



FCC TEST REPORT (15.407)

REPORT NO.: RF120717C01-5

MODEL NO.: PM23100

FCC ID: NM8PM23100

RECEIVED: Jul. 17, 2012

TESTED: Aug. 01 ~ Aug. 04, 2012

ISSUED: Aug. 13, 2012

APPLICANT: HTC Corporation

ADDRESS: 23, Xinghua Rd., Taoyuan 330, Taiwan, R.O.C.

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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RELEASE CONTROL RECORD

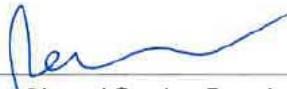
ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120717C01-5	Original release	Aug. 13, 2012

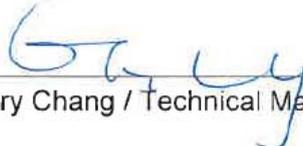


1. CERTIFICATION

PRODUCT: Windows Phone
MODEL NO.: PM23100
BRAND: HTC
APPLICANT: HTC Corporation
TESTED: Aug. 01 ~ Aug. 04, 2012
TEST SAMPLE: Production Unit
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: PM23100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY :  , **DATE** : Aug. 13, 2012
Pettie Chen / Senior Specialist

APPROVED BY :  , **DATE** : Aug. 13, 2012
Gary Chang / Technical Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -8.25dB at 0.40391MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.4dB at 5725.00MHz.
15.407(a/1/2)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

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	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Windows Phone
MODEL NO.	PM23100
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.75Vdc (Li-ion battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 135.0Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 11 for 802.11a, 802.11n (20MHz) 5 for 802.11n (40MHz)
OUTPUT POWER	21.979mW for 5180 ~ 5240MHz 22.491mW for 5260 ~ 5320MHz 21.086mW for 5500 ~ 5700MHz
ANTENNA TYPE	5180 ~ 5240MHz: PIFA antenna with -2.3dBi gain 5260 ~ 5320MHz: PIFA antenna with -1.8dBi gain 5500 ~ 5700MHz: PIFA antenna with -2.1dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

- The EUT's accessories list refers to Ext Pho.pdf.
* Item 2, 3, 5, 6, 7, 8 were the worst for the final test.
- The EUT provides one completed transmitter and one receiver.

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

- 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

FOR 5180 ~ 5240MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500MHz	124	5620MHz
104	5520MHz	128	5640MHz
108	5540MHz	132	5660MHz
112	5560MHz	136	5680MHz
116	5580MHz	140	5700MHz
120	5600MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510MHz	126	5630MHz
110	5550MHz	134	5670MHz
118	5590MHz		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (40MHz)		102 to 134	102, 110, 134	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, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	5180-5320	36 to 48	36	OFDM	BPSK	6.5
802.11n (20MHz)	5500-5700	100 to 140	116	OFDM	BPSK	6.5

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	5180-5320	36 to 48	36	OFDM	BPSK	6.5
802.11n (20MHz)	5500-5700	100 to 140	116	OFDM	BPSK	6.5

*Test condition: WIFI+Bluetooth+NFC

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	6.5
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	6.5
802.11n (40MHz)		102 to 134	102, 134	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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Antony Lee
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Alan Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz	David Huang
APCM	25deg. C, 65%RH	120Vac, 60Hz	Howard Kao

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.

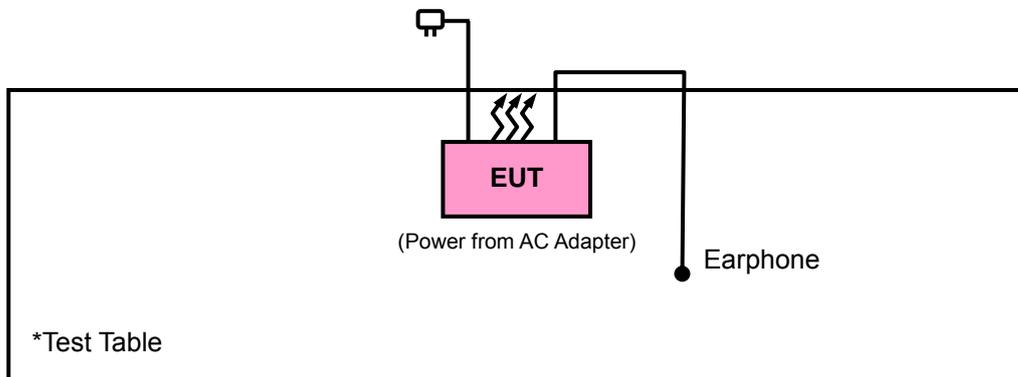
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Earphone	HTC	HS G400	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.0m non-shielded cable

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 1 was provided by client.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is 100%, duty factor is not required.



3.5 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 E (15.407)

ANSI C63.10-2009

KDB 789033 D01 General UNII Test Procedures v01r01

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)
PK	PK
-27	68.3

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

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Jan. 03, 2012	Jan. 02, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	100115	Sep. 05, 2011	Sep. 04, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 05, 2012	Jan. 04, 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	8449B	3008A01961	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10738	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Nov. 03, 2011	Nov. 02, 2012
Software ADT	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT	TT100.	TT93021704	NA	NA
Turn Table Controller ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 2013

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. The test was performed in HwaYa Chamber 9.
 4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 5. The FCC Site Registration No. is 460141.
 6. The IC Site Registration No. is IC 7450F-4.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 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. 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

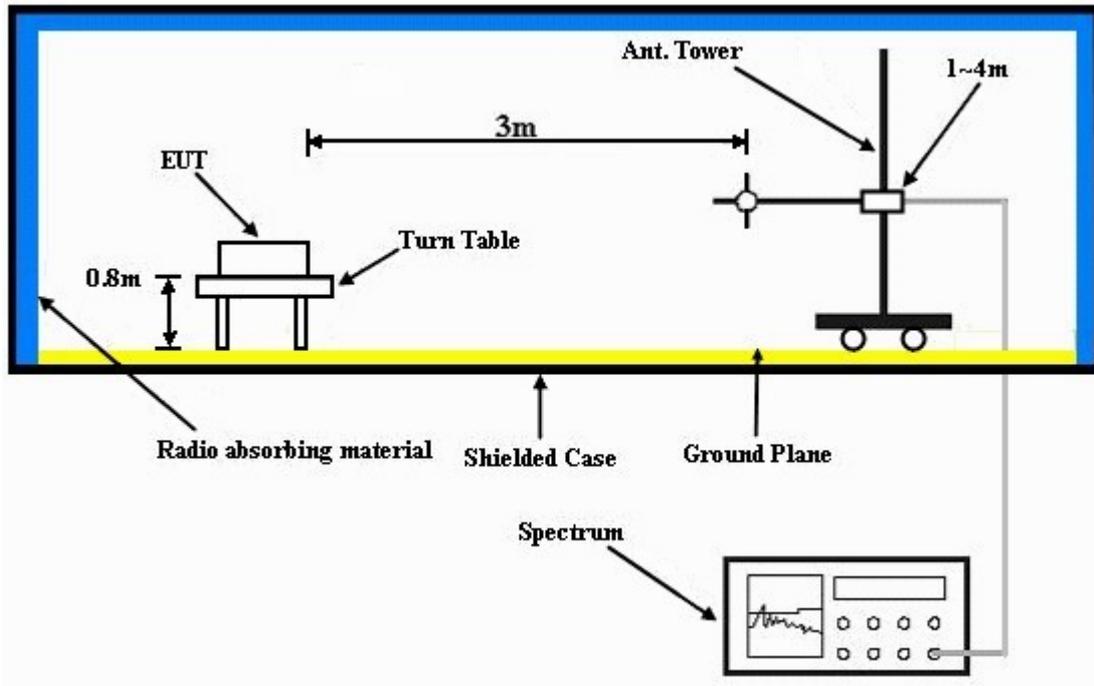
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) 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 1kHz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

- Placed the EUT on a testing table.
- Use the software to control the EUT under transmission condition continuously at specific channel frequency.



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4.1.8 TEST RESULTS

ABOVE 1GHz DATA:

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	5150.00	52.5 PK	74.0	-21.5	1.37 H	65	13.90	38.60
2	5150.00	37.8 AV	54.0	-16.2	1.37 H	65	-0.80	38.60
3	*5180.00	99.4 PK			1.37 H	65	60.80	38.60
4	*5180.00	87.1 AV			1.37 H	65	48.50	38.60
5	#10360.00	59.0 PK	68.3	-9.3	1.00 H	352	9.50	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.4 PK	74.0	-27.6	1.04 V	193	7.80	38.60
2	5150.00	34.1 AV	54.0	-19.9	1.04 V	193	-4.50	38.60
3	*5180.00	89.8 PK			1.00 V	196	51.20	38.60
4	*5180.00	78.3 AV			1.00 V	196	39.70	38.60
5	#10360.00	59.1 PK	68.3	-9.2	1.00 V	102	9.60	49.50

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.
5. " * ": Fundamental frequency.
6. "#": The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5220.00	99.7 PK			1.35 H	66	61.10	38.60
2	*5220.00	87.8 AV			1.35 H	66	49.20	38.60
3	#6960.00	52.0 PK	68.3	-16.3	1.00 H	58	8.50	43.50
4	#10440.00	59.2 PK	68.3	-9.1	1.00 H	57	9.60	49.60
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	*5220.00	93.4 PK			1.75 V	104	54.80	38.60
2	*5220.00	81.1 AV			1.75 V	104	42.50	38.60
3	#6960.00	52.0 PK	68.3	-16.3	1.00 V	53	8.50	43.50
4	#10440.00	58.9 PK	68.3	-9.4	1.00 V	55	9.30	49.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5240.00	99.6 PK			1.36 H	62	60.90	38.70
2	*5240.00	88.1 AV			1.36 H	62	49.40	38.70
3	#6986.00	53.6 PK	68.3	-14.7	1.00 H	55	10.00	43.60
4	#10480.00	59.5 PK	68.3	-8.8	1.00 H	52	9.80	49.70
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	*5240.00	92.4 PK			1.02 V	201	53.70	38.70
2	*5240.00	79.8 AV			1.02 V	201	41.10	38.70
3	#6986.00	52.4 PK	68.3	-15.9	1.00 V	47	8.80	43.60
4	#10480.00	59.6 PK	68.3	-8.7	1.00 V	31	9.90	49.70

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5260.00	100.7 PK			1.36 H	63	62.00	38.70
2	*5260.00	88.2 AV			1.36 H	63	49.50	38.70
3	#7013.00	52.4 PK	68.3	-15.9	1.00 H	66	8.70	43.70
4	#10520.00	59.4 PK	68.3	-8.9	1.00 H	73	9.60	49.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	91.4 PK			1.04 V	218	52.70	38.70
2	*5260.00	79.6 AV			1.04 V	218	40.90	38.70
3	#7013.00	52.6 PK	68.3	-15.7	1.00 V	74	8.90	43.70
4	#10520.00	59.4 PK	68.3	-8.9	1.00 V	123	9.60	49.80

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5300.00	99.0 PK			1.33 H	65	60.20	38.80
2	*5300.00	86.9 AV			1.33 H	65	48.10	38.80
3	#7066.00	53.4 PK	68.3	-14.9	1.00 H	123	9.50	43.90
4	10600.00	59.7 PK	74.0	-14.3	1.00 H	235	9.70	50.00
5	10600.00	46.1 AV	54.0	-7.9	1.00 H	235	-3.90	50.00
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	*5300.00	91.1 PK			1.02 V	196	52.30	38.80
2	*5300.00	79.6 AV			1.02 V	196	40.80	38.80
3	#7066.00	52.5 PK	68.3	-15.8	1.00 V	25	8.60	43.90
4	10600.00	59.0 PK	74.0	-15.0	1.00 V	25	9.00	50.00
5	10600.00	46.2 AV	54.0	-7.8	1.00 V	25	-3.80	50.00

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.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5320.00	99.4 PK			1.33 H	65	60.60	38.80
2	*5320.00	87.4 AV			1.33 H	65	48.60	38.80
3	5350.00	53.3 PK	74.0	-20.7	1.33 H	65	14.50	38.80
4	5350.00	38.9 AV	54.0	-15.1	1.33 H	65	0.10	38.80
5	10640.00	60.8 PK	74.0	-13.2	1.00 H	25	10.60	50.20
6	10640.00	46.7 AV	54.0	-7.3	1.00 H	25	-3.50	50.20
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	*5320.00	90.6 PK			1.00 V	198	51.80	38.80
2	*5320.00	79.4 AV			1.00 V	198	40.60	38.80
3	5350.00	47.3 PK	74.0	-26.7	1.00 V	198	8.50	38.80
4	5350.00	35.2 AV	54.0	-18.8	1.00 V	198	-3.60	38.80
5	10640.00	60.5 PK	74.0	-13.5	1.00 V	243	10.30	50.20
6	10640.00	46.7 AV	54.0	-7.3	1.00 V	243	-3.50	50.20

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 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	5460.00	47.5 PK	74.0	-26.5	1.00 H	18	8.50	39.00
2	5460.00	35.6 AV	54.0	-18.4	1.00 H	18	-3.40	39.00
3	#5470.00	50.3 PK	68.3	-18.0	1.00 H	18	11.30	39.00
4	*5500.00	97.5 PK			1.00 H	18	58.40	39.10
5	*5500.00	86.1 AV			1.00 H	18	47.00	39.10
6	11000.00	60.5 PK	74.0	-13.5	1.00 H	241	8.90	51.60
7	11000.00	46.7 AV	54.0	-7.3	1.00 H	241	-4.90	51.60

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	5460.00	47.7 PK	74.0	-26.3	1.51 V	110	8.70	39.00
2	5460.00	35.9 AV	54.0	-18.1	1.51 V	110	-3.10	39.00
3	#5470.00	48.7 PK	68.3	-19.6	1.51 V	110	9.70	39.00
4	*5500.00	92.4 PK			1.51 V	110	53.30	39.10
5	*5500.00	80.9 AV			1.51 V	110	41.80	39.10
6	11000.00	59.6 PK	74.0	-14.4	1.00 V	53	8.00	51.60
7	11000.00	46.8 AV	54.0	-7.2	1.00 V	53	-4.80	51.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5580.00	99.1 PK			1.00 H	14	59.90	39.20
2	*5580.00	87.0 AV			1.00 H	14	47.80	39.20
3	7440.00	54.6 PK	74.0	-19.4	1.00 H	152	9.90	44.70
4	7440.00	36.9 AV	54.0	-17.1	1.00 H	152	-7.80	44.70
5	11160.00	60.5 PK	74.0	-13.5	1.00 H	163	9.20	51.30
6	11160.00	46.8 AV	54.0	-7.2	1.00 H	163	-4.50	51.30
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	*5580.00	93.4 PK			1.42 V	222	54.20	39.20
2	*5580.00	81.0 AV			1.42 V	222	41.80	39.20
3	7440.00	53.7 PK	74.0	-20.3	1.00 V	149	9.00	44.70
4	7440.00	38.6 AV	54.0	-15.4	1.00 V	149	-6.10	44.70
5	11160.00	61.3 PK	74.0	-12.7	1.00 V	58	10.00	51.30
6	11160.00	47.2 AV	54.0	-6.8	1.00 V	58	-4.10	51.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Antony Lee

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	*5700.00	98.3 PK			1.00 H	5	58.80	39.50
2	*5700.00	86.5 AV			1.00 H	5	47.00	39.50
3	#5725.00	57.2 PK	68.3	-11.1	1.00 H	3	17.70	39.50
4	11400.00	60.3 PK	74.0	-13.7	1.00 H	19	8.70	51.60
5	11400.00	46.8 AV	54.0	-7.2	1.00 H	19	-4.80	51.60

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	*5700.00	93.4 PK			1.48 V	329	53.90	39.50
2	*5700.00	81.8 AV			1.48 V	329	42.30	39.50
3	#5725.00	51.9 PK	68.3	-16.4	1.49 V	329	12.40	39.50
4	11400.00	60.8 PK	74.0	-13.2	1.00 V	63	9.20	51.60
5	11400.00	47.2 AV	54.0	-6.8	1.00 V	63	-4.40	51.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5150.00	66.3 PK	74.0	-7.7	1.00 H	332	27.70	38.60
2	5150.00	45.5 AV	54.0	-8.5	1.00 H	332	6.90	38.60
3	*5180.00	101.7 PK			1.00 H	337	63.10	38.60
4	*5180.00	89.4 AV			1.00 H	337	50.80	38.60
5	#10360.00	60.0 PK	68.3	-8.3	1.00 H	354	10.50	49.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	1.39 V	247	27.30	38.60
2	5150.00	44.0 AV	54.0	-10.0	1.39 V	247	5.40	38.60
3	*5180.00	96.2 PK			1.37 V	241	57.60	38.60
4	*5180.00	83.8 AV			1.37 V	241	45.20	38.60
5	#10360.00	59.0 PK	68.3	-9.3	1.00 V	108	9.50	49.50

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.
5. “ * “: Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5220.00	100.8 PK			1.00 H	336	62.20	38.60
2	*5220.00	88.4 AV			1.00 H	336	49.80	38.60
3	#6960.00	53.0 PK	68.3	-15.3	1.00 H	51	9.50	43.50
4	#10440.00	60.1 PK	68.3	-8.2	1.00 H	50	10.50	49.60

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	*5220.00	95.1 PK			1.28 V	153	56.50	38.60
2	*5220.00	83.4 AV			1.28 V	153	44.80	38.60
3	#6960.00	52.0 PK	68.3	-16.3	1.00 V	55	8.50	43.50
4	#10440.00	59.1 PK	68.3	-9.2	1.00 V	55	9.50	49.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5240.00	101.0 PK			1.00 H	337	62.30	38.70
2	*5240.00	89.1 AV			1.00 H	337	50.40	38.70
3	5350.00	58.8 PK	74.0	-15.2	1.00 H	333	20.00	38.80
4	5350.00	45.2 AV	54.0	-8.8	1.00 H	333	6.40	38.80
5	#10480.00	60.4 PK	68.3	-7.9	1.00 H	53	10.70	49.70
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	*5240.00	95.5 PK			1.00 V	50	56.80	38.70
2	*5240.00	83.8 AV			1.00 V	50	45.10	38.70
3	5350.00	57.6 PK	74.0	-16.4	1.00 V	45	18.80	38.80
4	5350.00	44.7 AV	54.0	-9.3	1.00 V	45	5.90	38.80
5	#10480.00	59.4 PK	68.3	-8.9	1.00 V	39	9.70	49.70

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5150.00	57.7 PK	74.0	-16.3	1.00 H	335	19.10	38.60
2	5150.00	44.1 AV	54.0	-9.9	1.00 H	335	5.50	38.60
3	*5260.00	95.6 PK			1.00 H	338	56.90	38.70
4	*5260.00	84.2 AV			1.00 H	338	45.50	38.70
5	#10520.00	58.3 PK	68.3	-10.0	1.00 H	70	8.50	49.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.4 PK	74.0	-17.6	1.00 V	48	17.80	38.60
2	5150.00	43.5 AV	54.0	-10.5	1.00 V	48	4.90	38.60
3	*5260.00	88.7 PK			1.00 V	50	50.00	38.70
4	*5260.00	76.6 AV			1.00 V	50	37.90	38.70
5	#10520.00	57.1 PK	68.3	-11.2	1.00 V	129	7.30	49.80

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5300.00	96.5 PK			1.16 H	312	57.70	38.80
2	*5300.00	84.9 AV			1.16 H	312	46.10	38.80
3	#7066.00	52.7 PK	68.3	-15.6	1.00 H	125	8.80	43.90
4	10600.00	58.6 PK	74.0	-15.4	1.00 H	237	8.60	50.00
5	10600.00	45.7 AV	54.0	-8.3	1.00 H	237	-4.30	50.00

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	*5300.00	90.3 PK			1.41 V	48	51.50	38.80
2	*5300.00	78.4 AV			1.41 V	48	39.60	38.80
3	#7066.00	51.9 PK	68.3	-16.4	1.00 V	29	8.00	43.90
4	10600.00	57.4 PK	74.0	-16.6	1.00 V	28	7.40	50.00
5	10600.00	44.2 AV	54.0	-9.8	1.00 V	28	-5.80	50.00

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.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5320.00	96.2 PK			1.15 H	308	57.40	38.80
2	*5320.00	84.7 AV			1.15 H	308	45.90	38.80
3	5350.00	54.6 PK	74.0	-19.4	1.16 H	305	15.80	38.80
4	5350.00	39.7 AV	54.0	-14.3	1.16 H	305	0.90	38.80
5	10640.00	59.8 PK	74.0	-14.2	1.00 H	26	9.60	50.20
6	10640.00	45.3 AV	54.0	-8.7	1.00 H	26	-4.90	50.20
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	*5320.00	90.1 PK			1.13 V	151	51.30	38.80
2	*5320.00	78.8 AV			1.13 V	151	40.00	38.80
3	5350.00	53.0 PK	74.0	-21.0	1.11 V	157	14.20	38.80
4	5350.00	38.6 AV	54.0	-15.4	1.11 V	157	-0.20	38.80
5	10640.00	58.7 PK	74.0	-15.3	1.00 V	241	8.50	50.20
6	10640.00	44.8 AV	54.0	-9.2	1.00 V	241	-5.40	50.20

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 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5460.00	56.6 PK	74.0	-17.4	1.18 H	309	17.60	39.00
2	5460.00	43.3 AV	54.0	-10.7	1.18 H	309	4.30	39.00
3	#5470.00	57.6 PK	68.3	-10.7	1.18 H	309	18.60	39.00
4	*5500.00	94.9 PK			1.12 H	310	55.80	39.10
5	*5500.00	82.8 AV			1.12 H	310	43.70	39.10
6	11000.00	59.5 PK	74.0	-14.5	1.00 H	240	7.90	51.60
7	11000.00	45.3 AV	54.0	-8.7	1.00 H	240	-6.30	51.60

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	5460.00	55.2 PK	74.0	-18.8	1.00 V	168	16.20	39.00
2	5460.00	41.8 AV	54.0	-12.2	1.00 V	168	2.80	39.00
3	#5470.00	56.3 PK	68.3	-12.0	1.00 V	168	17.30	39.00
4	*5500.00	89.1 PK			1.00 V	167	50.00	39.10
5	*5500.00	77.8 AV			1.00 V	167	38.70	39.10
6	11000.00	58.4 PK	74.0	-15.6	1.00 V	50	6.80	51.60
7	11000.00	44.8 AV	54.0	-9.2	1.00 V	50	-6.80	51.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5580.00	95.4 PK			1.00 H	328	56.20	39.20
2	*5580.00	83.2 AV			1.00 H	328	44.00	39.20
3	7440.00	55.0 PK	74.0	-19.0	1.00 H	158	10.30	44.70
4	7440.00	37.5 AV	54.0	-16.5	1.00 H	158	-7.20	44.70
5	11160.00	59.5 PK	74.0	-14.5	1.00 H	166	8.20	51.30
6	11160.00	45.4 AV	54.0	-8.6	1.00 H	166	-5.90	51.30
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	*5580.00	89.0 PK			1.00 V	177	49.80	39.20
2	*5580.00	77.5 AV			1.00 V	177	38.30	39.20
3	7440.00	54.0 PK	74.0	-20.0	1.00 V	140	9.30	44.70
4	7440.00	36.2 AV	54.0	-17.8	1.00 V	140	-8.50	44.70
5	11160.00	58.4 PK	74.0	-15.6	1.00 V	58	7.10	51.30
6	11160.00	44.9 AV	54.0	-9.1	1.00 V	58	-6.40	51.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5700.00	96.5 PK			1.00 H	339	57.00	39.50
2	*5700.00	84.0 AV			1.00 H	339	44.50	39.50
3	#5725.00	58.5 PK	68.3	-9.8	1.00 H	332	19.00	39.50
4	11400.00	59.3 PK	74.0	-14.7	1.00 H	12	7.70	51.60
5	11400.00	45.4 AV	54.0	-8.6	1.00 H	12	-6.20	51.60
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	*5700.00	90.2 PK			1.40 V	45	50.70	39.50
2	*5700.00	78.3 AV			1.40 V	45	38.80	39.50
3	#5725.00	57.3 PK	68.3	-11.0	1.40 V	44	17.80	39.50
4	11400.00	58.2 PK	74.0	-15.8	1.00 V	64	6.60	51.60
5	11400.00	44.9 AV	54.0	-9.1	1.00 V	64	-6.70	51.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#“: The radiated frequency is out the restricted band.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5150.00	54.5 PK	74.0	-19.5	1.00 H	335	15.90	38.60
2	5150.00	41.6 AV	54.0	-12.4	1.00 H	335	3.00	38.60
3	*5190.00	91.7 PK			1.00 H	337	53.10	38.60
4	*5190.00	79.5 AV			1.00 H	337	40.90	38.60
5	#10380.00	57.6 PK	68.3	-10.7	1.00 H	10	8.10	49.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.9 PK	74.0	-20.1	1.17 V	88	15.30	38.60
2	5150.00	40.7 AV	54.0	-13.3	1.17 V	88	2.10	38.60
3	*5190.00	88.7 PK			1.16 V	84	50.10	38.60
4	*5190.00	76.1 AV			1.16 V	84	37.50	38.60
5	#10380.00	56.3 PK	68.3	-12.0	1.00 V	90	6.80	49.50

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.
5. “ * “: Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5150.00	53.2 PK	74.0	-20.8	1.00 H	333	14.60	38.60
2	5150.00	39.7 AV	54.0	-14.3	1.00 H	333	1.10	38.60
3	*5230.00	91.5 PK			1.00 H	336	52.90	38.60
4	*5230.00	79.4 AV			1.00 H	336	40.80	38.60
5	#10460.00	57.9 PK	68.3	-10.4	1.00 H	13	8.30	49.60

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	5150.00	52.5 PK	74.0	-21.5	1.11 V	94	13.90	38.60
2	5150.00	38.6 AV	54.0	-15.4	1.11 V	94	0.00	38.60
3	*5230.00	87.8 PK			1.15 V	96	49.20	38.60
4	*5230.00	75.3 AV			1.15 V	96	36.70	38.60
5	#10460.00	56.6 PK	68.3	-11.7	1.00 V	94	7.00	49.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”: The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5150.00	54.5 PK	74.0	-19.5	1.07 H	314	15.90	38.60
2	5150.00	40.6 AV	54.0	-13.4	1.07 H	314	2.00	38.60
3	*5270.00	92.7 PK			1.05 H	311	54.00	38.70
4	*5270.00	81.3 AV			1.05 H	311	42.60	38.70
5	#10540.00	58.6 PK	68.3	-9.7	1.00 H	14	8.80	49.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.9 PK	74.0	-20.1	1.27 V	152	15.30	38.60
2	5150.00	39.6 AV	54.0	-14.4	1.27 V	152	1.00	38.60
3	*5270.00	87.7 PK			1.29 V	152	49.00	38.70
4	*5270.00	75.9 AV			1.29 V	152	37.20	38.70
5	#10540.00	57.4 PK	68.3	-10.9	1.00 V	92	7.60	49.80

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5310.00	93.7 PK			1.04 H	309	54.90	38.80
2	*5310.00	81.1 AV			1.04 H	309	42.30	38.80
3	5350.00	59.5 PK	74.0	-14.5	1.02 H	313	20.70	38.80
4	5350.00	45.3 AV	54.0	-8.7	1.02 H	313	6.50	38.80
5	10620.00	58.3 PK	74.0	-15.7	1.00 H	11	8.20	50.10
6	10620.00	45.2 AV	54.0	-8.8	1.00 H	11	-4.90	50.10
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	*5310.00	87.4 PK			1.14 V	151	48.60	38.80
2	*5310.00	75.9 AV			1.14 V	151	37.10	38.80
3	5350.00	58.4 PK	74.0	-15.6	1.18 V	159	19.60	38.80
4	5350.00	44.8 AV	54.0	-9.2	1.18 V	159	6.00	38.80
5	10620.00	57.1 PK	74.0	-16.9	1.00 V	90	7.00	50.10
6	10620.00	44.7 AV	54.0	-9.3	1.00 V	90	-5.40	50.10

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 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	5460.00	54.7 PK	74.0	-19.3	1.10 H	310	15.70	39.00
2	5460.00	42.8 AV	54.0	-11.2	1.10 H	310	3.80	39.00
3	#5470.00	61.0 PK	68.3	-7.3	1.11 H	312	22.00	39.00
4	*5510.00	93.1 PK			1.11 H	310	54.00	39.10
5	*5510.00	81.4 AV			1.11 H	310	42.30	39.10
6	10920.00	58.8 PK	74.0	-15.2	1.00 H	50	7.60	51.20
7	10920.00	45.3 AV	54.0	-8.7	1.00 H	50	-5.90	51.20
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	5460.00	54.6 PK	74.0	-19.4	1.02 V	180	15.60	39.00
2	5460.00	42.5 AV	54.0	-11.5	1.02 V	180	3.50	39.00
3	#5470.00	57.4 PK	68.3	-10.9	1.03 V	182	18.40	39.00
4	*5510.00	85.6 PK			1.00 V	180	46.50	39.10
5	*5510.00	74.3 AV			1.00 V	180	35.20	39.10
6	10920.00	58.9 PK	74.0	-15.1	1.00 V	300	7.70	51.20
7	10920.00	45.1 AV	54.0	-8.9	1.00 V	300	-6.10	51.20

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.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5550.00	98.0 PK			1.10 H	311	58.90	39.10
2	*5550.00	86.1 AV			1.10 H	311	47.00	39.10
3	7440.00	52.0 PK	74.0	-22.0	1.00 H	170	7.30	44.70
4	7440.00	38.1 AV	54.0	-15.9	1.00 H	170	-6.60	44.70
5	11100.00	57.8 PK	74.0	-16.2	1.00 H	45	6.50	51.30
6	11100.00	44.1 AV	54.0	-9.9	1.00 H	45	-7.20	51.30
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	*5550.00	92.8 PK			1.00 V	172	53.70	39.10
2	*5550.00	80.7 AV			1.00 V	172	41.60	39.10
3	7440.00	52.6 PK	74.0	-21.4	1.05 V	200	7.90	44.70
4	7440.00	39.2 AV	54.0	-14.8	1.05 V	200	-5.50	44.70
5	11100.00	57.9 PK	74.0	-16.1	1.02 V	305	6.60	51.30
6	11100.00	44.0 AV	54.0	-10.0	1.02 V	305	-7.30	51.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 69%RH	TESTED BY	Alan 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	*5670.00	97.8 PK			1.12 H	345	58.40	39.40
2	*5670.00	86.6 AV			1.12 H	345	47.20	39.40
3	#5725.00	66.9 PK	68.3	-1.4	1.11 H	347	27.40	39.50
4	11340.00	60.2 PK	74.0	-13.8	1.00 H	45	8.50	51.70
5	11340.00	45.8 AV	54.0	-8.2	1.00 H	45	-5.90	51.70
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	*5670.00	92.3 PK			1.02 V	220	52.90	39.40
2	*5670.00	80.9 AV			1.02 V	220	41.50	39.40
3	#5725.00	61.8 PK	68.3	-6.5	1.00 V	230	22.30	39.50
4	11340.00	59.9 PK	74.0	-14.1	1.00 V	320	8.20	51.70
5	11340.00	45.5 AV	54.0	-8.5	1.00 V	320	-6.20	51.70

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Alan 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	68.71	21.4 QP	40.0	-18.6	2.00 H	97	8.90	12.50
2	173.49	26.7 QP	43.5	-16.8	1.24 H	270	13.00	13.70
3	223.94	31.2 QP	46.0	-14.8	1.49 H	187	18.70	12.50
4	295.73	26.8 QP	46.0	-19.2	1.00 H	160	11.30	15.50
5	359.77	22.9 QP	46.0	-23.1	1.00 H	317	5.60	17.30
6	786.66	27.3 QP	46.0	-18.7	3.00 H	106	0.60	26.70

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	64.83	24.2 QP	40.0	-15.8	1.00 V	171	11.20	13.00
2	173.49	24.5 QP	43.5	-19.0	1.49 V	131	10.80	13.70
3	220.06	26.8 QP	46.0	-19.2	1.24 V	92	14.50	12.30
4	254.99	27.4 QP	46.0	-18.6	1.00 V	151	13.60	13.80
5	394.70	20.4 QP	46.0	-25.6	1.75 V	218	2.10	18.30
6	761.43	26.2 QP	46.0	-19.8	1.24 V	226	0.10	26.10

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Alan 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	68.71	26.5 QP	40.0	-13.5	1.24 H	306	14.00	12.50
2	173.49	28.9 QP	43.5	-14.6	1.49 H	259	15.20	13.70
3	227.82	35.3 QP	46.0	-10.7	1.00 H	11	22.60	12.70
4	254.99	31.5 QP	46.0	-14.5	1.00 H	54	17.70	13.80
5	299.62	29.6 QP	46.0	-16.4	1.00 H	141	13.90	15.70
6	359.77	23.5 QP	46.0	-22.5	2.00 H	324	6.20	17.30

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	64.83	28.1 QP	40.0	-11.9	1.00 V	193	15.10	13.00
2	142.44	26.5 QP	43.5	-17.0	1.25 V	163	12.50	14.00
3	218.12	31.1 QP	46.0	-14.9	1.00 V	107	18.90	12.20
4	251.11	29.3 QP	46.0	-16.7	1.00 V	83	15.60	13.70
5	429.62	23.4 QP	46.0	-22.6	3.00 V	240	4.20	19.20
6	866.21	28.7 QP	46.0	-17.3	1.50 V	144	0.70	28.00

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.

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	100289	Nov. 19, 2011	Nov. 18, 2012
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 29, 2011	Dec. 28, 2012
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2011	Dec. 29, 2012
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

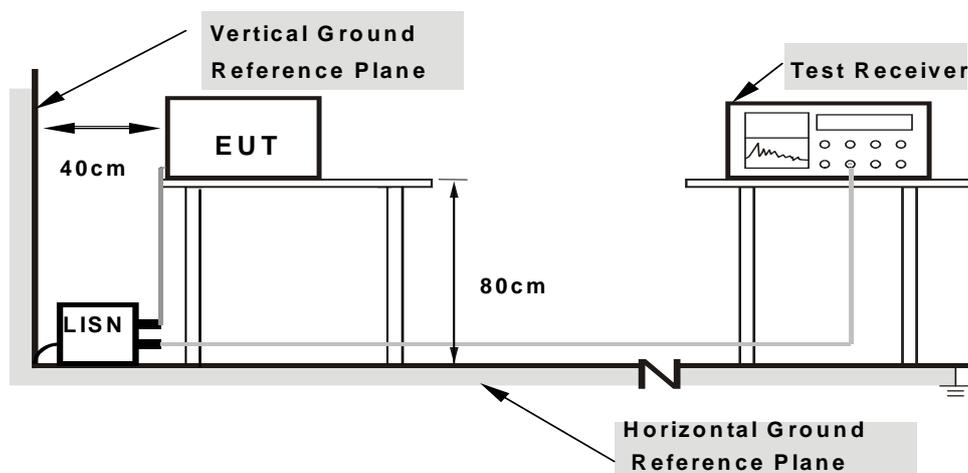
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

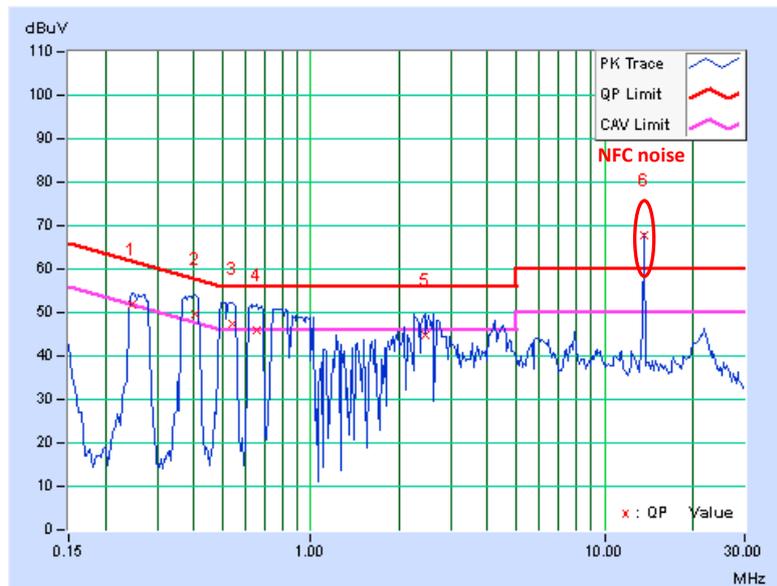
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.24766	0.15	51.65	35.33	51.80	35.48	61.84
2	0.40391	0.17	49.35	29.13	49.52	29.30	57.77	47.77	-8.25	-18.47
3	0.54063	0.17	47.07	26.85	47.24	27.02	56.00	46.00	-8.76	-18.98
4	0.65391	0.18	45.74	23.20	45.92	23.38	56.00	46.00	-10.08	-22.62
5	2.44922	0.28	44.46	26.70	44.74	26.98	56.00	46.00	-11.26	-19.02
6	13.56250	0.50	67.25	62.21	67.75	62.71	60.00	50.00	7.75	12.71

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.





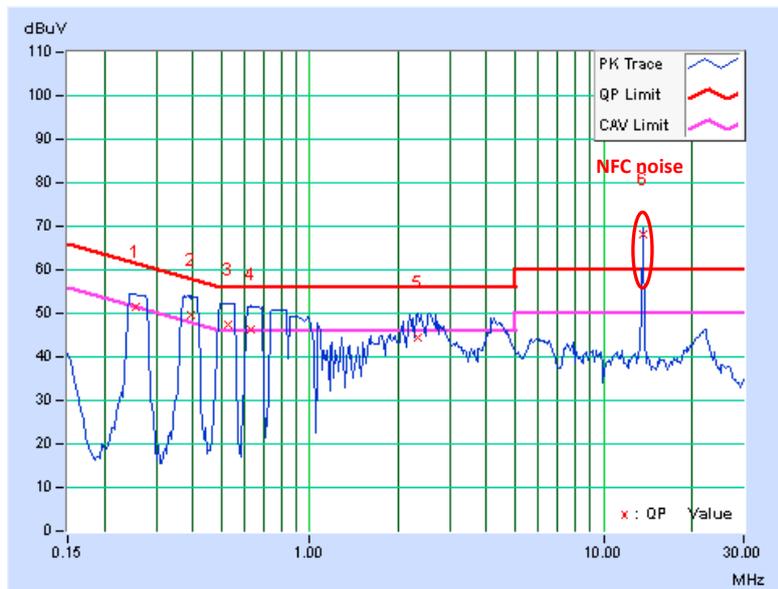
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PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25547	0.15	51.49	36.19	51.64	36.34	61.58	51.58	-9.94	-15.24
2	0.39609	0.16	49.51	29.71	49.67	29.87	57.93	47.93	-8.27	-18.07
3	0.52500	0.17	47.32	27.58	47.49	27.75	56.00	46.00	-8.51	-18.25
4	0.63438	0.17	46.29	24.13	46.46	24.30	56.00	46.00	-9.54	-21.70
5	2.33203	0.27	44.14	27.29	44.41	27.56	56.00	46.00	-11.59	-18.44
6	13.56250	0.57	67.41	62.21	67.98	62.78	60.00	50.00	7.98	12.78

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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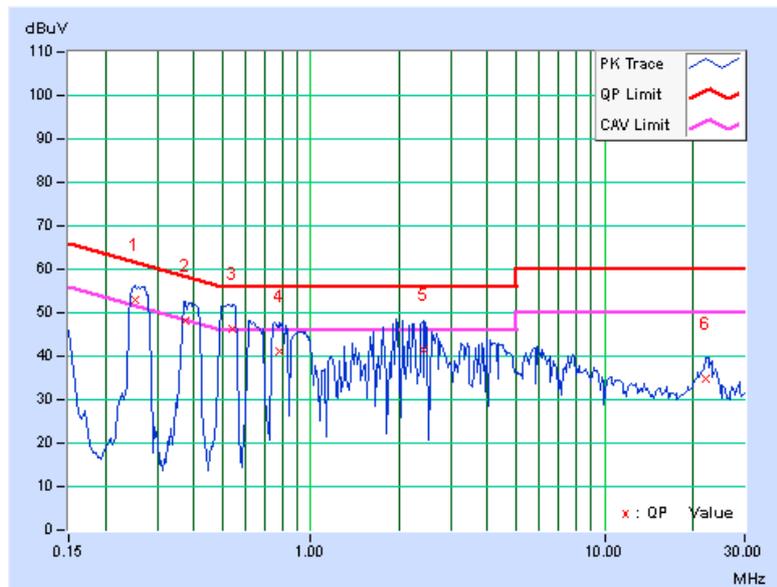
Test with suitable dummy load

PHASE	Line 1	6dB BANDWIDTH	9kHz
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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	0.25156	0.16	52.77	36.83	52.93	36.99	61.71	51.71	-8.78	-14.72
2	0.37656	0.17	48.04	31.06	48.21	31.23	58.35	48.35	-10.15	-17.13
3	0.54453	0.17	46.22	27.32	46.39	27.49	56.00	46.00	-9.61	-18.51
4	0.77891	0.18	40.96	22.95	41.14	23.13	56.00	46.00	-14.86	-22.87
5	2.41016	0.28	41.30	20.09	41.58	20.37	56.00	46.00	-14.42	-25.63
6	22.22656	0.61	34.26	22.76	34.87	23.37	60.00	50.00	-25.13	-26.63

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.





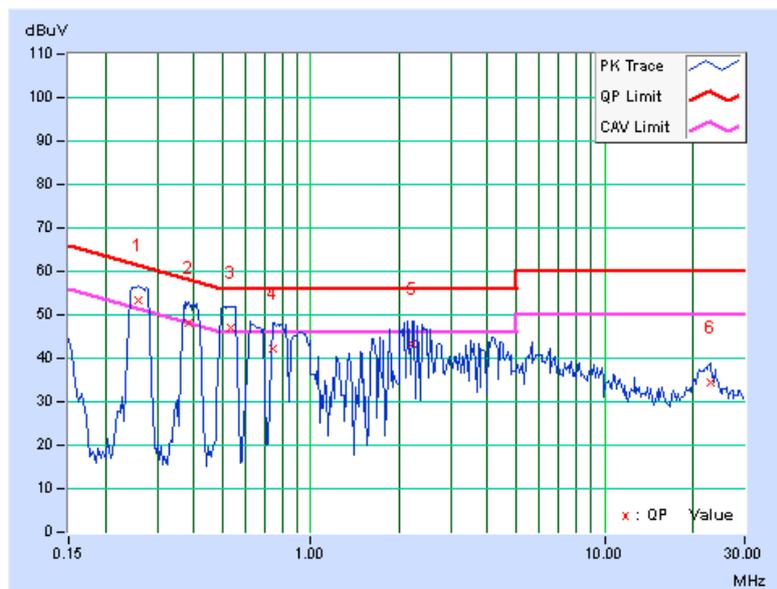
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PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25938	0.15	53.01	36.55	53.16	36.70	61.45	51.45	-8.30	-14.76
2	0.38438	0.16	48.12	30.84	48.28	31.00	58.18	48.18	-9.91	-17.19
3	0.53281	0.17	46.75	28.07	46.92	28.24	56.00	46.00	-9.08	-17.76
4	0.73984	0.18	42.12	22.68	42.30	22.86	56.00	46.00	-13.70	-23.14
5	2.21875	0.27	42.96	22.69	43.23	22.96	56.00	46.00	-12.77	-23.04
6	22.88672	0.67	33.87	22.53	34.54	23.20	60.00	50.00	-25.46	-26.80

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 PEAK TRANSMIT POWER MEASUREMENT

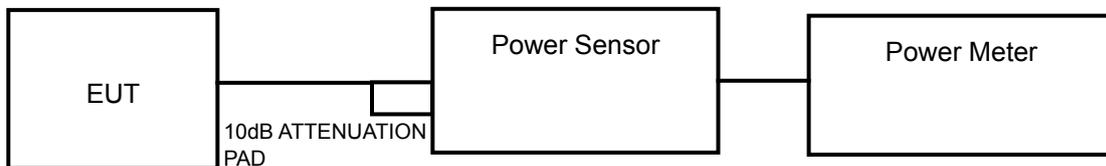
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

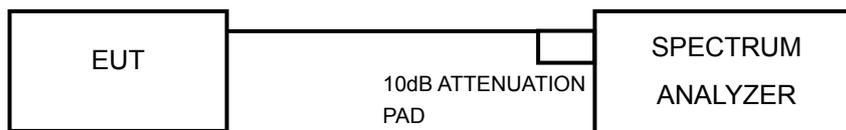
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

FOR 26dB BANDWIDTH

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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 specific channel frequencies individually.

4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	19.409	12.88	17	PASS
44	5220	20.137	13.04	17	PASS
48	5240	20.941	13.21	17	PASS
52	5260	19.724	12.95	24	PASS
60	5300	21.086	13.24	24	PASS
64	5320	21.627	13.35	24	PASS
100	5500	19.187	12.83	24	PASS
116	5580	20.045	13.02	24	PASS
140	5700	18.408	12.65	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	20.464	13.11	17	PASS
44	5220	21.281	13.28	17	PASS
48	5240	21.979	13.42	17	PASS
52	5260	20.654	13.15	24	PASS
60	5300	21.878	13.40	24	PASS
64	5320	22.491	13.52	24	PASS
100	5500	20.797	13.18	24	PASS
116	5580	21.086	13.24	24	PASS
140	5700	18.750	12.73	24	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	19.861	12.98	17	PASS
46	5230	20.559	13.13	17	PASS
54	5270	20.277	13.07	24	PASS
62	5310	21.577	13.34	24	PASS
102	5510	20.230	13.06	24	PASS
110	5550	20.464	13.11	24	PASS
134	5670	19.011	12.79	24	PASS

**26dB BANDWIDTH: 802.11a**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	25.99	PASS
44	5220	27.12	PASS
48	5240	25.72	PASS
52	5260	26.82	PASS
60	5300	28.12	PASS
64	5320	26.74	PASS
100	5500	25.29	PASS
116	5580	26.32	PASS
140	5700	28.80	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	29.69	PASS
44	5220	29.26	PASS
48	5240	27.64	PASS
52	5260	27.96	PASS
60	5300	39.15	PASS
64	5320	39.81	PASS
100	5500	39.06	PASS
116	5580	39.57	PASS
140	5700	29.56	PASS

802.11n (40MHz)

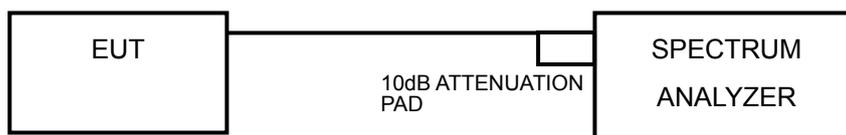
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	70.97	PASS
46	5230	73.51	PASS
54	5270	71.40	PASS
62	5310	75.05	PASS
102	5510	71.09	PASS
110	5550	68.61	PASS
134	5670	71.86	PASS

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	4dBm
5.250 ~ 5.350GHz	11dBm
5.470 ~ 5.725GHz	11dBm

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

Using method SA-1 alternative

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Sweep time = 26 second.
- 4) Perform a single sweep.
- 5) Record the max value

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.



4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	0.00	4	PASS
44	5220	0.01	4	PASS
48	5240	0.08	4	PASS
52	5260	-0.25	11	PASS
60	5300	-0.05	11	PASS
64	5320	0.13	11	PASS
100	5500	0.51	11	PASS
116	5580	0.99	11	PASS
140	5700	0.98	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	0.65	4	PASS
44	5220	0.70	4	PASS
48	5240	0.83	4	PASS
52	5260	0.55	11	PASS
60	5300	0.91	11	PASS
64	5320	1.14	11	PASS
100	5500	1.00	11	PASS
116	5580	1.36	11	PASS
140	5700	0.90	11	PASS

802.11n (40MHz)

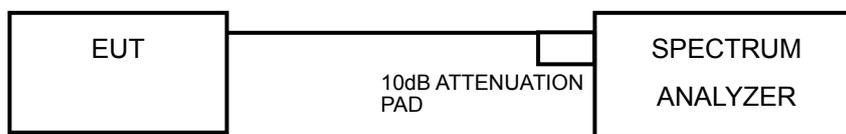
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-2.32	4	PASS
46	5230	-2.35	4	PASS
54	5270	-2.28	11	PASS
62	5310	-1.97	11	PASS
102	5510	-1.95	11	PASS
110	5550	-1.77	11	PASS
134	5670	-1.77	11	PASS

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

- 1) Set RBW = 1 MHz, VBW \geq 3 MHz, Detector = peak.
- 2) Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
- 3) Use the peak search function to find the peak of the spectrum.
- 4) Measure the PPSD.
- 5) Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

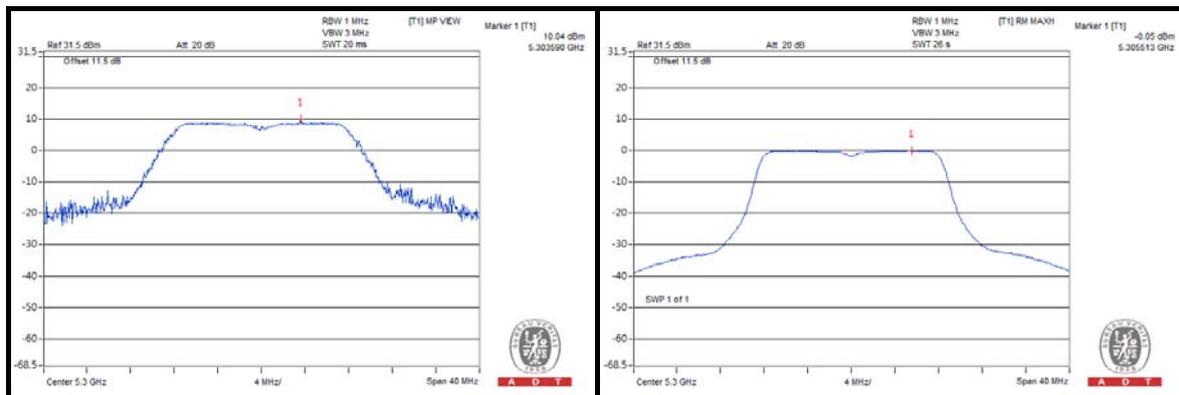
4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

4.5.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	9.49	0.00	9.49	13	PASS
44	5220	9.81	0.01	9.80	13	PASS
48	5240	9.39	0.08	9.31	13	PASS
52	5260	9.82	-0.25	10.07	13	PASS
60	5300	10.04	-0.05	10.09	13	PASS
64	5320	9.77	0.13	9.64	13	PASS
100	5500	9.66	0.51	9.15	13	PASS
116	5580	10.46	0.99	9.47	13	PASS
140	5700	10.87	0.98	9.89	13	PASS

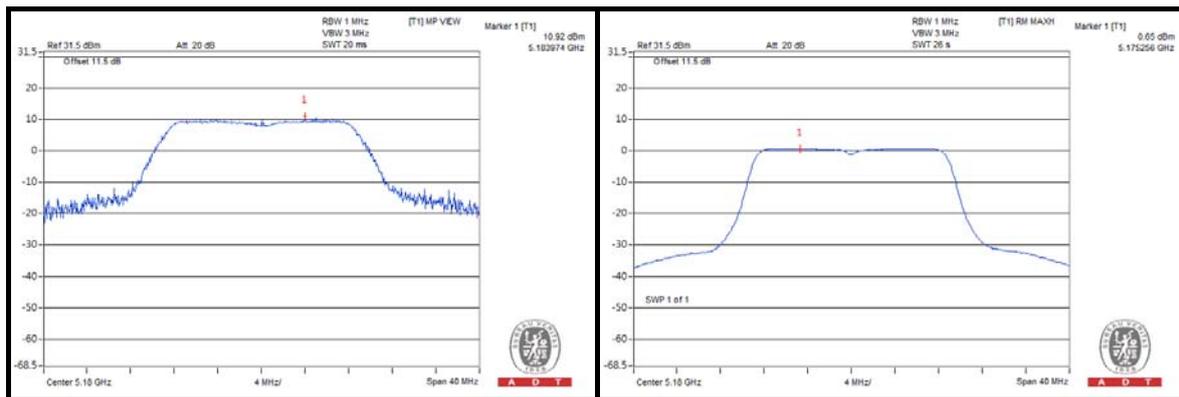




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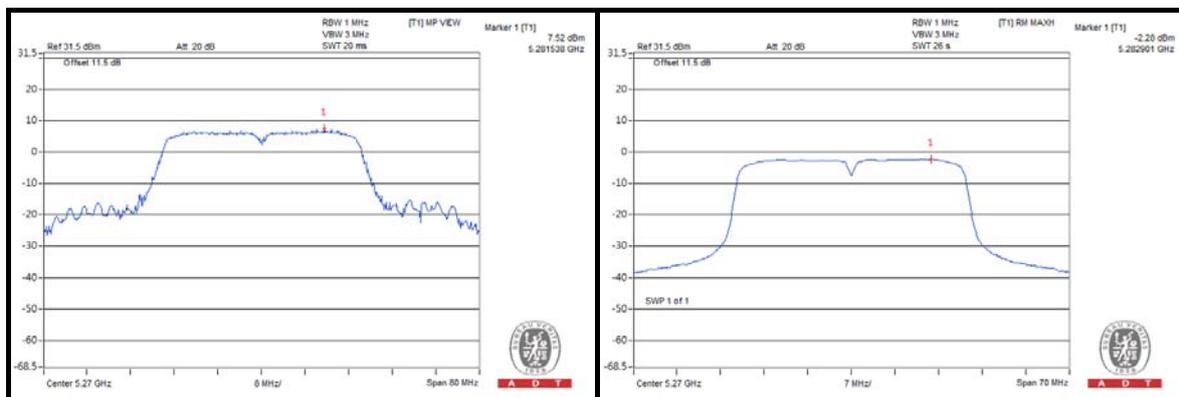
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	10.92	0.65	10.27	13	PASS
44	5220	10.58	0.70	9.88	13	PASS
48	5240	10.23	0.83	9.40	13	PASS
52	5260	10.12	0.55	9.57	13	PASS
60	5300	10.96	0.91	10.05	13	PASS
64	5320	10.50	1.14	9.36	13	PASS
100	5500	10.44	1.00	9.44	13	PASS
116	5580	11.14	1.36	9.78	13	PASS
140	5700	10.56	0.90	9.66	13	PASS



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
38	5190	7.24	-2.32	9.56	13	PASS
46	5230	7.26	-2.35	9.61	13	PASS
54	5270	7.52	-2.28	9.80	13	PASS
62	5310	7.43	-1.97	9.40	13	PASS
102	5510	7.83	-1.95	9.78	13	PASS
110	5550	7.68	-1.77	9.45	13	PASS
134	5670	7.73	-1.77	9.50	13	PASS

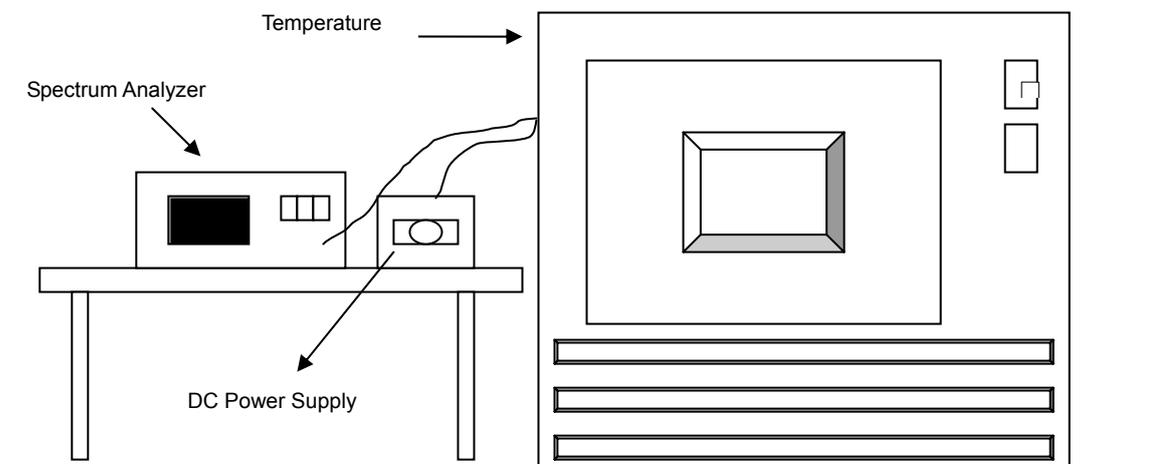


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

- a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.



4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.				
802.11a				
Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.22	5188.70	-7.72
40	5200	5211.35	5228.69	3.83
48	5240	5231.32	5248.66	-1.91
52	5260	5251.35	5268.67	1.90
60	5300	5291.40	5308.63	2.83
64	5320	5311.30	5328.64	-5.64
100	5500	5491.30	5508.70	0.00
116	5580	5571.35	5588.73	7.17
140	5700	5691.35	5708.65	0.00

FREQUENCY STABILITY VERSUS TEMP.				
802.11n (20MHz)				
Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5170.74	5189.28	1.93
40	5200	5210.80	5229.26	5.75
48	5240	5230.75	5249.27	1.91
52	5260	5250.81	5269.25	5.70
60	5300	5290.77	5309.23	0.00
64	5320	5310.75	5329.28	2.82
100	5500	5490.75	5509.27	1.82
116	5580	5570.70	5589.39	8.06
140	5700	5690.76	5709.22	-1.75



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FREQUENCY STABILITY VERSUS TEMP.				
802.11n (40MHz)				
Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
38	5190	5171.54	5208.43	-2.89
46	5230	5211.55	5248.39	-5.74
54	5270	5251.60	5288.53	12.33
62	5310	5291.61	5328.45	5.65
102	5510	5491.55	5528.48	2.72
110	5550	5531.60	5568.50	9.01
134	5670	5651.55	5688.41	-3.53

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

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Web Site: www.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 modifications were made to the EUT by the lab during the test.

---END---