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FCC TEST REPORT

REPORT NO.: RF130605C02

MODEL NO.: Z2FPM9582

FCC ID: I88Z2FPM9582

RECEIVED: May 30, 2013

TESTED: Jun. 19 ~ Jun. 21, 2013

ISSUED: Jul. 05, 2013

APPLICANT: ZyXEL Communications Corporation

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Hsinchu, Taiwan

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

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

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A D T

TABLE OF CONTENTS

RELEASE CONTROL RECORD.....	4
1. CERTIFICATION.....	5
2. SUMMARY OF TEST RESULTS.....	6
2.1 MEASUREMENT UNCERTAINTY.....	6
3. GENERAL INFORMATION.....	7
3.1 GENERAL DESCRIPTION OF EUT.....	7
3.2 DESCRIPTION OF TEST MODES.....	8
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL.....	9
3.3 DESCRIPTION OF SUPPORT UNITS.....	11
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST.....	11
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS.....	12
4. TEST TYPES AND RESULTS.....	13
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	13
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	13
4.1.2 TEST INSTRUMENTS.....	14
4.1.3 TEST PROCEDURES.....	15
4.1.4 DEVIATION FROM TEST STANDARD.....	15
4.1.5 TEST SETUP.....	16
4.1.6 EUT OPERATING CONDITIONS.....	16
4.1.7 TEST RESULT.....	17
4.2 CONDUCTED EMISSION MEASUREMENT.....	43
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	43
4.2.2 TEST INSTRUMENTS.....	43
4.2.3 TEST PROCEDURES.....	44
4.2.4 DEVIATION FROM TEST STANDARD.....	44
4.2.5 TEST SETUP.....	44
4.2.6 EUT OPERATING CONDITIONS.....	44
4.2.7 TEST RESULTS.....	45
4.3 6DB BANDWIDTH MEASUREMENT.....	49
4.3.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT.....	49
4.3.2 TEST SETUP.....	49
4.3.3 TEST INSTRUMENTS.....	49
4.3.4 TEST PROCEDURE.....	49
4.3.5 DEVIATION FROM TEST STANDARD.....	49
4.3.6 EUT OPERATING CONDITIONS.....	49
4.3.7 TEST RESULTS.....	50
4.4 CONDUCTED OUTPUT POWER.....	51
4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT.....	51
4.4.2 TEST SETUP.....	51
4.4.3 TEST INSTRUMENTS.....	51



A D T

4.4.4	TEST PROCEDURES.....	51
4.4.5	DEVIATION FROM TEST STANDARD.....	52
4.4.6	EUT OPERATING CONDITIONS	52
4.4.7	TEST RESULTS.....	53
4.5	POWER SPECTRAL DENSITY MEASUREMENT	54
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	54
4.5.2	TEST SETUP	54
4.5.3	TEST INSTRUMENTS	54
4.5.4	TEST PROCEDURE	54
4.5.5	DEVIATION FROM TEST STANDARD.....	54
4.5.6	EUT OPERATING CONDITION.....	54
4.5.7	TEST RESULTS.....	55
4.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT.....	57
4.6.1	LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT	57
4.6.2	TEST SETUP	57
4.6.3	TEST INSTRUMENTS	57
4.6.4	TEST PROCEDURE	57
4.6.5	DEVIATION FROM TEST STANDARD.....	58
4.6.6	EUT OPERATING CONDITION.....	58
4.6.7	TEST RESULTS.....	58
4.6.8	TEST RESULTS.....	59
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	67
6.	INFORMATION ON THE TESTING LABORATORIES	68
7.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	69



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130605C02	Original release	Jul. 05, 2013



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1. CERTIFICATION

PRODUCT: 2.4G Wireless Card

MODEL NO.: Z2FPM9582

BRAND: ZyXEL

APPLICANT: ZyXEL Communications Corporation

TESTED: Jun. 19 ~ Jun. 21, 2013

TEST SAMPLE: ENGINEERING SAMPLE

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

ANSI C63.10-2009

The above equipment (model: Z2FPM9582) 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 : Suntee Liu , **DATE :** Jul. 05, 2013
Suntee Liu / Specialist

APPROVED BY : Ken Liu , **DATE :** Jul. 05, 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 -10.62dB at 0.20859MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2483.50 & 2390.00MHz.
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 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	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	2.4G Wireless Card
MODEL NO.	Z2FPM9582
POWER SUPPLY	3.3Vdc (host equipment)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	2412 ~ 2462MHz
NUMBER OF CHANNEL	802.11b, 802.11g, 802.11n (20MHz): 11 802.11n (40MHz): 7
OUTPUT POWER	271.415mW
ANTENNA TYPE	Refer to Note
ANTENNA CONNECTOR	Refer to Note
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICE	NA

NOTE:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

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

2. The EUT uses following antennas.

No.	Type	Brand	Model	Connector	Gain (dBi)
1	Dipole	LYNwave	AOA120-221030-000526	RSMA	3
2	Dipole	Master Wave	98146MRSX000	RSMA	3

3. The above EUT information is declared by the 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 \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Antenna 1
B	√	√	√	-	Antenna 2

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

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, B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A, B	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A, B	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	802.11g	1 to 11	6	OFDM	BPSK	6.0

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	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0



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, B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
A, B	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2
A, B	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 (SYSTEM)	TESTED BY
RE≥1G	27deg. C, 72%RH	120Vac, 60Hz	Alan Wu
RE<1G	25deg. C, 72%RH	120Vac, 60Hz	Alan Wu
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
APCM	25deg. C, 60%RH	120Vac, 60Hz	Cedric wu

3.3 DESCRIPTION OF SUPPORT UNITS

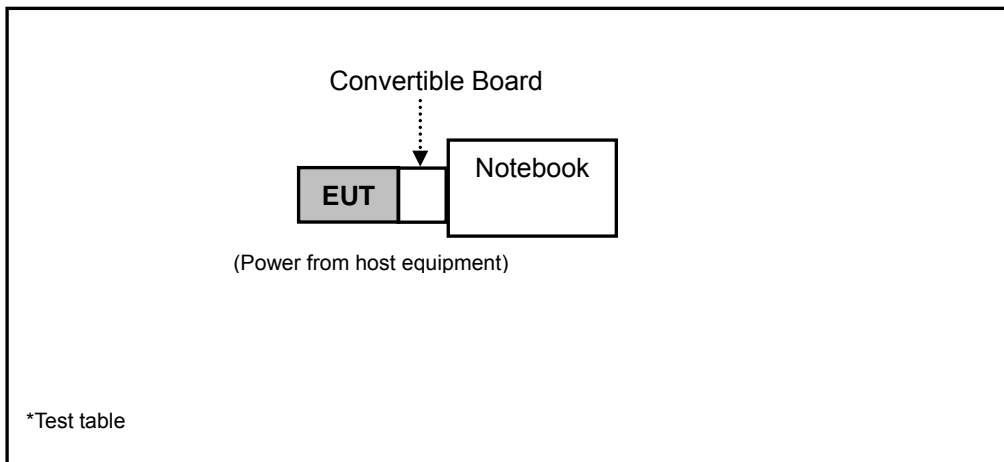
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	DELL	E5520	8Y4DMQ1	FCC DoC Approved
2	Convertible Board	NA	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





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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.



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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 30dB 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 30dB under any condition of modulation.



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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	Mar. 20, 2013	Mar. 19, 2014
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 BV ADT	ADT_Radiated_ V7.6.15.9.3	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 BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
High Speed Peak Power Meter	ML2495A	0842014	Apr. 25, 2013	Apr. 26, 2014
Power Sensor	MA2411B	0738404	Apr. 24, 2013	Apr. 23, 2014

- 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 3.
 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 988962.
 6. The IC Site Registration No. is IC 7450F-3.



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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.

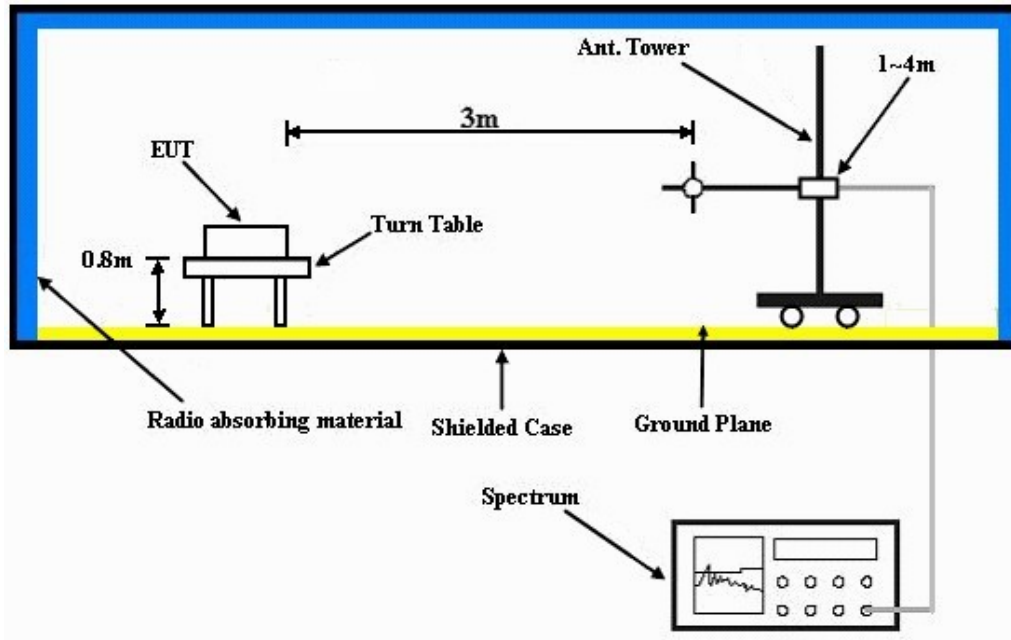
NOTE:

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 the 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 1kHz (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) 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 and placed on a testing table.
- b. The notebook ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.



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4.1.7 TEST RESULT

ABOVE 1GHz DATA :

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2386.00	54.3 PK	74.0	-19.7	1.21 H	266	23.50	30.80
2	2386.00	42.7 AV	54.0	-11.3	1.21 H	266	11.90	30.80
3	*2412.00	105.8 PK			1.26 H	268	74.90	30.90
4	*2412.00	102.2 AV			1.26 H	268	71.30	30.90
5	4824.00	50.3 PK	74.0	-23.7	1.06 H	191	13.30	37.00
6	4824.00	48.7 AV	54.0	-5.3	1.06 H	191	11.70	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	2386.00	61.3 PK	74.0	-12.7	1.48 V	2	30.50	30.80
2	2386.00	52.2 AV	54.0	-1.8	1.48 V	2	21.40	30.80
3	*2412.00	116.9 PK			1.41 V	2	86.00	30.90
4	*2412.00	113.2 AV			1.41 V	2	82.30	30.90
5	4824.00	54.9 PK	74.0	-19.1	1.00 V	248	17.90	37.00
6	4824.00	52.5 AV	54.0	-1.5	1.00 V	248	15.50	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2437.00	108.3 PK			1.36 H	123	77.30	31.00
2	*2437.00	104.3 AV			1.36 H	123	73.30	31.00
3	4874.00	51.8 PK	74.0	-22.2	1.03 H	199	14.70	37.10
4	4874.00	49.7 AV	54.0	-4.3	1.03 H	199	12.60	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	*2437.00	117.4 PK			1.66 V	289	86.40	31.00
2	*2437.00	113.4 AV			1.66 V	289	82.40	31.00
3	4874.00	55.7 PK	74.0	-18.3	1.01 V	298	18.60	37.10
4	4874.00	52.6 AV	54.0	-1.4	1.01 V	298	15.50	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	106.5 PK			1.24 H	240	75.40	31.10
2	*2462.00	103.2 AV			1.24 H	240	72.10	31.10
3	2483.50	54.2 PK	74.0	-19.8	1.26 H	241	23.00	31.20
4	2483.50	43.2 AV	54.0	-10.8	1.26 H	241	12.00	31.20
5	4924.00	49.8 PK	74.0	-24.2	1.01 H	196	12.60	37.20
6	4924.00	47.4 AV	54.0	-6.6	1.01 H	196	10.20	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	*2462.00	117.6 PK			1.38 V	3	86.50	31.10
2	*2462.00	113.6 AV			1.38 V	3	82.50	31.10
3	2483.50	62.4 PK	74.0	-11.6	1.38 V	5	31.20	31.20
4	2483.50	53.0 AV	54.0	-1.0	1.38 V	5	21.80	31.20
5	4924.00	52.6 PK	74.0	-21.4	1.00 V	43	15.40	37.20
6	4924.00	49.5 AV	54.0	-4.5	1.00 V	43	12.30	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2386.00	55.8 PK	74.0	-18.2	1.29 H	249	25.00	30.80
2	2386.00	47.3 AV	54.0	-6.7	1.29 H	249	16.50	30.80
3	*2412.00	109.2 PK			1.29 H	245	78.30	30.90
4	*2412.00	105.7 AV			1.29 H	245	74.80	30.90
5	4824.00	50.2 PK	74.0	-23.8	1.09 H	198	13.20	37.00
6	4824.00	46.2 AV	54.0	-7.8	1.09 H	198	9.20	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	2386.00	58.9 PK	74.0	-15.1	1.21 V	263	28.10	30.80
2	2386.00	48.8 AV	54.0	-5.2	1.21 V	263	18.00	30.80
3	*2412.00	117.5 PK			1.24 V	265	86.60	30.90
4	*2412.00	113.8 AV			1.24 V	265	82.90	30.90
5	4824.00	51.1 PK	74.0	-22.9	1.00 V	184	14.10	37.00
6	4824.00	47.5 AV	54.0	-6.5	1.00 V	184	10.50	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2437.00	106.9 PK			1.31 H	237	75.90	31.00
2	*2437.00	104.0 AV			1.31 H	237	73.00	31.00
3	4874.00	50.3 PK	74.0	-23.7	1.01 H	194	13.20	37.10
4	4874.00	46.5 AV	54.0	-7.5	1.01 H	194	9.40	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	*2437.00	116.8 PK			1.19 V	292	85.80	31.00
2	*2437.00	113.0 AV			1.19 V	292	82.00	31.00
3	4874.00	51.2 PK	74.0	-22.8	1.00 V	180	14.10	37.10
4	4874.00	47.8 AV	54.0	-6.2	1.00 V	180	10.70	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	108.9 PK			1.26 H	245	77.80	31.10
2	*2462.00	105.4 AV			1.26 H	245	74.30	31.10
3	2488.00	54.0 PK	74.0	-20.0	1.24 H	249	22.80	31.20
4	2488.00	43.8 AV	54.0	-10.2	1.24 H	249	12.60	31.20
5	4924.00	49.4 PK	74.0	-24.6	1.09 H	194	12.20	37.20
6	4924.00	45.8 AV	54.0	-8.2	1.09 H	194	8.60	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	*2462.00	116.9 PK			1.23 V	261	85.80	31.10
2	*2462.00	113.2 AV			1.23 V	261	82.10	31.10
3	2488.00	61.9 PK	74.0	-12.1	1.27 V	268	30.70	31.20
4	2488.00	51.2 AV	54.0	-2.8	1.27 V	268	20.00	31.20
5	4924.00	51.3 PK	74.0	-22.7	1.00 V	181	14.10	37.20
6	4924.00	47.1 AV	54.0	-6.9	1.00 V	181	9.90	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.



A D T

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	59.7 PK	74.0	-14.3	1.26 H	266	28.90	30.80
2	2390.00	43.8 AV	54.0	-10.2	1.26 H	266	13.00	30.80
3	*2412.00	104.5 PK			1.27 H	269	73.60	30.90
4	*2412.00	94.3 AV			1.27 H	269	63.40	30.90
5	4824.00	44.9 PK	74.0	-29.1	1.06 H	196	7.90	37.00
6	4824.00	31.8 AV	54.0	-22.2	1.06 H	196	-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	2390.00	67.6 PK	74.0	-6.4	1.10 V	263	36.80	30.80
2	2390.00	51.7 AV	54.0	-2.3	1.10 V	263	20.90	30.80
3	*2412.00	113.9 PK			1.10 V	233	83.00	30.90
4	*2412.00	104.3 AV			1.10 V	233	73.40	30.90
5	4824.00	46.3 PK	74.0	-27.7	1.00 V	244	9.30	37.00
6	4824.00	33.5 AV	54.0	-20.5	1.00 V	244	-3.50	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2437.00	107.9 PK			1.28 H	242	76.90	31.00
2	*2437.00	98.3 AV			1.28 H	242	67.30	31.00
3	2483.50	56.5 PK	74.0	-17.5	1.24 H	245	25.30	31.20
4	2483.50	42.4 AV	54.0	-11.6	1.24 H	245	11.20	31.20
5	4874.00	45.9 PK	74.0	-28.1	1.05 H	194	8.80	37.10
6	4874.00	33.9 AV	54.0	-20.1	1.05 H	194	-3.20	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	*2437.00	119.4 PK			1.62 V	290	88.40	31.00
2	*2437.00	109.5 AV			1.62 V	290	78.50	31.00
3	2483.50	64.5 PK	74.0	-9.5	1.64 V	294	33.30	31.20
4	2483.50	49.8 AV	54.0	-4.2	1.64 V	294	18.60	31.20
5	4874.00	47.2 PK	74.0	-26.8	1.00 V	244	10.10	37.10
6	4874.00	35.4 AV	54.0	-18.6	1.00 V	244	-1.70	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	104.1 PK			1.25 H	243	73.00	31.10
2	*2462.00	94.2 AV			1.25 H	243	63.10	31.10
3	2483.50	62.7 PK	74.0	-11.3	1.26 H	248	31.50	31.20
4	2483.50	43.5 AV	54.0	-10.5	1.26 H	248	12.30	31.20
5	4924.00	45.7 PK	74.0	-28.3	1.08 H	196	8.50	37.20
6	4924.00	32.2 AV	54.0	-21.8	1.08 H	196	-5.00	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	*2462.00	113.5 PK			1.28 V	286	82.40	31.10
2	*2462.00	103.9 AV			1.28 V	286	72.80	31.10
3	2483.50	72.5 PK	74.0	-1.5	1.37 V	353	41.30	31.20
4	2483.50	52.8 AV	54.0	-1.2	1.37 V	353	21.60	31.20
5	4924.00	46.2 PK	74.0	-27.8	1.00 V	241	9.00	37.20
6	4924.00	33.9 AV	54.0	-20.1	1.00 V	241	-3.30	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	62.6 PK	74.0	-11.4	1.29 H	245	31.80	30.80
2	2390.00	45.6 AV	54.0	-8.4	1.29 H	245	14.80	30.80
3	*2412.00	107.2 PK			1.30 H	242	76.30	30.90
4	*2412.00	97.4 AV			1.30 H	242	66.50	30.90
5	4824.00	45.5 PK	74.0	-28.5	1.00 H	195	8.50	37.00
6	4824.00	32.0 AV	54.0	-22.0	1.00 H	195	-5.00	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	2390.00	70.7 PK	74.0	-3.3	1.00 V	285	39.90	30.80
2	2390.00	52.9 AV	54.0	-1.1	1.00 V	285	22.10	30.80
3	*2412.00	113.6 PK			1.00 V	304	82.70	30.90
4	*2412.00	104.0 AV			1.00 V	304	73.10	30.90
5	4824.00	46.9 PK	74.0	-27.1	1.00 V	186	9.90	37.00
6	4824.00	33.7 AV	54.0	-20.3	1.00 V	186	-3.30	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	59.5 PK	74.0	-14.5	1.36 H	249	28.70	30.80
2	2390.00	43.7 AV	54.0	-10.3	1.36 H	249	12.90	30.80
3	*2437.00	112.3 PK			1.31 H	242	81.30	31.00
4	*2437.00	102.7 AV			1.31 H	242	71.70	31.00
5	4874.00	46.5 PK	74.0	-27.5	1.00 H	193	9.40	37.10
6	4874.00	34.0 AV	54.0	-20.0	1.00 H	193	-3.10	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	2390.00	62.6 PK	74.0	-11.4	1.00 V	302	31.80	30.80
2	2390.00	48.4 AV	54.0	-5.6	1.00 V	302	17.60	30.80
3	*2437.00	119.1 PK			1.00 V	308	88.10	31.00
4	*2437.00	109.6 AV			1.00 V	308	78.60	31.00
5	4874.00	48.0 PK	74.0	-26.0	1.00 V	181	10.90	37.10
6	4874.00	35.5 AV	54.0	-18.5	1.00 V	181	-1.60	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	106.6 PK			1.29 H	238	75.50	31.10
2	*2462.00	97.1 AV			1.29 H	238	66.00	31.10
3	2483.50	62.6 PK	74.0	-11.4	1.24 H	232	31.40	31.20
4	2483.50	43.2 AV	54.0	-10.8	1.24 H	232	12.00	31.20
5	4924.00	45.8 PK	74.0	-28.2	1.00 H	196	8.60	37.20
6	4924.00	32.9 AV	54.0	-21.1	1.00 H	196	-4.30	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	*2462.00	114.8 PK			1.21 V	267	83.70	31.10
2	*2462.00	105.3 AV			1.21 V	267	74.20	31.10
3	2483.50	71.2 PK	74.0	-2.8	1.20 V	269	40.00	31.20
4	2483.50	52.8 AV	54.0	-1.2	1.20 V	269	21.60	31.20
5	4924.00	47.1 PK	74.0	-26.9	1.00 V	188	9.90	37.20
6	4924.00	34.5 AV	54.0	-19.5	1.00 V	188	-2.70	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.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	56.0 PK	74.0	-18.0	1.25 H	264	25.20	30.80
2	2390.00	43.4 AV	54.0	-10.6	1.25 H	264	12.60	30.80
3	*2412.00	102.2 PK			1.27 H	269	71.30	30.90
4	*2412.00	91.1 AV			1.27 H	269	60.20	30.90
5	4824.00	45.0 PK	74.0	-29.0	1.04 H	195	8.00	37.00
6	4824.00	32.6 AV	54.0	-21.4	1.04 H	195	-4.40	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	2390.00	66.2 PK	74.0	-7.8	1.01 V	289	35.40	30.80
2	2390.00	50.4 AV	54.0	-3.6	1.01 V	289	19.60	30.80
3	*2412.00	112.2 PK			1.05 V	287	81.30	30.90
4	*2412.00	100.1 AV			1.05 V	287	69.20	30.90
5	4824.00	46.4 PK	74.0	-27.6	1.00 V	248	9.40	37.00
6	4824.00	34.2 AV	54.0	-19.8	1.00 V	248	-2.80	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2437.00	107.5 PK			1.29 H	243	76.50	31.00
2	*2437.00	95.0 AV			1.29 H	243	64.00	31.00
3	2483.50	54.3 PK	74.0	-19.7	1.29 H	248	23.10	31.20
4	2483.50	42.3 AV	54.0	-11.7	1.29 H	248	11.10	31.20
5	4874.00	46.2 PK	74.0	-27.8	1.08 H	199	9.10	37.10
6	4874.00	32.8 AV	54.0	-21.2	1.08 H	199	-4.30	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	*2437.00	118.4 PK			1.66 V	291	87.40	31.00
2	*2437.00	106.0 AV			1.66 V	291	75.00	31.00
3	2483.50	63.7 PK	74.0	-10.3	1.63 V	297	32.50	31.20
4	2483.50	49.2 AV	54.0	-4.8	1.63 V	297	18.00	31.20
5	4874.00	47.5 PK	74.0	-26.5	1.00 V	240	10.40	37.10
6	4874.00	35.3 AV	54.0	-18.7	1.00 V	240	-1.80	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	103.5 PK			1.26 H	242	72.40	31.10
2	*2462.00	92.1 AV			1.26 H	242	61.00	31.10
3	2483.50	58.0 PK	74.0	-16.0	1.27 H	244	26.80	31.20
4	2483.50	43.5 AV	54.0	-10.5	1.27 H	244	12.30	31.20
5	4924.00	45.0 PK	74.0	-29.0	1.04 H	197	7.80	37.20
6	4924.00	32.1 AV	54.0	-21.9	1.04 H	197	-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	*2462.00	111.7 PK			1.04 V	287	80.60	31.10
2	*2462.00	99.6 AV			1.04 V	287	68.50	31.10
3	2483.50	66.9 PK	74.0	-7.1	1.06 V	281	35.70	31.20
4	2483.50	50.2 AV	54.0	-3.8	1.06 V	281	19.00	31.20
5	4924.00	45.5 PK	74.0	-28.5	1.00 V	245	8.30	37.20
6	4924.00	33.8 AV	54.0	-20.2	1.00 V	245	-3.40	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	64.9 PK	74.0	-9.1	1.32 H	266	34.10	30.80
2	2390.00	46.8 AV	54.0	-7.2	1.32 H	266	16.00	30.80
3	*2412.00	106.0 PK			1.33 H	263	75.10	30.90
4	*2412.00	94.2 AV			1.33 H	263	63.30	30.90
5	4824.00	46.5 PK	74.0	-27.5	1.00 H	198	9.50	37.00
6	4824.00	32.9 AV	54.0	-21.1	1.00 H	198	-4.10	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	2390.00	68.3 PK	74.0	-5.7	1.00 V	309	37.50	30.80
2	2390.00	53.0 AV	54.0	-1.0	1.00 V	309	22.20	30.80
3	*2412.00	113.2 PK			1.26 V	262	82.30	30.90
4	*2412.00	101.5 AV			1.26 V	262	70.60	30.90
5	4824.00	47.0 PK	74.0	-27.0	1.00 V	184	10.00	37.00
6	4824.00	34.5 AV	54.0	-19.5	1.00 V	184	-2.50	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	60.1 PK	74.0	-13.9	1.24 H	240	29.30	30.80
2	2390.00	43.2 AV	54.0	-10.8	1.24 H	240	12.40	30.80
3	*2437.00	111.6 PK			1.27 H	243	80.60	31.00
4	*2437.00	99.2 AV			1.27 H	243	68.20	31.00
5	4874.00	47.0 PK	74.0	-27.0	1.00 H	194	9.90	37.10
6	4874.00	33.2 AV	54.0	-20.8	1.00 H	194	-3.90	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	2390.00	67.5 PK	74.0	-6.5	1.00 V	310	36.70	30.80
2	2390.00	48.0 AV	54.0	-6.0	1.00 V	310	17.20	30.80
3	*2437.00	118.2 PK			1.00 V	312	87.20	31.00
4	*2437.00	105.7 AV			1.00 V	312	74.70	31.00
5	4874.00	48.2 PK	74.0	-25.8	1.00 V	180	11.10	37.10
6	4874.00	35.7 AV	54.0	-18.3	1.00 V	180	-1.40	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2462.00	105.5 PK			1.32 H	261	74.40	31.10
2	*2462.00	93.7 AV			1.32 H	261	62.60	31.10
3	2483.50	61.6 PK	74.0	-12.4	1.30 H	260	30.40	31.20
4	2483.50	44.3 AV	54.0	-9.7	1.30 H	260	13.10	31.20
5	4924.00	45.7 PK	74.0	-28.3	1.00 H	190	8.50	37.20
6	4924.00	32.5 AV	54.0	-21.5	1.00 H	190	-4.70	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	*2462.00	114.0 PK			1.22 V	265	82.90	31.10
2	*2462.00	102.2 AV			1.22 V	265	71.10	31.10
3	2483.50	68.8 PK	74.0	-5.2	1.20 V	282	37.60	31.20
4	2483.50	52.7 AV	54.0	-1.3	1.20 V	282	21.50	31.20
5	4924.00	46.1 PK	74.0	-27.9	1.00 V	183	8.90	37.20
6	4924.00	34.1 AV	54.0	-19.9	1.00 V	183	-3.10	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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	58.0 PK	74.0	-16.0	1.23 H	262	27.20	30.80
2	2390.00	44.0 AV	54.0	-10.0	1.23 H	262	13.20	30.80
3	*2422.00	96.1 PK			1.27 H	268	65.20	30.90
4	*2422.00	84.5 AV			1.27 H	268	53.60	30.90
5	4844.00	44.5 PK	74.0	-29.5	1.02 H	193	7.50	37.00
6	4844.00	31.5 AV	54.0	-22.5	1.02 H	193	-5.50	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	2390.00	68.3 PK	74.0	-5.7	1.61 V	281	37.50	30.80
2	2390.00	51.8 AV	54.0	-2.2	1.61 V	281	21.00	30.80
3	*2422.00	106.2 PK			1.66 V	288	75.30	30.90
4	*2422.00	96.7 AV			1.66 V	288	65.80	30.90
5	4844.00	46.0 PK	74.0	-28.0	1.00 V	243	9.00	37.00
6	4844.00	32.3 AV	54.0	-21.7	1.00 V	243	-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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	55.2 PK	74.0	-18.8	1.27 H	244	24.40	30.80
2	2390.00	43.4 AV	54.0	-10.6	1.27 H	244	12.60	30.80
3	*2437.00	100.6 PK			1.23 H	245	69.60	31.00
4	*2437.00	89.3 AV			1.23 H	245	58.30	31.00
5	2483.50	55.6 PK	74.0	-18.4	1.27 H	244	24.40	31.20
6	2483.50	43.5 AV	54.0	-10.5	1.27 H	244	12.30	31.20
7	4874.00	45.3 PK	74.0	-28.7	1.04 H	197	8.20	37.10
8	4874.00	32.2 AV	54.0	-21.8	1.04 H	197	-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	2390.00	65.2 PK	74.0	-8.8	1.63 V	290	34.40	30.80
2	2390.00	50.8 AV	54.0	-3.2	1.63 V	290	20.00	30.80
3	*2437.00	110.0 PK			1.65 V	291	79.00	31.00
4	*2437.00	99.3 AV			1.65 V	291	68.30	31.00
5	2483.50	65.5 PK	74.0	-8.5	1.63 V	290	34.30	31.20
6	2483.50	50.0 AV	54.0	-4.0	1.63 V	290	18.80	31.20
7	4874.00	46.7 PK	74.0	-27.3	1.00 V	243	9.60	37.10
8	4874.00	34.9 AV	54.0	-19.1	1.00 V	243	-2.20	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2452.00	95.5 PK			1.20 H	238	64.40	31.10
2	*2452.00	84.0 AV			1.20 H	238	52.90	31.10
3	2483.50	58.7 PK	74.0	-15.3	1.16 H	233	27.50	31.20
4	2483.50	44.4 AV	54.0	-9.6	1.16 H	233	13.20	31.20
5	4904.00	44.3 PK	74.0	-29.7	1.03 H	196	7.10	37.20
6	4904.00	31.8 AV	54.0	-22.2	1.03 H	196	-5.40	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	*2452.00	107.1 PK			1.65 V	287	76.00	31.10
2	*2452.00	97.2 AV			1.65 V	287	66.10	31.10
3	2483.50	68.7 PK	74.0	-5.3	1.69 V	285	37.50	31.20
4	2483.50	52.3 AV	54.0	-1.7	1.69 V	285	21.10	31.20
5	4904.00	44.9 PK	74.0	-29.1	1.00 V	244	7.70	37.20
6	4904.00	33.5 AV	54.0	-20.5	1.00 V	244	-3.70	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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	60.5 PK	74.0	-13.5	1.25 H	241	29.70	30.80
2	2390.00	46.7 AV	54.0	-7.3	1.25 H	241	15.90	30.80
3	*2422.00	100.8 PK			1.26 H	242	69.90	30.90
4	*2422.00	89.6 AV			1.26 H	242	58.70	30.90
5	4844.00	45.0 PK	74.0	-29.0	1.00 H	194	8.00	37.00
6	4844.00	31.9 AV	54.0	-22.1	1.00 H	194	-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	2390.00	70.0 PK	74.0	-4.0	1.00 V	309	39.20	30.80
2	2390.00	52.6 AV	54.0	-1.4	1.00 V	309	21.80	30.80
3	*2422.00	106.0 PK			1.00 V	312	75.10	30.90
4	*2422.00	96.2 AV			1.00 V	312	65.30	30.90
5	4844.00	46.5 PK	74.0	-27.5	1.00 V	182	9.50	37.00
6	4844.00	33.2 AV	54.0	-20.8	1.00 V	182	-3.80	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	2390.00	61.9 PK	74.0	-12.1	1.36 H	244	31.10	30.80
2	2390.00	48.0 AV	54.0	-6.0	1.36 H	244	17.20	30.80
3	*2437.00	103.3 PK			1.31 H	242	72.30	31.00
4	*2437.00	92.5 AV			1.31 H	242	61.50	31.00
5	2483.50	56.8 PK	74.0	-17.2	1.36 H	244	25.60	31.20
6	2483.50	43.6 AV	54.0	-10.4	1.36 H	244	12.40	31.20
7	4874.00	45.6 PK	74.0	-28.4	1.00 H	190	8.50	37.10
8	4874.00	32.3 AV	54.0	-21.7	1.00 H	190	-4.80	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	2390.00	65.3 PK	74.0	-8.7	1.00 V	266	34.50	30.80
2	2390.00	52.3 AV	54.0	-1.7	1.00 V	266	21.50	30.80
3	*2437.00	111.1 PK			1.00 V	266	80.10	31.00
4	*2437.00	100.0 AV			1.00 V	266	69.00	31.00
5	2483.50	64.7 PK	74.0	-9.3	1.00 V	266	33.50	31.20
6	2483.50	50.4 AV	54.0	-3.6	1.00 V	266	19.20	31.20
7	4874.00	47.3 PK	74.0	-26.7	1.00 V	186	10.20	37.10
8	4874.00	35.2 AV	54.0	-18.8	1.00 V	186	-1.90	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	*2452.00	101.2 PK			1.26 H	244	70.10	31.10
2	*2452.00	90.2 AV			1.26 H	244	59.10	31.10
3	2483.50	59.0 PK	74.0	-15.0	1.28 H	240	27.80	31.20
4	2483.50	45.1 AV	54.0	-8.9	1.28 H	240	13.90	31.20
5	4904.00	44.5 PK	74.0	-29.5	1.00 H	198	7.30	37.20
6	4904.00	32.4 AV	54.0	-21.6	1.00 H	198	-4.80	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	*2452.00	106.6 PK			1.23 V	285	75.50	31.10
2	*2452.00	97.1 AV			1.23 V	285	66.00	31.10
3	2483.50	70.8 PK	74.0	-3.2	1.22 V	283	39.60	31.20
4	2483.50	52.7 AV	54.0	-1.3	1.22 V	283	21.50	31.20
5	4904.00	45.2 PK	74.0	-28.8	1.00 V	186	8.00	37.20
6	4904.00	33.6 AV	54.0	-20.4	1.00 V	186	-3.60	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.



A D T

BELOW 1GHz WORST-CASE DATA :

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	84.34	34.3 QP	40.0	-5.7	3.00 H	291	25.20	9.10
2	142.67	40.8 QP	43.5	-2.7	2.00 H	31	27.30	13.50
3	166.00	41.0 QP	43.5	-2.5	1.74 H	6	27.40	13.60
4	300.16	44.6 QP	46.0	-1.4	1.00 H	7	29.90	14.70
5	624.85	29.5 QP	46.0	-16.5	1.74 H	6	6.60	22.90
6	696.79	34.5 QP	46.0	-11.5	1.00 H	232	10.50	24.00

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	49.34	37.3 QP	40.0	-2.7	1.00 V	130	23.50	13.80
2	84.34	33.8 QP	40.0	-6.2	1.74 V	302	24.70	9.10
3	142.67	41.2 QP	43.5	-2.3	1.00 V	271	27.70	13.50
4	166.00	35.1 QP	43.5	-8.4	1.00 V	38	21.50	13.60
5	300.16	34.7 QP	46.0	-11.3	1.25 V	301	20.00	14.70
6	663.74	31.8 QP	46.0	-14.2	1.50 V	26	8.30	23.50

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 72%RH	TESTED BY	Alan Wu
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	86.28	34.1 QP	40.0	-5.9	1.99 H	289	24.90	9.20
2	142.67	40.5 QP	43.5	-3.0	1.99 H	33	27.00	13.50
3	166.00	40.8 QP	43.5	-2.7	1.99 H	16	27.20	13.60
4	232.11	38.3 QP	46.0	-7.7	1.24 H	18	26.10	12.20
5	298.21	44.8 QP	46.0	-1.2	1.00 H	345	30.10	14.70
6	490.70	29.0 QP	46.0	-17.0	1.50 H	276	9.30	19.70
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	99.89	33.4 QP	43.5	-10.1	1.00 V	157	23.40	10.00
2	129.06	38.2 QP	43.5	-5.3	1.00 V	283	25.50	12.70
3	300.16	41.5 QP	46.0	-4.5	1.00 V	307	26.80	14.70
4	617.08	30.6 QP	46.0	-15.4	1.00 V	175	7.80	22.80
5	667.63	32.9 QP	46.0	-13.1	1.00 V	259	9.40	23.50
6	700.68	37.4 QP	46.0	-8.6	1.50 V	229	13.40	24.00

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



A D T

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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	Nov. 09, 2012	Nov. 08, 2013
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 06, 2012	Jul. 05, 2013
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 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

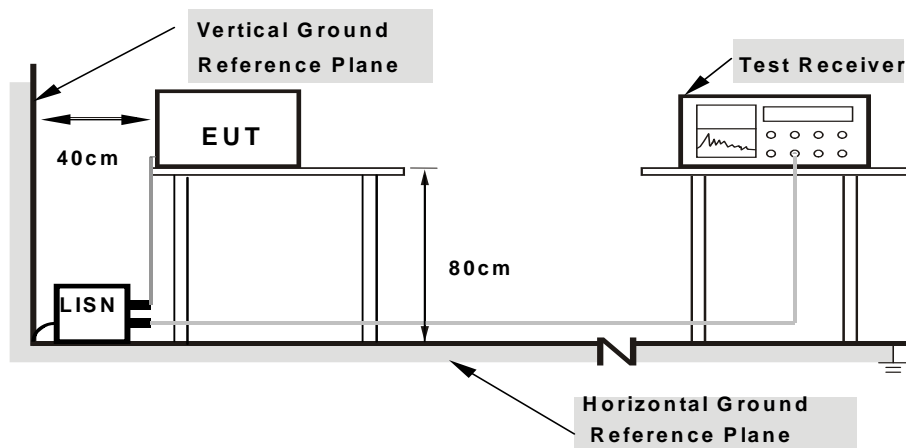
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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.



A D T

4.2.7 TEST RESULTS

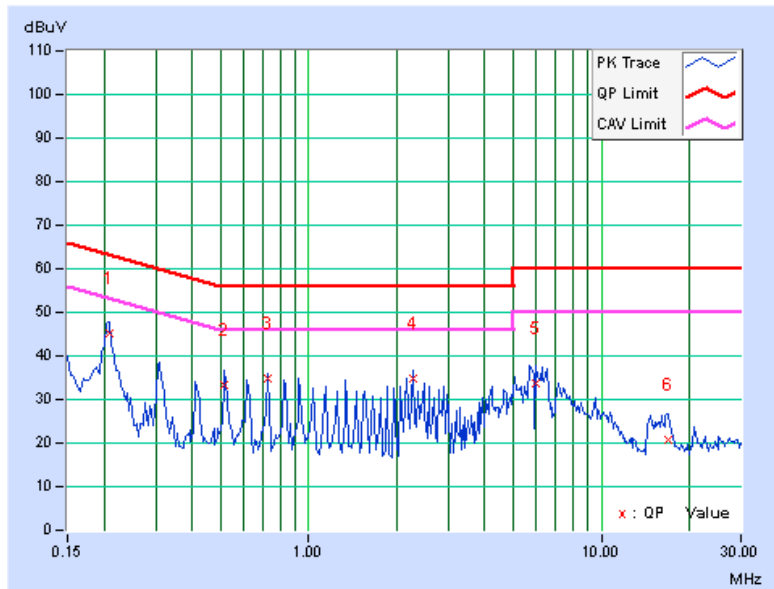
CONDUCTED WORST-CASE DATA : 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20859	0.17	45.09	42.47	45.26	42.64	63.26	53.26	-18.00	-10.62
2	0.51719	0.22	33.20	31.64	33.42	31.86	56.00	46.00	-22.58	-14.14
3	0.72422	0.24	34.55	33.27	34.79	33.51	56.00	46.00	-21.21	-12.49
4	2.26563	0.29	34.54	28.39	34.83	28.68	56.00	46.00	-21.17	-17.32
5	5.98047	0.39	33.23	23.24	33.62	23.63	60.00	50.00	-26.38	-26.37
6	16.89844	0.57	20.18	10.11	20.75	10.68	60.00	50.00	-39.25	-39.32

REMARKS:

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





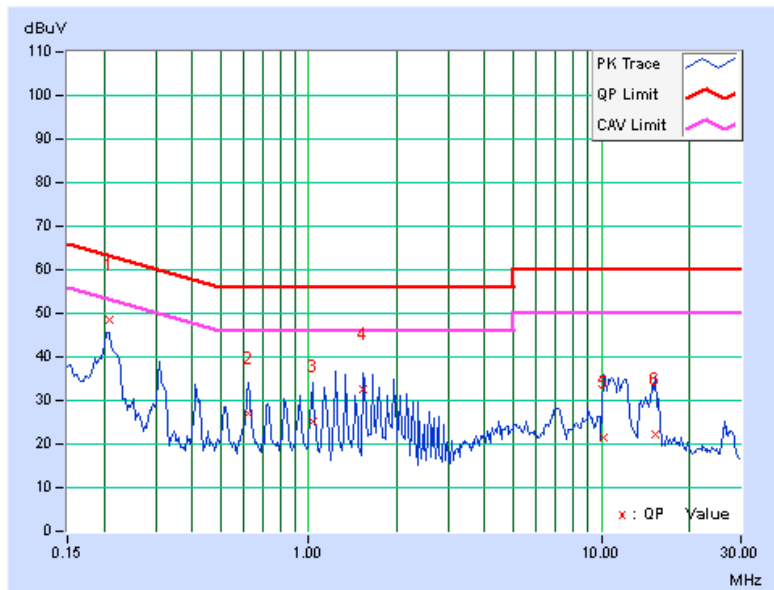
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PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20859	0.18	48.35	34.80	48.53	34.98	63.26	53.26	-14.73	-18.28
2	0.62266	0.24	26.94	24.50	27.18	24.74	56.00	46.00	-28.82	-21.26
3	1.03125	0.23	25.09	24.51	25.32	24.74	56.00	46.00	-30.68	-21.26
4	1.54297	0.26	32.22	15.94	32.48	16.20	56.00	46.00	-23.52	-29.80
5	10.19531	0.48	21.17	19.40	21.65	19.88	60.00	50.00	-38.35	-30.12
6	15.35547	0.61	21.72	19.29	22.33	19.90	60.00	50.00	-37.67	-30.10

REMARKS:

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





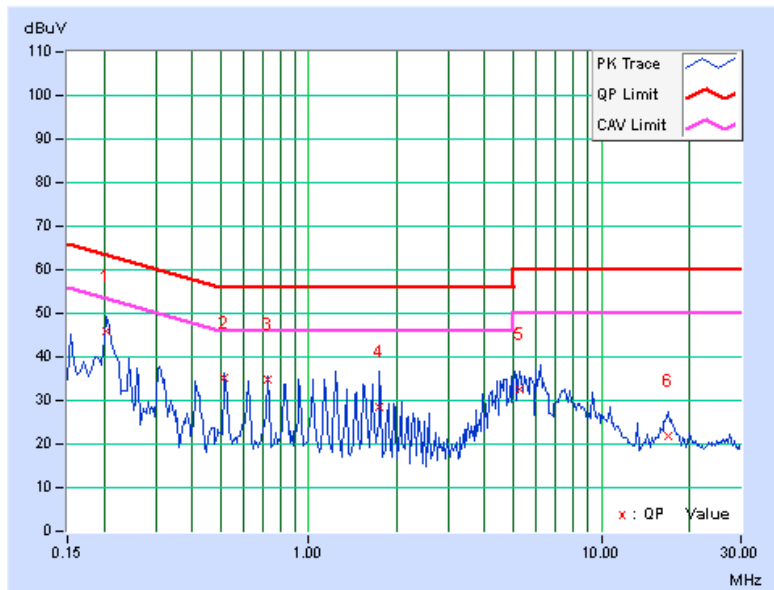
A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20469	0.17	45.88	42.49	46.05	42.66	63.42	53.42	-17.37	-10.76
2	0.51719	0.22	34.81	33.47	35.03	33.69	56.00	46.00	-20.97	-12.31
3	0.72422	0.24	34.43	33.08	34.67	33.32	56.00	46.00	-21.33	-12.68
4	1.75000	0.28	28.11	21.19	28.39	21.47	56.00	46.00	-27.61	-24.53
5	5.25391	0.38	32.33	28.50	32.71	28.88	60.00	50.00	-27.29	-21.12
6	16.90234	0.57	21.24	10.01	21.81	10.58	60.00	50.00	-38.19	-39.42

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.





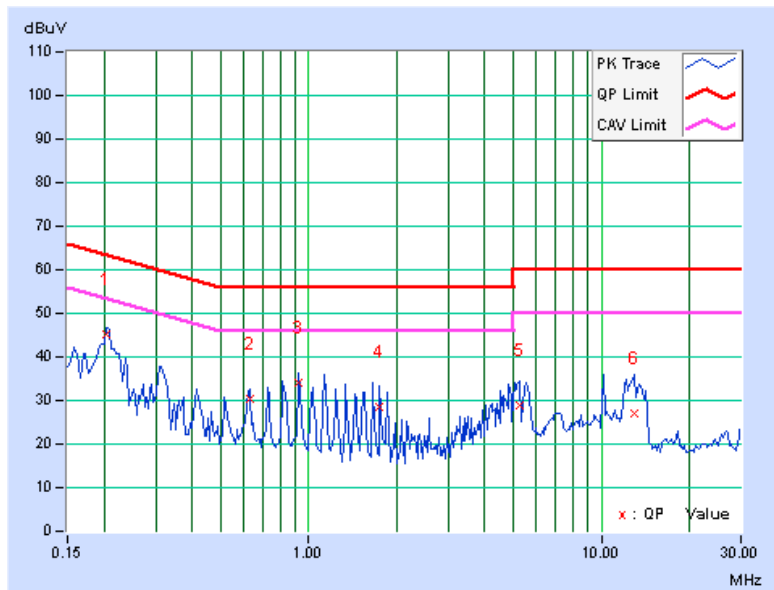
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PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20469	0.18	44.88	41.44	45.06	41.62	63.42	53.42	-18.36	-11.80
2	0.62656	0.24	30.05	29.03	30.29	29.27	56.00	46.00	-25.71	-16.73
3	0.92734	0.23	33.73	26.50	33.96	26.73	56.00	46.00	-22.04	-19.27
4	1.75000	0.27	28.33	20.87	28.60	21.14	56.00	46.00	-27.40	-24.86
5	5.25391	0.41	28.52	24.54	28.93	24.95	60.00	50.00	-31.07	-25.05
6	12.98438	0.55	26.34	23.56	26.89	24.11	60.00	50.00	-33.11	-25.89

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.

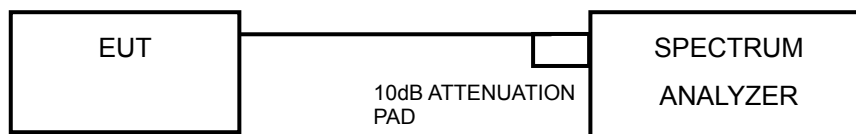


4.3 6dB BANDWIDTH MEASUREMENT

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) = 100kHz.
- b. Set the video bandwidth (VBW) $\geq 3 \times$ 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
		CHAIN 0	CHAIN 1		
1	2412	10.09	10.12	0.5	PASS
6	2437	10.12	10.09	0.5	PASS
11	2462	9.66	10.13	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.40	16.43	0.5	PASS
6	2437	16.41	16.44	0.5	PASS
11	2462	16.43	16.44	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.40	17.65	0.5	PASS
6	2437	17.64	17.64	0.5	PASS
11	2462	17.25	17.66	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.23	36.40	0.5	PASS
6	2437	36.56	36.22	0.5	PASS
9	2452	36.21	36.22	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,

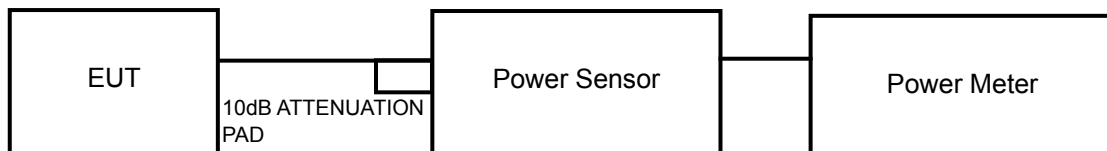
Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

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 $NANT \geq 5$.

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

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



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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

802.11b

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)
		CHAIN 0	CHAIN 1			
1	2412	21.12	20.65	245.565	23.90	30
6	2437	20.62	20.51	227.805	23.58	30
11	2462	20.82	20.77	240.180	23.81	30

802.11g

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)
		CHAIN 0	CHAIN 1			
1	2412	16.85	16.12	89.343	19.51	30
6	2437	21.42	21.23	271.415	24.34	30
11	2462	16.37	15.34	77.549	18.90	30

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)
		CHAIN 0	CHAIN 1			
1	2412	16.17	15.22	74.666	18.73	30
6	2437	20.39	20.49	221.340	23.45	30
11	2462	15.98	14.69	69.072	18.39	30

802.11n (40MHz)

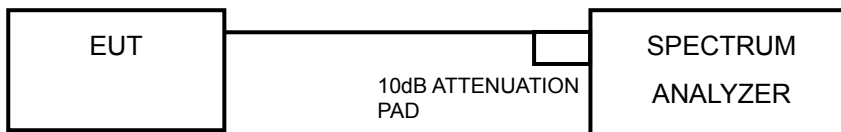
CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)
		CHAIN 0	CHAIN 1			
3	2422	13.68	12.15	39.741	15.99	30
6	2437	15.52	15.68	72.628	18.61	30
9	2452	11.82	12.34	32.345	15.10	30

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

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

Using Method PKPSD (peak PSD).

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6.



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4.5.7 TEST RESULTS

802.11b

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	-2.33	3.01	0.68	7.99	PASS
	6	2437	-2.66	3.01	0.35	7.99	PASS
	11	2462	-3.26	3.01	-0.25	7.99	PASS
1	1	2412	-3.63	3.01	-0.62	7.99	PASS
	6	2437	-3.23	3.01	-0.22	7.99	PASS
	11	2462	-3.23	3.01	-0.22	7.99	PASS

NOTE: Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(6.01-6) = 7.99\text{dBm}$.

802.11g

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	-8.88	3.01	-5.87	7.99	PASS
	6	2437	-3.23	3.01	-0.22	7.99	PASS
	11	2462	-8.60	3.01	-5.59	7.99	PASS
1	1	2412	-9.41	3.01	-6.40	7.99	PASS
	6	2437	-4.69	3.01	-1.68	7.99	PASS
	11	2462	-7.77	3.01	-4.76	7.99	PASS

NOTE: Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(6.01-6) = 7.99\text{dBm}$.

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	-9.21	3.01	-6.20	7.99	PASS
	6	2437	-4.56	3.01	-1.55	7.99	PASS
	11	2462	-8.65	3.01	-5.64	7.99	PASS
1	1	2412	-8.78	3.01	-5.77	7.99	PASS
	6	2437	-4.93	3.01	-1.92	7.99	PASS
	11	2462	-9.53	3.01	-6.52	7.99	PASS

NOTE: Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(6.01-6) = 7.99\text{dBm}$.



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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	-14.09	3.01	-11.08	-14.09	PASS
	6	2437	-11.79	3.01	-8.78	-11.79	PASS
	9	2452	-16.15	3.01	-13.14	-16.15	PASS
1	3	2422	-15.48	3.01	-12.47	-15.48	PASS
	6	2437	-12.31	3.01	-9.30	-12.31	PASS
	9	2452	-16.18	3.01	-13.17	-16.18	PASS

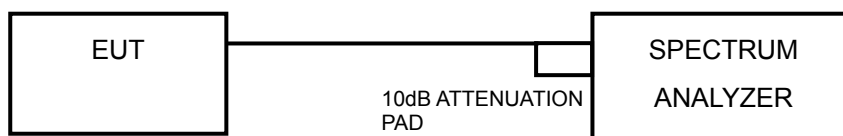
NOTE: Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8 - (6.01 - 6) = 7.99\text{dBm}$.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below -30dB 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 \geq 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.



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MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW \geq 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 $10\log(N)$ since the limit is relative emission limit. Only worst data of each operating mode is presented.

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.



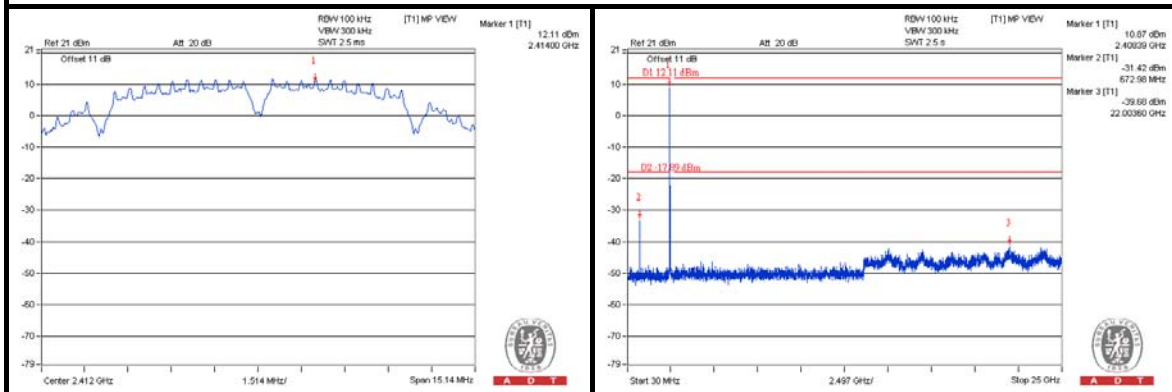
A D T

4.6.8 TEST RESULTS

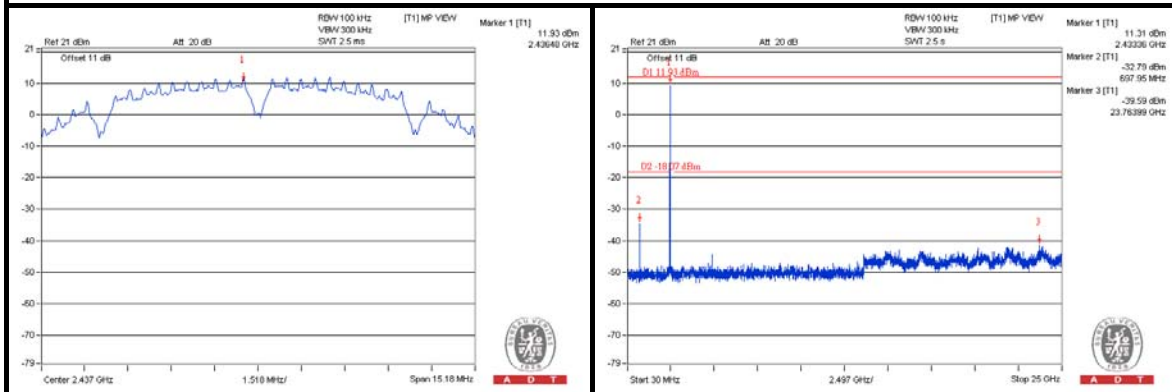
802.11b

CHAIN 0

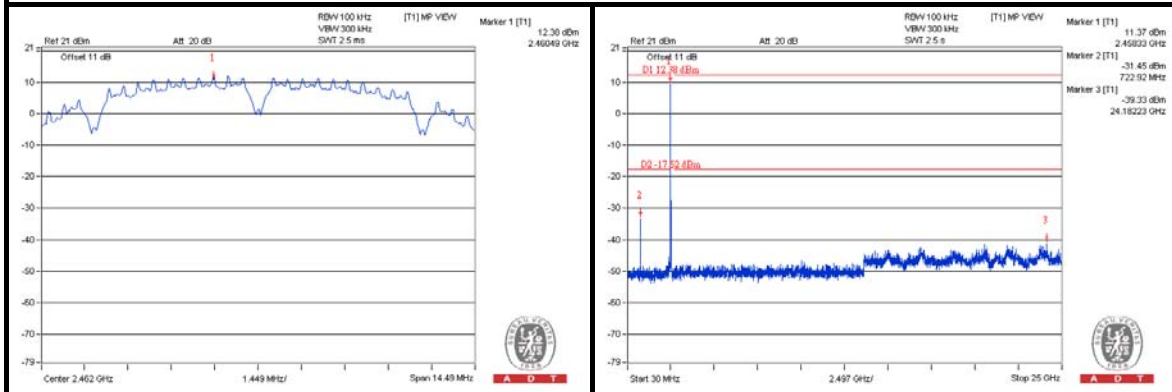
CH 1



CH 6



CH 11

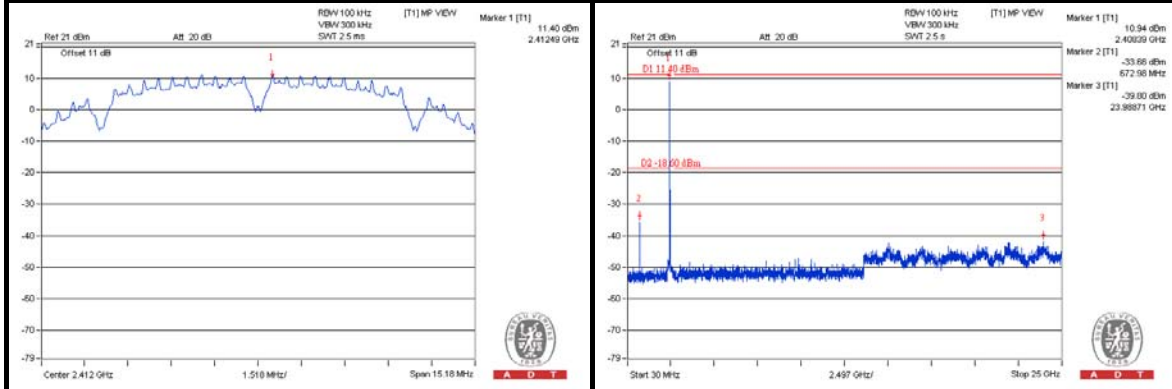




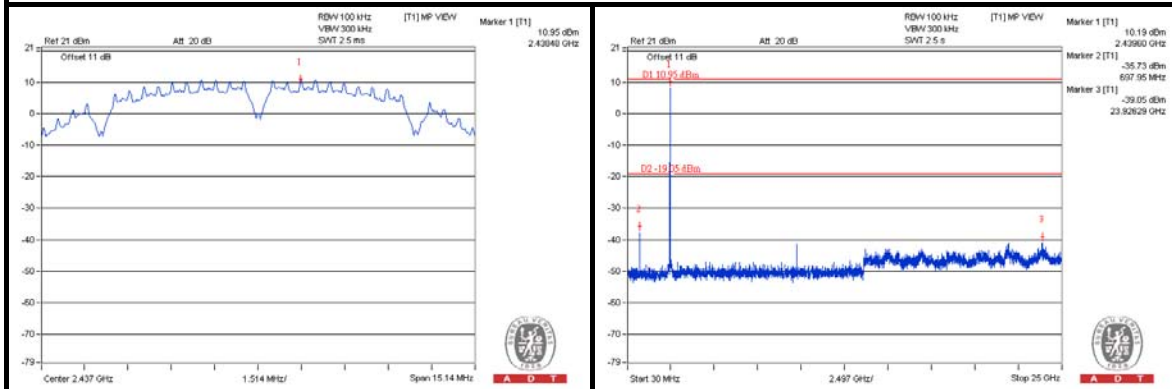
A D T

CHAIN 1

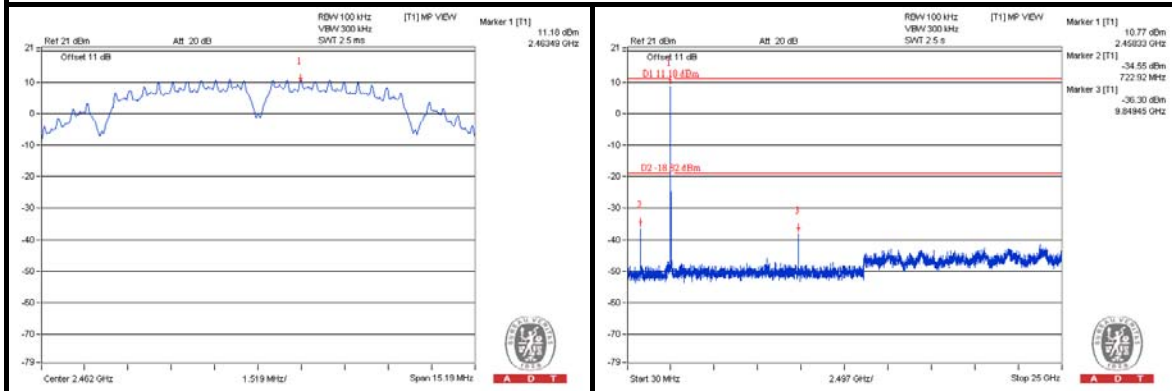
CH 1



CH 6



CH 11

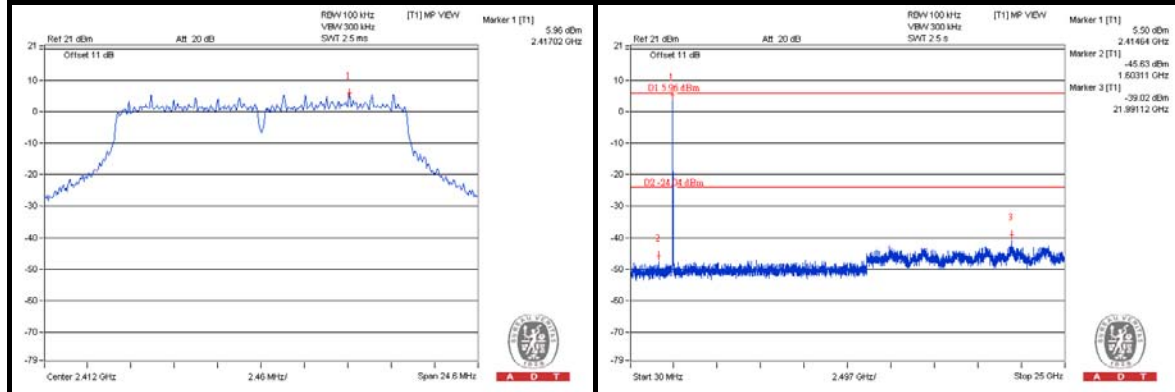




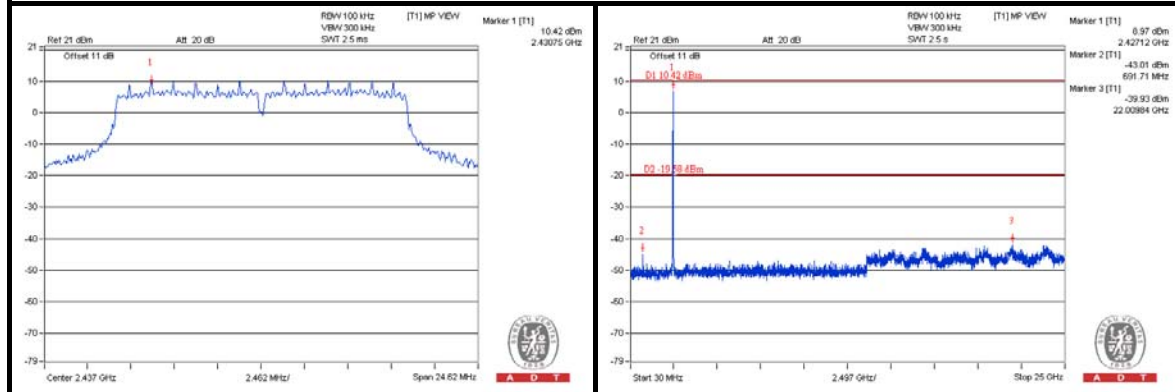
A D T

802.11g
CHAIN 0

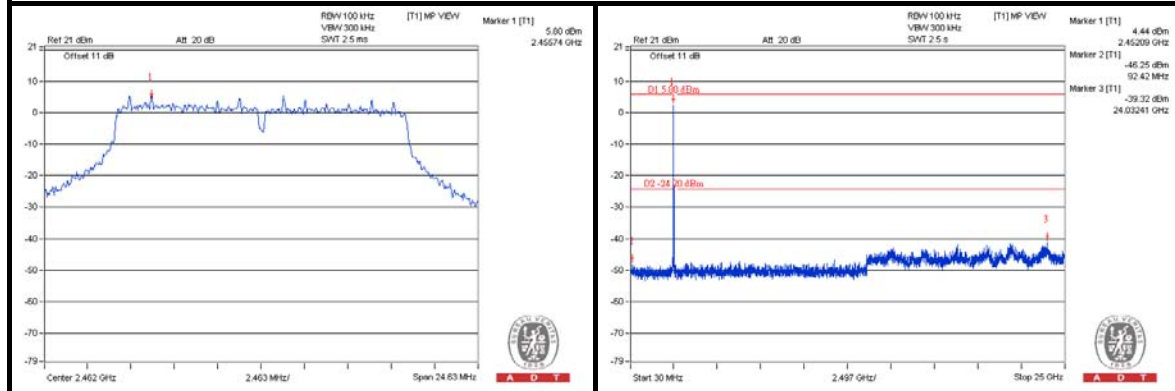
CH 1



CH 6



CH 11

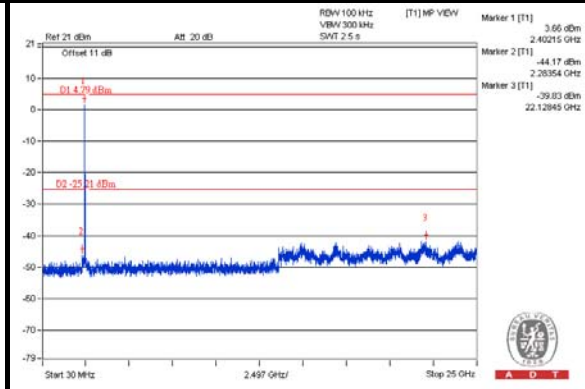
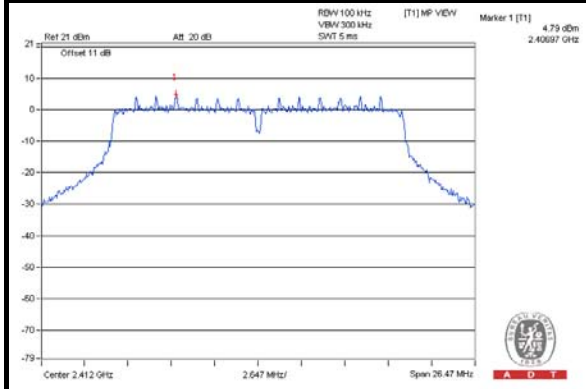




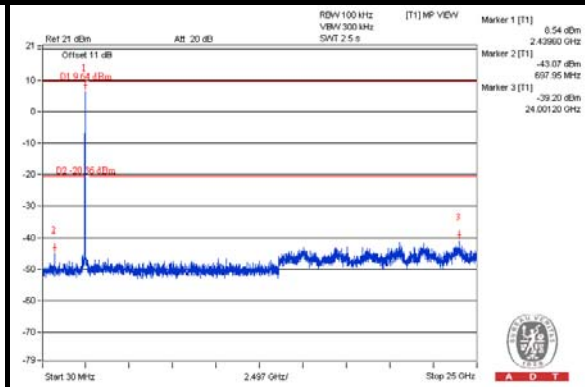
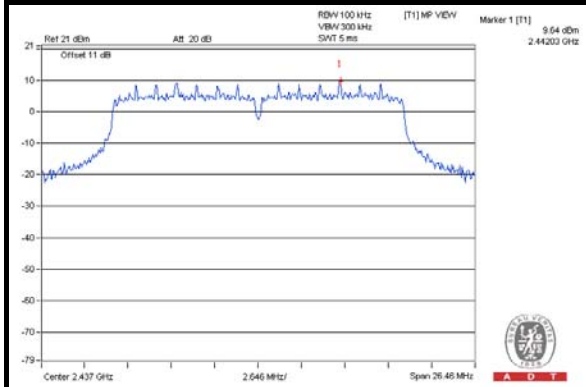
A D T

CHAIN 1

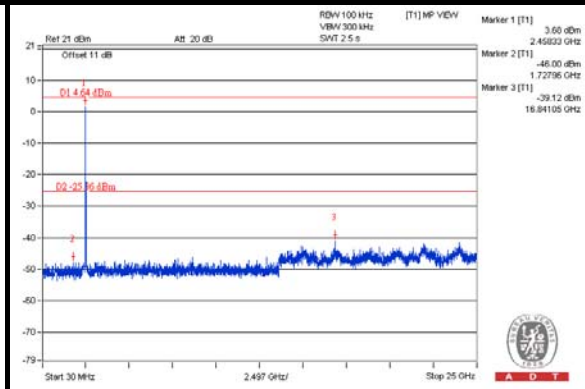
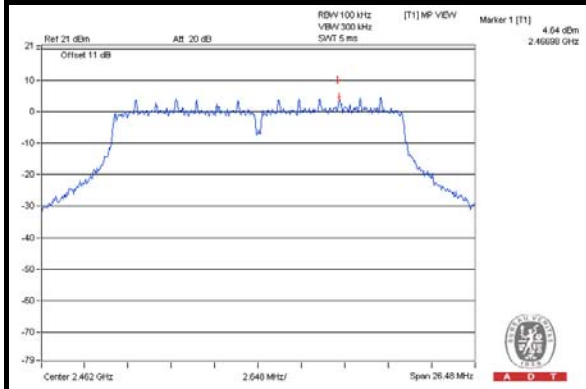
CH 1



CH 6



CH 11



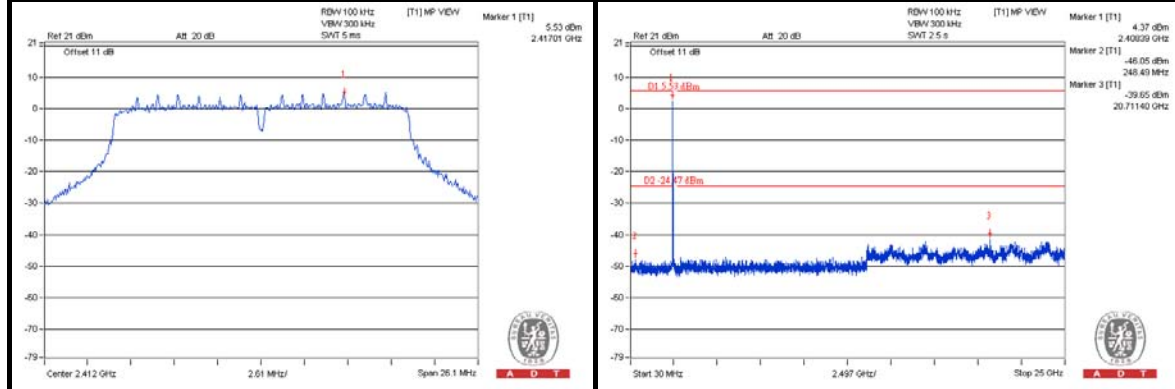


A D T

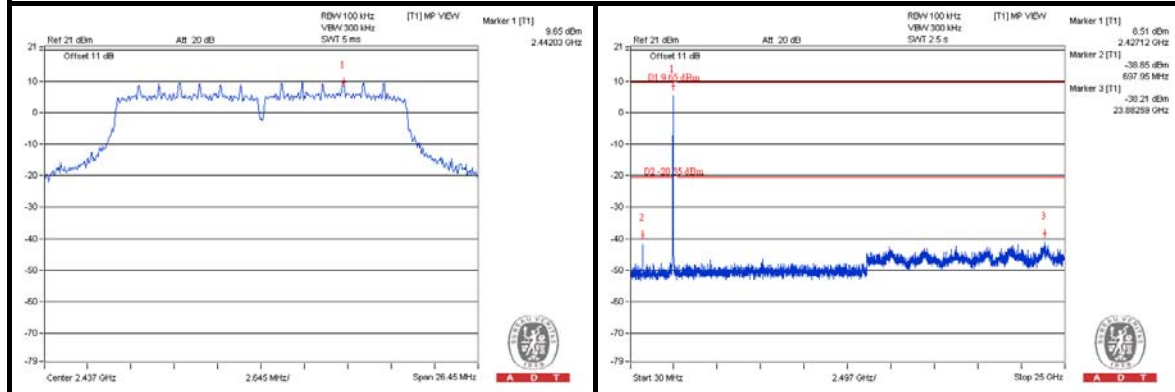
802.11n (20MHz)

CHAIN 0

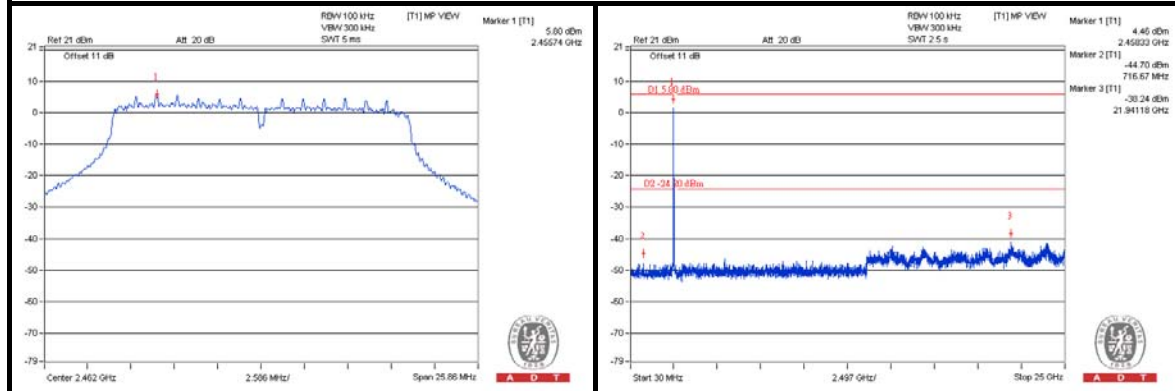
CH 1



CH 6



CH 11

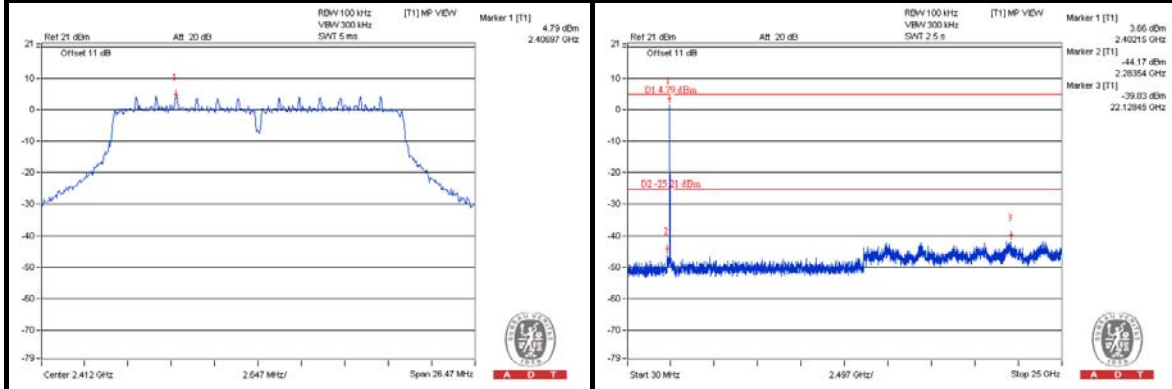




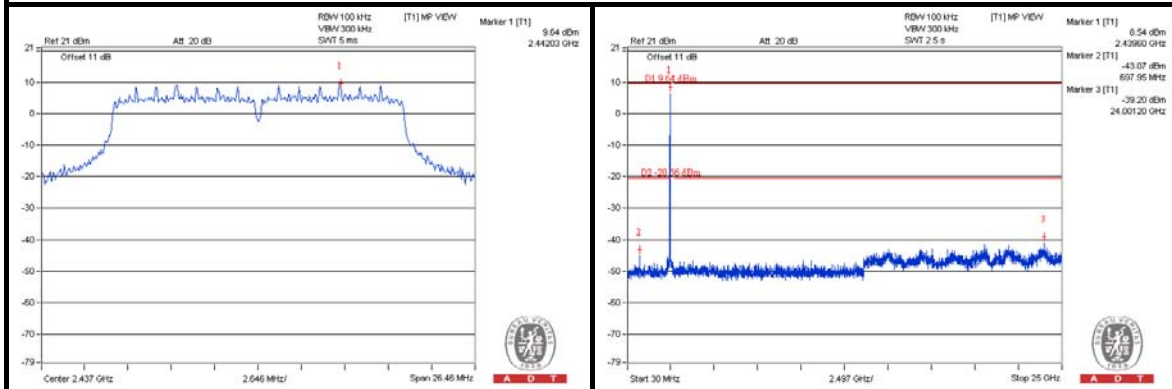
A D T

CHAIN 1

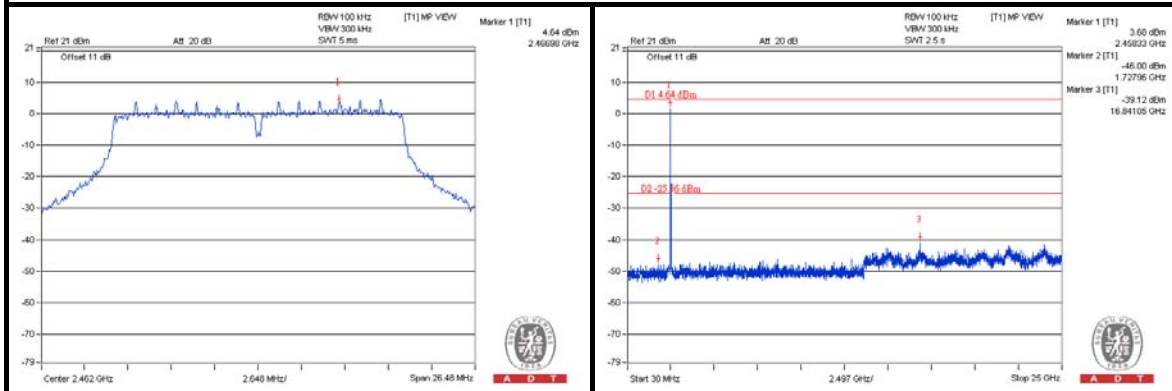
CH 1



CH 6



CH 11



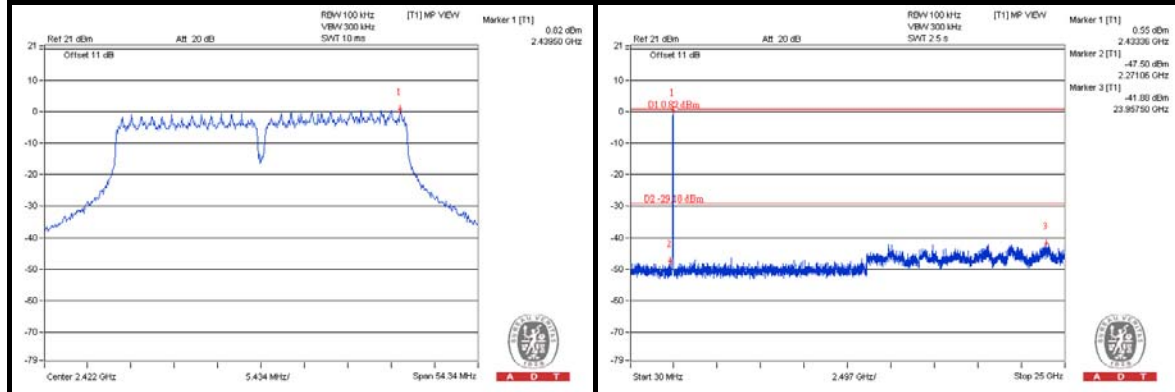


A D T

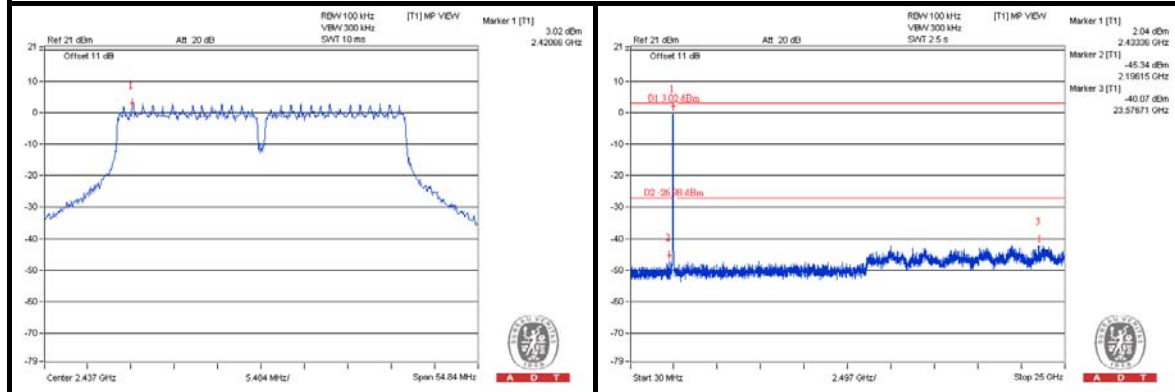
802.11n (40MHz)

CHAIN 0

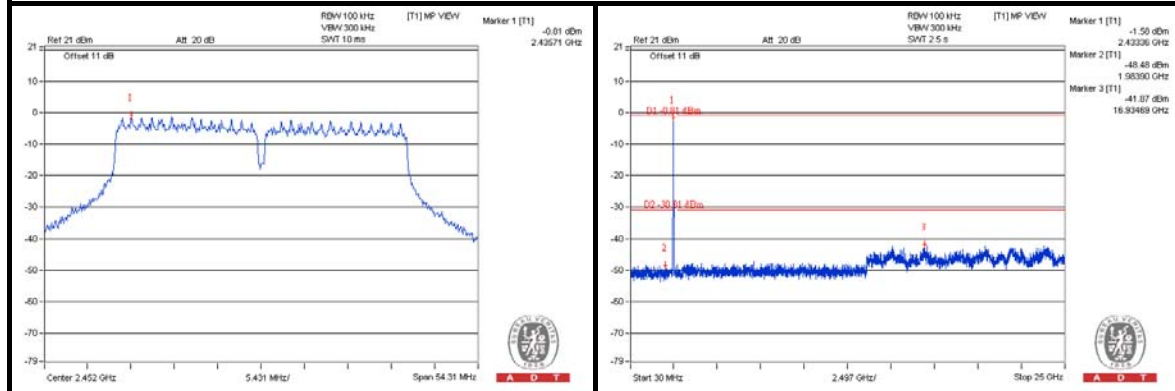
CH 3



CH 6

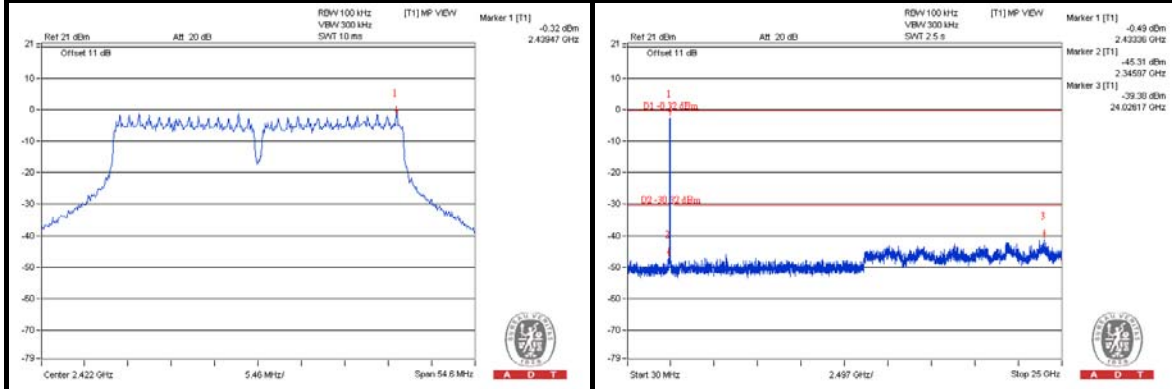


CH 9

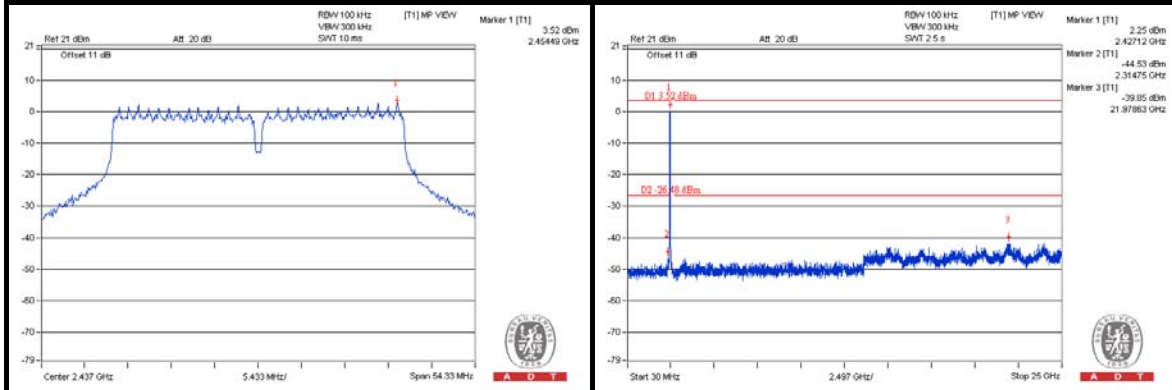


CHAIN 1

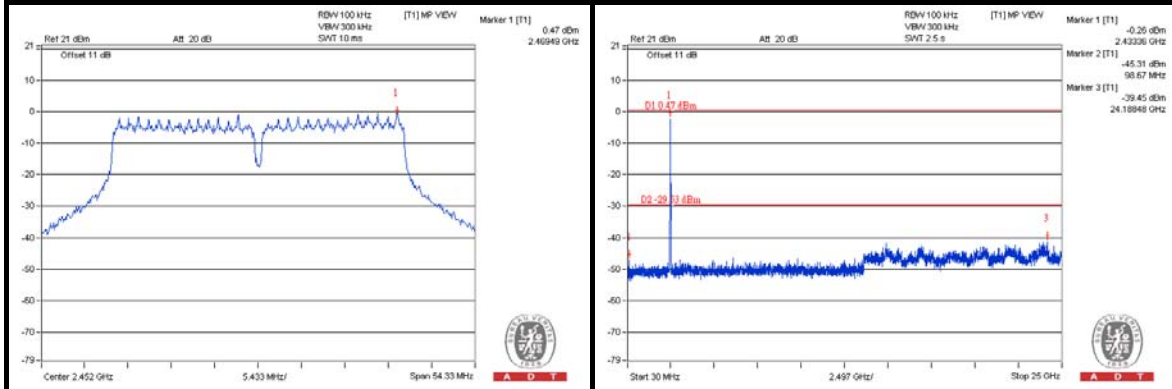
CH 3



CH 6



CH 9





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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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



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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---