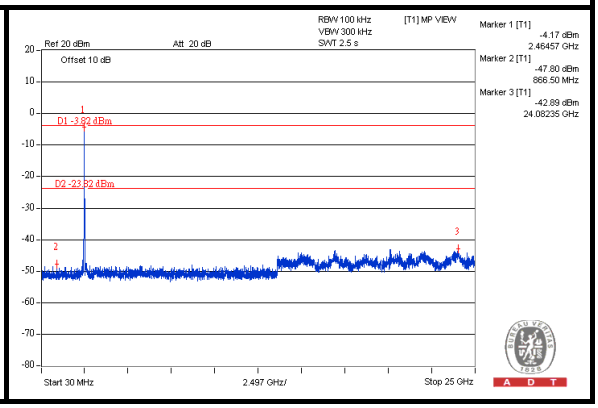
CH 6





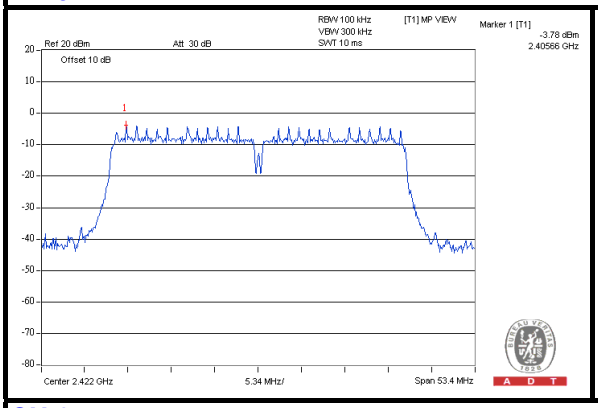
CH 9

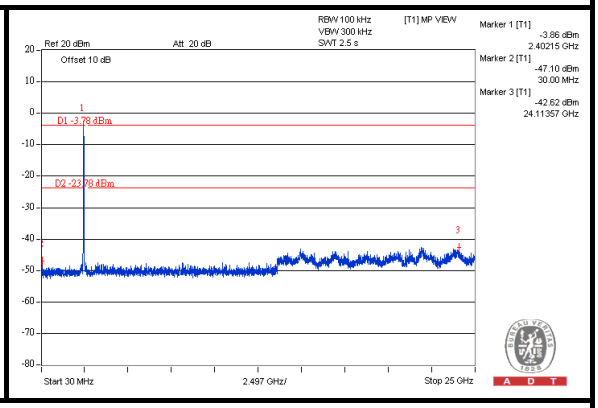




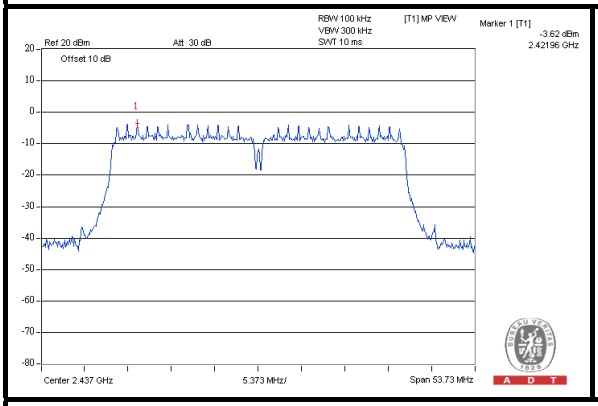
CHAIN 1

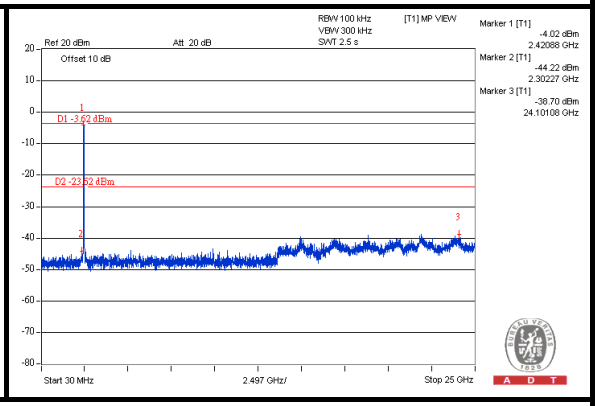
CH 3





CH 6





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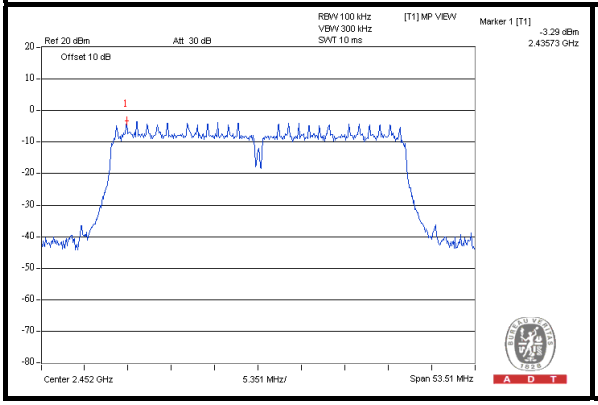

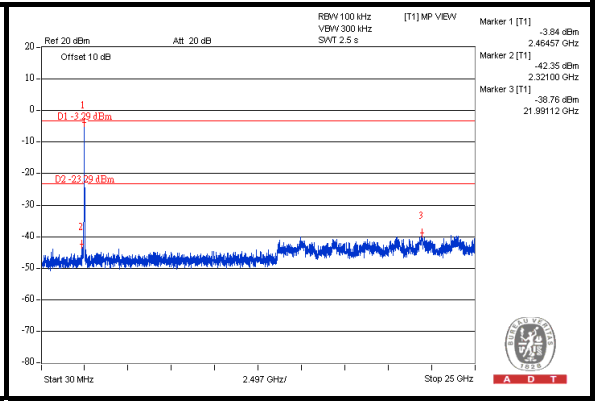

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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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Fax: 886-2-26051924

Hsin Chu EMC/RF Lab
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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.

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---