



FCC TEST REPORT (15.407)

REPORT NO.: RF130805C29-5
MODEL NO.: 0P3P510
FCC ID: NM80P3P510
RECEIVED: Aug. 05, 2013
TESTED: Aug. 29, 2013 ~ Aug. 31, 2013
ISSUED: Sep. 09, 2013

APPLICANT: HTC Corporation

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130805C29-5	Original release	Sep. 09, 2013



1. CERTIFICATION

PRODUCT: Smartphone
MODEL NO.: 0P3P510
BRAND: HTC
APPLICANT: HTC Corporation
TESTED: Aug. 29, 2013 ~ Aug. 31, 2013
TEST SAMPLE: Production Unit
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: 0P3P510) 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 : Vera Huang , **DATE** : Sep. 09, 2013
Vera Huang / Specialist

APPROVED BY : Sam chen , **DATE** : Sep. 09, 2013
Sam Chen / Assistant 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 -5.26dB at 13.56250MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.47dB at 5470MHz.
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	Smartphone
MODEL NO.	0P3P510
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
MODULATION TYPE	256QAM, 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 MCS7 802.11ac: up to V9
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) 1 for 802.11ac (80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 1 for 802.11ac (80MHz)
OUTPUT POWER	43.251mW for 5180 ~ 5240MHz 43.954mW for 5260 ~ 5320MHz 43.853mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with -7.3dBi gain (5180 ~ 5240MHz) PIFA antenna with -7.3dBi gain (5260 ~ 5320MHz) PIFA antenna with -6.8dBi gain (5500 ~ 5700MHz)
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:

1. The EUT's accessories list refers to Ext. Pho.
2. 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

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
42	5210MHz

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

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
58	5290MHz

FOR 5500 ~ 5700MHz

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

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

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

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

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
106	5530MHz

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 **Z-plane** for 5180-5320MHz, **X-plane** for 5500-5700MHz.

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	MCS0
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (80MHz)		42	42	OFDM	BPSK	V0
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	MCS0
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (80MHz)		58	58	OFDM	BPSK	V0
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	MCS0
802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0
802.11ac (80MHz)		106	106	OFDM	BPSK	V0

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)	5260-5320	52 to 64	64	OFDM	BPSK	MCS0

POWER LINE CONDUCTED EMISSION TEST:

The EUT was tested with the following mode.

TEST CONDITION
BT Link + WLAN (5G) Link + NFC Link + USB Cable + Adapter + Earphone

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	MCS0
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (80MHz)		42	42	OFDM	BPSK	V0
802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	MCS0
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (80MHz)		58	58	OFDM	BPSK	V0
802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	MCS0
802.11n (40MHz)		102 to 134	102, 134	OFDM	BPSK	MCS0
802.11ac (80MHz)		106	106	OFDM	BPSK	V0

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	MCS0
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (80MHz)		42	42	OFDM	BPSK	V0
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	MCS0
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (80MHz)		58	58	OFDM	BPSK	V0
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	MCS0
802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0
802.11ac (80MHz)		106	106	OFDM	BPSK	V0

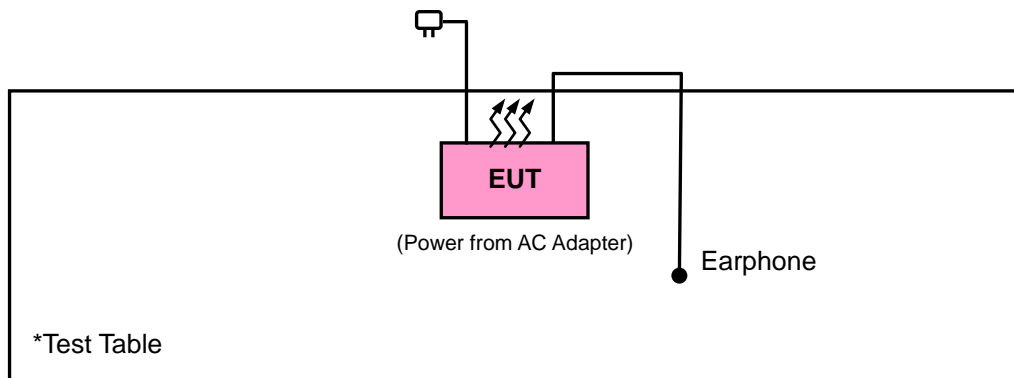
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
PLC	25deg. C, 65%RH	120Vac, 60Hz	Johnson Liao
APCM	25deg. C, 65%RH	120Vac, 60Hz	Phoenix Chen

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE OF TEST SIGNAL

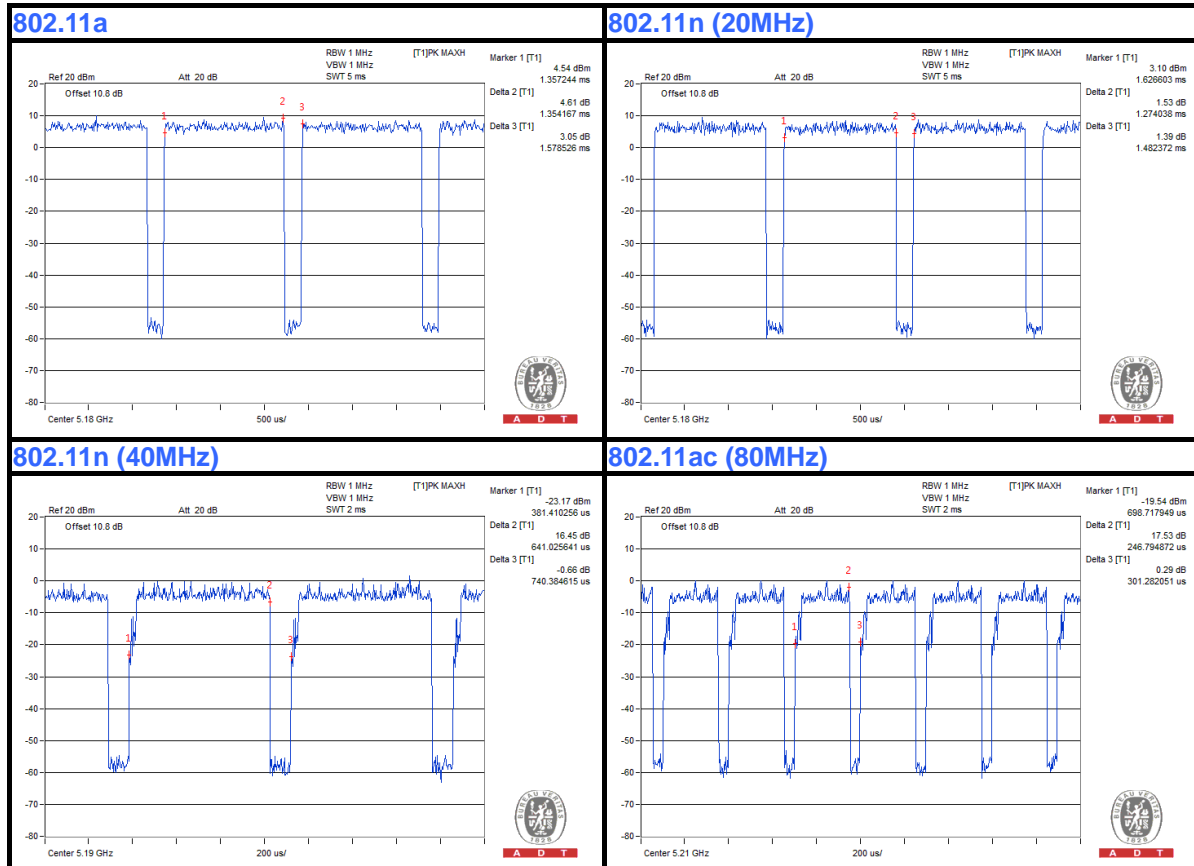
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = $1.354/1.579 = 0.858$, Duty factor = $10 * \log(1/0.858) = 0.67$

802.11n (20MHz): Duty cycle = $1.274/1.482 = 0.860$, Duty factor = $10 * \log(1/0.860) = 0.66$

802.11n (40MHz): Duty cycle = $641.03/740.38 = 0.866$, Duty factor = $10 * \log(1/0.866) = 0.63$

802.11ac (80MHz): Duty cycle = $246.79/301.28 = 0.819$, Duty factor = $10 * \log(1/0.816) = 0.87$



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 v01r02

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. 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

APPLICABLE TO	LIMIT	
	FIELD STRENGTH AT 3m (dBµV/m)	
	PK	AV
	74	54
√	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	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 2013
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Power Meter	ML2495A	1012010	Jul. 31, 2013	Jul. 30, 2014
Power Sensor	MA2411B	1315050	Jul. 31, 2013	Jul. 30, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
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 690701.
6. The IC Site Registration No. is IC 7450F-10.

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.

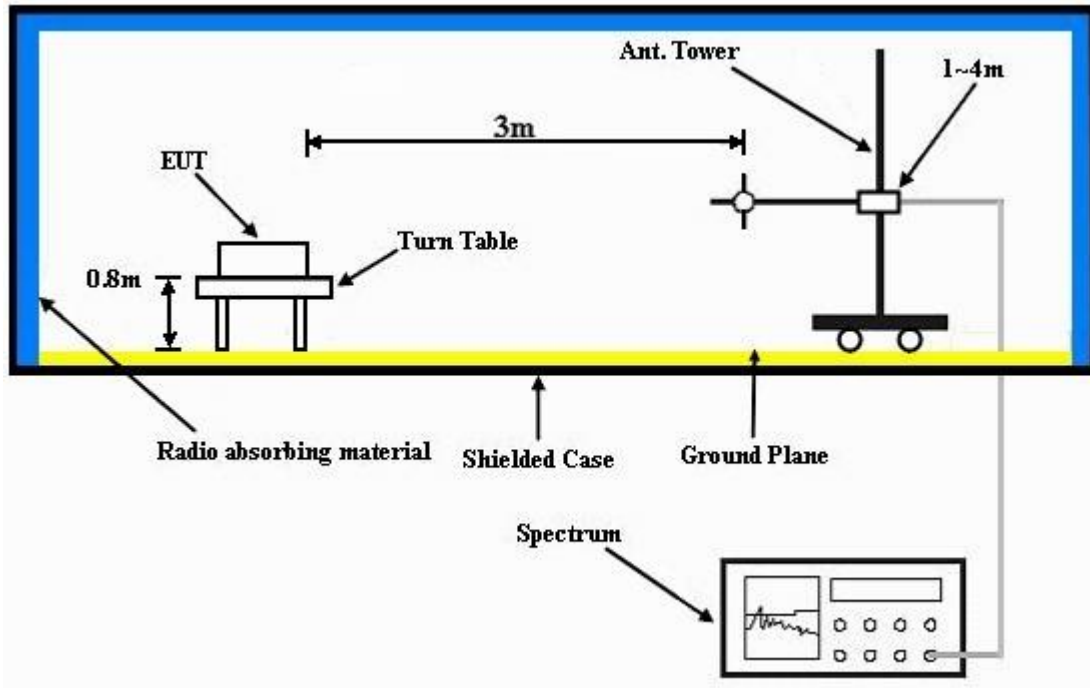
NOTE:

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

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



4.1.8 TEST RESULTS

ABOVE 1GHz DATA: 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	42.96	43.67	54	-11.04	31.32	5.29	37.32	100	107	Average
5150	60.61	61.32	74	-13.39	31.32	5.29	37.32	100	107	Peak
5180	95.76	96.44			31.35	5.31	37.34	100	107	Average
5180	104.75	105.43			31.35	5.31	37.34	100	107	Peak
5442	37.88	38.02	54	-16.12	31.55	5.44	37.13	100	107	Average
5442	56.72	56.86	74	-17.28	31.55	5.44	37.13	100	107	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	42.94	43.65	54	-11.06	31.32	5.29	37.32	100	323	Average
5150	58.68	59.39	74	-15.32	31.32	5.29	37.32	100	323	Peak
5180	95.36	96.04			31.35	5.31	37.34	100	323	Average
5180	103.33	104.01			31.35	5.31	37.34	100	323	Peak
5454	37.72	37.8	54	-16.28	31.56	5.44	37.08	100	323	Average
5454	56.95	57.03	74	-17.05	31.56	5.44	37.08	100	323	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5180MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5018	37.53	38.32	54	-16.47	31.21	5.24	37.24	100	107	Average
5018	56.21	57	74	-17.79	31.21	5.24	37.24	100	107	Peak
5220	97.23	97.89			31.37	5.33	37.36	100	107	Average
5220	105.85	106.51			31.37	5.33	37.36	100	107	Peak
5394	37.68	37.94	54	-16.32	31.51	5.41	37.18	100	107	Average
5394	56.77	57.03	74	-17.23	31.51	5.41	37.18	100	107	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5126	37.51	38.22	54	-16.49	31.31	5.28	37.3	111	68	Average
5126	56.16	56.87	74	-17.84	31.31	5.28	37.3	111	68	Peak
5220	94.94	95.6			31.37	5.33	37.36	111	68	Average
5220	104.56	105.22			31.37	5.33	37.36	111	68	Peak
5442	37.77	37.91	54	-16.23	31.55	5.44	37.13	111	68	Average
5442	56.51	56.65	74	-17.49	31.55	5.44	37.13	111	68	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5220MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5076	37.71	38.45	54	-16.29	31.27	5.26	37.27	100	107	Average
5076	55.07	55.81	74	-18.93	31.27	5.26	37.27	100	107	Peak
5240	97.57	98.16			31.39	5.34	37.32	100	107	Average
5240	106.27	106.86			31.39	5.34	37.32	100	107	Peak
5418	37.85	38.08	54	-16.15	31.53	5.42	37.18	100	107	Average
5418	55.47	55.7	74	-18.53	31.53	5.42	37.18	100	107	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5130	37.46	38.17	54	-16.54	31.31	5.28	37.3	121	70	Average
5130	55.83	56.54	74	-18.17	31.31	5.28	37.3	121	70	Peak
5240	95.23	95.82			31.39	5.34	37.32	121	70	Average
5240	104.15	104.74			31.39	5.34	37.32	121	70	Peak
5448	37.75	37.88	54	-16.25	31.56	5.44	37.13	121	70	Average
5448	56.69	56.82	74	-17.31	31.56	5.44	37.13	121	70	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5240MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5048	37.55	38.31	54	-16.45	31.24	5.25	37.25	100	106	Average
5048	55.29	56.05	74	-18.71	31.24	5.25	37.25	100	106	Peak
5260	96.53	97.05			31.41	5.34	37.27	100	106	Average
5260	105.28	105.8			31.41	5.34	37.27	100	106	Peak
5446	37.77	37.9	54	-16.23	31.56	5.44	37.13	100	106	Average
5446	56.59	56.72	74	-17.41	31.56	5.44	37.13	100	106	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5080	37.43	38.17	54	-16.57	31.27	5.26	37.27	100	69	Average
5080	56.05	56.79	74	-17.95	31.27	5.26	37.27	100	69	Peak
5260	95.36	95.88			31.41	5.34	37.27	100	69	Average
5260	104.39	104.91			31.41	5.34	37.27	100	69	Peak
5422	37.78	38.01	54	-16.22	31.53	5.42	37.18	100	69	Average
5422	56.55	56.78	74	-17.45	31.53	5.42	37.18	100	69	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5260MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.83	38.54	54	-16.17	31.32	5.29	37.32	100	106	Average
5150	57.19	57.9	74	-16.81	31.32	5.29	37.32	100	106	Peak
5300	96.03	96.41			31.44	5.37	37.19	100	106	Average
5300	105.49	105.87			31.44	5.37	37.19	100	106	Peak
5384	41.38	41.65	54	-12.62	31.51	5.4	37.18	100	106	Average
5384	56.79	57.06	74	-17.21	31.51	5.4	37.18	100	106	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5098	37.39	38.12	54	-16.61	31.28	5.27	37.28	100	67	Average
5098	55.16	55.89	74	-18.84	31.28	5.27	37.28	100	67	Peak
5300	95.44	95.82			31.44	5.37	37.19	100	67	Average
5300	104.32	104.7			31.44	5.37	37.19	100	67	Peak
5352	42.94	43.25	54	-11.06	31.48	5.39	37.18	100	67	Average
5352	56.93	57.24	74	-17.07	31.48	5.39	37.18	100	67	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5300MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5068	37.6	38.36	54	-16.4	31.25	5.26	37.27	100	105	Average
5068	55.69	56.45	74	-18.31	31.25	5.26	37.27	100	105	Peak
5320	95.79	96.15			31.45	5.38	37.19	100	105	Average
5320	104.96	105.32			31.45	5.38	37.19	100	105	Peak
5348	41.55	41.86	54	-12.45	31.48	5.39	37.18	100	105	Average
5348	62.08	62.39	74	-11.92	31.48	5.39	37.18	100	105	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5038	37.44	38.19	54	-16.56	31.24	5.25	37.24	100	61	Average
5038	56.94	57.69	74	-17.06	31.24	5.25	37.24	100	61	Peak
5320	94.77	95.13			31.45	5.38	37.19	100	61	Average
5320	104.43	104.79			31.45	5.38	37.19	100	61	Peak
5352	41.95	42.26	54	-12.05	31.48	5.39	37.18	100	61	Average
5352	62.56	62.87	74	-11.44	31.48	5.39	37.18	100	61	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5320MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	41.41	41.54	54	-12.59	31.56	5.44	37.13	100	3	Average
5448	56.54	56.67	74	-17.46	31.56	5.44	37.13	100	3	Peak
5470	60.95	61.01	68.3	-7.35	31.57	5.45	37.08	100	3	Peak
5500	93.54	93.51			31.6	5.46	37.03	100	3	Average
5500	103.47	103.44			31.6	5.46	37.03	100	3	Peak
5725	55.53	55.41	68.3	-12.77	31.96	5.59	37.43	100	3	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	42.6	42.73	54	-11.4	31.56	5.44	37.13	102	194	Average
5448	56.59	56.72	74	-17.41	31.56	5.44	37.13	102	194	Peak
5470	59.38	59.44	68.3	-8.92	31.57	5.45	37.08	102	194	Peak
5500	94.67	94.64			31.6	5.46	37.03	102	194	Average
5500	104.16	104.13			31.6	5.46	37.03	102	194	Peak
5725	55.38	55.26	68.3	-12.92	31.96	5.59	37.43	102	194	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5500MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	37.95	38.03	54	-16.05	31.56	5.44	37.08	100	4	Average
5460	55.95	56.03	74	-18.05	31.56	5.44	37.08	100	4	Peak
5470	54.86	54.92	68.3	-13.44	31.57	5.45	37.08	100	4	Peak
5580	94.06	94.01			31.71	5.5	37.16	100	4	Average
5580	103.46	103.41			31.71	5.5	37.16	100	4	Peak
5725	54.26	54.14	68.3	-14.04	31.96	5.59	37.43	100	4	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5430	37.78	37.94	54	-16.22	31.55	5.42	37.13	100	180	Average
5430	55.65	55.81	74	-18.35	31.55	5.42	37.13	100	180	Peak
5470	55.09	55.15	68.3	-13.21	31.57	5.45	37.08	100	180	Peak
5580	94.78	94.73			31.71	5.5	37.16	100	180	Average
5580	104.35	104.3			31.71	5.5	37.16	100	180	Peak
5725	55.38	55.26	68.3	-12.92	31.96	5.59	37.43	100	180	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
2. 5580MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5442	37.93	38.07	54	-16.07	31.55	5.44	37.13	100	6	Average
5442	56.41	56.55	74	-17.59	31.55	5.44	37.13	100	6	Peak
5470	54.48	54.54	68.3	-13.82	31.57	5.45	37.08	100	6	Peak
5700	93.97	93.9			31.9	5.57	37.4	100	6	Average
5700	103.4	103.33			31.9	5.57	37.4	100	6	Peak
5725	63.73	63.61	68.3	-4.57	31.96	5.59	37.43	100	6	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5394	37.74	38	54	-16.26	31.51	5.41	37.18	119	207	Average
5394	56.15	56.41	74	-17.85	31.51	5.41	37.18	119	207	Peak
5470	54.5	54.56	68.3	-13.8	31.57	5.45	37.08	119	207	Peak
5700	94.74	94.67			31.9	5.57	37.4	119	207	Average
5700	104.33	104.26			31.9	5.57	37.4	119	207	Peak
5725	61.96	61.84	68.3	-6.34	31.96	5.59	37.43	119	207	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	42.55	43.26	54	-11.45	31.32	5.29	37.32	100	74	Average
5150	60.14	60.85	74	-13.86	31.32	5.29	37.32	100	74	Peak
5180	92.99	93.67			31.35	5.31	37.34	100	74	Average
5180	102.1	102.78			31.35	5.31	37.34	100	74	Peak
5406	37.72	37.97	54	-16.28	31.52	5.41	37.18	100	74	Average
5406	55.77	56.02	74	-18.23	31.52	5.41	37.18	100	74	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	43.32	44.03	54	-10.68	31.32	5.29	37.32	100	155	Average
5146	60.94	61.65	74	-13.06	31.32	5.29	37.32	100	155	Peak
5180	92.03	92.71			31.35	5.31	37.34	100	155	Average
5180	101.18	101.86			31.35	5.31	37.34	100	155	Peak
5438	37.81	37.95	54	-16.19	31.55	5.44	37.13	100	155	Average
5438	56.02	56.16	74	-17.98	31.55	5.44	37.13	100	155	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5180MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5116	37.61	38.32	54	-16.39	31.29	5.28	37.28	100	73	Average
5116	55.76	56.47	74	-18.24	31.29	5.28	37.28	100	73	Peak
5220	93.82	94.48			31.37	5.33	37.36	100	73	Average
5220	102.88	103.54			31.37	5.33	37.36	100	73	Peak
5408	37.68	37.93	54	-16.32	31.52	5.41	37.18	100	73	Average
5408	55.84	56.09	74	-18.16	31.52	5.41	37.18	100	73	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5096	37.73	38.46	54	-16.27	31.28	5.27	37.28	100	160	Average
5096	55.91	56.64	74	-18.09	31.28	5.27	37.28	100	160	Peak
5220	92.34	93			31.37	5.33	37.36	100	160	Average
5220	101.78	102.44			31.37	5.33	37.36	100	160	Peak
5452	37.89	37.97	54	-16.11	31.56	5.44	37.08	100	160	Average
5452	56.61	56.69	74	-17.39	31.56	5.44	37.08	100	160	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5220MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5072	37.51	38.25	54	-16.49	31.27	5.26	37.27	102	28	Average
5072	56.57	57.31	74	-17.43	31.27	5.26	37.27	102	28	Peak
5240	94.87	95.46			31.39	5.34	37.32	102	28	Average
5240	103.82	104.41			31.39	5.34	37.32	102	28	Peak
5370	37.77	38.06	54	-16.23	31.49	5.4	37.18	102	28	Average
5370	56.33	56.62	74	-17.67	31.49	5.4	37.18	102	28	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5118	37.8	38.51	54	-16.2	31.29	5.28	37.28	100	139	Average
5118	56.29	57	74	-17.71	31.29	5.28	37.28	100	139	Peak
5240	93.38	93.97			31.39	5.34	37.32	100	139	Average
5240	103.44	104.03			31.39	5.34	37.32	100	139	Peak
5456	37.87	37.95	54	-16.13	31.56	5.44	37.08	100	139	Average
5456	55.96	56.04	74	-18.04	31.56	5.44	37.08	100	139	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5240MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5124	37.57	38.28	54	-16.43	31.31	5.28	37.3	102	120	Average
5124	56.01	56.72	74	-17.99	31.31	5.28	37.3	102	120	Peak
5260	98.11	98.63			31.41	5.34	37.27	102	120	Average
5260	106.87	107.39			31.41	5.34	37.27	102	120	Peak
5448	37.9	38.03	54	-16.1	31.56	5.44	37.13	102	120	Average
5448	55.9	56.03	74	-18.1	31.56	5.44	37.13	102	120	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	37.49	38.2	54	-16.51	31.32	5.29	37.32	102	112	Average
5144	55.18	55.89	74	-18.82	31.32	5.29	37.32	102	112	Peak
5260	97.07	97.59			31.41	5.34	37.27	102	112	Average
5260	105.54	106.06			31.41	5.34	37.27	102	112	Peak
5376	37.71	38	54	-16.29	31.49	5.4	37.18	102	112	Average
5376	55.92	56.21	74	-18.08	31.49	5.4	37.18	102	112	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5260MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5136	37.52	38.23	54	-16.48	31.31	5.28	37.3	100	31	Average
5136	55.07	55.78	74	-18.93	31.31	5.28	37.3	100	31	Peak
5300	95.39	95.77			31.44	5.37	37.19	100	31	Average
5300	104.8	105.18			31.44	5.37	37.19	100	31	Peak
5390	42.99	43.25	54	-11.01	31.51	5.41	37.18	100	31	Average
5390	55.28	55.54	74	-18.72	31.51	5.41	37.18	100	31	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5136	37.43	38.14	54	-16.57	31.31	5.28	37.3	100	110	Average
5136	55.55	56.26	74	-18.45	31.31	5.28	37.3	100	110	Peak
5300	94.68	95.06			31.44	5.37	37.19	100	110	Average
5300	103.64	104.02			31.44	5.37	37.19	100	110	Peak
5352	44.01	44.32	54	-9.99	31.48	5.39	37.18	100	110	Average
5352	56.97	57.28	74	-17.03	31.48	5.39	37.18	100	110	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5300MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5010	37.38	38.18	54	-16.62	31.21	5.22	37.23	100	32	Average
5010	55.44	56.24	74	-18.56	31.21	5.22	37.23	100	32	Peak
5320	95.27	95.63			31.45	5.38	37.19	100	32	Average
5320	104.77	105.13			31.45	5.38	37.19	100	32	Peak
5348	43.2	43.51	54	-10.8	31.48	5.39	37.18	100	32	Average
5348	60.9	61.21	74	-13.1	31.48	5.39	37.18	100	32	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5072	37.51	38.25	54	-16.49	31.27	5.26	37.27	100	110	Average
5072	55.66	56.4	74	-18.34	31.27	5.26	37.27	100	110	Peak
5320	94.24	94.6			31.45	5.38	37.19	100	110	Average
5320	103.82	104.18			31.45	5.38	37.19	100	110	Peak
5348	43.12	43.43	54	-10.88	31.48	5.39	37.18	100	110	Average
5348	63.85	64.16	74	-10.15	31.48	5.39	37.18	100	110	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5320MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	45.29	45.42	54	-8.71	31.56	5.44	37.13	107	46	Average
5448	58.23	58.36	74	-15.77	31.56	5.44	37.13	107	46	Peak
5470	66.83	66.89	68.3	-1.47	31.57	5.45	37.08	107	46	Peak
5500	96.82	96.79			31.6	5.46	37.03	107	46	Average
5500	106.94	106.91			31.6	5.46	37.03	107	46	Peak
5725	55.03	54.91	68.3	-13.27	31.96	5.59	37.43	107	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	43.41	43.49	54	-10.59	31.56	5.44	37.08	100	194	Average
5456	56.53	56.61	74	-17.47	31.56	5.44	37.08	100	194	Peak
5470	63.61	63.67	68.3	-4.69	31.57	5.45	37.08	100	194	Peak
5500	95.98	95.95			31.6	5.46	37.03	100	194	Average
5500	105.24	105.21			31.6	5.46	37.03	100	194	Peak
5725	54.35	54.23	68.3	-13.95	31.96	5.59	37.43	100	194	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5500MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5386	37.7	37.97	54	-16.3	31.51	5.4	37.18	102	44	Average
5386	55.41	55.68	74	-18.59	31.51	5.4	37.18	102	44	Peak
5470	54.23	54.29	68.3	-14.07	31.57	5.45	37.08	102	44	Peak
5580	95.97	95.92			31.71	5.5	37.16	102	44	Average
5580	105.61	105.56			31.71	5.5	37.16	102	44	Peak
5725	55.65	55.53	68.3	-12.65	31.96	5.59	37.43	102	44	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5414	37.7	37.93	54	-16.3	31.53	5.42	37.18	100	178	Average
5414	55.7	55.93	74	-18.3	31.53	5.42	37.18	100	178	Peak
5470	53.95	54.01	68.3	-14.35	31.57	5.45	37.08	100	178	Peak
5580	94.57	94.52			31.71	5.5	37.16	100	178	Average
5580	104	103.95			31.71	5.5	37.16	100	178	Peak
5725	54.27	54.15	68.3	-14.03	31.96	5.59	37.43	100	178	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
2. 5580MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5420	37.89	38.12	54	-16.11	31.53	5.42	37.18	100	44	Average
5420	56.91	57.14	74	-17.09	31.53	5.42	37.18	100	44	Peak
5470	54.62	54.68	68.3	-13.68	31.57	5.45	37.08	100	44	Peak
5700	92.13	92.06			31.9	5.57	37.4	100	44	Average
5700	101.57	101.5			31.9	5.57	37.4	100	44	Peak
5725	61.82	61.7	68.3	-6.48	31.96	5.59	37.43	100	44	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5370	37.8	38.09	54	-16.2	31.49	5.4	37.18	100	190	Average
5370	55.61	55.9	74	-18.39	31.49	5.4	37.18	100	190	Peak
5470	53.95	54.01	68.3	-14.35	31.57	5.45	37.08	100	190	Peak
5700	91.16	91.09			31.9	5.57	37.4	100	190	Average
5700	100.33	100.26			31.9	5.57	37.4	100	190	Peak
5725	59.79	59.67	68.3	-8.51	31.96	5.59	37.43	100	190	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	39.17	39.88	54	-14.83	31.32	5.29	37.32	100	102	Average
5150	60.42	61.13	74	-13.58	31.32	5.29	37.32	100	102	Peak
5190	88.67	89.34			31.35	5.32	37.34	100	102	Average
5190	98.21	98.88			31.35	5.32	37.34	100	102	Peak
5424	38.31	38.54	54	-15.69	31.53	5.42	37.18	100	102	Average
5424	57.1	57.33	74	-16.9	31.53	5.42	37.18	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5130	39.15	39.86	54	-14.85	31.31	5.28	37.3	100	330	Average
5130	55.67	56.38	74	-18.33	31.31	5.28	37.3	100	330	Peak
5190	87.71	88.38			31.35	5.32	37.34	100	330	Average
5190	96.62	97.29			31.35	5.32	37.34	100	330	Peak
5362	38.04	38.34	54	-15.96	31.49	5.39	37.18	100	330	Average
5362	55.36	55.66	74	-18.64	31.49	5.39	37.18	100	330	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5190MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5058	38.06	38.81	54	-15.94	31.25	5.25	37.25	110	139	Average
5058	55.76	56.51	74	-18.24	31.25	5.25	37.25	110	139	Peak
5230	89.32	89.92			31.39	5.33	37.32	110	139	Average
5230	98.55	99.15			31.39	5.33	37.32	110	139	Peak
5352	38.08	38.39	54	-15.92	31.48	5.39	37.18	110	139	Average
5352	55.5	55.81	74	-18.5	31.48	5.39	37.18	110	139	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5034	38.3	39.07	54	-15.7	31.23	5.24	37.24	100	319	Average
5034	55.46	56.23	74	-18.54	31.23	5.24	37.24	100	319	Peak
5230	88.03	88.63			31.39	5.33	37.32	100	319	Average
5230	97.08	97.68			31.39	5.33	37.32	100	319	Peak
5442	38.2	38.34	54	-15.8	31.55	5.44	37.13	100	319	Average
5442	57.29	57.43	74	-16.71	31.55	5.44	37.13	100	319	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5230MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	38.11	38.82	54	-15.89	31.32	5.29	37.32	100	108	Average
5146	55.82	56.53	74	-18.18	31.32	5.29	37.32	100	108	Peak
5270	90.56	91.07			31.41	5.35	37.27	100	108	Average
5270	99.4	99.91			31.41	5.35	37.27	100	108	Peak
5444	38.27	38.41	54	-15.73	31.55	5.44	37.13	100	108	Average
5444	55.44	55.58	74	-18.56	31.55	5.44	37.13	100	108	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5064	37.78	38.52	54	-16.22	31.25	5.26	37.25	102	114	Average
5064	55.18	55.92	74	-18.82	31.25	5.26	37.25	102	114	Peak
5270	89.21	89.72			31.41	5.35	37.27	102	114	Average
5270	98.07	98.58			31.41	5.35	37.27	102	114	Peak
5428	38.59	38.77	54	-15.41	31.53	5.42	37.13	102	114	Average
5428	54.76	54.94	74	-19.24	31.53	5.42	37.13	102	114	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5270MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5038	37.89	38.64	54	-16.11	31.24	5.25	37.24	110	138	Average
5038	55.34	56.09	74	-18.66	31.24	5.25	37.24	110	138	Peak
5310	89.62	89.99			31.45	5.37	37.19	110	138	Average
5310	98.8	99.17			31.45	5.37	37.19	110	138	Peak
5348	39.05	39.36	54	-14.95	31.48	5.39	37.18	110	138	Average
5348	57.48	57.79	74	-16.52	31.48	5.39	37.18	110	138	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5034	37.84	38.61	54	-16.16	31.23	5.24	37.24	100	112	Average
5034	54.99	55.76	74	-19.01	31.23	5.24	37.24	100	112	Peak
5310	88.53	88.9			31.45	5.37	37.19	100	112	Average
5310	97.64	98.01			31.45	5.37	37.19	100	112	Peak
5348	39.12	39.43	54	-14.88	31.48	5.39	37.18	100	112	Average
5348	58.31	58.62	74	-15.69	31.48	5.39	37.18	100	112	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5310MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	39.72	39.8	54	-14.28	31.56	5.44	37.08	111	31	Average
5456	56.86	56.94	74	-17.14	31.56	5.44	37.08	111	31	Peak
5470	59.55	59.61	68.3	-8.75	31.57	5.45	37.08	111	31	Peak
5510	87.61	87.61			31.6	5.46	37.06	111	31	Average
5510	97.47	97.47			31.6	5.46	37.06	111	31	Peak
5725	54.56	54.44	68.3	-13.74	31.96	5.59	37.43	111	31	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5438	38.22	38.36	54	-15.78	31.55	5.44	37.13	100	161	Average
5438	56.02	56.16	74	-17.98	31.55	5.44	37.13	100	161	Peak
5470	56.91	56.97	68.3	-11.39	31.57	5.45	37.08	100	161	Peak
5510	86.76	86.76			31.6	5.46	37.06	100	161	Average
5510	96.97	96.97			31.6	5.46	37.06	100	161	Peak
5725	54.44	54.32	68.3	-13.86	31.96	5.59	37.43	100	161	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5510MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5410	38.94	39.19	54	-15.06	31.52	5.41	37.18	107	45	Average
5410	56.34	56.59	74	-17.66	31.52	5.41	37.18	107	45	Peak
5470	54.08	54.14	68.3	-14.22	31.57	5.45	37.08	107	45	Peak
5550	88.64	88.56			31.68	5.49	37.09	107	45	Average
5550	98.11	98.03			31.68	5.49	37.09	107	45	Peak
5725	54.12	54	68.3	-14.18	31.96	5.59	37.43	107	45	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5386	39.22	39.49	54	-14.78	31.51	5.4	37.18	100	78	Average
5386	56.45	56.72	74	-17.55	31.51	5.4	37.18	100	78	Peak
5470	53.17	53.23	68.3	-15.13	31.57	5.45	37.08	100	78	Peak
5550	87.54	87.46			31.68	5.49	37.09	100	78	Average
5550	97.17	97.09			31.68	5.49	37.09	100	78	Peak
5725	54.85	54.73	68.3	-13.45	31.96	5.59	37.43	100	78	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5550MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5438	38.18	38.32	54	-15.82	31.55	5.44	37.13	102	84	Average
5438	56.46	56.6	74	-17.54	31.55	5.44	37.13	102	84	Peak
5470	53.51	53.57	68.3	-14.79	31.57	5.45	37.08	102	84	Peak
5670	88.03	87.93			31.88	5.56	37.34	102	84	Average
5670	97.3	97.2			31.88	5.56	37.34	102	84	Peak
5725	55.91	55.79	68.3	-12.39	31.96	5.59	37.43	102	84	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5374	38.15	38.44	54	-15.85	31.49	5.4	37.18	100	193	Average
5374	55.96	56.25	74	-18.04	31.49	5.4	37.18	100	193	Peak
5470	54.64	54.7	68.3	-13.66	31.57	5.45	37.08	100	193	Peak
5670	87.32	87.22			31.88	5.56	37.34	100	193	Average
5670	96.34	96.24			31.88	5.56	37.34	100	193	Peak
5725	55.06	54.94	68.3	-13.24	31.96	5.59	37.43	100	193	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5670MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	46.87	47.58	54	-7.13	31.32	5.29	37.32	100	292	Average
5144	59.3	60.01	74	-14.7	31.32	5.29	37.32	100	292	Peak
5210	86.74	87.41			31.37	5.32	37.36	100	292	Average
5210	95.87	96.54			31.37	5.32	37.36	100	292	Peak
5440	38.92	39.06	54	-15.08	31.55	5.44	37.13	100	292	Average
5440	53.5	53.64	74	-20.5	31.55	5.44	37.13	100	292	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5148	46.66	47.37	54	-7.34	31.32	5.29	37.32	100	5	Average
5148	58.2	58.91	74	-15.8	31.32	5.29	37.32	100	5	Peak
5210	85.5	86.17			31.37	5.32	37.36	100	5	Average
5210	94.23	94.9			31.37	5.32	37.36	100	5	Peak
5394	38.79	39.05	54	-15.21	31.51	5.41	37.18	100	5	Average
5394	53.12	53.38	74	-20.88	31.51	5.41	37.18	100	5	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5210MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 58	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5120	38.55	39.28	54	-15.45	31.29	5.28	37.3	130	131	Average
5120	53.34	54.07	74	-20.66	31.29	5.28	37.3	130	131	Peak
5290	85.66	86.09			31.43	5.37	37.23	130	131	Average
5290	94.63	95.06			31.43	5.37	37.23	130	131	Peak
5364	39.71	40	54	-14.29	31.49	5.4	37.18	130	131	Average
5364	54.31	54.6	74	-19.69	31.49	5.4	37.18	130	131	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5048	38.88	39.64	54	-15.12	31.24	5.25	37.25	100	14	Average
5048	55.16	55.92	74	-18.84	31.24	5.25	37.25	100	14	Peak
5290	84.32	84.75			31.43	5.37	37.23	100	14	Average
5290	93.31	93.74			31.43	5.37	37.23	100	14	Peak
5366	40.29	40.58	54	-13.71	31.49	5.4	37.18	100	14	Average
5366	56.8	57.09	74	-17.2	31.49	5.4	37.18	100	14	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5290MHz: Fundamental frequency.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 106	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	43.19	43.27	54	-10.81	31.56	5.44	37.08	102	28	Average
5460	56.79	56.87	74	-17.21	31.56	5.44	37.08	102	28	Peak
5470	57.75	57.81	68.3	-10.55	31.57	5.45	37.08	102	28	Peak
5530	86.73	86.72			31.63	5.47	37.09	102	28	Average
5530	96.06	96.05			31.63	5.47	37.09	102	28	Peak
5725	52.35	52.23	68.3	-15.95	31.96	5.59	37.43	102	28	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	40.42	40.5	54	-13.58	31.56	5.44	37.08	100	170	Average
5460	53.96	54.04	74	-20.04	31.56	5.44	37.08	100	170	Peak
5470	53.62	53.68	68.3	-14.68	31.57	5.45	37.08	100	170	Peak
5530	84.94	84.93			31.63	5.47	37.09	100	170	Average
5530	93.91	93.9			31.63	5.47	37.09	100	170	Peak
5725	52.19	52.07	68.3	-16.11	31.96	5.59	37.43	100	170	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5530MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-Peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
55.65	23.61	41.69	40	-16.39	12.45	0.8	31.33	100	131	Peak
172.02	25.88	44.61	43.5	-17.62	11.57	1.45	31.75	100	256	Peak
285.15	16.7	33.95	46	-29.3	12.51	1.98	31.74	100	197	Peak
413.4	19.52	33.45	46	-26.48	15.6	2.48	32.01	100	156	Peak
650	24.65	33.22	46	-21.35	20.21	3.24	32.02	100	266	Peak
972.7	28.65	32.44	54	-25.35	23.92	4.12	31.83	100	188	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
63.48	27.17	46.38	40	-12.83	11.47	0.86	31.54	100	155	Peak
171.21	17.08	35.81	43.5	-26.42	11.57	1.45	31.75	100	182	Peak
266.52	15.88	33.99	46	-30.12	11.97	1.9	31.98	100	238	Peak
408.5	18.55	32.61	46	-27.45	15.5	2.46	32.02	100	259	Peak
647.9	24.58	33.19	46	-21.42	20.19	3.23	32.03	100	218	Peak
937	28.86	33.04	46	-17.14	23.72	4.05	31.95	100	145	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
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	100288	Nov. 09, 2012	Nov. 08, 2013
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 02, 2013	Jul. 01, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

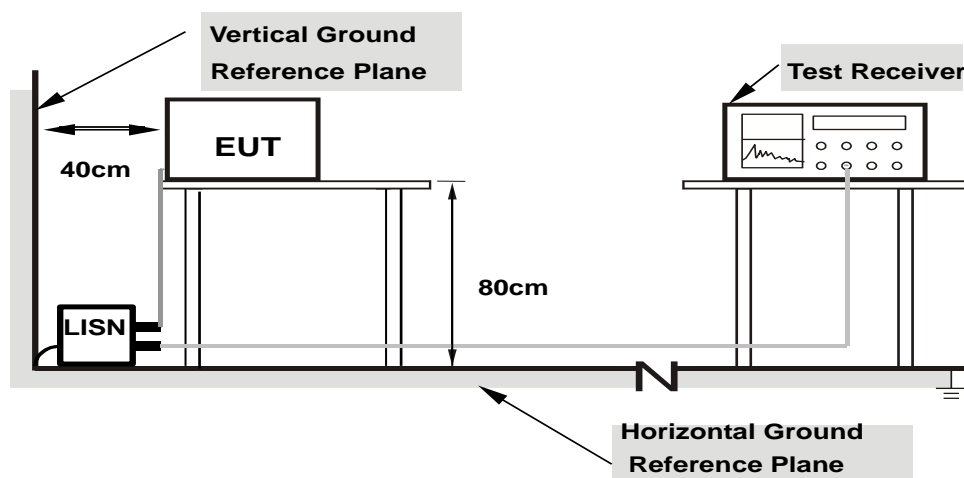
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

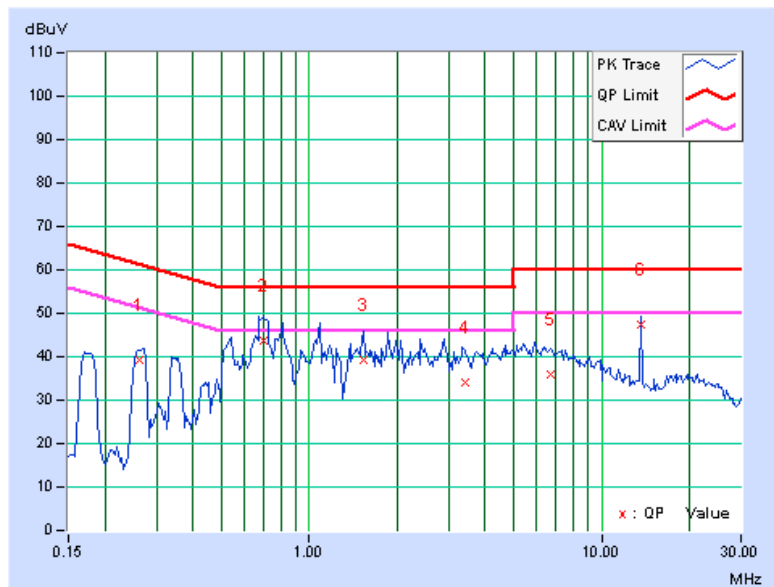
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

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	0.26328	0.18	38.91	30.99	39.09	31.17	61.33
2	0.70078	0.24	43.47	32.50	43.71	32.74	56.00	46.00	-12.29	-13.26
3	1.53906	0.28	38.84	26.22	39.12	26.50	56.00	46.00	-16.88	-19.50
4	3.41016	0.34	33.89	22.77	34.23	23.11	56.00	46.00	-21.77	-22.89
5	6.69922	0.40	35.36	24.70	35.76	25.10	60.00	50.00	-24.24	-24.90
6	13.56250	0.50	46.78	44.24	47.28	44.74	60.00	50.00	-12.72	-5.26

REMARKS:

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

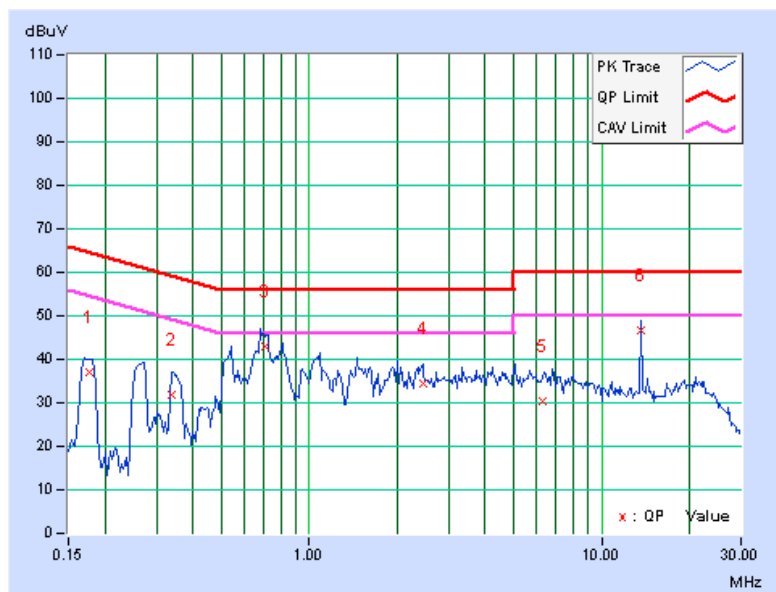


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	0.18	36.98	32.61	37.16	32.79	64.61	54.61	-27.45	-21.82
2	0.33750	0.23	31.58	18.83	31.81	19.06	59.26	49.26	-27.46	-30.21
3	0.70469	0.24	42.62	33.89	42.86	34.13	56.00	46.00	-13.14	-11.87
4	2.44141	0.30	34.11	25.96	34.41	26.26	56.00	46.00	-21.59	-19.74
5	6.26563	0.42	30.07	23.30	30.49	23.72	60.00	50.00	-29.51	-26.28
6	13.56250	0.57	45.99	42.49	46.56	43.06	60.00	50.00	-13.44	-6.94

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

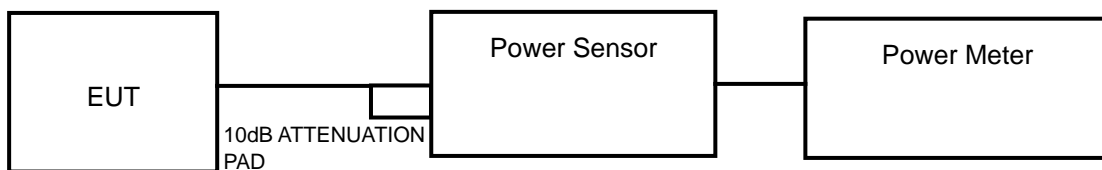
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

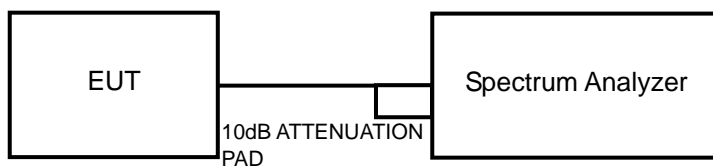
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

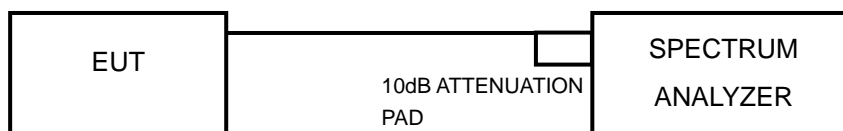
FOR POWER OUTPUT MEASUREMENT



or



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

<802.11a, 802.11n (20MHz), 802.11n (40MHz)>

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 added to measured value.

<802.11 ac (80MHz)>

Method SA-1 is used to perform output power measurement, trigger and gating function of spectrum analyzer is enabled to measure max output power of TX on burst. Duty factor is 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	41.115	16.14	17	PASS
44	5220	42.954	16.33	17	PASS
48	5240	43.152	16.35	17	PASS
52	5260	42.170	16.25	24	PASS
60	5300	42.073	16.24	24	PASS
64	5320	43.251	16.36	24	PASS
100	5500	41.591	16.19	24	PASS
116	5580	40.926	16.12	24	PASS
140	5700	43.853	16.42	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	41.400	16.17	17	PASS
44	5220	42.560	16.29	17	PASS
48	5240	43.251	16.36	17	PASS
52	5260	43.551	16.39	24	PASS
60	5300	42.954	16.33	24	PASS
64	5320	43.954	16.43	24	PASS
100	5500	42.855	16.32	24	PASS
116	5580	40.087	16.03	24	PASS
140	5700	42.462	16.28	24	PASS



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	19.543	12.91	17	PASS
46	5230	15.959	12.03	17	PASS
54	5270	21.677	13.36	24	PASS
62	5310	18.535	12.68	24	PASS
102	5510	22.182	13.46	24	PASS
110	5550	22.029	13.43	24	PASS
134	5670	21.677	13.36	24	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	23.823	13.77	17	PASS
58	5290	22.646	13.55	24	PASS
106	5530	19.454	12.89	24	PASS



26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.57	PASS
44	5220	22.70	PASS
48	5240	22.69	PASS
52	5260	22.55	PASS
60	5300	23.03	PASS
64	5320	23.02	PASS
100	5500	22.46	PASS
116	5580	22.54	PASS
140	5700	22.85	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.70	PASS
44	5220	22.68	PASS
48	5240	22.80	PASS
52	5260	23.50	PASS
60	5300	22.63	PASS
64	5320	22.83	PASS
100	5500	23.80	PASS
116	5580	22.80	PASS
140	5700	22.83	PASS



802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	46.25	PASS
46	5230	45.81	PASS
54	5270	45.40	PASS
62	5310	45.73	PASS
102	5510	45.66	PASS
110	5550	45.55	PASS
134	5670	45.74	PASS

802.11ac (80MHz)

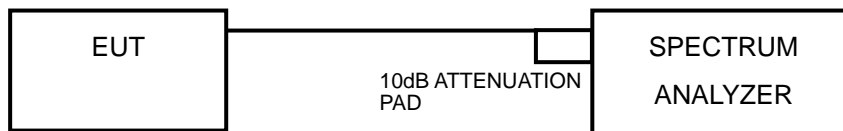
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
42	5210	84.70	PASS
58	5290	85.17	PASS
106	5530	84.97	PASS

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, 802.11n (20MHz), 802.11n (40MHz), 802.11ac (80MHz)>

Using method SA-2 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 = 4second.
- 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.



4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.06	0.67	3.73	4	PASS
44	5220	3.25	0.67	3.92	4	PASS
48	5240	2.43	0.67	3.10	4	PASS
52	5260	4.15	0.67	4.82	11	PASS
60	5300	4.47	0.67	5.14	11	PASS
64	5320	4.63	0.67	5.30	11	PASS
100	5500	4.85	0.67	5.52	11	PASS
116	5580	4.54	0.67	5.21	11	PASS
140	5700	4.30	0.67	4.97	11	PASS

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

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	2.86	0.66	3.52	4	PASS
44	5220	2.93	0.66	3.59	4	PASS
48	5240	3.14	0.66	3.80	4	PASS
52	5260	4.23	0.66	4.89	11	PASS
60	5300	4.21	0.66	4.87	11	PASS
64	5320	4.40	0.66	5.06	11	PASS
100	5500	4.58	0.66	5.24	11	PASS
116	5580	4.29	0.66	4.95	11	PASS
140	5700	4.08	0.66	4.74	11	PASS

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



802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-2.46	0.63	-1.83	4	PASS
46	5230	-2.06	0.63	-1.43	4	PASS
54	5270	-1.69	0.63	-1.06	11	PASS
62	5310	-2.32	0.63	-1.69	11	PASS
102	5510	-1.21	0.63	-0.58	11	PASS
110	5550	-1.24	0.63	-0.61	11	PASS
134	5670	-1.52	0.63	-0.89	11	PASS

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

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
42	5210	-6.60	0.87	-5.73	4	PASS
58	5290	-6.95	0.87	-6.08	4	PASS
106	5530	-5.69	0.87	-4.82	11	PASS

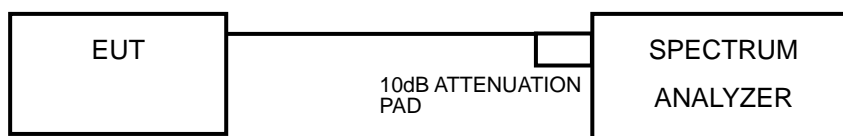
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

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 \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.

Find the worst channel and modulation mode as above test procedure, and follow KDB 789033 D01 General UNII Test Procedures v01r03 and repeat step 1 to 5 for final testing of each modulation mode on a single channel (all modulation types) in a single operating band to compliance with the peak excursion requirement.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

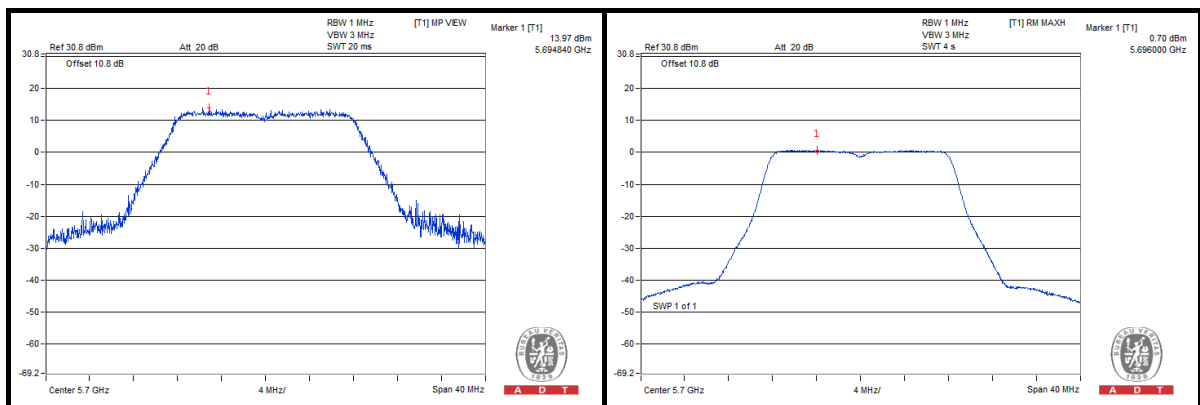
4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

4.5.7 TEST RESULTS

MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11a	BPSK	5180	14.28	4.30	4.97	9.31	13	PASS
	QPSK		14.69	3.99	4.66	10.03	13	PASS
	16QAM		13.58	1.78	2.45	11.13	13	PASS
	64QAM		13.97	0.70	1.37	12.60	13	PASS
802.11n (20MHz)	BPSK	5180	14.61	4.40	5.06	9.55	13	PASS
	QPSK		14.68	3.85	4.51	10.17	13	PASS
	16QAM		15.44	3.20	3.86	11.58	13	PASS
	64QAM		14.71	2.23	2.89	11.82	13	PASS
802.11n (40MHz)	BPSK	5190	9.23	-1.21	-0.58	9.81	13	PASS
	QPSK		10.44	-1.46	-0.83	11.27	13	PASS
	16QAM		9.42	-2.25	-1.62	11.04	13	PASS
	64QAM		9.49	-2.91	-2.28	11.77	13	PASS
802.11ac (80MHz)	BPSK	5210	3.52	-5.73	-4.86	8.38	13	PASS
	QPSK		3.58	-6.20	-5.33	8.91	13	PASS
	16QAM		3.21	-6.24	-5.37	8.58	13	PASS
	64QAM		3.42	-6.46	-5.59	9.01	13	PASS
	256QAM		2.03	-8.74	-7.87	9.90	13	PASS

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

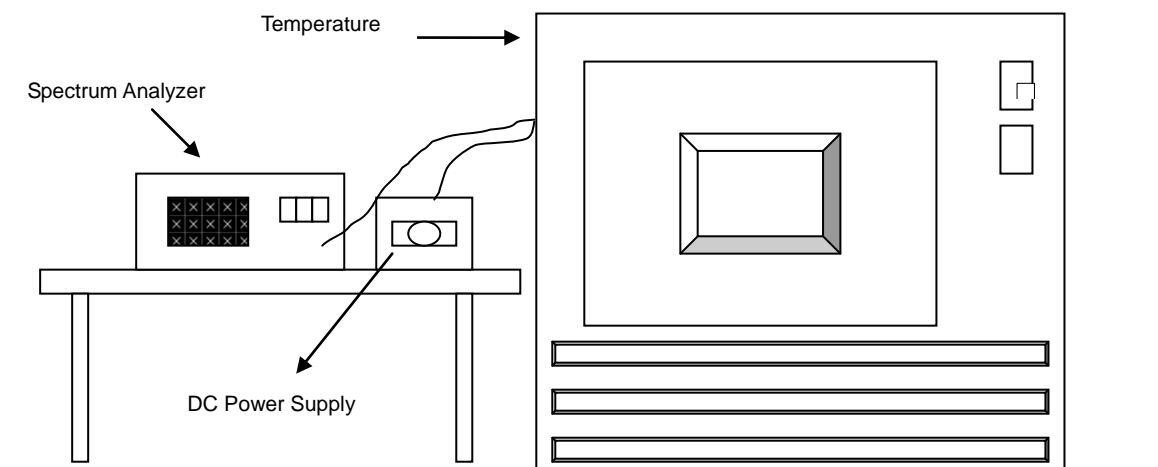


4.6 FREQUENCY STABILITY

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.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	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)
50	3.8	5320.015236	2.864	5320.014953	2.811	5320.015192	2.856	5320.015357	2.887
40	3.8	5320.016195	3.044	5320.016038	3.015	5320.015674	2.946	5320.015994	3.006
30	3.8	5320.016926	3.182	5320.016928	3.182	5320.017074	3.209	5320.017230	3.239
20	3.8	5320.045402	8.534	5320.045062	8.470	5320.044705	8.403	5320.045196	8.495
10	3.8	5320.019576	3.680	5320.019574	3.679	5320.019733	3.709	5320.019681	3.699
0	3.8	5320.018194	3.420	5320.017991	3.382	5320.017829	3.351	5320.018117	3.405
-10	3.8	5320.016628	3.126	5320.016927	3.182	5320.016134	3.033	5320.016302	3.064
-20	3.8	5320.016038	3.015	5320.015673	2.946	5320.016074	3.021	5320.016433	3.089
-30	3.8	5320.014826	2.787	5320.014804	2.783	5320.015277	2.872	5320.015085	2.836

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	3.6	5320.044750	8.412	5320.044479	8.361	5320.044803	8.422	5320.044663	8.395
	3.8	5320.045402	8.534	5320.045062	8.470	5320.044705	8.403	5320.045196	8.495
	4.35	5320.046254	8.694	5320.046119	8.669	5320.046422	8.726	5320.046159	8.677

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:

Linko EMC/RF Lab:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---