

FCC TEST REPORT

REPORT NO.: RF981021L21

MODEL NO.: EUB9603 EXT

RECEIVED: Oct. 21, 2009

TESTED: Oct. 27 ~ Oct. 30, 2009

ISSUED: Nov. 02, 2009

APPLICANT: Senao Networks Inc.

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ISSUED BY: Bureau Veritas Consumer Products Services

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1. CERTIFICATION

PRODUCT: Wireless 802.11 b/g/n USB adapter LONG RANGE

MODEL: EUB9603 EXT

BRAND: EnGenius

APPLICANT: Senao Networks Inc.

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Oct. 27 ~ Oct. 30, 2009

STANDARDS: FCC Part 15, Subpart C (Section 15.247)

ANSI C63.4-2003

The above equipment (Model: EUB9603 EXT) 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: 4 / 4 / 4, DATE: Nov. 02, 2009

Polly Chien / Specialist

TECHNICAL / Show Ch ...

ACCEPTANCE: Long Chen, DATE: Nov. 02, 2009

Responsible for RF Long Chet// Senior Engineer

APPROVED BY : , DATE : Nov. 02, 2009

Cody Chang / Assistant 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 AND LIMIT	RESULT	REMARK				
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -15.2dB at 3.715MHz.				
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.				
15.247(b)	Maximum Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.				
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -4.1dB at 2483.50MHz.				
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.				
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.				
15.203	Antenna Requirement	PASS	Antenna connector is RSMA 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	150kHz~30MHz	2.44 dB
	30MHz ~ 200MHz	2.93 dB
Radiated emissions	200MHz ~1000MHz	2.95 dB
Nadiated emissions	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	Wireless 802.11 b/g/n USB adapter LONG RANGE		
MODEL NO.	EUB9603 EXT		
FCC ID	U2M-9603EXT		
POWER SUPPLY	5Vdc		
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS		
MODUL ATION TECHNOLOGY	64QAM, 16QAM, QPSK, BPSK for OFDM DSSS, OFDM		
MODULATION TECHNOLOGY	· · · · · · · · · · · · · · · · · · ·		
	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps		
TRANSFER RATE	802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps		
	802.11n: up to 150.0Mbps		
OPERATING FREQUENCY	2412 ~ 2462MHz		
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz)		
NUMBER OF CHANNEL	7 for 802.11n (40MHz)		
OUTPUT POWER	12.1mW		
ANTENNA TYPE	Dipole antenna with 2dBi gain		
ANTENNA CONNECTOR	RSMA		
I/O PORTS	USB		
DATA CABLE	NA		
ACCESSORY DEVICES	NA		

NOTE:

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

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

2. The above EUT information was 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):

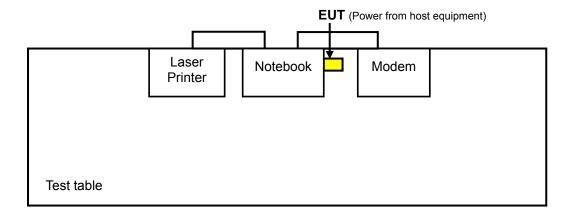
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2422MHz	5	2442MHz
2	2427MHz	6	2447MHz
3	2432MHz	7	2452MHz
4	2437MHz		



3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE		APPLICA	ABLE TO		DESCRIPTION
MODE	RE≥1G	RE<1G	PLC	APCM	
-		√	√	V	-

Where

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

RE<1G: Radiated Emission below 1GHz

APCM: Antenna Port Conducted Measurement

RADIATED EMISSION TEST (ABOVE 1GHz):

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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5

RADIATED EMISSION TEST (BELOW 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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		MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	11	DSSS	DBPSK	1.0

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		MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	11	DSSS	DBPSK	1.0

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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)
-	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	13.5

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)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 66%RH, 1006 hPa	120Vac, 60Hz	Lori Chiu
RE<1G	25deg. C, 66%RH, 1006 hPa	120Vac, 60Hz	Brad Wu
PLC	22deg. C, 66%RH, 1005 hPa	120Vac, 60Hz	Kevin Chen
APCM	25deg. C, 63%RH, 1008 hPa	120Vac, 60Hz	Brad Wu



3.3 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) ANSI C63.4-2003

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.

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	D531	CN-0XM006-48643- 81U-2610	QDS-BRCM1020
2	LASER PRINTER	HP	HP LASERJET 1300	CNBKK91189	NA
3	MODEM	ACEEX	1414V/3	0401008253	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8m braid shielded wire, DB25 connector, w/o core.
3	1.2m braid shielded wire, DB25 & DB9 connector, w/o core.

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



4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION 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. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	May 25, 2009	May 24, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2009	Apr. 29, 2010
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Aug. 10, 2009	Aug. 09, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009	Jan. 05, 2010
Preamplifier Agilent	8449B	3008A01910	Sep. 11, 2009	Sep. 10, 2010
Preamplifier Agilent	8447D	2944A10638	Dec. 26, 2008	Dec. 25, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 13, 2009	May 12, 2010
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 17, 2009	Aug. 16, 2010
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	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 Chamber 9.
- 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 IC 7450F-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:

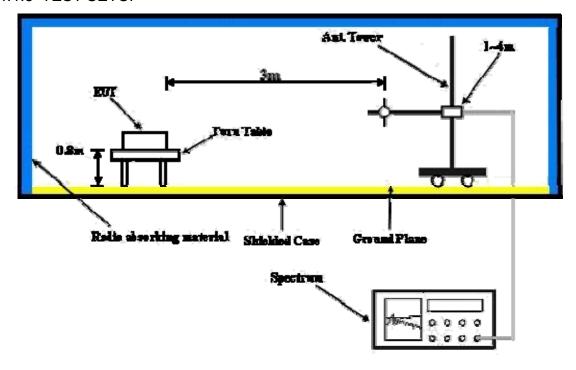
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz 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. Plugged the EUT into a notebook system and placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.



4.1.7 TEST RESULTS

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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.5 PK	74.00	-16.5	1.36 H	173	25.30	32.22
2	2390.00	46.1 AV	54.00	-7.9	1.36 H	173	13.87	32.22
3	*2412.00	94.0 PK			1.36 H	173	61.73	32.30
4	*2412.00	89.2 AV			1.36 H	173	56.86	32.30
5	4824.00	48.2 PK	74.00	-25.8	1.02 H	165	9.84	38.33
6	4824.00	36.5 AV	54.00	-17.5	1.02 H	165	-1.83	38.33
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M	
NO.	NO. FREQ. (MHz) EMISSION LIMIT (dBuV/m) MARGIN (dB) HEIGHT (m) TABLE ANGLE RAW VALUE (dBuV) FACTOR							CORRECTION FACTOR (dB/m)
1	2390.00	57.1 PK	74.00	-17.0	1.15 V	17	24.83	32.22
2	2390.00	46.1 AV	54.00	-7.9	1.15 V	17	13.91	32.22
3	*2412.00	103.3 PK			1.15 V	17	71.00	32.30
4	*2412.00	98.4 AV			1.15 V	17	66.10	32.30
5	4824.00	48.3 PK	74.00	-25.7	1.00 V	219	9.98	38.33
6	4824.00	36.6 AV	54.00	-17.4	1.00 V	219	-1.71	38.33

- 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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	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	94.6 PK			1.25 H	225	62.22	32.39
2	*2437.00	89.6 AV			1.25 H	225	57.20	32.39
3	4874.00	48.3 PK	74.00	-25.8	1.40 H	15	9.84	38.41
4	4874.00	36.5 AV	54.00	-17.5	1.40 H	15	-1.89	38.41
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M	
	I I LIMIT I ANTENNA I RAW VALUE I							
NO.	FREQ. (MHz)	LEVEL		MARGIN (dB)		ANGLE		
NO.	FREQ. (MHz) *2437.00	LEVEL		MARGIN (dB)		ANGLE		FACTOR
	` ,	LEVEL (dBuV/m)		MARGIN (dB)	HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)
1	*2437.00	LEVEL (dBuV/m) 103.8 PK		MARGIN (dB) -25.6	HEIGHT (m) 1.31 V	ANGLE (Degree)	(dBuV) 71.45	FACTOR (dB/m) 32.39

- 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)	
	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	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	95.2 PK			1.30 H	156	62.73	32.48			
2	*2462.00	89.8 AV			1.30 H	156	57.29	32.48			
3	2483.50	57.8 PK	74.00	-16.3	1.30 H	156	25.19	32.56			
4	2483.50	46.5 AV	54.00	-7.5	1.30 H	156	13.94	32.56			
5	4924.00	48.3 PK	74.00	-25.7	1.00 H	10	9.80	38.51			
6	4924.00	36.6 AV	54.00	-17.4	1.00 H	10	-1.92	38.51			
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M				
NO.		EMISSION				TABLE		CORRECTION			
	FREQ. (MHz)	LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)			
1	2462.00			MARGIN (dB)	, _ ,						
1 2	, ,	(dBuV/m)		MARGIN (dB)	HEIGHT (m)	(Degree)	(dBuV)	(dB/m)			
	2462.00	(dBuV/m) 104.0 PK		MARGIN (dB) -15.5	HEIGHT (m)	(Degree)	(dBuV) 71.55	(dB/m) 32.48			
2	2462.00 2462.00	(dBuV/m) 104.0 PK 99.1 AV	(dBuV/m)		1.14 V 1.14 V	(Degree) 2 2	(dBuV) 71.55 66.64	(dB/m) 32.48 32.48			
2	2462.00 2462.00 2483.50	(dBuV/m) 104.0 PK 99.1 AV 58.5 PK	(dBuV/m)	-15.5	1.14 V 1.14 V 1.14 V	(Degree) 2 2 2	(dBuV) 71.55 66.64 25.96	(dB/m) 32.48 32.48 32.56			

- 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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	56.4 PK	74.00	-17.6	1.36 H	118	24.15	32.22
2	2390.00	46.1 AV	54.00	-7.9	1.36 H	118	13.91	32.22
3	*2412.00	95.0 PK			1.36 H	118	62.67	32.30
4	*2412.00	84.5 AV			1.36 H	118	52.21	32.30
5	4824.00	47.3 PK	74.00	-26.7	1.00 H	135	8.98	38.33
6	4824.00	35.0 AV	54.00	-19.1	1.00 H	135	-3.38	38.33
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	59.0 PK	74.00	-15.0	1.12 V	324	26.77	32.22
			74.00			~		-
2	2390.00	46.9 AV	54.00	-7.1	1.12 V	324	14.70	32.22
3	2390.00 *2412.00	46.9 AV 104.5 PK						32.22 32.30
					1.12 V	324	14.70	
3	*2412.00	104.5 PK			1.12 V 1.14 V	324 16	14.70 72.23	32.30

- 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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	95.2 PK			1.36 H	19	62.85	32.39
2	*2437.00	85.1 AV			1.36 H	19	52.70	32.39
3	4874.00	47.4 PK	74.00	-26.6	1.00 H	97	9.02	38.41
4	4874.00	35.0 AV	54.00	-19.0	1.00 H	97	-3.41	38.41
		ANTENNA	A POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M	
NO.	EMISSION LIMIT ANTENNA TABLE RAW VALUE CORRECTION							
			(dBuV/m)	()	HEIGHT (m)		(dBuV)	
1	*2437.00		(dBuV/m)	()	1.10 V		(dBuV) 72.37	
1 2	*2437.00 *2437.00	(dBuV/m)	(dBuV/m)		` ,	(Degree)	` ,	(dB/m)
-		(dBuV/m) 104.8 PK	(dBuV/m) 74.00	-25.8	1.10 V	(Degree) 185	72.37	(dB/m) 32.39

- 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)	
	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	95.6 PK			1.15 H	320	63.16	32.48
2	*2462.00	85.2 AV			1.15 H	320	52.68	32.48
3	2483.50	57.1 PK	74.00	-16.9	1.15 H	320	24.55	32.56
4	2483.50	47.1 AV	54.00	-6.9	1.15 H	320	14.53	32.56
5	4924.00	47.6 PK	74.00	-26.4	1.00 H	115	9.07	38.51
6	4924.00	35.1 AV	54.00	-18.9	1.00 H	115	-3.41	38.51
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 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	105.2 PK			1.08 V	306	72.71	32.48
2	*2462.00	94.6 AV			1.08 V	306	62.15	32.48
3	2483.50	60.1 PK	74.00	-13.9	1.08 V	306	27.50	32.56
4	2483.50	48.3 AV	54.00	-5.7	1.08 V	306	15.71	32.56
5	4824.00	48.4 PK	74.00	-25.7	1.10 V	145	10.02	38.33
6	4824.00	34.8 AV	54.00	-19.2	1.10 V	145	-3.56	38.33

- 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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	56.1 PK	74.00	-17.9	1.20 H	164	23.90	32.22
2	2390.00	46.1 AV	54.00	-7.9	1.20 H	164	13.86	32.22
3	*2412.00	94.6 PK			1.20 H	164	62.34	32.30
4	*2412.00	84.4 AV			1.20 H	164	52.07	32.30
5	4824.00	47.3 PK	74.00	-26.8	1.00 H	100	8.92	38.33
6	4824.00	34.7 AV	54.00	-19.3	1.00 H	100	-3.62	38.33
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 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)
NO .	FREQ. (MHz) 2390.00	LEVEL		MARGIN (dB) -15.3	7	ANGLE		FACTOR
	, ,	LEVEL (dBuV/m)	(dBuV/m)	, ,	HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)
1	2390.00	LEVEL (dBuV/m) 58.7 PK	(dBuV/m) 74.00	-15.3	HEIGHT (m)	ANGLE (Degree)	(dBuV) 26.45	FACTOR (dB/m) 32.22
1 2	2390.00 2390.00	LEVEL (dBuV/m) 58.7 PK 46.8 AV	(dBuV/m) 74.00	-15.3	1.21 V 1.21 V	ANGLE (Degree) 207 207	(dBuV) 26.45 14.60	FACTOR (dB/m) 32.22 32.22
1 2 3	2390.00 2390.00 *2412.00	LEVEL (dBuV/m) 58.7 PK 46.8 AV 104.1 PK	(dBuV/m) 74.00	-15.3	1.21 V 1.21 V 1.21 V	ANGLE (Degree) 207 207 207	(dBuV) 26.45 14.60 71.81	FACTOR (dB/m) 32.22 32.22 32.30

- 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, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	94.9 PK			1.25 H	50	62.50	32.39
2	*2437.00	84.5 AV			1.25 H	50	52.11	32.39
3	4874.00	47.4 PK	74.00	-26.6	1.09 H	66	8.97	38.41
4	4874.00	35.0 AV	54.00	-19.0	1.09 H	66	-3.40	38.41
		ANTENNA	A POLARIT	/ & TEST DI	STANCE: V	ERTICAL A	T 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	104.4 PK			1.31 V	246	72.03	32.39
2	*2437.00	94.1 AV			1.31 V	246	61.71	32.39
3	4874.00	48.4 PK	74.00	-25.6	1.00 V	174	9.96	38.41

- 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)	
	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	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	95.1 PK			1.10 H	141	62.63	32.48	
2	*2462.00	84.6 AV			1.10 H	141	52.14	32.48	
3	2483.50	57.1 PK	74.00	-16.9	1.11 H	140	24.53	32.56	
4	2483.50	47.0 AV	54.00	-7.0	1.11 H	140	14.44	32.56	
5	4924.00	47.3 PK	74.00	-26.7	1.26 H	259	8.79	38.51	
6	4924.00	35.3 AV	54.00	-18.8	1.26 H	259	-3.26	38.51	
		ANTENNA	A POLARIT	/ & TEST DI	STANCE: V	ERTICAL A	T 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	104.8 PK			1.01 V	294	72.31	32.48	
2	*2462.00	94.6 AV			1.01 V	294	62.16	32.48	
3	2483.50	60.0 PK	74.00	-14.0	1.11 V	142	27.44	32.56	
4	2483.50	48.2 AV	54.00	-5.8	1.11 V	142	15.63	32.56	
5	4924.00	48.2 PK	74.00	-25.8	1.02 V	115	9.70	38.51	
6	4924.00	34.2 AV	54.00	-19.8	1.02 V	115	-4.35	38.51	

- 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 1	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	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	74.00	-15.8	1.04 H	41	25.94	32.22	
2	2390.00	46.1 AV	54.00	-7.9	1.04 H	41	13.92	32.22	
3	*2422.00	90.5 PK			1.04 H	41	58.19	32.34	
4	*2422.00	80.4 AV			1.04 H	41	48.03	32.34	
5	4844.00	48.4 PK	74.00	-25.6	1.02 H	55	10.07	38.36	
6	4844.00	34.3 AV	54.00	-19.7	1.02 H	55	-4.07	38.36	
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 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)	
NO .	FREQ. (MHz) 2390.00	LEVEL		MARGIN (dB) -11.1	, _ , t	ANGLE		FACTOR	
	, ,	LEVEL (dBuV/m)	(dBuV/m)	, ,	HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)	
1	2390.00	LEVEL (dBuV/m) 62.9 PK	(dBuV/m) 74.00	-11.1	HEIGHT (m)	ANGLE (Degree)	(dBuV) 30.65	FACTOR (dB/m) 32.22	
1 2	2390.00 2390.00	LEVEL (dBuV/m) 62.9 PK 49.2 AV	(dBuV/m) 74.00	-11.1	1.16 V 1.16 V	ANGLE (Degree) 15	(dBuV) 30.65 16.95	FACTOR (dB/m) 32.22 32.22	
1 2 3	2390.00 2390.00 *2422.00	LEVEL (dBuV/m) 62.9 PK 49.2 AV 102.2 PK	(dBuV/m) 74.00	-11.1	1.16 V 1.16 V 1.15 V	ANGLE (Degree) 15 15 358	(dBuV) 30.65 16.95 69.90	FACTOR (dB/m) 32.22 32.22 32.34	

- 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 4	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	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	90.8 PK			1.00 H	106	58.42	32.39	
2	*2437.00	80.7 AV			1.00 H	106	48.33	32.39	
3	4874.00	48.4 PK	74.00	-25.6	1.37 H	357	10.01	38.41	
4	4874.00	34.3 AV	54.00	-19.7	1.37 H	357	-4.11	38.41	
		ANTENNA	POLARITY	/ & TEST DI	STANCE: V	ERTICAL A	T 3 M		
		EMISSION				TABLE		CORRECTION	
NO.	FREQ. (MHz)	LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	ANGLE (Degree)	RAW VALUE (dBuV)	FACTOR (dB/m)	
NO.	*2437.00			MARGIN (dB)		ANGLE	_	FACTOR	
		(dBuV/m)		MARGIN (dB)	HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)	
1	*2437.00	(dBuV/m) 102.6 PK		MARGIN (dB) -25.4	HEIGHT (m) 1.13 V	ANGLE (Degree) 250	(dBuV) 70.17	FACTOR (dB/m) 32.39	

- 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 7	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1006 hPa	TESTED BY	Lori Chiu	

	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	91.2 PK			1.10 H	140	58.71	32.45	
2	*2452.00	81.1 AV			1.10 H	140	48.64	32.45	
3	2483.50	58.1 PK	74.00	-15.9	1.10 H	140	25.53	32.56	
4	2483.50	46.1 AV	54.00	-7.9	1.10 H	140	13.55	32.56	
5	4904.00	48.5 PK	74.00	-25.5	1.25 H	50	10.00	38.46	
6	4904.00	34.3 AV	54.00	-19.7	1.25 H	50	-4.13	38.46	
		ANTENNA	A POLARIT	/ & TEST DI	STANCE: V	ERTICAL A	T 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)	
NO.	*2452.00	LEVEL		MARGIN (dB)		ANGLE		FACTOR	
	` ,	LEVEL (dBuV/m)		MARGIN (dB)	HEIGHT (m)	ANGLE (Degree)	(dBuV)	FACTOR (dB/m)	
1	*2452.00	LEVEL (dBuV/m) 102.9 PK		MARGIN (dB) -12.6	HEIGHT (m) 1.10 V	ANGLE (Degree)	(dBuV) 70.43	FACTOR (dB/m) 32.45	
1 2	*2452.00 *2452.00	LEVEL (dBuV/m) 102.9 PK 92.1 AV	(dBuV/m)		1.10 V 1.10 V	ANGLE (Degree) 128 128	(dBuV) 70.43 59.66	FACTOR (dB/m) 32.45 32.45	
1 2 3	*2452.00 *2452.00 2483.50	LEVEL (dBuV/m) 102.9 PK 92.1 AV 61.4 PK	(dBuV/m) 74.00	-12.6	1.10 V 1.10 V 1.10 V 1.12 V	ANGLE (Degree) 128 128	(dBuV) 70.43 59.66 28.86	FACTOR (dB/m) 32.45 32.45 32.56	

- 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: 802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak	
	25deg. C, 66%RH 1006 hPa	TESTED BY	Brad Wu	

	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	31.84	35.1 QP	40.00	-4.9	1.00 H	325	22.92	12.22		
2	199.05	33.7 QP	43.50	-9.8	1.00 H	280	23.06	10.67		
3	399.31	30.1 QP	46.00	-15.9	1.00 H	10	14.05	16.04		
4	718.18	38.5 QP	46.00	-7.5	1.00 H	229	15.37	23.17		
5	797.89	40.5 QP	46.00	-5.5	1.00 H	19	15.28	25.26		
6	986.49	32.4 QP	54.00	-21.6	2.00 H	355	5.74	26.66		
		ANTENNA	A POLARITY	Y & TEST DI	STANCE: V	ERTICAL A	T 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	31.84	34.3 QP	40.00	-5.7	1.00 V	109	22.05	12.22		
2	199.05	28.4 QP	43.50	-15.1	1.50 V	340	17.76	10.67		
3	482.92	31.6 QP	46.00	-14.4	1.00 V	205	12.91	18.72		
	558.75	32.2 QP	46.00	-13.8	1.50 V	190	11.25	20.97		
4	000.10	02.2 Q1								
5	718.18	35.5 QP	46.00	-10.5	1.00 V	181	12.34	23.17		

- 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	100288	Sep. 24, 2009	Sep. 23, 2010
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 31, 2008	Dec. 30, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Dec. 29, 2008	Dec. 28, 2009
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 29, 2009	Jul. 28, 2010
Software ADT	ADT_Cond_ V7.3.7	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 2.
- 3. The VCCI Site Registration No. is C-2047.



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.

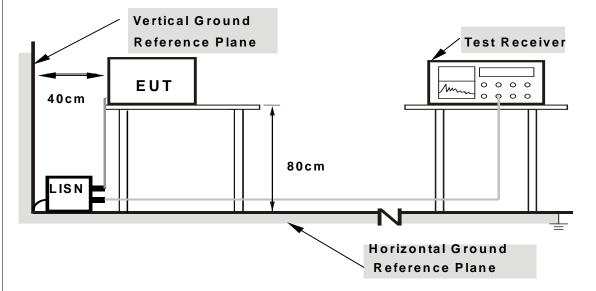
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

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.



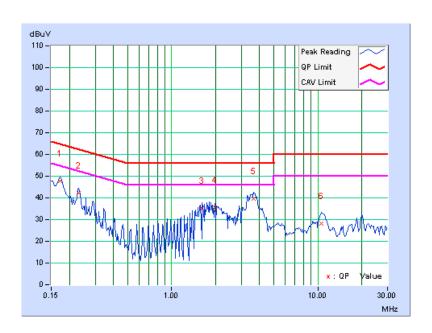
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11b

No	Freq.	Corr.	Readin	g Value	Emis Le	sion vel	Lir	nit	Mar	gin
NO		Factor	[dB ((uV)]	[dB ((uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.13	47.78	-	47.91	-	64.79	54.79	-16.88	_
2	0.232	0.13	42.12	-	42.25	-	62.38	52.38	-20.13	-
3	1.621	0.18	34.97	-	35.15	-	56.00	46.00	-20.85	-
4	1.969	0.19	35.43	-	35.62	-	56.00	46.00	-20.38	_
5	3.656	0.26	39.54	-	39.80	-	56.00	46.00	-16.20	-
6	10.645	0.45	27.70	-	28.15	-	60.00	50.00	-31.85	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. Emission Level = Correction Factor + Reading Value.



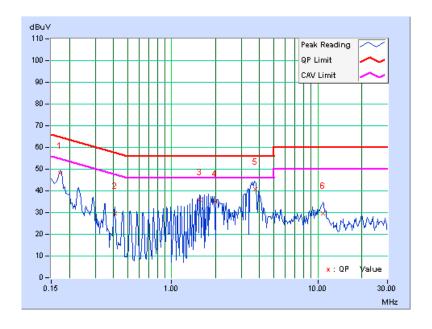


PHASE	Line 2	6dB BANDWIDTH	9kHz
	-		

No	Freq.	Corr.	Readin	g Value	Emis Le	ssion vel	Lir	nit	Mar	gin
		Factor	[dB ((uV)]	[dB ((uV)]	[dB	(uV)]	(dl	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.13	47.90	-	48.03	-	64.79	54.79	-16.76	-
2	0.408	0.15	29.31	-	29.46	-	57.69	47.69	-28.23	-
3	1.563	0.19	35.76	-	35.95	-	56.00	46.00	-20.05	-
4	1.971	0.20	35.13	-	35.33	-	56.00	46.00	-20.67	-
5	3.715	0.29	40.48	•	40.77	-	56.00	46.00	-15.23	-
6	10.879	0.53	28.92	-	29.45	-	60.00	50.00	-30.55	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

- 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
- 3. The emission levels of other frequencies were very low against the limit.
- 4. Margin value = Emission level Limit value
- 5. Correction factor = Insertion loss + Cable loss
- 6. 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL	
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010	

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST PROCEDURE

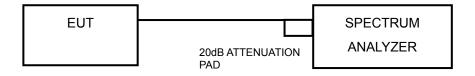
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.



4.3.5 TEST SETUP



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.

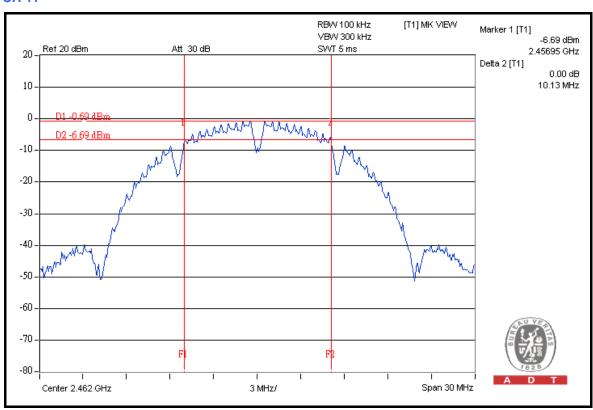


4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL	
1	2412	10.11	0.5	PASS	
6	2437	10.10	0.5	PASS	
11	2462	10.13	0.5	PASS	

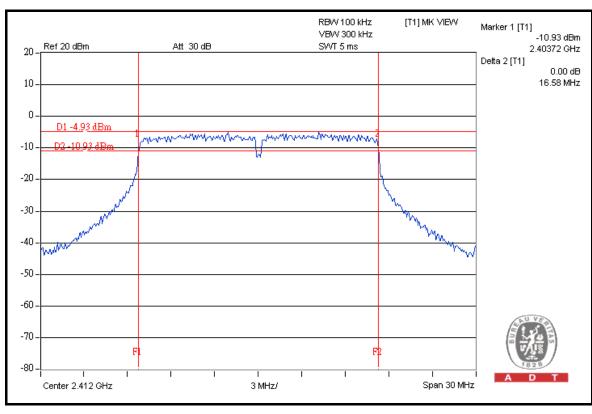
CH 11





802.11g

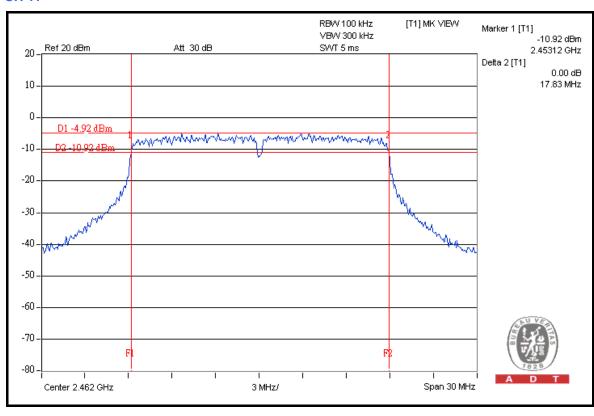
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.58	0.5	PASS
6	2437	16.56	0.5	PASS
11	2462	16.56	0.5	PASS





802.11n (20MHz)

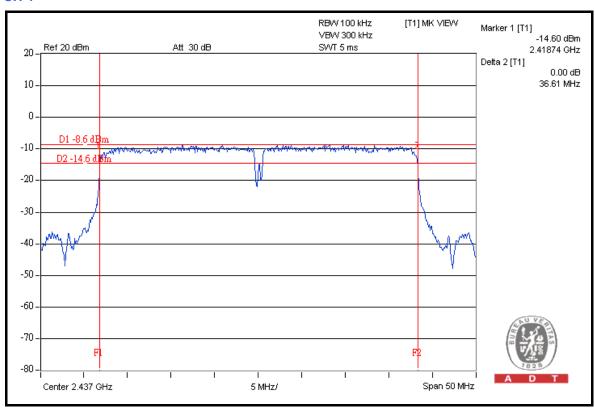
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.83	0.5	PASS
6	2437	17.83	0.5	PASS
11	2462	17.83	0.5	PASS





802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.56	0.5	PASS
4	2437	36.61	0.5	PASS
7	2452	36.56	0.5	PASS





4.4 MAXIMUM OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURE

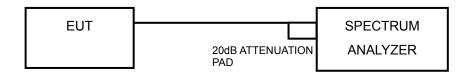
- 1. Follow DTS measurement (Power Output Option 2), the transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer.
- 2. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 3. Set RBW = 1 MHz ;VBW \ge 3 MHz.
- 4. Use sample detector mode and video trigger with the trigger level set to enable triggering only on full power pulses.
- 5. Trace average 100 traces in power averaging mode.
- 6. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
- 7. Record the power level.



4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

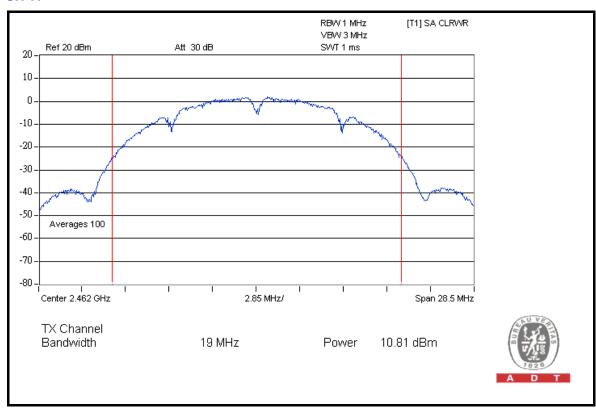
Same as Item 4.3.6.



4.4.7 TEST RESULTS

802.11b

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	11.8	10.7	30	PASS
6	2437	11.8	10.7	30	PASS
11	2462	12.1	10.8	30	PASS





802.11g

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	12.0	10.8	30	PASS
6	2437	11.9	10.8	30	PASS
11	2462	11.8	10.7	30	PASS





802.11n (20MHz)

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2412	11.8	10.7	30	PASS
6	2437	11.9	10.8	30	PASS
11	2462	11.9	10.7	30	PASS

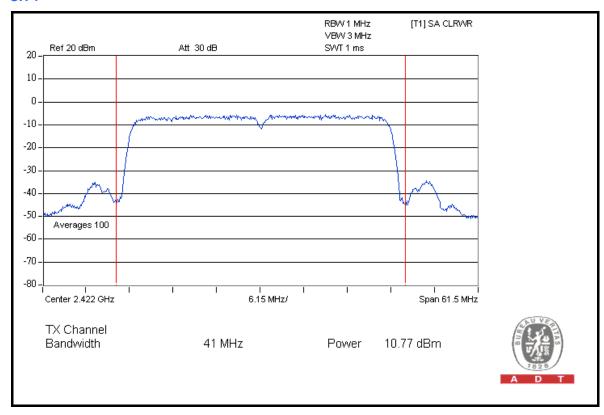




802.11n (40MHz)

CHAN	CHANNEL FREQUENCY (MHz)	POWER OUTPUT (mW)	POWER OUTPUT (dBm)	POWER LIMIT (dBm)	PASS/FAIL
1	2422	11.9	10.8	30	PASS
4	2437	11.9	10.7	30	PASS
7	2452	11.9	10.8	30	PASS

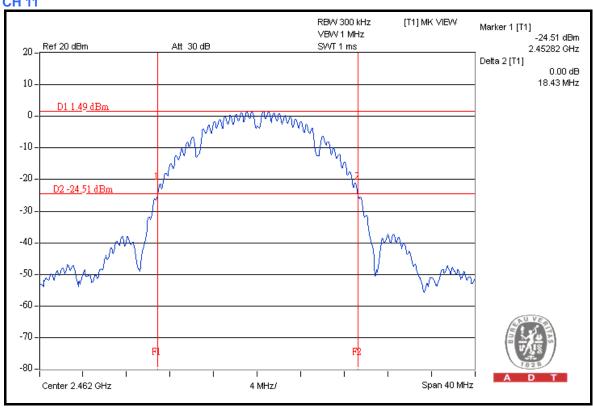
CH₁





26dB OCCUPIED BANDWIDTH: 802.11b

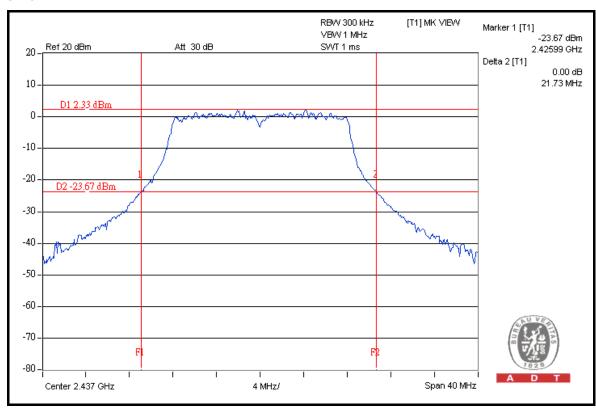
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
1	2412	18.42	PASS
6	2437	18.42	PASS
11	2462	18.43	PASS





802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
1	2412	21.66	PASS
6	2437	21.73	PASS
11	2462	21.64	PASS

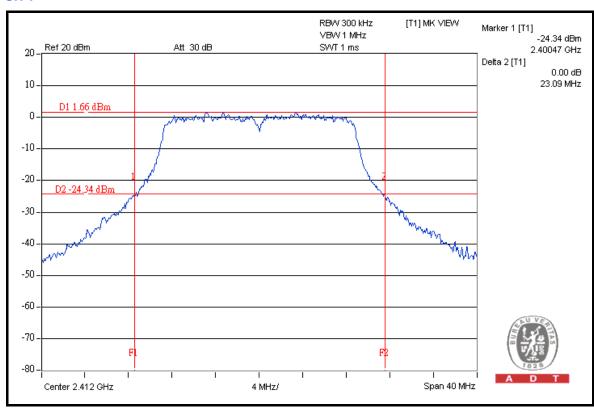




802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
1	2412	23.09	PASS
6	2437	23.05	PASS
11	2462	23.07	PASS

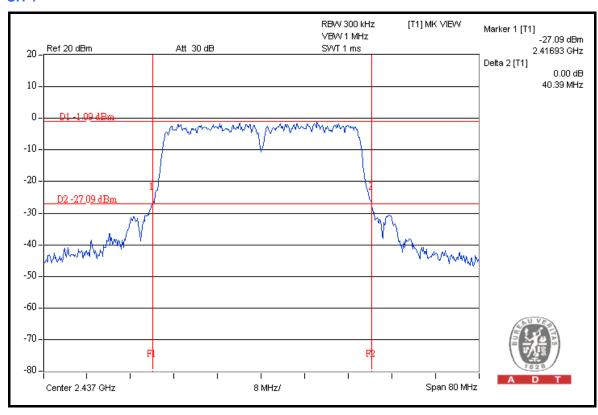
CH₁





802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
1	2422	40.31	PASS
4	2437	40.39	PASS
7	2452	40.29	PASS





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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

- 1. Follow DTS measurement (PSD Option 2), the transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer. Locate and zoom in on emission peak(s) within the pass band.
- 2. Set RBW = 3 kHz /VBW > 9 kHz and sweep time to Automatic.
- 3. Detector use peak mode and a video trigger with the trigger level set to enable triggering only on full power pulses.
- 4. Trace average 100 traces in power averaging mode. The power spectral density was measured and recorded.



4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

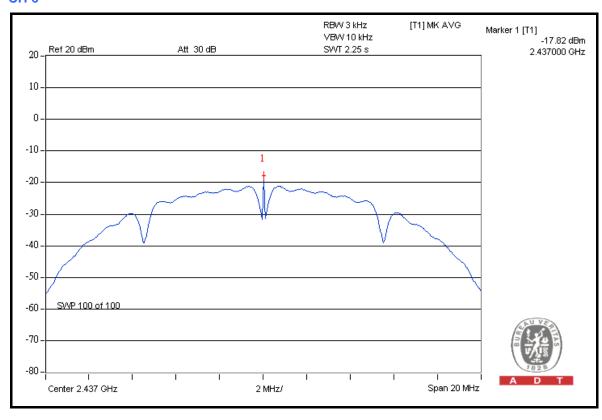
Same as Item 4.3.6



4.5.7 TEST RESULTS

802.11b

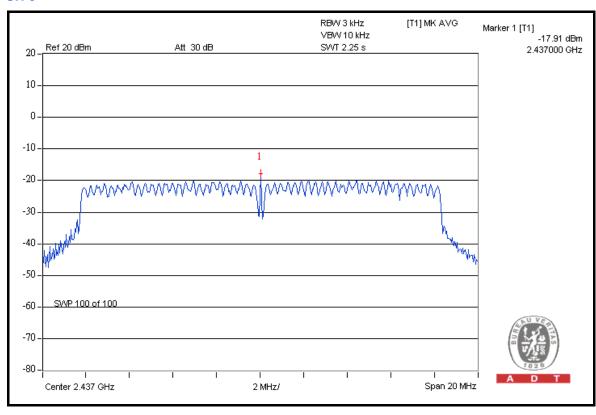
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-18.1	8	PASS
6	2437	-17.8	8	PASS
11	2462	-17.9	8	PASS





802.11g

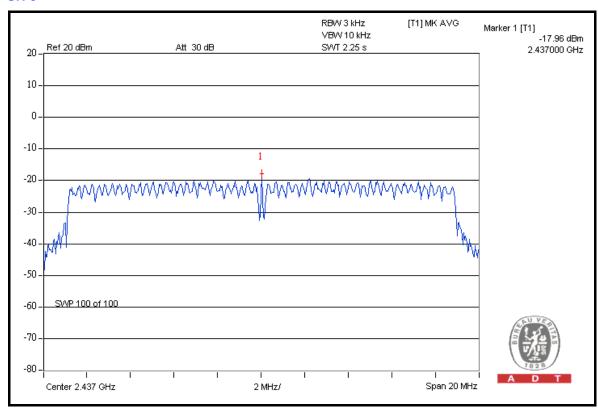
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-18.1	8	PASS
6	2437	-17.9	8	PASS
11	2462	-17.9	8	PASS





802.11n (20MHz)

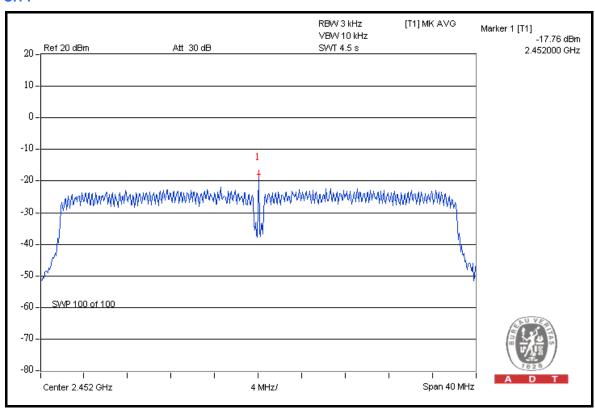
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-18.3	8	PASS
6	2437	-18.0	8	PASS
11	2462	-18.1	8	PASS





802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2422	-17.9	8	PASS
4	2437	-17.8	8	PASS
7	2452	-17.8	8	PASS





4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

Note: Follow DTS measurement, If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	May 25, 2009	May 24, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 07, 2009	Jul. 06, 2010
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2009	Apr. 29, 2010
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Aug. 10, 2009	Aug. 09, 2010
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009	Jan. 05, 2010
Preamplifier Agilent	8449B	3008A01910	Sep. 11, 2009	Sep. 10, 2010
Preamplifier Agilent	8447D	2944A10638	Dec. 26, 2008	Dec. 25, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 13, 2009	May 12, 2010
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 17, 2009	Aug. 16, 2010
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA	NA

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



4.6.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter 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. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW = 100kHz, VBW = 300kHz) are attached on the following pages.

NOTE: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6.



4.6.6 TEST RESULTS

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 in part 15.247(d).

802.11b

RESTRICT BAND (2310 ~ 2390 MHz)

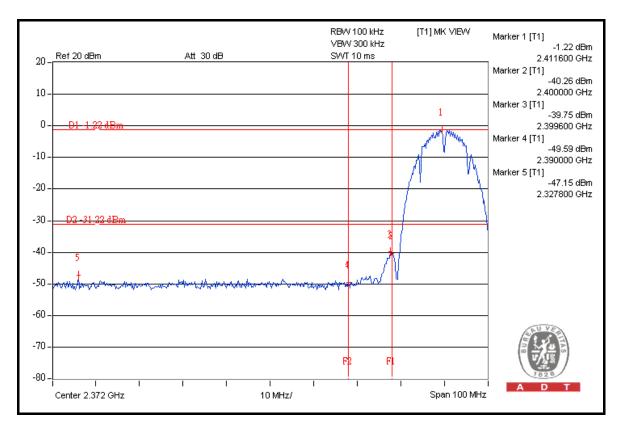
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	103.30	45.93	57.37	74.00
2412.00 (AV)	98.40	60.75	37.65	54.00

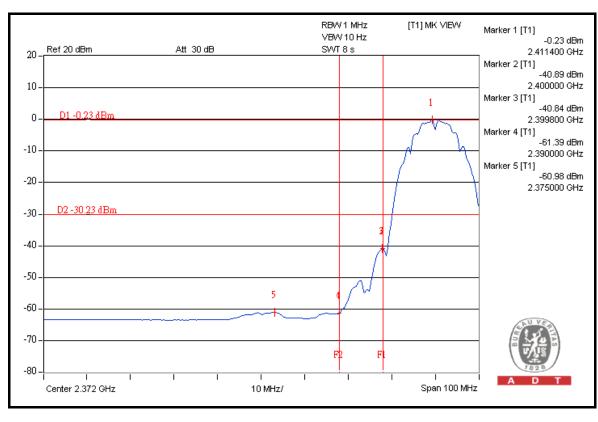
RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	104.03	47.96	56.07	74.00
2462.00 (AV)	99.12	58.69	40.43	54.00

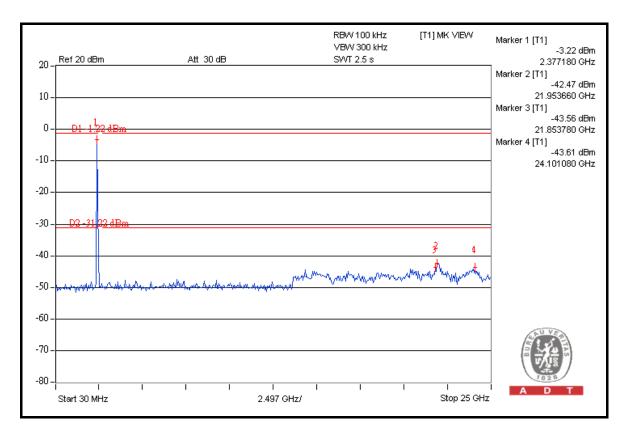
- 1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- 2. Maximum field strength in restrict band = Fundamental emission Delta.

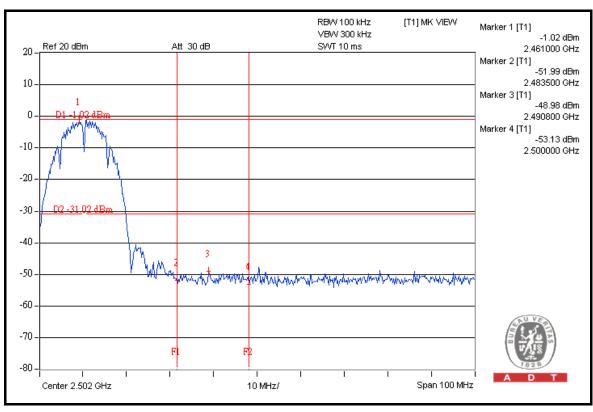




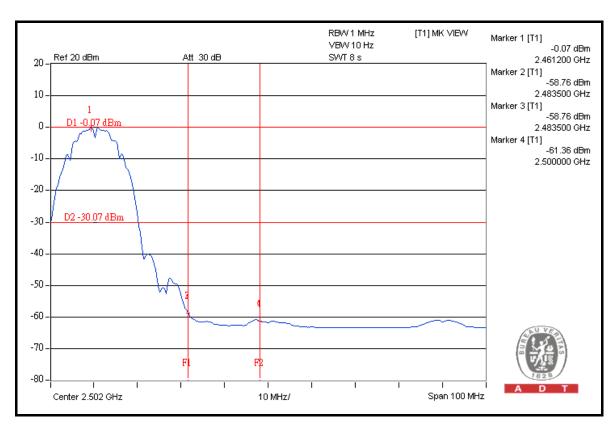


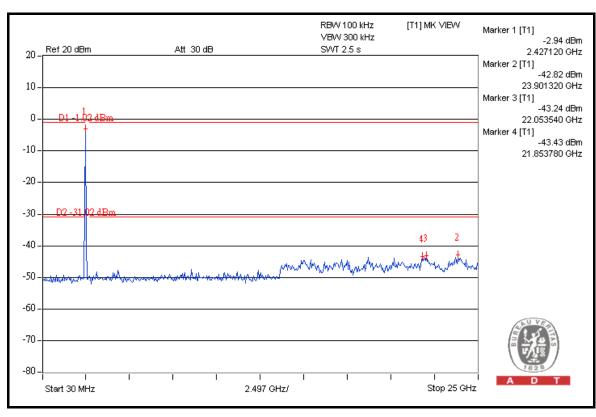














802.11g

RESTRICT BAND (2310 ~ 2390 MHz)

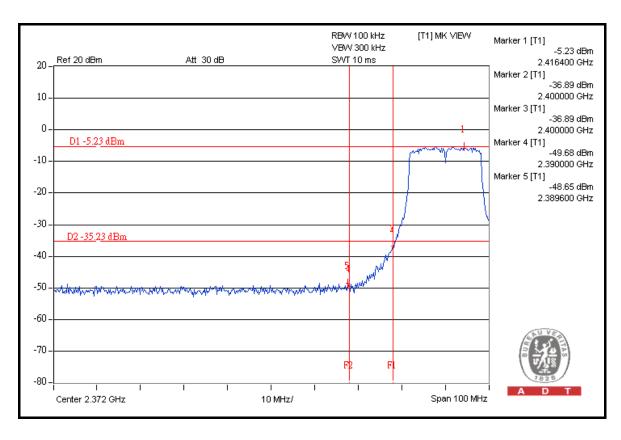
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	104.53	43.42	61.11	74.00
2412.00 (AV)	94.02	52.91	41.11	54.00

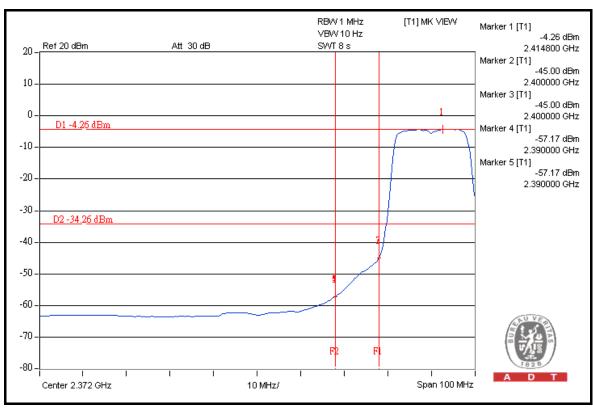
RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	105.19	42.61	62.58	74.00
2462.00 (AV)	94.63	50.78	43.85	54.00

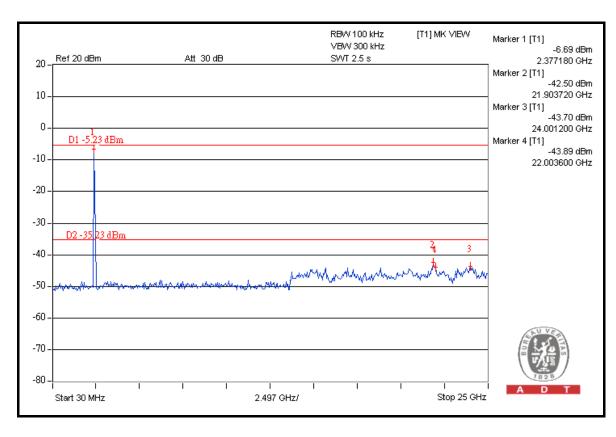
- 1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- 2. Maximum field strength in restrict band = Fundamental emission Delta.

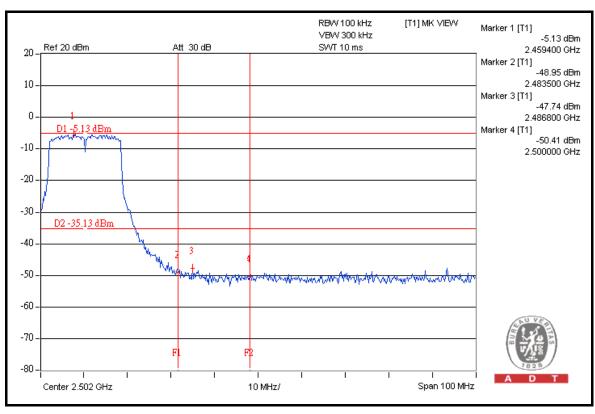




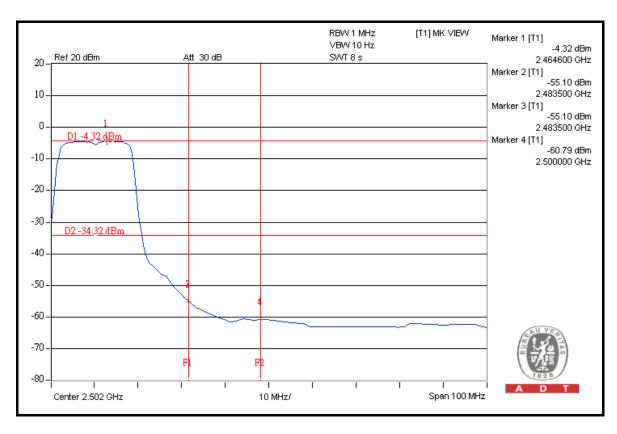


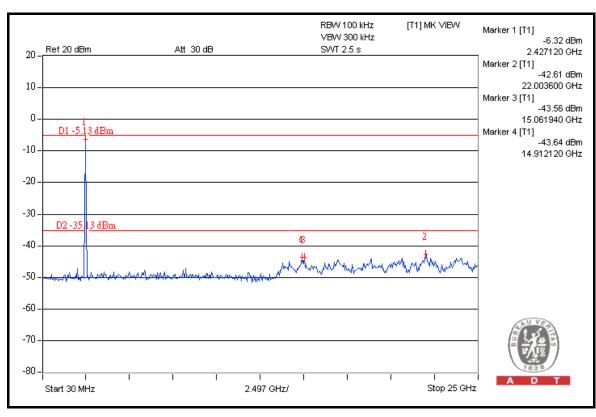














802.11n (20MHz)

RESTRICT BAND (2310 ~ 2390 MHz)

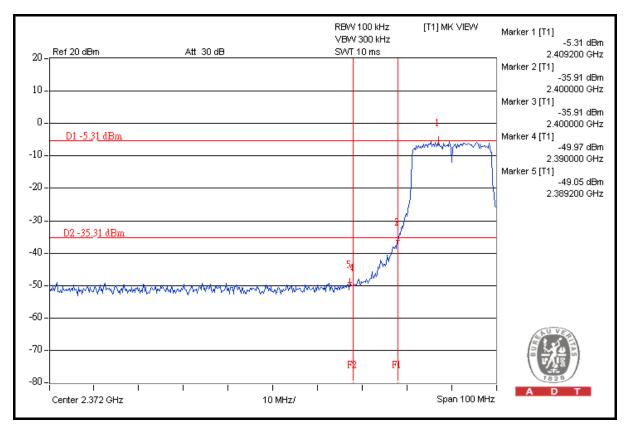
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	104.11	43.74	60.37	74.00
2412.00 (AV)	93.89	51.52	42.37	54.00

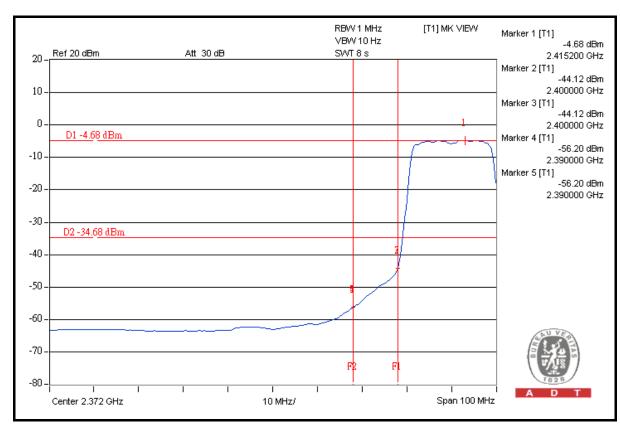
RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	104.79	42.95	61.84	74.00
2462.00 (AV)	94.64	49.13	45.51	54.00

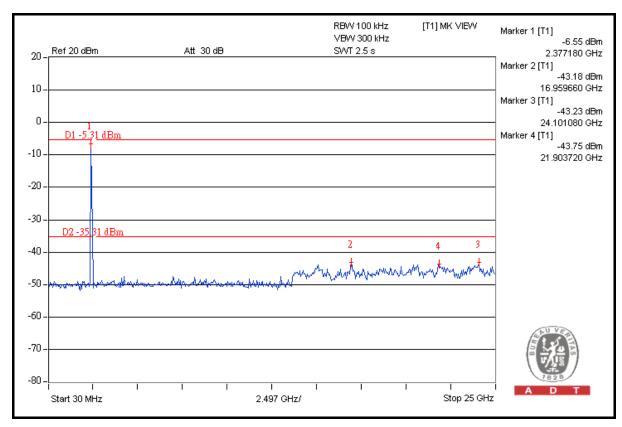
- 1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- 2. Maximum field strength in restrict band = Fundamental emission Delta.

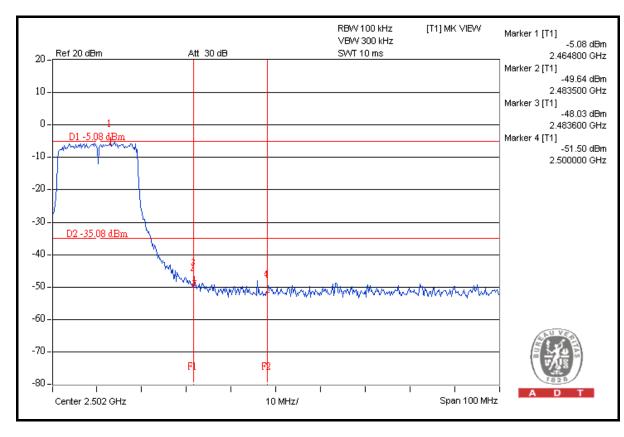




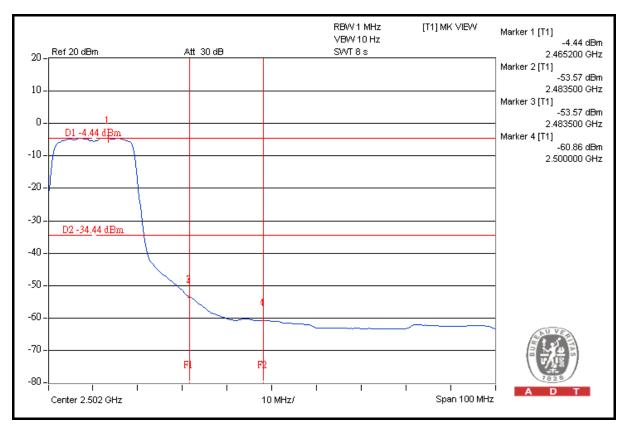


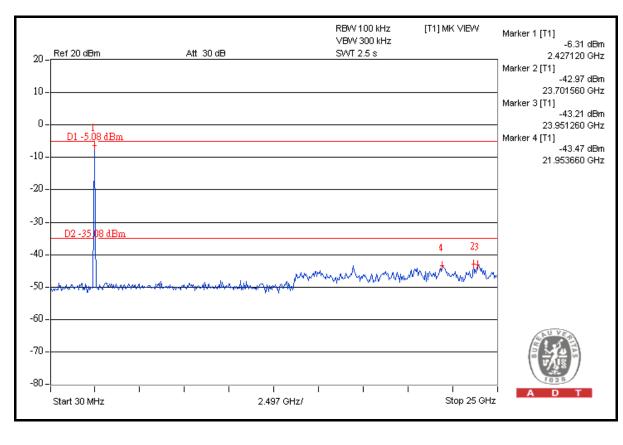














802.11n (40MHz)

RESTRICT BAND (2310 ~ 2390 MHz)

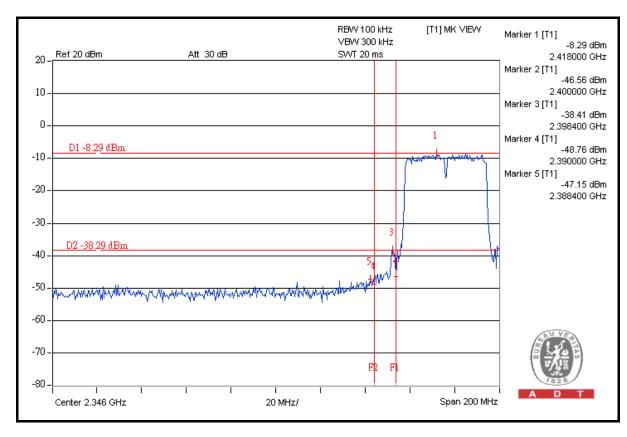
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	102.24	38.86	63.38	74.00
2422.00 (AV)	91.43	43.53	47.90	54.00

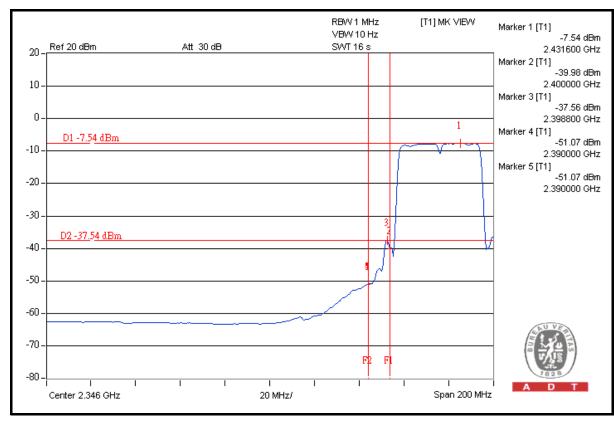
RESTRICT BAND (2483.5 ~ 2500 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	102.88	37.70	65.18	74.00
2452.00 (AV)	92.11	43.06	49.05	54.00

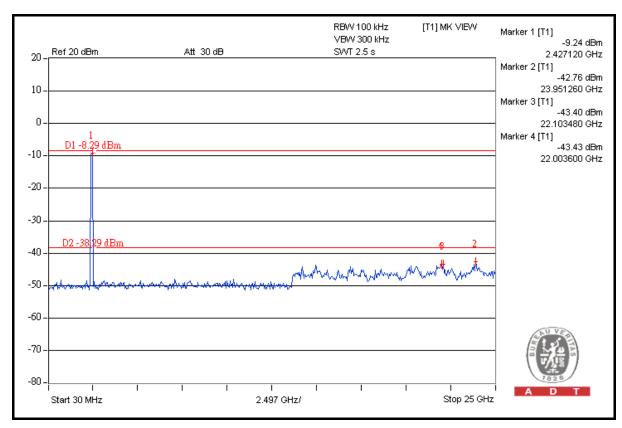
- 1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
- 2. Maximum field strength in restrict band = Fundamental emission Delta.

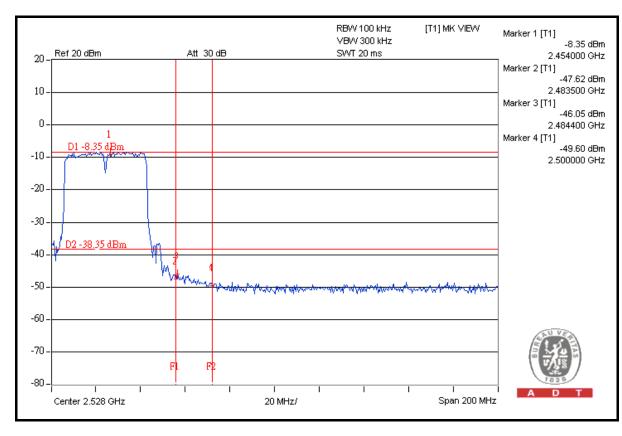




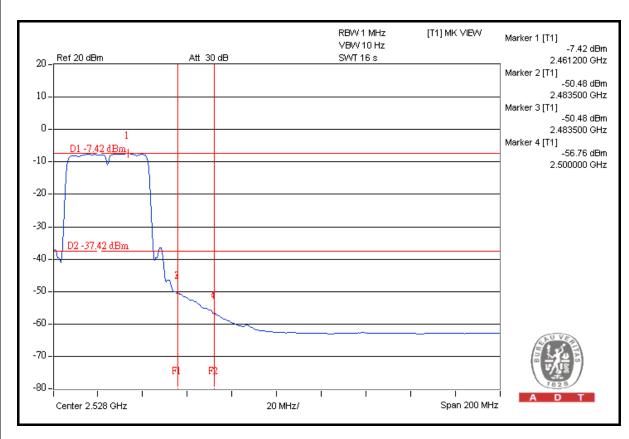


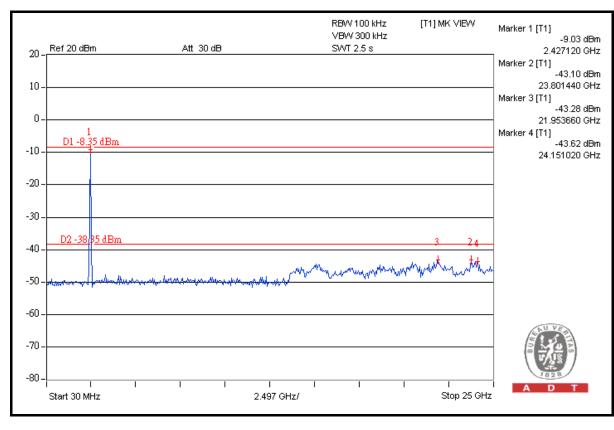














5. PHOTOGRAPHS OF THE TEST CONFIGURATION Please refer to the attached file (Test Setup Photo).



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 by the following approval agencies according to ISO/IEC 17025.

USA FCC, NVLAP
Germany TUV Rheinland

Japan VCCI Norway NEMKO

Canada INDUSTRY CANADA, CSA

R.O.C. TAF, BSMI, NCC

Netherlands Telefication

Singapore GOST-ASIA(MOU)

Russia CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:Hsin Chu EMC/RF Lab:Tel: 886-2-26052180Tel: 886-3-5935343Fax: 886-2-26051924Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232 Fax: 886-3-3185050

Web Site: www.adt.com.tw

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 any modifications are made to the EUT by the lab during the test.

---END---