



FCC TEST REPORT (15.407)

REPORT NO.: RF120328C12-1
MODEL NO.: WPEA-127NI
FCC ID: RYK-WPEA127NI
RECEIVED: Mar. 28, 2012
TESTED: Apr. 02 ~ Apr. 13, 2012
ISSUED: Apr. 19, 2012

APPLICANT: SparkLAN Communications, Inc.

ADDRESS: 8F., No.257, Sec. 2, Tiding Blvd., Neihu District,
Taipei City 11493, Taiwan (R.O.C.)

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

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

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120328C12-1	Original release	Apr. 19, 2012



1. CERTIFICATION

PRODUCT: 802.11a/b/g/n 3T3R Mini PCIe Module

MODEL: WPEA-127NI

BRAND: SparkLAN

APPLICANT: SparkLAN Communications, Inc.

TESTED: Apr. 02 ~ Apr. 13, 2012

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (model: WPEA-127NI) 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:** Apr. 19, 2012
Polly Chien / Specialist

APPROVED BY :  , **DATE:** Apr. 19, 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)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -15.68dB at 0.53281MHz.
15.407(b/1/2/3) (b)(5)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 498.47MHz & 5470.00MHz.
15.407(a/1/2/3)	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/1/2/3)	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	Antenna connector is RP-SMA Plug 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 $k = 2$.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	802.11a/b/g/n 3T3R Mini PCIe Module
MODEL NO.	WPEA-127NI
POWER SUPPLY	3.3Vdc (host equipment)
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 450.0Mbps
OPERATING FREQUENCY	5180 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5320MHz: 8 for 802.11a, 802.11n (20MHz) 4 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz)
OUTPUT POWER	27.6mW for 5180 ~ 5240MHz 51.8mW for 5260 ~ 5320MHz 50.4mW for 5500 ~ 5700MHz
ANTENNA TYPE	Dipole antenna with 5dBi gain
ANTENNA CONNECTOR	RP-SMA Plug
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

1. The frequency bands used in this EUT are listed as follows:

Frequency Band (MHz)	2412~2462	5180~5320	5500~5700	5745~5825
802.11b	√			
802.11g	√			
802.11a		√	√	√
802.11n (20MHz)	√	√	√	√
802.11n (40MHz)	√	√	√	√

2. The EUT has disabled the 5600-5650MHz band by S/W to avoid 5600-5650MHz band for FCC certification.



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3. The EUT incorporates a MIMO function. Physically, the EUT provides three completed transmitters and three receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	3TX
802.11n (40MHz)	3TX

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

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

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

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	36 to 64	36, 44, 48, 52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 64	36, 44, 48, 52, 60, 64	OFDM	BPSK	19.5
-	802.11n (40MHz)		38 to 62	38, 46, 54, 62	OFDM	BPSK	40.5
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	19.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	40.5

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (20MHz)	5180-5320	36 to 64	64	OFDM	BPSK	19.5
-	802.11n (20MHz)	5500-5700	100 to 140	132	OFDM	BPSK	19.5

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (20MHz)	5180-5320	36 to 64	64	OFDM	BPSK	19.5
-	802.11n (20MHz)	5500-5700	100 to 140	132	OFDM	BPSK	19.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	36 to 64	36, 44, 48, 52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 64	36, 44, 48, 52, 60, 64	OFDM	BPSK	19.5
-	802.11n (40MHz)		38 to 62	38, 46, 54, 62	OFDM	BPSK	40.5
-	802.11a	5500-5700	100 to 140	100, 116, 132, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 116, 132, 140	OFDM	BPSK	19.5
-	802.11n (40MHz)		102 to 134	100, 116, 132, 140	OFDM	BPSK	40.5

TEST CONDITION:

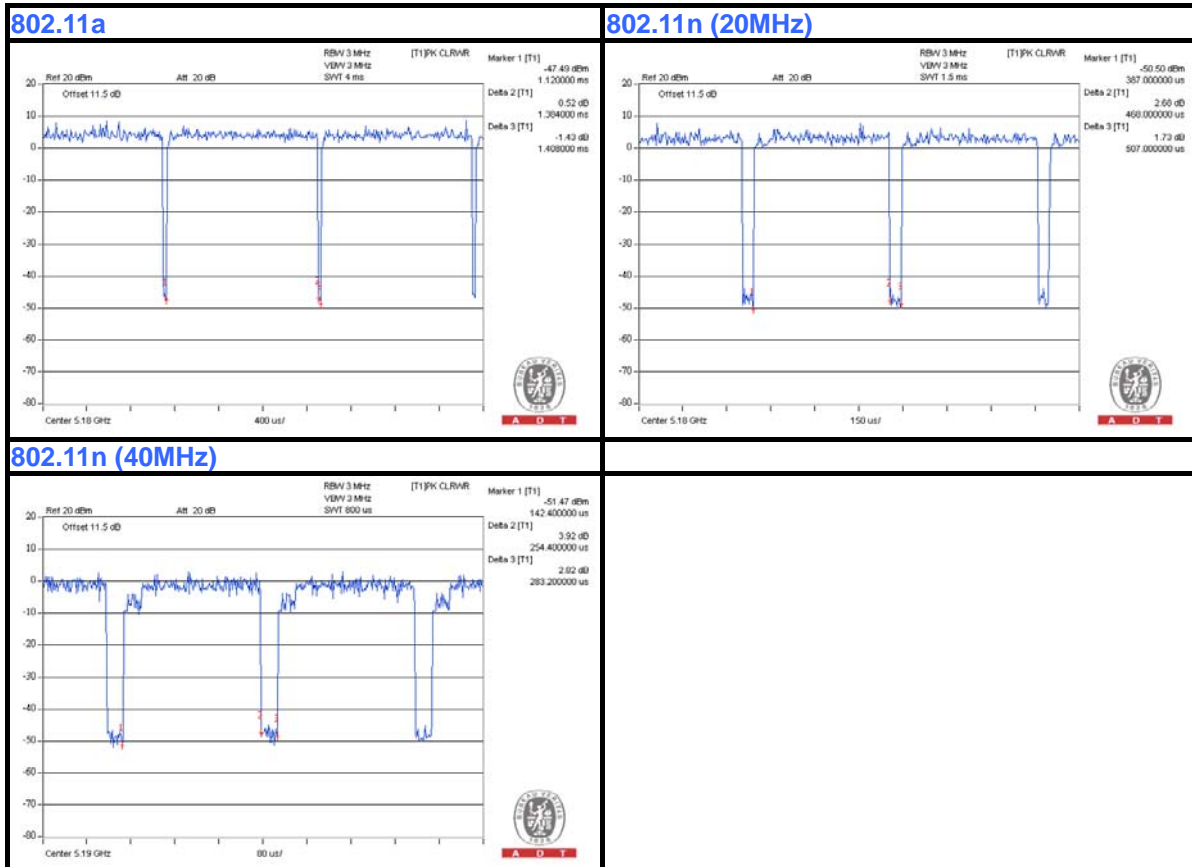
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	24deg. C, 65%RH	120Vac, 60Hz	Alan Wu, Anderson Hong
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Alan Wu
PLC	23deg. C, 63%RH	120Vac, 60Hz	Brad Wu
APCM	24deg. C, 65%RH	120Vac, 60Hz	Brad Wu

3.3 DUTY CYCLE OF TEST SIGNAL

802.11a: Duty cycle = 1.384/1.408 = 0.983

802.11n (20MHz): Duty cycle = 0.468/0.507 = 0.923, Duty factor = 10 * log(1/0.923) = 0.36

802.11n (40MHz): Duty cycle = 0.2544/0.2832 = 0.898, Duty factor = 10 * log(1/0.898) = 0.47



3.4 DESCRIPTION OF SUPPORT UNITS

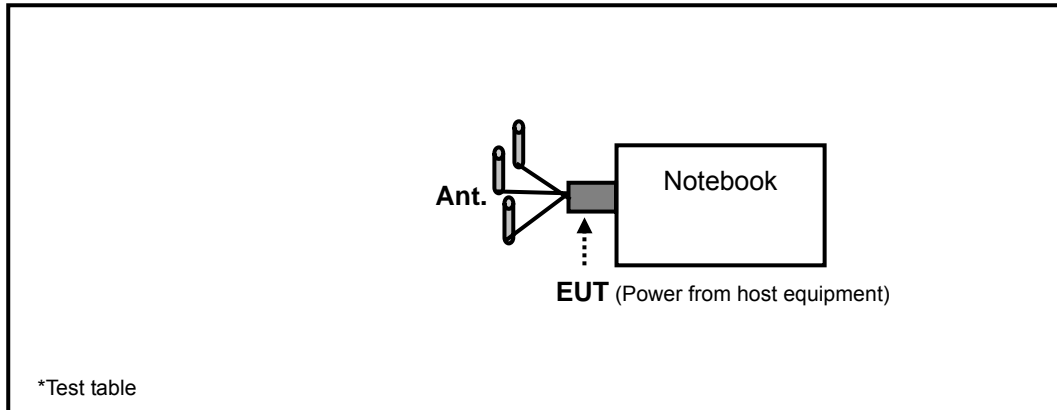
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5410	1HC2XM1	FCC DoC Approved

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

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



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

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

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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	FSP40	100269	Jan. 30, 2012	Jan. 29, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 05, 2012	Jan. 04, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
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
High Speed Peak Power Meter	ML2495A	0842014	Apr. 26, 2011	Apr. 25, 2012
Power Sensor	MA2411B	0738404	Apr. 26, 2011	Apr. 25, 2012

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

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.

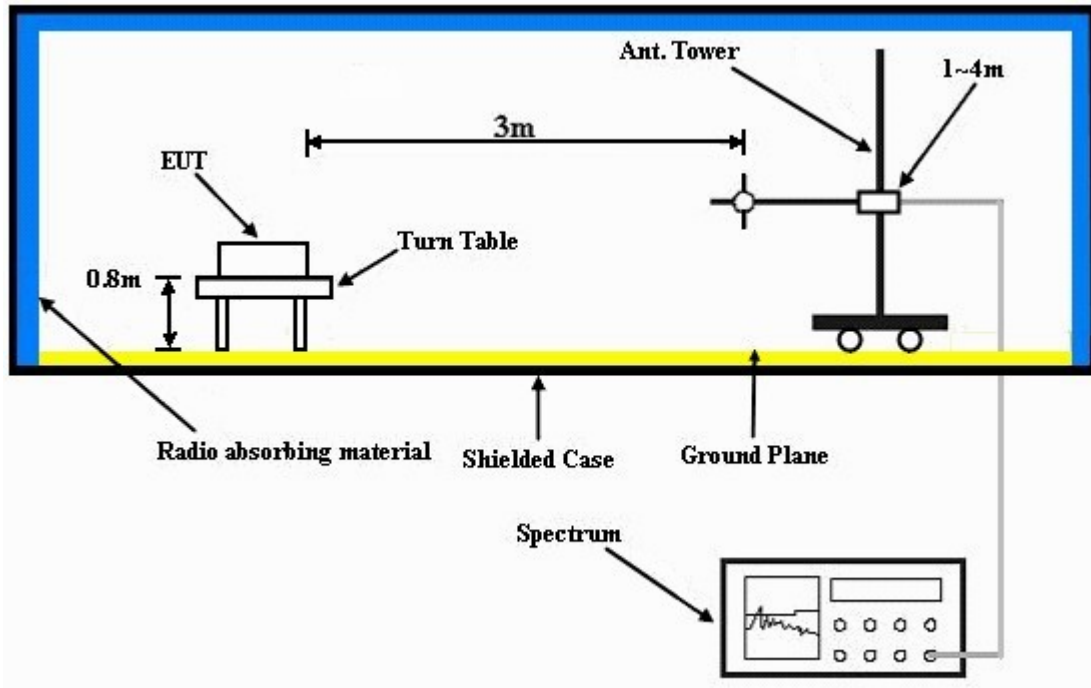
NOTE:

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

- Connected EUT with a notebook system and placed on a testing table.
- The notebook ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the system in full functions.



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4.1.8 TEST RESULTS

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	24deg. 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	5150.00	61.0 PK	74.0	-13.0	1.00 H	89	22.40	38.60
2	5150.00	45.0 AV	54.0	-9.0	1.00 H	89	6.40	38.60
3	*5180.00	94.1 PK			1.00 H	264	55.50	38.60
4	*5180.00	83.5 AV			1.00 H	264	44.90	38.60
5	#10360.00	57.2 PK	68.3	-11.1	1.00 H	35	7.70	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	61.5 PK	74.0	-12.5	1.24 V	198	22.90	38.60
2	5150.00	46.0 AV	54.0	-8.0	1.24 V	198	7.40	38.60
3	*5180.00	108.8 PK			1.36 V	196	70.20	38.60
4	*5180.00	97.8 AV			1.36 V	196	59.20	38.60
5	#10360.00	57.5 PK	68.3	-10.8	1.02 V	153	8.00	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 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. 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	*5200.00	96.1 PK			1.09 H	236	57.50	38.60
2	*5200.00	85.6 AV			1.09 H	236	47.00	38.60
3	#10400.00	57.5 PK	68.3	-10.8	1.00 H	49	8.00	49.50
4	15600.00	58.5 PK	74.0	-15.5	1.00 H	45	7.80	50.70
5	15600.00	45.1 AV	54.0	-8.9	1.00 H	45	-5.60	50.70
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	*5200.00	108.0 PK			1.22 V	200	69.40	38.60
2	*5200.00	97.4 AV			1.22 V	200	58.80	38.60
3	#10400.00	57.6 PK	68.3	-10.7	1.09 V	4	8.10	49.50
4	15600.00	58.8 PK	74.0	-15.2	1.00 V	355	8.10	50.70
5	15600.00	45.8 AV	54.0	-8.2	1.00 V	355	-4.90	50.70

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.



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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	24deg. 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	*5240.00	97.6 PK			1.46 H	233	58.90	38.70
2	*5240.00	86.8 AV			1.46 H	233	48.10	38.70
3	5350.00	56.9 PK	74.0	-17.1	1.00 H	53	18.10	38.80
4	5350.00	44.1 AV	54.0	-9.9	1.00 H	53	5.30	38.80
5	#10480.00	57.9 PK	68.3	-10.4	1.00 H	75	8.20	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	108.8 PK			1.48 V	238	70.10	38.70
2	*5240.00	98.2 AV			1.48 V	238	59.50	38.70
3	5350.00	57.3 PK	74.0	-16.7	1.23 V	235	18.50	38.80
4	5350.00	44.3 AV	54.0	-9.7	1.23 V	235	5.50	38.80
5	#10480.00	58.2 PK	68.3	-10.1	1.73 V	357	8.50	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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	53.9 PK	74.0	-20.1	1.44 H	242	15.30	38.60
2	5150.00	42.3 AV	54.0	-11.7	1.44 H	242	3.70	38.60
3	*5260.00	94.2 PK			1.44 H	242	55.50	38.70
4	*5260.00	83.7 AV			1.44 H	242	45.00	38.70
5	#10520.00	58.0 PK	68.3	-10.3	1.02 H	159	8.20	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	56.6 PK	74.0	-17.4	1.10 V	180	18.00	38.60
2	5150.00	42.8 AV	54.0	-11.2	1.10 V	180	4.20	38.60
3	*5260.00	108.0 PK			1.10 V	180	69.30	38.70
4	*5260.00	97.4 AV			1.10 V	180	58.70	38.70
5	#10520.00	58.4 PK	68.3	-9.9	1.23 V	354	8.60	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 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	95.0 PK			1.38 H	255	56.20	38.80
2	*5300.00	84.2 AV			1.38 H	255	45.40	38.80
3	10600.00	58.5 PK	74.0	-15.5	1.05 H	161	8.50	50.00
4	10600.00	44.8 AV	54.0	-9.2	1.05 H	161	-5.20	50.00
5	15900.00	58.6 PK	74.0	-15.4	1.00 H	87	8.50	50.10
6	15900.00	45.5 AV	54.0	-8.5	1.00 H	87	-4.60	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	*5300.00	109.4 PK			1.06 V	183	70.60	38.80
2	*5300.00	99.2 AV			1.06 V	183	60.40	38.80
3	10600.00	58.7 PK	74.0	-15.3	1.25 V	350	8.70	50.00
4	10600.00	45.2 AV	54.0	-8.8	1.25 V	350	-4.80	50.00
5	15900.00	58.7 PK	74.0	-15.3	1.14 V	89	8.60	50.10
6	15900.00	45.7 AV	54.0	-8.3	1.14 V	89	-4.40	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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	95.2 PK			1.15 H	254	56.40	38.80
2	*5320.00	84.5 AV			1.15 H	254	45.70	38.80
3	5350.00	55.3 PK	74.0	-18.7	1.15 H	254	16.50	38.80
4	5350.00	43.7 AV	54.0	-10.3	1.15 H	254	4.90	38.80
5	10640.00	58.7 PK	74.0	-15.3	1.07 H	163	8.50	50.20
6	10640.00	45.0 AV	54.0	-9.0	1.07 H	163	-5.20	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	109.6 PK			1.18 V	185	70.80	38.80
2	*5320.00	98.8 AV			1.18 V	185	60.00	38.80
3	5350.00	64.7 PK	74.0	-9.3	1.18 V	185	25.90	38.80
4	5350.00	47.4 AV	54.0	-6.6	1.18 V	185	8.60	38.80
5	10640.00	59.1 PK	74.0	-14.9	1.23 V	342	8.90	50.20
6	10640.00	45.6 AV	54.0	-8.4	1.23 V	342	-4.60	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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	56.7 PK	74.0	-17.3	1.00 H	249	17.70	39.00
2	5460.00	44.2 AV	54.0	-9.8	1.00 H	249	5.20	39.00
3	#5470.00	55.9 PK	68.3	-12.4	1.00 H	249	16.90	39.00
4	*5500.00	92.1 PK			1.00 H	249	53.00	39.10
5	*5500.00	82.9 AV			1.00 H	249	43.80	39.10
6	11000.00	59.5 PK	74.0	-14.5	1.03 H	221	7.90	51.60
7	11000.00	46.2 AV	54.0	-7.8	1.03 H	221	-5.40	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	57.9 PK	74.0	-16.1	1.04 V	201	18.90	39.00
2	5460.00	46.3 AV	54.0	-7.7	1.04 V	201	7.30	39.00
3	#5470.00	67.3 PK	68.3	-1.0	1.04 V	201	28.30	39.00
4	*5500.00	109.7 PK			1.03 V	193	70.60	39.10
5	*5500.00	99.5 AV			1.03 V	193	60.40	39.10
6	11000.00	59.5 PK	74.0	-14.5	1.10 V	92	7.90	51.60
7	11000.00	46.6 AV	54.0	-7.4	1.10 V	92	-5.00	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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	93.9 PK			1.12 H	166	54.70	39.20
2	*5580.00	82.9 AV			1.12 H	166	43.70	39.20
3	11160.00	59.9 PK	74.0	-14.1	1.05 H	312	8.60	51.30
4	11160.00	46.5 AV	54.0	-7.5	1.05 H	312	-4.80	51.30
5	#16740.00	62.0 PK	68.3	-6.3	1.50 H	147	9.00	53.00
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	*5580.00	109.6 PK			1.02 V	198	70.40	39.20
2	*5580.00	99.7 AV			1.02 V	198	60.50	39.20
3	11160.00	59.8 PK	74.0	-14.2	1.08 V	103	8.50	51.30
4	11160.00	46.6 AV	54.0	-7.4	1.08 V	103	-4.70	51.30
5	#16740.00	61.9 PK	68.3	-6.4	1.20 V	130	8.90	53.00

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.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	*5660.00	94.5 PK			1.09 H	168	55.10	39.40
2	*5660.00	83.2 AV			1.09 H	168	43.80	39.40
3	11320.00	59.7 PK	74.0	-14.3	1.07 H	311	7.90	51.80
4	11320.00	46.3 AV	54.0	-7.7	1.07 H	311	-5.50	51.80
5	#16980.00	61.8 PK	68.3	-6.5	1.51 H	145	7.60	54.20
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	*5660.00	109.6 PK			1.09 V	193	70.20	39.40
2	*5660.00	99.6 AV			1.09 V	193	60.20	39.40
3	11320.00	59.5 PK	74.0	-14.5	1.10 V	100	7.70	51.80
4	11320.00	46.2 AV	54.0	-7.8	1.10 V	100	-5.60	51.80
5	#16980.00	61.5 PK	68.3	-6.8	1.21 V	128	7.30	54.20

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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	94.3 PK			1.00 H	225	54.80	39.50
2	*5700.00	83.3 AV			1.00 H	225	43.80	39.50
3	#5725.00	56.5 PK	68.3	-11.8	1.00 H	224	17.00	39.50
4	11400.00	59.5 PK	74.0	-14.5	1.01 H	219	7.90	51.60
5	11400.00	46.0 AV	54.0	-8.0	1.01 H	219	-5.60	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	109.9 PK			1.10 V	189	70.40	39.50
2	*5700.00	99.8 AV			1.10 V	189	60.30	39.50
3	#5725.00	67.2 PK	68.3	-1.1	1.10 V	193	27.70	39.50
4	11400.00	59.4 PK	74.0	-14.6	1.11 V	95	7.80	51.60
5	11400.00	46.5 AV	54.0	-7.5	1.11 V	95	-5.10	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.

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	24deg. 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	5150.00	55.5 PK	74.0	-18.5	1.00 H	30	16.90	38.60
2	5150.00	43.5 AV	54.0	-10.5	1.00 H	30	4.90	38.60
3	*5180.00	87.0 PK			1.00 H	231	48.40	38.60
4	*5180.00	76.3 AV			1.00 H	231	37.70	38.60
5	5440.00	57.0 PK	74.0	-17.0	1.00 H	51	18.00	39.00
6	5440.00	44.5 AV	54.0	-9.5	1.00 H	51	5.50	39.00
7	#10360.00	57.5 PK	68.3	-10.8	1.00 H	8	8.00	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	55.6 PK	74.0	-18.4	1.00 V	330	17.00	38.60
2	5150.00	44.0 AV	54.0	-10.0	1.00 V	330	5.40	38.60
3	*5180.00	103.3 PK			1.10 V	14	64.70	38.60
4	*5180.00	92.2 AV			1.10 V	14	53.60	38.60
5	5440.00	59.0 PK	74.0	-15.0	1.00 V	115	20.00	39.00
6	5440.00	48.2 AV	54.0	-5.8	1.00 V	115	9.20	39.00
7	#10360.00	57.6 PK	68.3	-10.7	1.19 V	18	8.10	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 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. 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	*5200.00	89.5 PK			1.10 H	236	50.90	38.60
2	*5200.00	78.2 AV			1.10 H	236	39.60	38.60
3	5440.00	58.1 PK	74.0	-15.9	1.00 H	91	19.10	39.00
4	5440.00	44.4 AV	54.0	-9.6	1.00 H	91	5.40	39.00
5	#10400.00	57.4 PK	68.3	-10.9	1.00 H	23	7.90	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	*5200.00	103.3 PK			1.00 V	14	64.70	38.60
2	*5200.00	92.0 AV			1.00 V	14	53.40	38.60
3	5440.00	58.3 PK	74.0	-15.7	1.40 V	119	19.30	39.00
4	5440.00	47.4 AV	54.0	-6.6	1.40 V	119	8.40	39.00
5	#10400.00	57.8 PK	68.3	-10.5	1.00 V	33	8.30	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 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. 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	*5240.00	89.9 PK			1.46 H	236	51.20	38.70
2	*5240.00	78.4 AV			1.46 H	236	39.70	38.70
3	5350.00	57.6 PK	74.0	-16.4	1.00 H	70	18.80	38.80
4	5350.00	43.5 AV	54.0	-10.5	1.00 H	70	4.70	38.80
5	5440.00	57.6 PK	74.0	-16.4	1.00 H	91	18.60	39.00
6	5440.00	43.3 AV	54.0	-10.7	1.00 H	91	4.30	39.00
7	#10480.00	57.5 PK	68.3	-10.8	1.00 H	16	7.80	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	102.8 PK			1.22 V	5	64.10	38.70
2	*5240.00	91.5 AV			1.22 V	5	52.80	38.70
3	5350.00	58.1 PK	74.0	-15.9	1.20 V	50	19.30	38.80
4	5350.00	44.8 AV	54.0	-9.2	1.20 V	50	6.00	38.80
5	5440.00	58.1 PK	74.0	-15.9	1.39 V	119	19.10	39.00
6	5440.00	47.3 AV	54.0	-6.7	1.39 V	119	8.30	39.00
7	#10480.00	57.7 PK	68.3	-10.6	1.00 V	354	8.00	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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	55.5 PK	74.0	-18.5	1.41 H	243	16.90	38.60
2	5150.00	42.2 AV	54.0	-11.8	1.41 H	243	3.60	38.60
3	*5260.00	97.4 PK			1.41 H	243	58.70	38.70
4	*5260.00	86.6 AV			1.41 H	243	47.90	38.70
5	5440.00	57.5 PK	74.0	-16.5	1.04 H	101	18.50	39.00
6	5440.00	43.9 AV	54.0	-10.1	1.04 H	101	4.90	39.00
7	#10520.00	57.3 PK	68.3	-11.0	1.13 H	218	7.50	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	56.8 PK	74.0	-17.2	1.09 V	184	18.20	38.60
2	5150.00	42.7 AV	54.0	-11.3	1.09 V	184	4.10	38.60
3	*5260.00	108.7 PK			1.09 V	184	70.00	38.70
4	*5260.00	97.7 AV			1.09 V	184	59.00	38.70
5	5440.00	59.0 PK	74.0	-15.0	1.01 V	3	20.00	39.00
6	5440.00	48.5 AV	54.0	-5.5	1.01 V	3	9.50	39.00
7	#10520.00	57.9 PK	68.3	-10.4	1.04 V	208	8.10	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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	97.4 PK			1.41 H	275	58.60	38.80
2	*5300.00	86.3 AV			1.41 H	275	47.50	38.80
3	5440.00	57.3 PK	74.0	-16.7	1.08 H	109	18.30	39.00
4	5440.00	43.8 AV	54.0	-10.2	1.08 H	109	4.80	39.00
5	10600.00	58.0 PK	74.0	-16.0	1.15 H	220	8.00	50.00
6	10600.00	45.1 AV	54.0	-8.9	1.15 H	220	-4.90	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	110.8 PK			1.07 V	184	72.00	38.80
2	*5300.00	97.6 AV			1.07 V	184	58.80	38.80
3	5400.00	58.8 PK	74.0	-15.2	1.03 V	6	19.90	38.90
4	5400.00	48.2 AV	54.0	-5.8	1.03 V	6	9.30	38.90
5	10600.00	58.5 PK	74.0	-15.5	1.07 V	211	8.50	50.00
6	10600.00	45.7 AV	54.0	-8.3	1.07 V	211	-4.30	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.



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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	97.8 PK			1.44 H	260	59.00	38.80
2	*5320.00	86.4 AV			1.44 H	260	47.60	38.80
3	5350.00	55.8 PK	74.0	-18.2	1.44 H	263	17.00	38.80
4	5350.00	43.8 AV	54.0	-10.2	1.44 H	263	5.00	38.80
5	5440.00	57.6 PK	74.0	-16.4	1.05 H	112	18.60	39.00
6	5440.00	44.2 AV	54.0	-9.8	1.05 H	112	5.20	39.00
7	10640.00	58.3 PK	74.0	-15.7	1.18 H	223	8.10	50.20
8	10640.00	45.5 AV	54.0	-8.5	1.18 H	223	-4.70	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	109.6 PK			1.09 V	188	70.80	38.80
2	*5320.00	98.0 AV			1.09 V	188	59.20	38.80
3	5350.00	61.8 PK	74.0	-12.2	1.08 V	192	23.00	38.80
4	5350.00	47.1 AV	54.0	-6.9	1.08 V	192	8.30	38.80
5	5440.00	59.4 PK	74.0	-14.6	1.02 V	7	20.40	39.00
6	5440.00	48.8 AV	54.0	-5.2	1.02 V	7	9.80	39.00
7	10640.00	58.9 PK	74.0	-15.1	1.11 V	215	8.70	50.20
8	10640.00	46.0 AV	54.0	-8.0	1.11 V	215	-4.20	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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	57.4 PK	74.0	-16.6	1.03 H	98	18.40	39.00
2	5440.00	43.7 AV	54.0	-10.3	1.03 H	98	4.70	39.00
3	5460.00	55.2 PK	74.0	-18.8	1.13 H	245	16.20	39.00
4	5460.00	44.0 AV	54.0	-10.0	1.13 H	245	5.00	39.00
5	#5470.00	55.7 PK	68.3	-12.6	1.13 H	245	16.70	39.00
6	*5500.00	98.5 PK			1.13 H	242	59.40	39.10
7	*5500.00	86.1 AV			1.13 H	242	47.00	39.10
8	11000.00	59.2 PK	74.0	-14.8	1.20 H	293	7.60	51.60
9	11000.00	45.9 AV	54.0	-8.1	1.20 H	293	-5.70	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	5440.00	59.1 PK	74.0	-14.9	1.12 V	3	20.10	39.00
2	5440.00	49.1 AV	54.0	-4.9	1.12 V	3	10.10	39.00
3	5460.00	55.0 PK	74.0	-19.0	1.14 V	7	16.00	39.00
4	5460.00	45.2 AV	54.0	-8.8	1.14 V	7	6.20	39.00
5	#5470.00	61.7 PK	68.3	-6.6	1.14 V	11	22.70	39.00
6	*5500.00	109.6 PK			1.14 V	7	70.50	39.10
7	*5500.00	98.7 AV			1.14 V	7	59.60	39.10
8	11000.00	59.1 PK	74.0	-14.9	1.03 V	93	7.50	51.60
9	11000.00	45.9 AV	54.0	-8.1	1.03 V	93	-5.70	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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	57.3 PK	74.0	-16.7	1.05 H	101	18.30	39.00
2	5440.00	43.5 AV	54.0	-10.5	1.05 H	101	4.50	39.00
3	*5580.00	97.8 PK			1.10 H	242	58.60	39.20
4	*5580.00	86.1 AV			1.10 H	242	46.90	39.20
5	11600.00	60.0 PK	74.0	-14.0	1.21 H	298	8.50	51.50
6	11600.00	46.5 AV	54.0	-7.5	1.21 H	298	-5.00	51.50
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	5440.00	60.0 PK	74.0	-14.0	1.04 V	4	21.00	39.00
2	5440.00	49.0 AV	54.0	-5.0	1.04 V	4	10.00	39.00
3	*5580.00	110.8 PK			1.09 V	8	71.60	39.20
4	*5580.00	99.2 AV			1.09 V	8	60.00	39.20
5	11600.00	59.5 PK	74.0	-14.5	1.05 V	98	8.00	51.50
6	11600.00	46.4 AV	54.0	-7.6	1.05 V	98	-5.10	51.50

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	57.5 PK	74.0	-16.5	1.05 H	105	18.50	39.00
2	5440.00	43.8 AV	54.0	-10.2	1.05 H	105	4.80	39.00
3	*5660.00	97.8 PK			1.00 H	225	58.40	39.40
4	*5660.00	86.2 AV			1.00 H	225	46.80	39.40
5	11320.00	59.0 PK	74.0	-15.0	1.18 H	289	7.20	51.80
6	11320.00	45.7 AV	54.0	-8.3	1.18 H	289	-6.10	51.80
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	5440.00	60.2 PK	74.0	-13.8	1.05 V	9	21.20	39.00
2	5440.00	49.3 AV	54.0	-4.7	1.05 V	9	10.30	39.00
3	*5660.00	111.8 PK			1.06 V	7	72.40	39.40
4	*5660.00	99.5 AV			1.06 V	7	60.10	39.40
5	11320.00	59.3 PK	74.0	-14.7	1.09 V	110	7.50	51.80
6	11320.00	46.1 AV	54.0	-7.9	1.09 V	110	-5.70	51.80

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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	57.8 PK	74.0	-16.2	1.05 H	93	18.80	39.00
2	5440.00	44.1 AV	54.0	-9.9	1.05 H	93	5.10	39.00
3	*5700.00	98.8 PK			1.15 H	241	59.30	39.50
4	*5700.00	86.4 AV			1.15 H	241	46.90	39.50
5	#5725.00	56.3 PK	68.3	-12.0	1.15 H	241	16.80	39.50
6	11400.00	59.5 PK	74.0	-14.5	1.21 H	301	7.90	51.60
7	11400.00	46.3 AV	54.0	-7.7	1.21 H	301	-5.30	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	5440.00	60.3 PK	74.0	-13.7	1.05 V	9	21.30	39.00
2	5440.00	49.4 AV	54.0	-4.6	1.05 V	9	10.40	39.00
3	*5700.00	111.2 PK			1.06 V	11	71.70	39.50
4	*5700.00	99.7 AV			1.06 V	11	60.20	39.50
5	#5725.00	65.9 PK	68.3	-2.4	1.08 V	5	26.40	39.50
6	11400.00	60.0 PK	74.0	-14.0	1.04 V	93	8.40	51.60
7	11400.00	46.7 AV	54.0	-7.3	1.04 V	93	-4.90	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.

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	24deg. 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	5150.00	55.7 PK	74.0	-18.3	1.48 H	236	17.10	38.60
2	5150.00	43.7 AV	54.0	-10.3	1.48 H	236	5.10	38.60
3	*5190.00	87.1 PK			1.10 H	238	48.50	38.60
4	*5190.00	76.9 AV			1.10 H	238	38.30	38.60
5	5440.00	56.9 PK	74.0	-17.1	1.00 H	10	17.90	39.00
6	5440.00	45.7 AV	54.0	-8.3	1.00 H	10	6.70	39.00
7	#10380.00	57.5 PK	68.3	-10.8	1.00 H	12	8.00	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	57.1 PK	74.0	-16.9	1.00 V	10	18.50	38.60
2	5150.00	45.7 AV	54.0	-8.3	1.00 V	10	7.10	38.60
3	*5190.00	102.4 PK			1.00 V	14	63.80	38.60
4	*5190.00	92.0 AV			1.00 V	14	53.40	38.60
5	5440.00	58.6 PK	74.0	-15.4	1.38 V	117	19.60	39.00
6	5440.00	49.0 AV	54.0	-5.0	1.38 V	117	10.00	39.00
7	#10380.00	57.3 PK	68.3	-11.0	1.00 V	142	7.80	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.



A D T

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	24deg. 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	5150.00	55.5 PK	74.0	-18.5	1.00 H	235	16.90	38.60
2	5150.00	42.2 AV	54.0	-11.8	1.00 H	235	3.60	38.60
3	*5230.00	87.1 PK			1.00 H	238	48.50	38.60
4	*5230.00	76.6 AV			1.00 H	238	38.00	38.60
5	5440.00	57.5 PK	74.0	-16.5	1.00 H	14	18.50	39.00
6	5440.00	47.5 AV	54.0	-6.5	1.00 H	14	8.50	39.00
7	#10460.00	57.7 PK	68.3	-10.6	1.00 H	19	8.10	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	55.7 PK	74.0	-18.3	1.00 V	5	17.10	38.60
2	5150.00	43.2 AV	54.0	-10.8	1.00 V	5	4.60	38.60
3	*5230.00	100.9 PK			1.00 V	12	62.30	38.60
4	*5230.00	90.4 AV			1.00 V	12	51.80	38.60
5	5440.00	58.0 PK	74.0	-16.0	1.37 V	114	19.00	39.00
6	5440.00	47.6 AV	54.0	-6.4	1.37 V	114	8.60	39.00
7	#10460.00	57.4 PK	68.3	-10.9	1.09 V	16	7.80	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.



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	24deg. 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	5150.00	55.9 PK	74.0	-18.1	1.00 H	24	17.30	38.60
2	5150.00	44.1 AV	54.0	-9.9	1.00 H	24	5.50	38.60
3	*5270.00	89.6 PK			1.10 H	233	50.90	38.70
4	*5270.00	78.8 AV			1.10 H	233	40.10	38.70
5	5440.00	57.6 PK	74.0	-16.4	1.00 H	4	18.60	39.00
6	5440.00	45.1 AV	54.0	-8.9	1.00 H	4	6.10	39.00
7	#10540.00	58.3 PK	68.3	-10.0	1.00 H	268	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	56.6 PK	74.0	-17.4	1.00 V	18	18.00	38.60
2	5150.00	44.5 AV	54.0	-9.5	1.00 V	18	5.90	38.60
3	*5270.00	105.7 PK			1.20 V	5	67.00	38.70
4	*5270.00	95.0 AV			1.20 V	5	56.30	38.70
5	5440.00	58.8 PK	74.0	-15.2	1.05 V	342	19.80	39.00
6	5440.00	49.4 AV	54.0	-4.6	1.05 V	342	10.40	39.00
7	#10540.00	58.1 PK	68.3	-10.2	1.00 V	19	8.30	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 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. 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	*5310.00	90.1 PK			1.46 H	234	51.30	38.80
2	*5310.00	79.5 AV			1.46 H	234	40.70	38.80
3	5350.00	54.8 PK	74.0	-19.2	1.00 H	294	16.00	38.80
4	5350.00	44.1 AV	54.0	-9.9	1.00 H	294	5.30	38.80
5	5440.00	55.5 PK	74.0	-18.5	1.00 H	8	16.50	39.00
6	5440.00	44.4 AV	54.0	-9.6	1.00 H	8	5.40	39.00
7	10620.00	58.9 PK	74.0	-15.1	1.00 H	10	8.80	50.10
8	10620.00	46.7 AV	54.0	-7.3	1.00 H	10	-3.40	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	105.4 PK			1.00 V	8	66.60	38.80
2	*5310.00	93.4 AV			1.00 V	8	54.60	38.80
3	5350.00	63.2 PK	74.0	-10.8	1.00 V	65	24.40	38.80
4	5350.00	47.7 AV	54.0	-6.3	1.00 V	65	8.90	38.80
5	5440.00	58.5 PK	74.0	-15.5	1.03 V	12	19.50	39.00
6	5440.00	48.4 AV	54.0	-5.6	1.03 V	12	9.40	39.00
7	10620.00	58.4 PK	74.0	-15.6	1.00 V	20	8.30	50.10
8	10620.00	46.6 AV	54.0	-7.4	1.00 V	20	-3.50	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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	57.1 PK	74.0	-16.9	1.05 H	123	18.10	39.00
2	5440.00	43.2 AV	54.0	-10.8	1.05 H	123	4.20	39.00
3	5460.00	56.2 PK	74.0	-17.8	1.13 H	242	17.20	39.00
4	5460.00	45.2 AV	54.0	-8.8	1.13 H	242	6.20	39.00
5	#5470.00	57.4 PK	68.3	-10.9	1.13 H	242	18.40	39.00
6	*5510.00	94.7 PK			1.13 H	242	55.60	39.10
7	*5510.00	83.2 AV			1.13 H	242	44.10	39.10
8	11020.00	59.5 PK	74.0	-14.5	1.23 H	285	8.00	51.50
9	11020.00	46.5 AV	54.0	-7.5	1.23 H	285	-5.00	51.50
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	5440.00	59.1 PK	74.0	-14.9	1.02 V	7	20.10	39.00
2	5440.00	48.1 AV	54.0	-5.9	1.02 V	7	9.10	39.00
3	5460.00	62.0 PK	74.0	-12.0	1.05 V	42	23.00	39.00
4	5460.00	47.1 AV	54.0	-6.9	1.05 V	42	8.10	39.00
5	#5470.00	67.3 PK	68.3	-1.0	1.05 V	42	28.30	39.00
6	*5510.00	106.7 PK			1.04 V	40	67.60	39.10
7	*5510.00	95.6 AV			1.04 V	40	56.50	39.10
8	11020.00	59.4 PK	74.0	-14.6	1.06 V	235	7.90	51.50
9	11020.00	46.2 AV	54.0	-7.8	1.06 V	235	-5.30	51.50

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 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	58.3 PK	74.0	-15.7	1.08 H	130	19.30	39.00
2	5440.00	44.5 AV	54.0	-9.5	1.08 H	130	5.50	39.00
3	*5550.00	96.3 PK			1.25 H	239	57.20	39.10
4	*5550.00	84.9 AV			1.25 H	239	45.80	39.10
5	11100.00	59.8 PK	74.0	-14.2	1.25 H	288	8.50	51.30
6	11100.00	46.9 AV	54.0	-7.1	1.25 H	288	-4.40	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	5440.00	60.3 PK	74.0	-13.7	1.05 V	11	21.30	39.00
2	5440.00	49.4 AV	54.0	-4.6	1.05 V	11	10.40	39.00
3	*5550.00	109.3 PK			1.00 V	5	70.20	39.10
4	*5550.00	97.7 AV			1.00 V	5	58.60	39.10
5	11100.00	59.7 PK	74.0	-14.3	1.08 V	234	8.40	51.30
6	11100.00	46.5 AV	54.0	-7.5	1.08 V	234	-4.80	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.



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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	24deg. C, 65%RH	TESTED BY	Anderson Hong

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	5440.00	58.1 PK	74.0	-15.9	1.10 H	132	19.10	39.00
2	5440.00	44.7 AV	54.0	-9.3	1.10 H	132	5.70	39.00
3	*5670.00	96.1 PK			1.47 H	243	56.70	39.40
4	*5670.00	85.0 AV			1.47 H	243	45.60	39.40
5	#5725.00	55.7 PK	68.3	-12.6	1.47 H	243	16.20	39.50
6	11340.00	59.5 PK	74.0	-14.5	1.21 H	290	7.80	51.70
7	11340.00	46.7 AV	54.0	-7.3	1.21 H	290	-5.00	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	5440.00	60.1 PK	74.0	-13.9	1.08 V	15	21.10	39.00
2	5440.00	49.1 AV	54.0	-4.9	1.08 V	15	10.10	39.00
3	*5670.00	109.1 PK			1.06 V	8	69.70	39.40
4	*5670.00	97.6 AV			1.06 V	8	58.20	39.40
5	#5725.00	60.9 PK	68.3	-7.4	1.06 V	8	21.40	39.50
6	11340.00	59.5 PK	74.0	-14.5	1.05 V	239	7.80	51.70
7	11340.00	46.2 AV	54.0	-7.8	1.05 V	239	-5.50	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.



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	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	166.00	36.9 QP	43.5	-6.6	1.75 H	227	22.80	14.10
2	199.05	39.7 QP	43.5	-3.8	1.25 H	321	28.20	11.50
3	265.16	41.3 QP	46.0	-4.7	1.00 H	288	27.00	14.30
4	300.16	44.3 QP	46.0	-1.7	1.25 H	4	28.60	15.70
5	498.47	44.8 QP	46.0	-1.2	1.75 H	17	23.80	21.00
6	531.53	39.2 QP	46.0	-6.8	1.75 H	3	17.30	21.90
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	47.40	33.7 QP	40.0	-6.3	1.00 V	221	19.60	14.10
2	132.95	32.1 QP	43.5	-11.4	1.00 V	209	18.80	13.30
3	300.16	34.7 QP	46.0	-11.3	1.50 V	281	19.00	15.70
4	370.15	35.7 QP	46.0	-10.3	1.25 V	16	18.10	17.60
5	498.47	44.9 QP	46.0	-1.1	1.00 V	93	23.90	21.00
6	531.53	41.5 QP	46.0	-4.5	1.00 V	90	19.60	21.90

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 132	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	166.00	37.1 QP	43.5	-6.4	1.50 H	17	23.00	14.10
2	199.05	38.3 QP	43.5	-5.2	1.00 H	328	26.80	11.50
3	265.16	40.2 QP	46.0	-5.8	1.00 H	282	25.90	14.30
4	300.16	44.3 QP	46.0	-1.7	1.00 H	350	28.60	15.70
5	500.42	44.9 QP	46.0	-1.1	1.75 H	12	23.80	21.10
6	531.53	39.8 QP	46.0	-6.2	1.50 H	7	17.90	21.90
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	47.40	33.4 QP	40.0	-6.6	1.00 V	268	19.30	14.10
2	199.05	30.8 QP	43.5	-12.7	2.00 V	102	19.30	11.50
3	298.21	34.7 QP	46.0	-11.3	1.25 V	301	19.10	15.60
4	377.93	33.4 QP	46.0	-12.6	1.00 V	4	15.60	17.80
5	498.47	45.0 QP	46.0	-1.0	1.00 V	93	24.00	21.00
6	531.53	40.9 QP	46.0	-5.1	1.00 V	96	19.00	21.90

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	100291	Nov. 23, 2011	Nov. 22, 2012
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 22, 2011	Dec. 21, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jul. 07, 2011	Jul. 06, 2012
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Dec. 30, 2011	Dec. 29, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 07, 2012	Feb. 06, 2013
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jun. 30, 2011	Jun. 29, 2012
LISN ROHDE & SCHWARZ	ENV216	100072	Jun. 10, 2011	Jun. 09, 2012
Software ADT	ADT_Cond_ V7.3.7	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

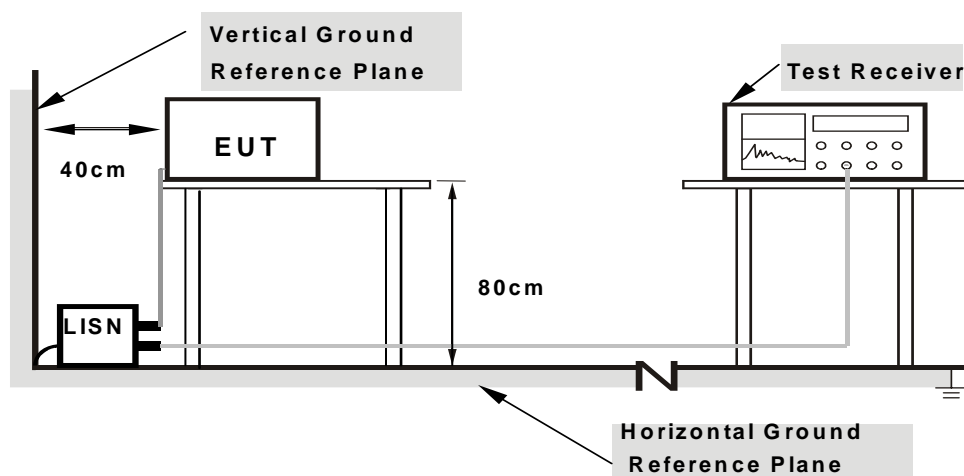
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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



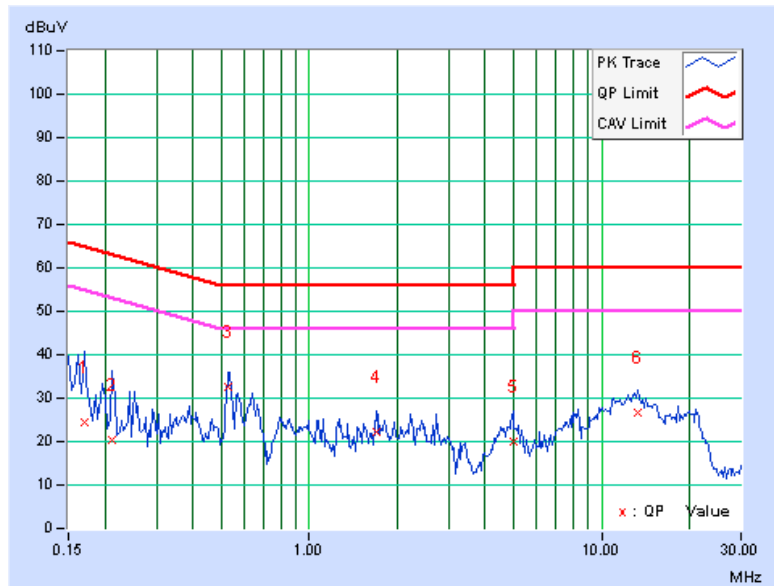
4.2.7 TEST RESULTS

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

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 64		

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	0.16953	0.17	24.41	14.92	24.58	15.09	64.98
2	0.21250	0.23	20.14	12.92	20.37	13.15	63.11	53.11	-42.74	-39.96
3	0.52891	0.17	32.59	24.91	32.76	25.08	56.00	46.00	-23.24	-20.92
4	1.69141	0.23	22.03	11.76	22.26	11.99	56.00	46.00	-33.74	-34.01
5	4.98047	0.38	19.62	10.39	20.00	10.77	56.00	46.00	-36.00	-35.23
6	13.29297	0.67	26.12	18.27	26.79	18.94	60.00	50.00	-33.21	-31.06

- 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.



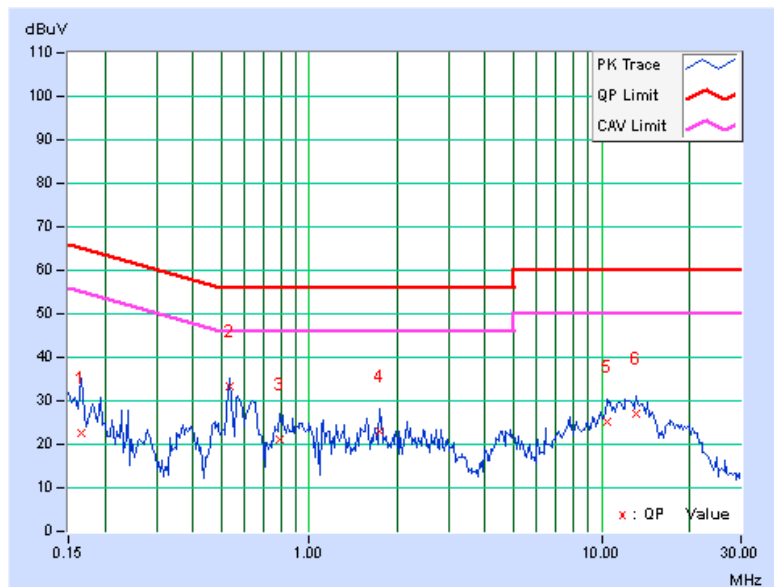


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PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 64		

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.26	22.42	13.30	22.68	13.56	65.18	55.18	-42.50	-41.62
2	0.53281	0.26	33.14	29.44	33.40	29.70	56.00	46.00	-22.60	-16.30
3	0.79063	0.28	20.96	15.43	21.24	15.71	56.00	46.00	-34.76	-30.29
4	1.74609	0.33	22.71	14.79	23.04	15.12	56.00	46.00	-32.96	-30.88
5	10.49609	0.67	24.64	14.59	25.31	15.26	60.00	50.00	-34.69	-34.74
6	13.17188	0.76	26.29	17.33	27.05	18.09	60.00	50.00	-32.95	-31.91

- 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.



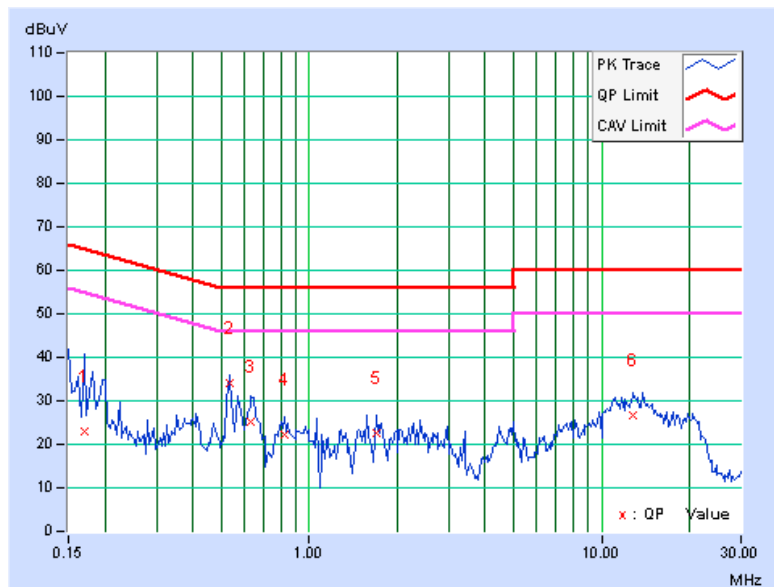


A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 132		

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	0.16953	0.17	22.83	16.60	23.00	16.77	64.98	54.98	-41.98	-38.21
2	0.53281	0.17	33.75	30.15	33.92	30.32	56.00	46.00	-22.08	-15.68
3	0.63438	0.18	25.02	18.73	25.20	18.91	56.00	46.00	-30.80	-27.09
4	0.82188	0.20	22.16	15.77	22.36	15.97	56.00	46.00	-33.64	-30.03
5	1.69141	0.23	22.35	11.16	22.58	11.39	56.00	46.00	-33.42	-34.61
6	12.87109	0.66	25.83	18.56	26.49	19.22	60.00	50.00	-33.51	-30.78

- 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.



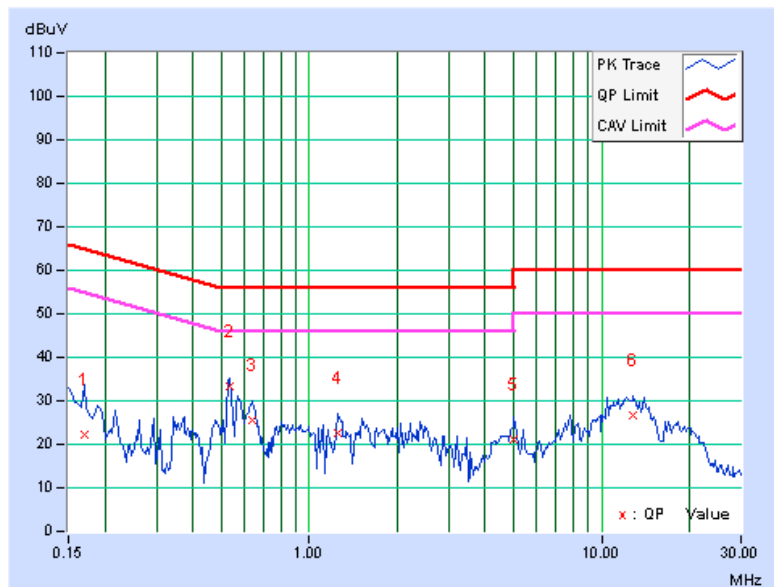


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 132		

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.26	22.01	15.07	22.27	15.33	64.98	54.98	-42.71	-39.65
2	0.53281	0.26	33.18	29.50	33.44	29.76	56.00	46.00	-22.56	-16.24
3	0.64219	0.27	25.36	15.48	25.63	15.75	56.00	46.00	-30.37	-30.25
4	1.25781	0.31	22.38	15.79	22.69	16.10	56.00	46.00	-33.31	-29.90
5	5.00000	0.48	20.46	9.98	20.94	10.46	56.00	46.00	-35.06	-35.54
6	12.86719	0.75	25.93	18.75	26.68	19.50	60.00	50.00	-33.32	-30.50

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

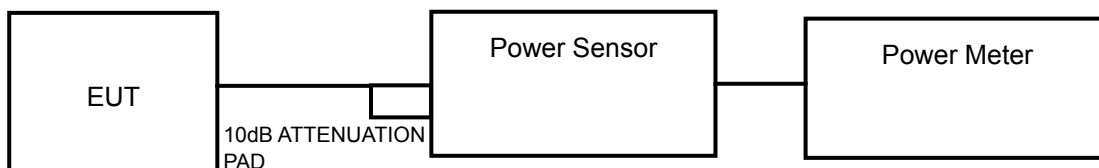
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

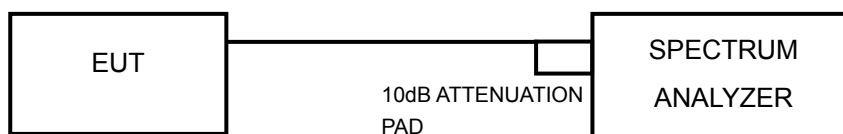
NOTE: Where B is the 26dB emission bandwidth in MHz.

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

An average power sensor was 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.

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	26.4	14.21	17	PASS
40	5200	27.2	14.34	17	PASS
48	5240	27.6	14.41	17	PASS
52	5260	34.8	15.41	24	PASS
60	5300	33.6	15.26	24	PASS
64	5320	32.2	15.08	24	PASS
100	5500	32.7	15.14	24	PASS
116	5580	33.3	15.23	24	PASS
132	5660	31.8	15.02	24	PASS
140	5700	32.4	15.10	24	PASS

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
36	5180	6.23	4.89	6.60	11.9	10.7	13.2	PASS
40	5200	6.44	5.76	6.85	13.0	11.1	13.2	PASS
48	5240	6.27	5.98	6.34	12.5	11.0	13.2	PASS
52	5260	12.21	11.73	12.03	47.5	16.8	20.2	PASS
60	5300	12.23	12.34	12.14	50.2	17.0	20.2	PASS
64	5320	12.27	12.36	12.48	51.8	17.1	20.2	PASS
100	5500	12.36	11.11	11.41	44.0	16.4	20.2	PASS
116	5580	12.11	11.99	11.67	46.8	16.7	20.2	PASS
132	5660	12.28	12.06	12.42	50.4	17.0	20.2	PASS
140	5700	11.89	11.43	12.67	47.8	16.8	20.2	PASS

Note:

5180 ~ 5240MHz: Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the conducted power limit shall be reduced to 17-(9.8-6)=13.2dBm

5260 ~ 5700MHz: Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 24-(9.8-6)=20.2dBm



802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	8.46	7.03	8.43	19.0	12.8	13.2	PASS
46	5230	8.21	7.38	8.38	19.0	12.8	13.2	PASS
54	5270	11.76	11.53	11.80	44.4	16.5	20.2	PASS
62	5310	11.63	11.01	11.51	41.3	16.2	20.2	PASS
102	5510	11.11	10.73	10.81	36.8	15.7	20.2	PASS
110	5550	11.86	11.63	12.88	49.3	16.9	20.2	PASS
134	5670	11.67	11.73	11.35	43.2	16.4	20.2	PASS

Note:

5190 ~ 5230MHz: Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the conducted power limit shall be reduced to 17-(9.8-6)=13.2dBm

5270 ~ 5670MHz: Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 24-(9.8-6)=20.2dBm



26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	24.70	PASS
40	5200	25.42	PASS
48	5240	24.58	PASS
52	5260	25.78	PASS
60	5300	25.60	PASS
64	5320	25.67	PASS
100	5500	25.94	PASS
116	5580	26.31	PASS
132	5660	26.12	PASS
140	5700	26.47	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
36	5180	26.30	25.77	25.27	PASS
40	5200	26.43	26.18	25.18	PASS
48	5240	26.31	25.62	25.60	PASS
52	5260	26.23	25.77	25.57	PASS
60	5300	26.08	25.66	25.85	PASS
64	5320	26.30	26.51	25.60	PASS
100	5500	26.58	25.53	25.24	PASS
116	5580	25.78	25.52	26.67	PASS
132	5660	26.79	25.78	25.99	PASS
140	5700	26.45	26.50	27.06	PASS



802.11n (40MHz)

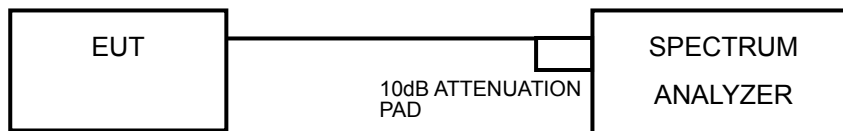
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
38	5190	54.95	53.55	52.46	PASS
46	5230	55.02	52.95	53.06	PASS
54	5270	55.63	53.81	52.79	PASS
62	5310	55.65	54.87	53.27	PASS
102	5510	55.02	53.84	52.21	PASS
110	5550	55.45	55.65	52.28	PASS
134	5670	55.18	57.40	54.46	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

802.11a

- 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 = 20 second.
- 4) Perform a single sweep.
- 5) Record the max value

802.11n (20MHz)

- 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 = 4 second.
- 4) Perform a single sweep.
- 5) Record the max value and add $10 \log (1/\text{duty cycle})$

802.11n (40MHz)

- 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 = 2 second.
- 4) Perform a single sweep.
- 5) Record the max value and add 10 log (1/duty cycle)

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.



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4.4.7 TEST RESULTS

802.11a

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
36	5180	3.55	4	PASS
40	5200	3.68	4	PASS
48	5240	3.66	4	PASS
52	5260	4.82	11	PASS
60	5300	4.42	11	PASS
64	5320	4.47	11	PASS
100	5500	4.37	11	PASS
116	5580	4.35	11	PASS
132	5660	4.49	11	PASS
140	5700	4.28	11	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (20MHz)**

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)			TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2					
36	5180	-4.84	-6.74	-4.92	-0.744	0.36	-0.384	0.2	PASS
44	5220	-4.58	-5.96	-4.72	-0.316	0.36	0.044	0.2	PASS
48	5240	-4.97	-5.74	-5.14	-0.600	0.36	-0.240	0.2	PASS
52	5260	1.15	-0.07	0.42	5.270	0.36	5.630	7.2	PASS
60	5300	1.26	0.63	0.54	5.574	0.36	5.934	7.2	PASS
64	5320	1.29	0.69	0.93	5.617	0.36	5.977	7.2	PASS
100	5500	1.12	-0.60	-0.00	4.869	0.36	5.229	7.2	PASS
116	5580	0.94	0.25	-0.09	5.072	0.36	5.432	7.2	PASS
132	5660	1.29	0.29	0.77	5.436	0.36	5.796	7.2	PASS
140	5700	1.00	-0.32	1.01	5.346	0.36	5.706	7.2	PASS

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **5180 ~ 5240MHz:** Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 4-(9.8-6)=0.2dBm
3. **5260 ~ 5700MHz:** Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 11-(9.8-6)=7.2dBm
4. Refer to section 3.3 for duty cycle spectrum plot.

**802.11n (40MHz)**

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)			TOTAL PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2					
38	5190	-5.43	-7.32	-6.11	-1.462	0.47	-0.992	0.2	PASS
46	5230	-5.47	-6.94	-6.24	-1.436	0.47	-0.966	0.2	PASS
54	5270	-2.15	-3.05	-2.82	2.084	0.47	2.554	7.2	PASS
62	5310	-2.47	-3.41	-2.88	1.836	0.47	2.306	7.2	PASS
102	5510	-2.94	-3.75	-3.95	1.187	0.47	1.657	7.2	PASS
110	5550	-2.27	-2.83	-2.06	2.264	0.47	2.734	7.2	PASS
134	5670	-2.27	-2.43	-3.23	2.131	0.47	2.601	7.2	PASS

NOTE:

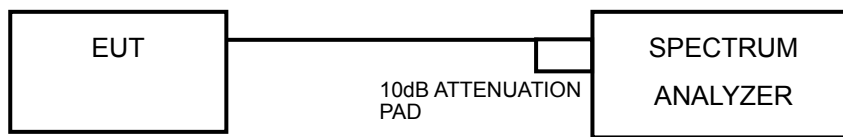
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **5190 ~ 5230MHz:** Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 4-(9.8-6)=0.2dBm
3. **5270 ~ 5670MHz:** Directional gain =5dBi + 10log(3)=9.8dBi > 6dBi, so the power density limit shall be reduced to 11-(9.8-6)=7.2dBm
4. Refer to section 3.3 for duty cycle spectrum plot.

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 \leq 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



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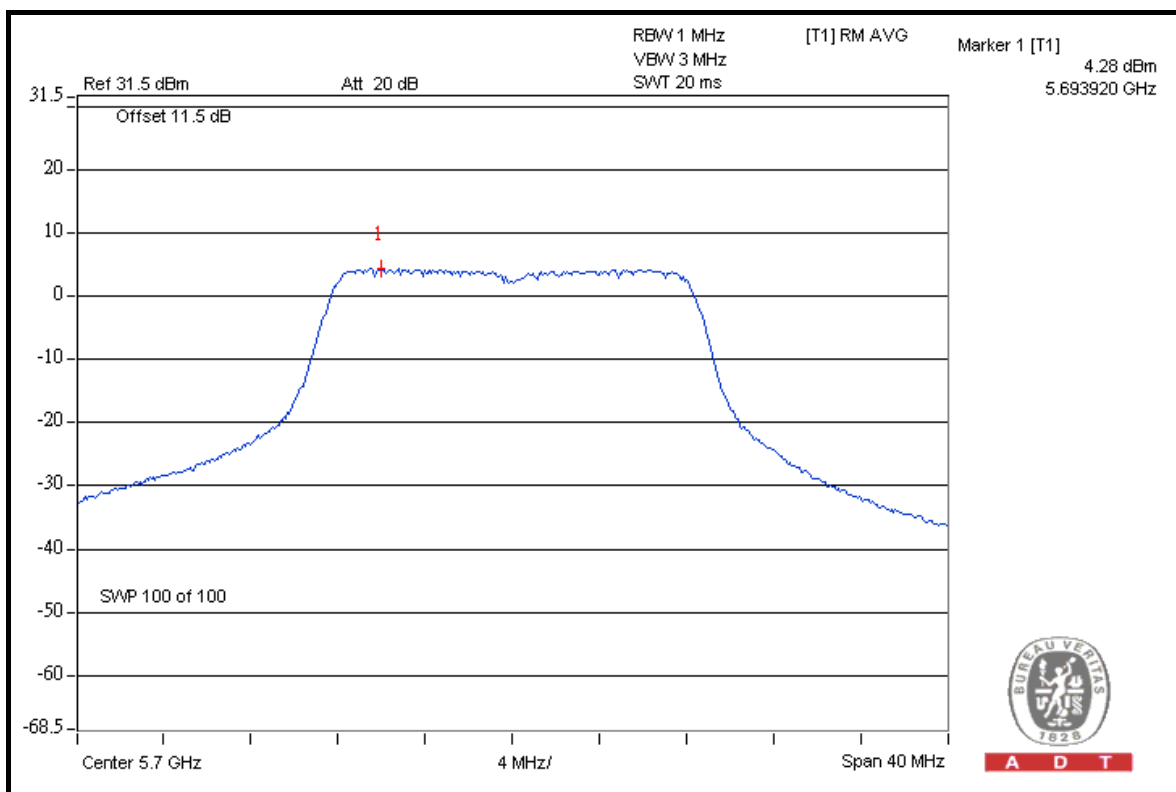
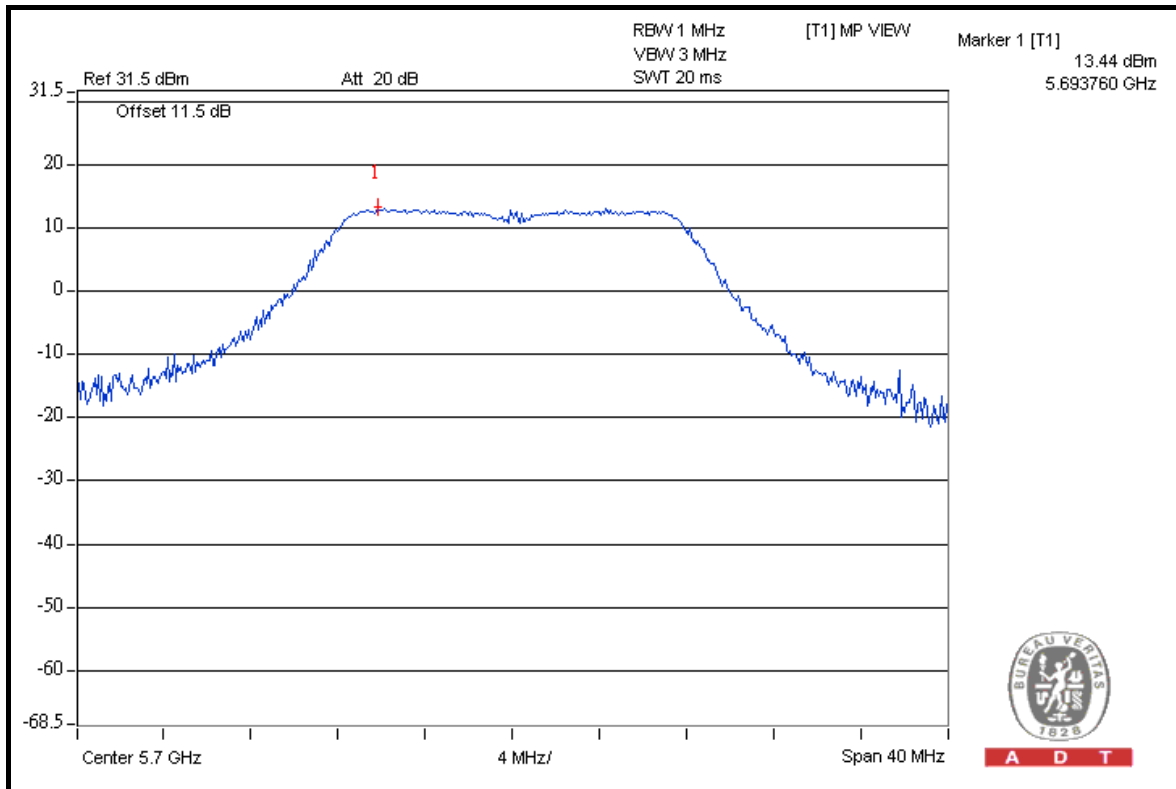
4.5.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	12.36	3.55	8.81	13	PASS
44	5220	12.61	3.68	8.93	13	PASS
48	5240	12.71	3.66	9.05	13	PASS
52	5260	13.63	4.82	8.81	13	PASS
60	5300	13.54	4.42	9.12	13	PASS
64	5320	13.36	4.47	8.89	13	PASS
100	5500	13.44	4.37	9.07	13	PASS
116	5580	13.20	4.35	8.85	13	PASS
132	5660	13.35	4.49	8.86	13	PASS
140	5700	13.44	4.28	9.16	13	PASS



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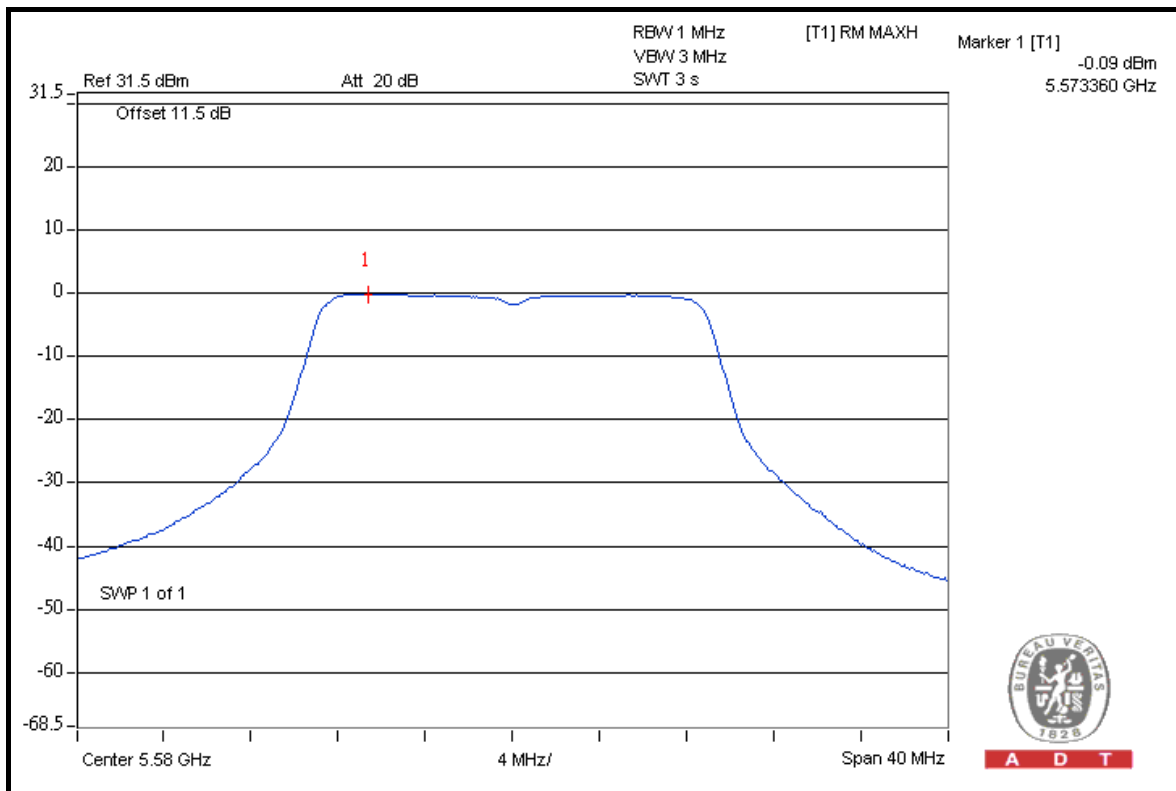
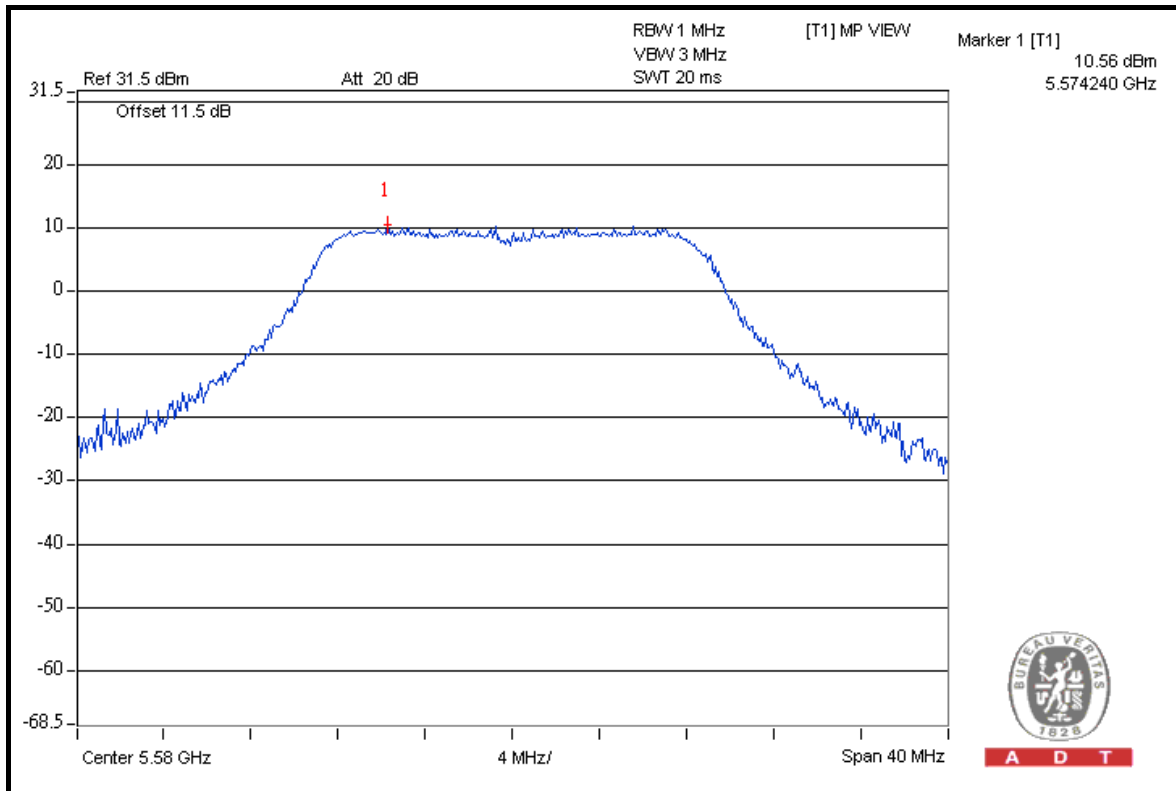


802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
36	5180	3.84	2.92	5.66	-4.48	-6.38	-4.56	8.32	9.30	10.22	13	PASS
44	5220	4.19	3.54	5.85	-4.22	-5.60	-4.36	8.41	9.14	10.21	13	PASS
48	5240	4.09	4.01	5.33	-4.61	-5.38	-4.78	8.70	9.39	10.11	13	PASS
52	5260	9.80	9.60	10.93	1.51	0.29	0.78	8.29	9.31	10.15	13	PASS
60	5300	9.69	10.36	11.01	1.62	0.99	0.90	8.07	9.37	10.11	13	PASS
64	5320	9.73	10.29	11.36	1.65	1.05	1.29	8.08	9.24	10.07	13	PASS
100	5500	10.16	8.97	10.36	1.48	-0.24	0.36	8.68	9.21	10.00	13	PASS
116	5580	9.49	9.87	10.56	1.30	0.61	0.27	8.19	9.26	10.29	13	PASS
132	5660	9.81	9.89	11.30	1.65	0.65	1.13	8.16	9.24	10.17	13	PASS
140	5700	9.41	9.60	11.59	1.36	0.04	1.37	8.05	9.56	10.22	13	PASS



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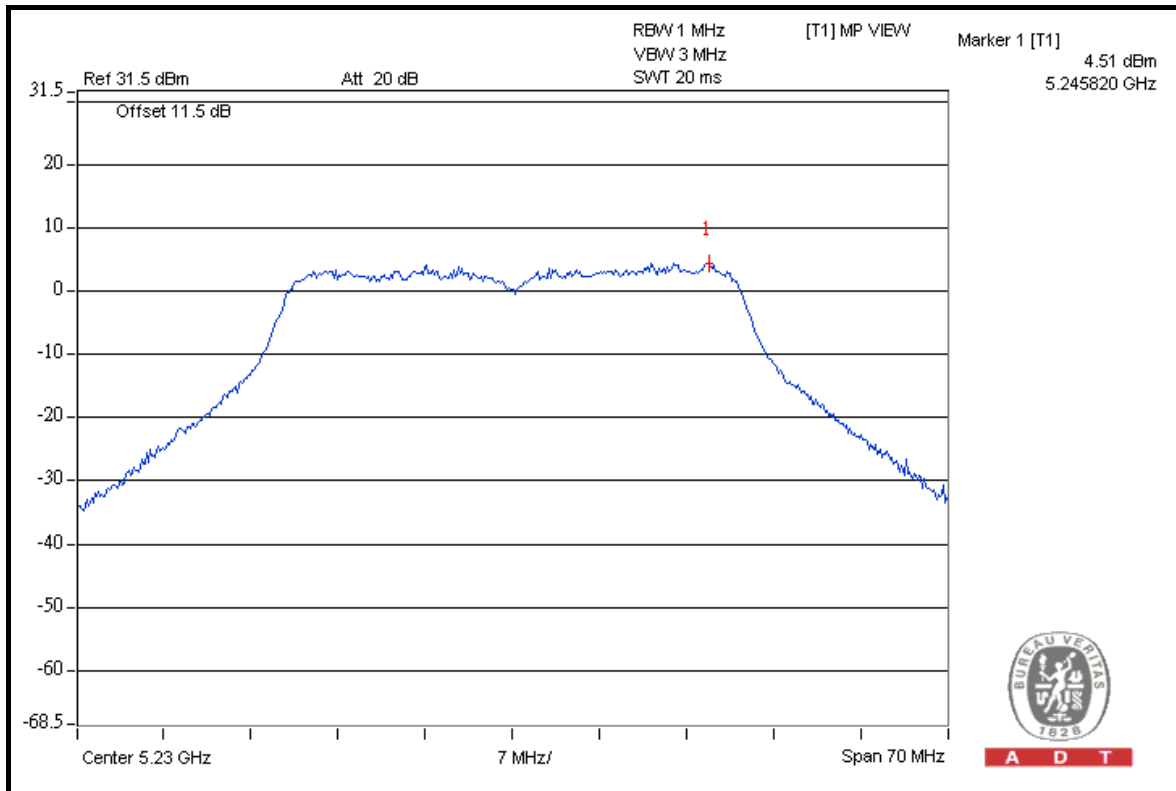


802.11n (40MHz)

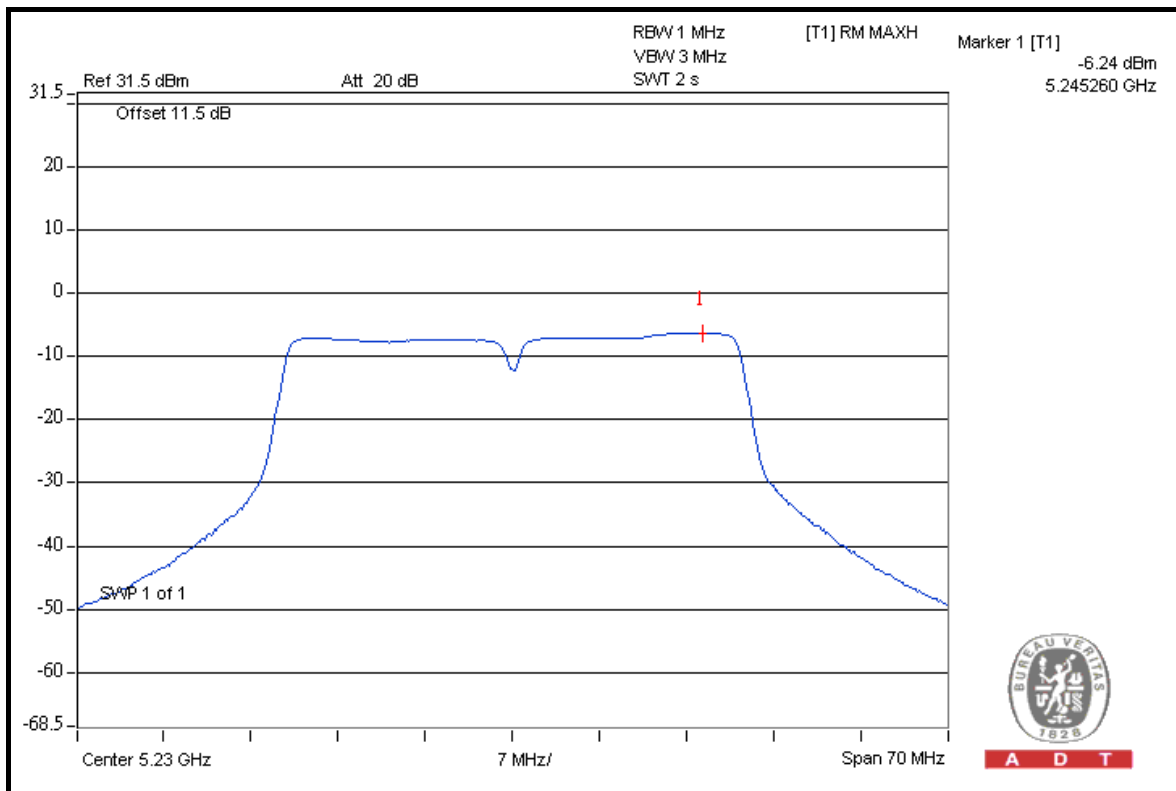
CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
38	5190	3.49	3.14	4.61	-4.96	-6.85	-5.64	8.45	9.99	10.25	13	PASS
46	5230	3.43	3.36	4.51	-5.00	-6.47	-5.77	8.43	9.83	10.28	13	PASS
54	5270	6.77	7.47	7.73	-1.68	-2.58	-2.35	8.45	10.05	10.08	13	PASS
62	5310	6.87	7.10	7.46	-2.00	-2.94	-2.41	8.87	10.04	9.87	13	PASS
102	5510	6.30	6.65	5.98	-2.47	-3.28	-3.48	8.77	9.93	9.46	13	PASS
110	5550	7.12	7.54	8.08	-1.80	-2.36	-1.59	8.92	9.90	9.67	13	PASS
134	5670	6.54	7.69	6.44	-1.80	-1.96	-2.76	8.34	9.65	9.20	13	PASS



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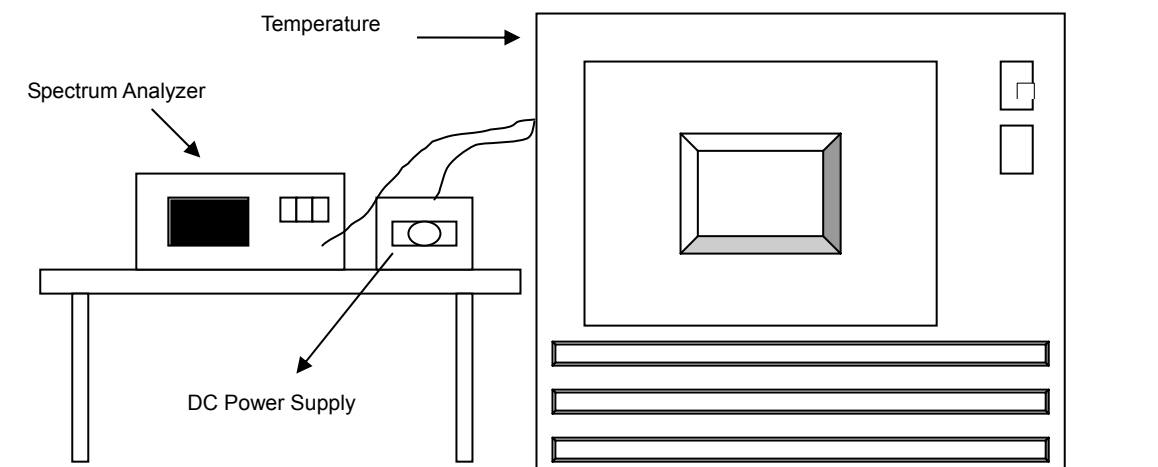
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4.6 FREQUENCY STABILITY

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. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

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.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
55	110.0	5319.988787	-2.108	5319.989191	-2.032	5319.989429	-1.987	5319.988686	-2.127
50	110.0	5319.988610	-2.141	5319.988995	-2.069	5319.988767	-2.111	5319.988954	-2.076
40	110.0	5319.990547	-1.777	5319.991100	-1.673	5319.990670	-1.754	5319.990984	-1.695
30	110.0	5319.991522	-1.594	5319.991899	-1.523	5319.991546	-1.589	5319.991801	-1.541
20	110.0	5319.992553	-1.400	5319.992810	-1.352	5319.992838	-1.346	5319.992530	-1.404
10	110.0	5319.991201	-1.654	5319.991087	-1.675	5319.991625	-1.574	5319.991460	-1.605
0	110.0	5319.990067	-1.867	5319.989824	-1.913	5319.989889	-1.901	5319.990414	-1.802
-10	110.0	5319.989365	-1.999	5319.989317	-2.008	5319.989427	-1.987	5319.989150	-2.039
-20	110.0	5319.987822	-2.289	5319.987840	-2.286	5319.987858	-2.282	5319.987795	-2.294
-30	110.0	5319.987865	-2.281	5319.987660	-2.320	5319.987842	-2.285	5319.987781	-2.297

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	93.5	5319.991381	-1.620	5319.991822	-1.537	5319.991239	-1.647	5319.991612	-1.577
	110.0	5319.992553	-1.400	5319.992810	-1.352	5319.992838	-1.346	5319.992530	-1.404
	126.5	5319.991592	-1.580	5319.991816	-1.538	5319.991731	-1.554	5319.991858	-1.530



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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.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---