



FCC TEST REPORT (15.407)

REPORT NO.: RF130911C28-2
MODEL NO.: TC1020/QV1030/QV1030
FCC ID: HFS-FG6Q
RECEIVED: Sep. 11, 2013
TESTED: Sep. 18, 2013 ~ Oct. 02, 2013
ISSUED: Oct. 08, 2013

APPLICANT: Quanta Computer Inc.

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Tao Yuan Shien, Taiwan

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

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TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130911C28-2	Original release	Oct. 08, 2013

1. CERTIFICATION

PRODUCT: Tablet
MODEL NO.: TC1020/QV1030/QV1030
BRAND: Le Pan/Gigaset/Gigaset
APPLICANT: Quanta Computer Inc.
TESTED: Sep. 18, 2013 ~ Oct. 02, 2013
TEST SAMPLE: Identical Prototype
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: TC1020/QV1030/QV1030) 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** : Oct. 08, 2013

Vera Huang / Specialist

APPROVED BY : Sam chen , **DATE** : Oct. 08, 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 -12.58dB at 0.83750MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.11dB at 5350MHz.
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	Tablet
MODEL NO.	TC1020/QV1030/QV1030
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.7Vdc (Li-ion battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz)
OUTPUT POWER	22.856mW for 5180 ~ 5240MHz 27.416mW for 5260 ~ 5320MHz 21.677mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with -2.92dBi gain (5180 ~ 5240MHz) PIFA antenna with -3.22dBi gain (5260 ~ 5320MHz) PIFA antenna with -2.97dBi 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 detail information of brand and model names is as below.

BRAND NAME	MODEL NAME	DESCRIPTION
Le Pan	TC1020	Silver
Gigaset	QV1030	Black
Gigaset	QV1030	Silver

2. The EUT contains the following accessories.

ITEM	BRAND	MODEL	SPECIFICATION
AC Adapter	Tamura	MII050200B	I/P: 100-240Vac, 300mA, 50-60Hz O/P: 5Vdc, 2000mA
Battery	Getac	FG6Q (P/N: 541385760001)	Rating: 3.7Vdc, 3350mAh
USB cable	MEC IMEX INCORPORATED	65-15317-300	0.75m cable

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

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

FOR 5260 ~ 5320MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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		

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 **X-plane**.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	MCS0
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
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
802.11a	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

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)
802.11a	5260-5320	52 to 64	64	OFDM	BPSK	6.0

POWER LINE CONDUCTED EMISSION TEST:

The EUT was tested with the following mode.

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

BANEDGE 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
802.11a	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
802.11a	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

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
802.11a	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
802.11a	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

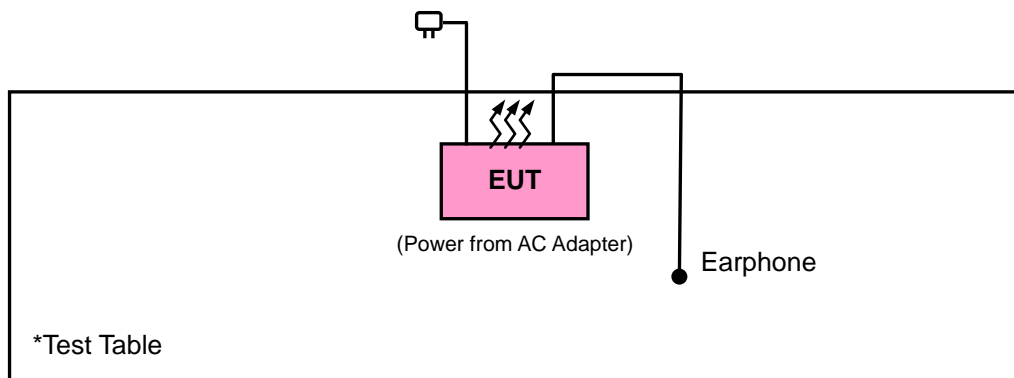
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz	Johnson Liao
APCM	25deg. C, 65%RH	120Vac, 60Hz	Howard Kao

3.3 DESCRIPTION OF SUPPORT UNITS

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



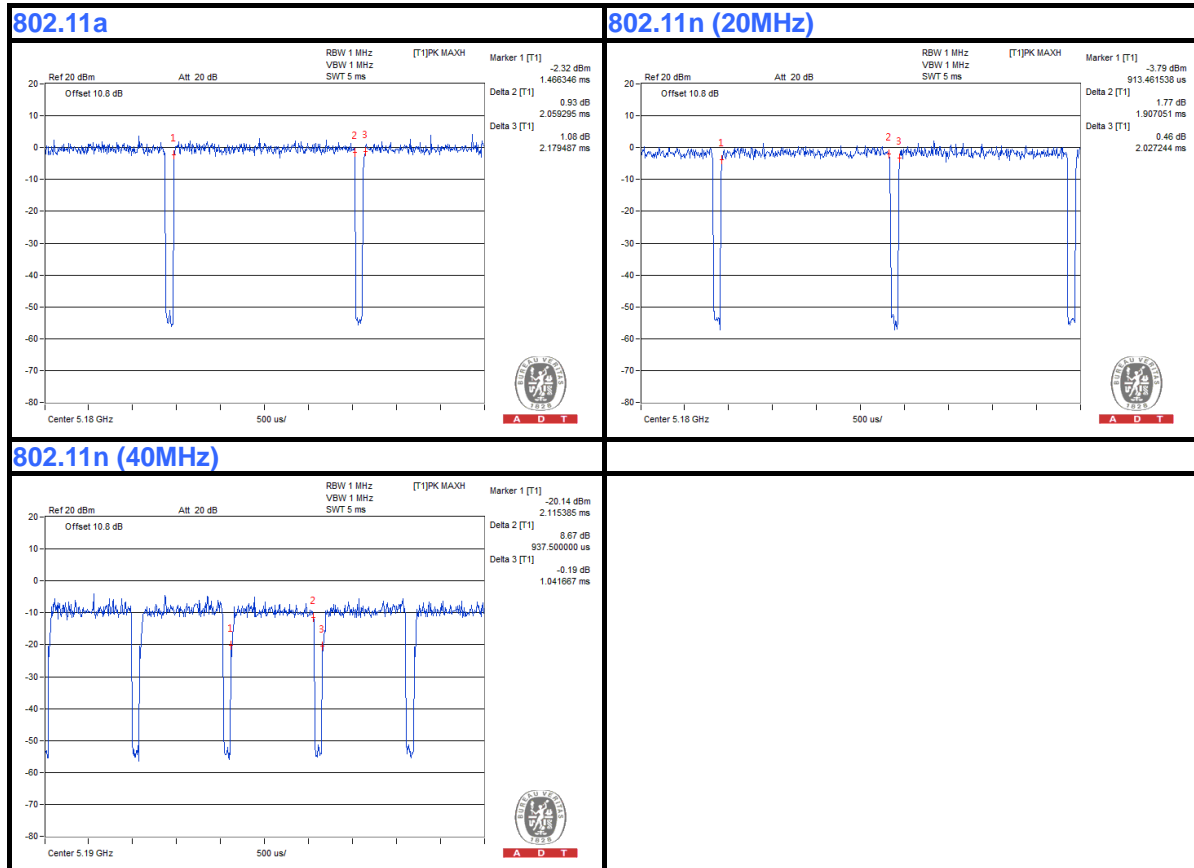
3.4 DUTY CYCLE OF TEST SIGNAL

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

802.11a: Duty cycle = $2.059/2.179 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.25$

802.11n (20MHz): Duty cycle = $1.907/2.027 = 0.941$, Duty factor = $10 * \log(1/0.941) = 0.27$

802.11n (40MHz): Duty cycle = $0.938/1.042 = 0.900$, Duty factor = $10 * \log(1/0.900) = 0.46$



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.

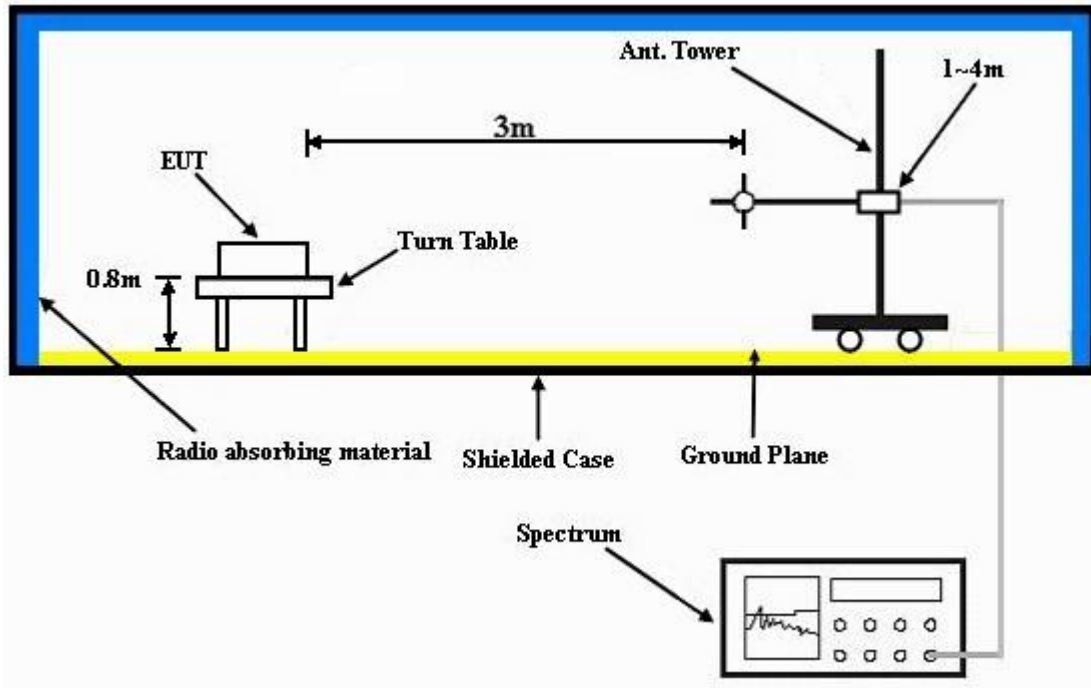
NOTE:

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	Kay Wu

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	51.16	42.57	54	-2.84	34.46	8.13	34	139	360	Average
5150	63.19	54.6	74	-10.81	34.46	8.13	34	139	360	Peak
5180	101.09	92.46			34.47	8.16	34	139	360	Average
5180	108.31	99.68			34.47	8.16	34	139	360	Peak
5456	44.33	35.37	54	-9.67	34.5	8.51	34.05	139	360	Average
5456	59.61	50.65	74	-14.39	34.5	8.51	34.05	139	360	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
5138	48.05	39.46	54	-5.95	34.45	8.13	33.99	103	193	Average
5138	61.21	52.62	74	-12.79	34.45	8.13	33.99	103	193	Peak
5180	97.19	88.56			34.47	8.16	34	103	193	Average
5180	105.42	96.79			34.47	8.16	34	103	193	Peak
5388	43.94	35.07	54	-10.06	34.5	8.41	34.04	103	193	Average
5388	59.22	50.35	74	-14.78	34.5	8.41	34.04	103	193	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	Kay Wu

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
5148	43.82	35.23	54	-10.18	34.46	8.13	34	140	360	Average
5148	60.43	51.84	74	-13.57	34.46	8.13	34	140	360	Peak
5220	101.5	92.79			34.49	8.22	34	140	360	Average
5220	108.29	99.58			34.49	8.22	34	140	360	Peak
5436	45.13	36.19	54	-8.87	34.5	8.48	34.04	140	360	Average
5436	59.93	50.99	74	-14.07	34.5	8.48	34.04	140	360	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
5058	43.7	35.22	54	-10.3	34.43	8.03	33.98	185	188	Average
5058	59.26	50.78	74	-14.74	34.43	8.03	33.98	185	188	Peak
5220	97.24	88.53			34.49	8.22	34	185	188	Average
5220	104.4	95.69			34.49	8.22	34	185	188	Peak
5442	44.21	35.27	54	-9.79	34.5	8.48	34.04	185	188	Average
5442	60.52	51.58	74	-13.48	34.5	8.48	34.04	185	188	Peak

REMARKS:

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



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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	Kay Wu

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
5060	43.7	35.22	54	-10.3	34.43	8.03	33.98	141	360	Average
5060	59.39	50.91	74	-14.61	34.43	8.03	33.98	141	360	Peak
5240	100.91	92.17			34.49	8.26	34.01	141	360	Average
5240	108.97	100.23			34.49	8.26	34.01	141	360	Peak
5360	44.98	36.13	54	-9.02	34.5	8.38	34.03	141	360	Average
5360	59.52	50.67	74	-14.48	34.5	8.38	34.03	141	360	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	43.65	35.21	54	-10.35	34.41	8	33.97	185	195	Average
5034	59.76	51.32	74	-14.24	34.41	8	33.97	185	195	Peak
5240	98.23	89.49			34.49	8.26	34.01	185	195	Average
5240	105.32	96.58			34.49	8.26	34.01	185	195	Peak
5436	44.98	36.04	54	-9.02	34.5	8.48	34.04	185	195	Average
5436	59.58	50.64	74	-14.42	34.5	8.48	34.04	185	195	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	Kay Wu

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
5008	43.63	35.22	54	-10.37	34.41	7.97	33.97	154	0	Average
5008	57.37	48.96	74	-16.63	34.41	7.97	33.97	154	0	Peak
5260	101.67	92.92			34.5	8.26	34.01	154	0	Average
5260	108.7	99.95			34.5	8.26	34.01	154	0	Peak
5434	44.23	35.29	54	-9.77	34.5	8.48	34.04	154	0	Average
5434	58.85	49.91	74	-15.15	34.5	8.48	34.04	154	0	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
5104	43.74	35.22	54	-10.26	34.44	8.07	33.99	184	197	Average
5104	57.96	49.44	74	-16.04	34.44	8.07	33.99	184	197	Peak
5260	98.71	89.96			34.5	8.26	34.01	184	197	Average
5260	106.09	97.34			34.5	8.26	34.01	184	197	Peak
5386	44.15	35.28	54	-9.85	34.5	8.41	34.04	184	197	Average
5386	57.35	48.48	74	-16.65	34.5	8.41	34.04	184	197	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	Kay Wu

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
5104	44.03	35.51	54	-9.97	34.44	8.07	33.99	136	0	Average
5104	57.42	48.9	74	-16.58	34.44	8.07	33.99	136	0	Peak
5300	103.33	94.53			34.5	8.32	34.02	136	0	Average
5300	109.33	100.53			34.5	8.32	34.02	136	0	Peak
5350	45.24	36.39	54	-8.76	34.5	8.38	34.03	136	0	Average
5350	60.33	51.48	74	-13.67	34.5	8.38	34.03	136	0	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
5074	43.7	35.22	54	-10.3	34.43	8.03	33.98	182	196	Average
5074	57.1	48.62	74	-16.9	34.43	8.03	33.98	182	196	Peak
5300	99.27	90.47			34.5	8.32	34.02	182	196	Average
5300	106.3	97.5			34.5	8.32	34.02	182	196	Peak
5362	44.15	35.3	54	-9.85	34.5	8.38	34.03	182	196	Average
5362	58.06	49.21	74	-15.94	34.5	8.38	34.03	182	196	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	Kay Wu

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
5094	44.82	36.3	54	-9.18	34.44	8.07	33.99	150	0	Average
5094	57.19	48.67	74	-16.81	34.44	8.07	33.99	150	0	Peak
5320	102.17	93.34			34.5	8.35	34.02	150	0	Average
5320	108.95	100.12			34.5	8.35	34.02	150	0	Peak
5350	53.7	44.85	54	-0.3	34.5	8.38	34.03	150	0	Average
5350	67.88	59.03	74	-6.12	34.5	8.38	34.03	150	0	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
5058	44.6	36.12	54	-9.4	34.43	8.03	33.98	126	195	Average
5058	57.65	49.17	74	-16.35	34.43	8.03	33.98	126	195	Peak
5320	99.67	90.84			34.5	8.35	34.02	126	195	Average
5320	106.28	97.45			34.5	8.35	34.02	126	195	Peak
5350	51.45	42.6	54	-2.55	34.5	8.38	34.03	126	195	Average
5350	63.33	54.48	74	-10.67	34.5	8.38	34.03	126	195	Peak

REMARKS:

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



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	Kay Wu

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	52.47	43.51	54	-1.53	34.5	8.51	34.05	132	0	Average
5460	65.07	56.11	74	-8.93	34.5	8.51	34.05	132	0	Peak
5470	66.67	57.71	68.3	-1.63	34.5	8.51	34.05	132	0	Peak
5500	103.46	94.44			34.5	8.57	34.05	132	0	Average
5500	110.8	101.78			34.5	8.57	34.05	132	0	Peak
5725	57.36	48.15	68.3	-10.94	34.67	8.65	34.11	132	0	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
5458	49.67	40.71	54	-4.33	34.5	8.51	34.05	174	196	Average
5458	60.5	51.54	74	-13.5	34.5	8.51	34.05	174	196	Peak
5470	60.16	51.2	68.3	-8.14	34.5	8.51	34.05	174	196	Peak
5500	98.31	89.29			34.5	8.57	34.05	174	196	Average
5500	105.64	96.62			34.5	8.57	34.05	174	196	Peak
5725	55.27	46.06	68.3	-13.03	34.67	8.65	34.11	174	196	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	Kay Wu

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
5458	44.24	35.28	54	-9.76	34.5	8.51	34.05	141	0	Average
5458	58.1	49.14	74	-15.9	34.5	8.51	34.05	141	0	Peak
5470	57.51	48.55	68.3	-10.79	34.5	8.51	34.05	141	0	Peak
5580	103.29	94.2			34.57	8.6	34.08	141	0	Average
5580	109.66	100.57			34.57	8.6	34.08	141	0	Peak
5725	55.29	46.08	68.3	-13.01	34.67	8.65	34.11	141	0	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	45.13	36.17	54	-8.87	34.5	8.51	34.05	183	194	Average
5460	57.43	48.47	74	-16.57	34.5	8.51	34.05	183	194	Peak
5470	56.21	47.25	68.3	-12.09	34.5	8.51	34.05	183	194	Peak
5580	99.75	90.66			34.57	8.6	34.08	183	194	Average
5580	106.57	97.48			34.57	8.6	34.08	183	194	Peak
5725	56.27	47.06	68.3	-12.03	34.67	8.65	34.11	183	194	Peak

REMARKS:

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



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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	Kay Wu

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
5440	44.21	35.27	54	-9.79	34.5	8.48	34.04	138	0	Average
5440	57.43	48.49	74	-16.57	34.5	8.48	34.04	138	0	Peak
5470	56.66	47.7	68.3	-11.64	34.5	8.51	34.05	138	0	Peak
5700	101.24	92.04			34.66	8.64	34.1	138	0	Average
5700	107.63	98.43			34.66	8.64	34.1	138	0	Peak
5725	63.11	53.9	68.3	-5.19	34.67	8.65	34.11	138	0	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
5432	44.21	35.27	54	-9.79	34.5	8.48	34.04	180	193	Average
5432	57.82	48.88	74	-16.18	34.5	8.48	34.04	180	193	Peak
5470	56.27	47.31	68.3	-12.03	34.5	8.51	34.05	180	193	Peak
5700	96.6	87.4			34.66	8.64	34.1	180	193	Average
5700	104.24	95.04			34.66	8.64	34.1	180	193	Peak
5725	58.86	49.65	68.3	-9.44	34.67	8.65	34.11	180	193	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	Kay Wu

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
5142	49.17	40.57	54	-4.83	34.46	8.13	33.99	156	360	Average
5142	62.13	53.53	74	-11.87	34.46	8.13	33.99	156	360	Peak
5180	98.87	90.24			34.47	8.16	34	156	360	Average
5180	107.1	98.47			34.47	8.16	34	156	360	Peak
5446	44.24	35.27	54	-9.76	34.5	8.51	34.04	156	360	Average
5446	59.55	50.58	74	-14.45	34.5	8.51	34.04	156	360	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	47.15	38.56	54	-6.85	34.46	8.13	34	189	194	Average
5148	60.68	52.09	74	-13.32	34.46	8.13	34	189	194	Peak
5180	95.9	87.27			34.47	8.16	34	189	194	Average
5180	103.7	95.07			34.47	8.16	34	189	194	Peak
5432	44.01	35.07	54	-9.99	34.5	8.48	34.04	189	194	Average
5432	60.16	51.22	74	-13.84	34.5	8.48	34.04	189	194	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	Kay Wu

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
5078	45.73	37.25	54	-8.27	34.43	8.03	33.98	140	360	Average
5078	60.57	52.09	74	-13.43	34.43	8.03	33.98	140	360	Peak
5220	100.22	91.51			34.49	8.22	34	140	360	Average
5220	108.87	100.16			34.49	8.22	34	140	360	Peak
5408	46.05	37.15	54	-7.95	34.5	8.44	34.04	140	360	Average
5408	60.13	51.23	74	-13.87	34.5	8.44	34.04	140	360	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	43.94	35.35	54	-10.06	34.46	8.13	34	185	194	Average
5148	59.36	50.77	74	-14.64	34.46	8.13	34	185	194	Peak
5220	96.82	88.11			34.49	8.22	34	185	194	Average
5220	104.13	95.42			34.49	8.22	34	185	194	Peak
5434	45.01	36.07	54	-8.99	34.5	8.48	34.04	185	194	Average
5434	59.29	50.35	74	-14.71	34.5	8.48	34.04	185	194	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	Kay Wu

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
5100	43.03	34.51	54	-10.97	34.44	8.07	33.99	141	360	Average
5100	59.63	51.11	74	-14.37	34.44	8.07	33.99	141	360	Peak
5240	99.57	90.83			34.49	8.26	34.01	141	360	Average
5240	106.41	97.67			34.49	8.26	34.01	141	360	Peak
5378	43.94	35.07	54	-10.06	34.5	8.41	34.04	141	360	Average
5378	59.87	51	74	-14.13	34.5	8.41	34.04	141	360	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
5122	43.78	35.22	54	-10.22	34.45	8.1	33.99	184	194	Average
5122	58.85	50.29	74	-15.15	34.45	8.1	33.99	184	194	Peak
5240	96.97	88.23			34.49	8.26	34.01	184	194	Average
5240	104.01	95.27			34.49	8.26	34.01	184	194	Peak
5390	45.02	36.15	54	-8.98	34.5	8.41	34.04	184	194	Average
5390	59.96	51.09	74	-14.04	34.5	8.41	34.04	184	194	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	Kay Wu

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
5042	44.46	36.02	54	-9.54	34.42	8	33.98	152	0	Average
5042	57.1	48.66	74	-16.9	34.42	8	33.98	152	0	Peak
5260	101.02	92.27			34.5	8.26	34.01	152	0	Average
5260	107.82	99.07			34.5	8.26	34.01	152	0	Peak
5422	44.43	35.49	54	-9.57	34.5	8.48	34.04	152	0	Average
5422	57.93	48.99	74	-16.07	34.5	8.48	34.04	152	0	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
5078	43.72	35.24	54	-10.28	34.43	8.03	33.98	185	196	Average
5078	57.52	49.04	74	-16.48	34.43	8.03	33.98	185	196	Peak
5260	97.29	88.54			34.5	8.26	34.01	185	196	Average
5260	105.23	96.48			34.5	8.26	34.01	185	196	Peak
5350	44.44	35.59	54	-9.56	34.5	8.38	34.03	185	196	Average
5350	58.17	49.32	74	-15.83	34.5	8.38	34.03	185	196	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	Kay Wu

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
5114	44.86	36.3	54	-9.14	34.45	8.1	33.99	136	0	Average
5114	57.56	49	74	-16.44	34.45	8.1	33.99	136	0	Peak
5300	101.28	92.48			34.5	8.32	34.02	136	0	Average
5300	107.35	98.55			34.5	8.32	34.02	136	0	Peak
5354	44.63	35.78	54	-9.37	34.5	8.38	34.03	136	0	Average
5354	59.25	50.4	74	-14.75	34.5	8.38	34.03	136	0	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
5044	43.45	35.01	54	-10.55	34.42	8	33.98	200	197	Average
5044	57.36	48.92	74	-16.64	34.42	8	33.98	200	197	Peak
5300	96.94	88.14			34.5	8.32	34.02	200	197	Average
5300	104.66	95.86			34.5	8.32	34.02	200	197	Peak
5452	44.26	35.3	54	-9.74	34.5	8.51	34.05	200	197	Average
5452	57.53	48.57	74	-16.47	34.5	8.51	34.05	200	197	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	Kay Wu

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	43.68	35.23	54	-10.32	34.42	8	33.97	151	0	Average
5038	56.53	48.08	74	-17.47	34.42	8	33.97	151	0	Peak
5320	96.83	88			34.5	8.35	34.02	151	0	Average
5320	107.32	98.49			34.5	8.35	34.02	151	0	Peak
5350	46.47	37.62	54	-7.53	34.5	8.38	34.03	151	0	Average
5350	61.87	53.02	74	-12.13	34.5	8.38	34.03	151	0	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	43.7	35.22	54	-10.3	34.43	8.03	33.98	183	196	Average
5064	58.69	50.21	74	-15.31	34.43	8.03	33.98	183	196	Peak
5320	96.33	87.5			34.5	8.35	34.02	183	196	Average
5320	104.98	96.15			34.5	8.35	34.02	183	196	Peak
5350	46.63	37.78	54	-7.37	34.5	8.38	34.03	183	196	Average
5350	61.07	52.22	74	-12.93	34.5	8.38	34.03	183	196	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	Kay Wu

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
5454	50.55	41.59	54	-3.45	34.5	8.51	34.05	132	0	Average
5454	61.01	52.05	74	-12.99	34.5	8.51	34.05	132	0	Peak
5470	63.02	54.06	68.3	-5.28	34.5	8.51	34.05	132	0	Peak
5500	101.94	92.92			34.5	8.57	34.05	132	0	Average
5500	108.11	99.09			34.5	8.57	34.05	132	0	Peak
5725	55.96	46.75	68.3	-12.34	34.67	8.65	34.11	132	0	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
5454	47.57	38.61	54	-6.43	34.5	8.51	34.05	187	198	Average
5454	59.25	50.29	74	-14.75	34.5	8.51	34.05	187	198	Peak
5470	59.59	50.63	68.3	-8.71	34.5	8.51	34.05	187	198	Peak
5500	97.89	88.87			34.5	8.57	34.05	187	198	Average
5500	104.4	95.38			34.5	8.57	34.05	187	198	Peak
5725	57.7	48.49	68.3	-10.6	34.67	8.65	34.11	187	198	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	Kay Wu

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
5446	47.6	38.63	54	-6.4	34.5	8.51	34.04	131	6	Average
5446	59.11	50.14	74	-14.89	34.5	8.51	34.04	131	6	Peak
5470	58.06	49.1	68.3	-10.24	34.5	8.51	34.05	131	6	Peak
5580	101.22	92.13			34.57	8.6	34.08	131	6	Average
5580	108.79	99.7			34.57	8.6	34.08	131	6	Peak
5725	56.47	47.26	68.3	-11.83	34.67	8.65	34.11	131	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
5446	44.24	35.27	54	-9.76	34.5	8.51	34.04	100	325	Average
5446	57.73	48.76	74	-16.27	34.5	8.51	34.04	100	325	Peak
5470	57.29	48.33	68.3	-11.01	34.5	8.51	34.05	100	325	Peak
5580	95.75	86.66			34.57	8.6	34.08	100	325	Average
5580	103.22	94.13			34.57	8.6	34.08	100	325	Peak
5725	56.09	46.88	68.3	-12.21	34.67	8.65	34.11	100	325	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin Value = Emission Level - Limit Value
- 5580MHz: Fundamental frequency.
- 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	Kay Wu

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
5422	44.23	35.29	54	-9.77	34.5	8.48	34.04	139	2	Average
5422	58.18	49.24	74	-15.82	34.5	8.48	34.04	139	2	Peak
5470	57.31	48.35	68.3	-10.99	34.5	8.51	34.05	139	2	Peak
5700	100.93	91.73			34.66	8.64	34.1	139	2	Average
5700	108.27	99.07			34.66	8.64	34.1	139	2	Peak
5725	62.47	53.26	68.3	-5.83	34.67	8.65	34.11	139	2	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
5458	44.26	35.3	54	-9.74	34.5	8.51	34.05	192	193	Average
5458	57.42	48.46	74	-16.58	34.5	8.51	34.05	192	193	Peak
5470	56.38	47.42	68.3	-11.92	34.5	8.51	34.05	192	193	Peak
5700	96.44	87.24			34.66	8.64	34.1	192	193	Average
5700	103.8	94.6			34.66	8.64	34.1	192	193	Peak
5725	60.88	51.67	68.3	-7.42	34.67	8.65	34.11	192	193	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	Kay Wu

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	52.57	43.98	54	-1.43	34.46	8.13	34	154	360	Average
5144	64.05	55.46	74	-9.95	34.46	8.13	34	154	360	Peak
5190	94.54	85.88			34.47	8.19	34	154	360	Average
5190	102.67	94.01			34.47	8.19	34	154	360	Peak
5444	44.1	35.16	54	-9.9	34.5	8.48	34.04	154	360	Average
5444	59.58	50.64	74	-14.42	34.5	8.48	34.04	154	360	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	50.12	41.53	54	-3.88	34.46	8.13	34	118	198	Average
5150	62.05	53.46	74	-11.95	34.46	8.13	34	118	198	Peak
5190	91.15	82.49			34.47	8.19	34	118	198	Average
5190	98.59	89.93			34.47	8.19	34	118	198	Peak
5454	44.24	35.28	54	-9.76	34.5	8.51	34.05	118	198	Average
5454	59.26	50.3	74	-14.74	34.5	8.51	34.05	118	198	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	Kay Wu

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
5132	46.81	38.25	54	-7.19	34.45	8.1	33.99	140	360	Average
5132	59.71	51.15	74	-14.29	34.45	8.1	33.99	140	360	Peak
5230	94.54	85.84			34.49	8.22	34.01	140	360	Average
5230	104.03	95.33			34.49	8.22	34.01	140	360	Peak
5414	44.18	35.28	54	-9.82	34.5	8.44	34.04	140	360	Average
5414	59.73	50.83	74	-14.27	34.5	8.44	34.04	140	360	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
5060	44.47	35.99	54	-9.53	34.43	8.03	33.98	185	195	Average
5060	59.48	51	74	-14.52	34.43	8.03	33.98	185	195	Peak
5230	92.84	84.14			34.49	8.22	34.01	185	195	Average
5230	101.58	92.88			34.49	8.22	34.01	185	195	Peak
5432	44	35.06	54	-10	34.5	8.48	34.04	185	195	Average
5432	60.18	51.24	74	-13.82	34.5	8.48	34.04	185	195	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	Kay Wu

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
5128	43.78	35.22	54	-10.22	34.45	8.1	33.99	139	2	Average
5128	58.47	49.91	74	-15.53	34.45	8.1	33.99	139	2	Peak
5270	97.34	88.56			34.5	8.29	34.01	139	2	Average
5270	104.73	95.95			34.5	8.29	34.01	139	2	Peak
5350	46.45	37.6	54	-7.55	34.5	8.38	34.03	139	2	Average
5350	59.38	50.53	74	-14.62	34.5	8.38	34.03	139	2	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
5088	43.73	35.21	54	-10.27	34.43	8.07	33.98	184	196	Average
5088	57.44	48.92	74	-16.56	34.43	8.07	33.98	184	196	Peak
5270	93.83	85.05			34.5	8.29	34.01	184	196	Average
5270	100.72	91.94			34.5	8.29	34.01	184	196	Peak
5362	44.14	35.29	54	-9.86	34.5	8.38	34.03	184	196	Average
5362	57.57	48.72	74	-16.43	34.5	8.38	34.03	184	196	Peak

REMARKS:

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



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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	Kay Wu

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	44.81	36.33	54	-9.19	34.43	8.03	33.98	135	2	Average
5068	57.82	49.34	74	-16.18	34.43	8.03	33.98	135	2	Peak
5310	97.12	88.32			34.5	8.32	34.02	135	2	Average
5310	104.18	95.38			34.5	8.32	34.02	135	2	Peak
5350	53.89	45.04	54	-0.11	34.5	8.38	34.03	135	2	Average
5350	69.92	61.07	74	-4.08	34.5	8.38	34.03	135	2	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
5120	43.78	35.22	54	-10.22	34.45	8.1	33.99	125	197	Average
5120	58.48	49.92	74	-15.52	34.45	8.1	33.99	125	197	Peak
5310	93.6	84.8			34.5	8.32	34.02	125	197	Average
5310	101.04	92.24			34.5	8.32	34.02	125	197	Peak
5354	50.41	41.56	54	-3.59	34.5	8.38	34.03	125	197	Average
5354	65.68	56.83	74	-8.32	34.5	8.38	34.03	125	197	Peak

REMARKS:

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



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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	Kay Wu

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	49.24	40.28	54	-4.76	34.5	8.51	34.05	127	4	Average
5456	62.05	53.09	74	-11.95	34.5	8.51	34.05	127	4	Peak
5470	65.83	56.87	68.3	-2.47	34.5	8.51	34.05	127	4	Peak
5510	94.91	85.89			34.51	8.57	34.06	127	4	Average
5510	102.96	93.94			34.51	8.57	34.06	127	4	Peak
5725	56.09	46.88	68.3	-12.21	34.67	8.65	34.11	127	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
5432	44.23	35.29	54	-9.77	34.5	8.48	34.04	188	192	Average
5432	57.76	48.82	74	-16.24	34.5	8.48	34.04	188	192	Peak
5470	57.73	48.77	68.3	-10.57	34.5	8.51	34.05	188	192	Peak
5510	90.62	81.6			34.51	8.57	34.06	188	192	Average
5510	97.83	88.81			34.51	8.57	34.06	188	192	Peak
5725	55.28	46.07	68.3	-13.02	34.67	8.65	34.11	188	192	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	Kay Wu

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	47.13	38.17	54	-6.87	34.5	8.51	34.05	127	6	Average
5456	59.55	50.59	74	-14.45	34.5	8.51	34.05	127	6	Peak
5470	58.31	49.35	68.3	-9.99	34.5	8.51	34.05	127	6	Peak
5550	97.88	88.82			34.54	8.59	34.07	127	6	Average
5550	106.02	96.96			34.54	8.59	34.07	127	6	Peak
5725	56.03	46.82	68.3	-12.27	34.67	8.65	34.11	127	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
5460	45.13	36.17	54	-8.87	34.5	8.51	34.05	120	192	Average
5460	58.25	49.29	74	-15.75	34.5	8.51	34.05	120	192	Peak
5470	55.9	46.94	68.3	-12.4	34.5	8.51	34.05	120	192	Peak
5550	92.7	83.64			34.54	8.59	34.07	120	192	Average
5550	100.46	91.4			34.54	8.59	34.07	120	192	Peak
5725	56	46.79	68.3	-12.3	34.67	8.65	34.11	120	192	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	Kay Wu

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
5432	44.23	35.29	54	-9.77	34.5	8.48	34.04	122	8	Average
5432	57.49	48.55	74	-16.51	34.5	8.48	34.04	122	8	Peak
5470	58.26	49.3	68.3	-10.04	34.5	8.51	34.05	122	8	Peak
5670	95.71	86.55			34.63	8.63	34.1	122	8	Average
5670	103.13	93.97			34.63	8.63	34.1	122	8	Peak
5725	58.63	49.42	68.3	-9.67	34.67	8.65	34.11	122	8	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	44.27	35.3	54	-9.73	34.5	8.51	34.04	183	192	Average
5448	57.73	48.76	74	-16.27	34.5	8.51	34.04	183	192	Peak
5470	56.24	47.28	68.3	-12.06	34.5	8.51	34.05	183	192	Peak
5670	90.79	81.63			34.63	8.63	34.1	183	192	Average
5670	98.79	89.63			34.63	8.63	34.1	183	192	Peak
5725	56.8	47.59	68.3	-11.5	34.67	8.65	34.11	183	192	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



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BELOW 1GHz WORST-CASE DATA : 802.11a

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	Kay Wu

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
55.92	13.24	37.39	40	-26.76	7.18	0.9	32.23	156	20	Peak
87.51	21.1	43.07	40	-18.9	8.78	1.11	31.86	188	56	Peak
135.84	18.73	40.34	43.5	-24.77	9.26	1.38	32.25	145	125	Peak
349	17.4	30.97	46	-28.6	16.31	2.19	32.07	145	218	Peak
407.8	21.42	33.27	46	-24.58	17.95	2.41	32.21	199	256	Peak
535.2	21.22	30.17	46	-24.78	20.52	2.7	32.17	114	274	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
55.92	17.08	41.23	40	-22.92	7.18	0.9	32.23	145	218	Peak
89.67	22.79	44.49	43.5	-20.71	8.9	1.11	31.71	156	358	Peak
133.41	13.57	35.2	43.5	-29.93	9.24	1.38	32.25	117	46	Peak
379.1	17.67	30.97	46	-28.33	16.6	2.26	32.16	104	215	Peak
512.8	20.69	30.17	46	-25.31	19.94	2.7	32.12	112	205	Peak
622	23.02	30.3	46	-22.98	21.96	2.93	32.17	185	219	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

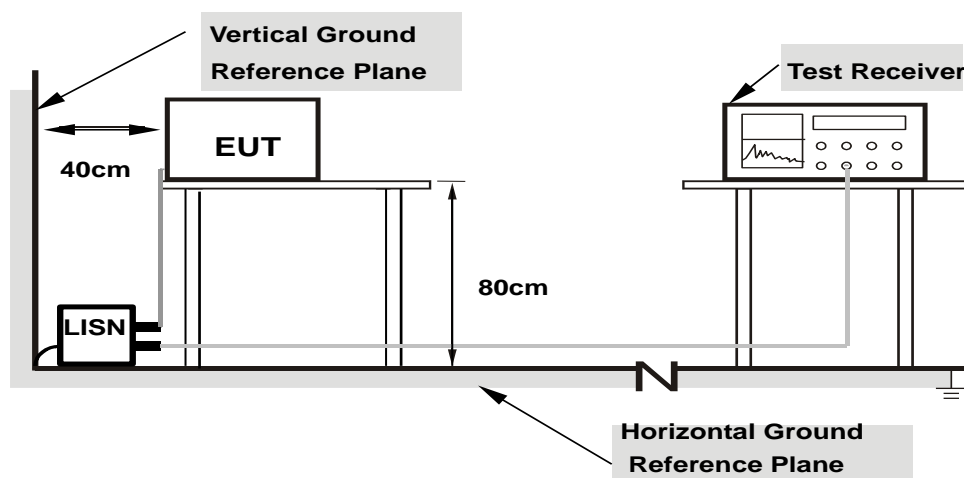
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

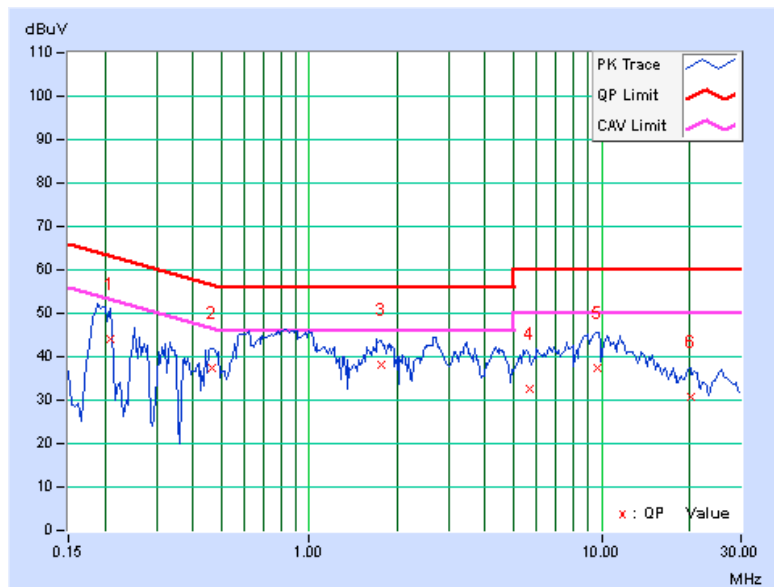
CONDUCTED WORST-CASE DATA :

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	0.20859	0.17	43.96	29.75	44.13	29.92	63.26
2	0.46250	0.22	37.19	20.94	37.41	21.16	56.65	46.65	-19.24	-25.49
3	1.75781	0.28	37.82	20.41	38.10	20.69	56.00	46.00	-17.90	-25.31
4	5.64453	0.39	32.22	19.98	32.61	20.37	60.00	50.00	-27.39	-29.63
5	9.66016	0.43	36.92	24.33	37.35	24.76	60.00	50.00	-22.65	-25.24
6	20.12109	0.64	29.93	20.40	30.57	21.04	60.00	50.00	-29.43	-28.96

REMARKS:

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





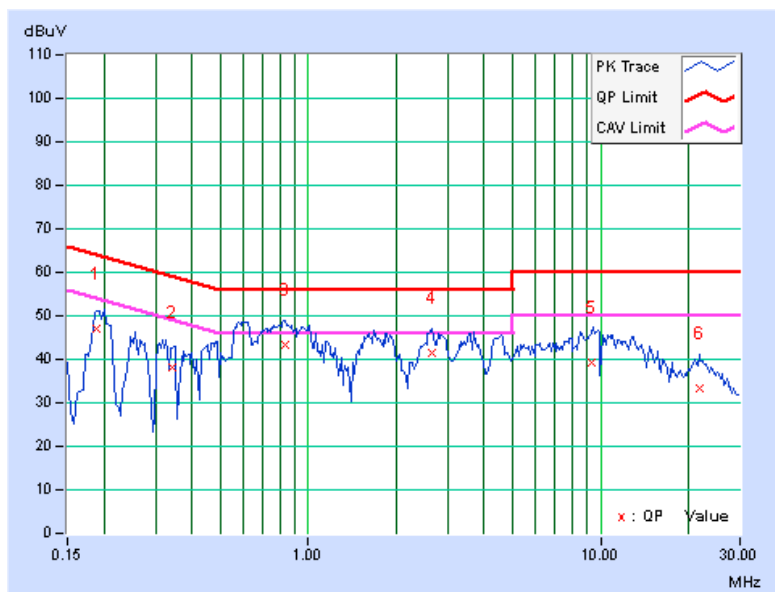
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PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18906	0.18	46.87	37.27	47.05	37.45	64.08	54.08	-17.03	-16.63
2	0.34141	0.23	37.95	21.99	38.18	22.22	59.17	49.17	-20.99	-26.95
3	0.83750	0.24	43.18	25.54	43.42	25.78	56.00	46.00	-12.58	-20.22
4	2.64063	0.32	41.03	26.90	41.35	27.22	56.00	46.00	-14.65	-18.78
5	9.33594	0.47	38.79	27.19	39.26	27.66	60.00	50.00	-20.74	-22.34
6	21.76172	0.72	32.63	22.51	33.35	23.23	60.00	50.00	-26.65	-26.77

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

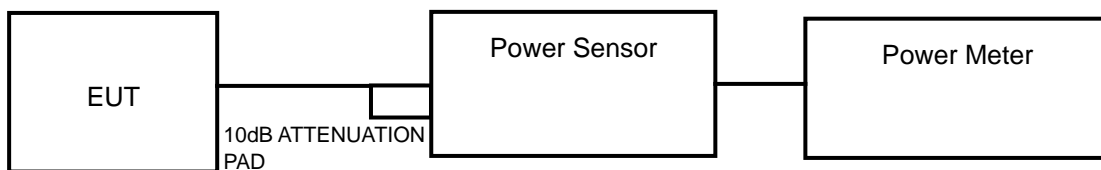
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

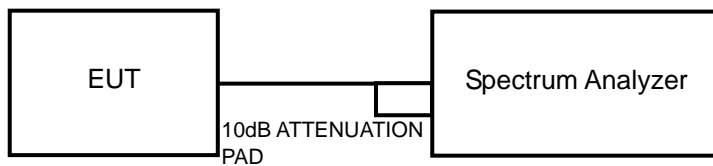
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

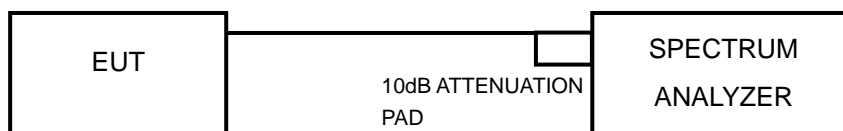
FOR POWER OUTPUT MEASUREMENT



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.

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	22.751	13.57	17	PASS
44	5220	22.856	13.59	17	PASS
48	5240	22.439	13.51	17	PASS
52	5260	22.699	13.56	24	PASS
60	5300	27.227	14.35	24	PASS
64	5320	27.416	14.38	24	PASS
100	5500	21.677	13.36	24	PASS
116	5580	21.478	13.32	24	PASS
140	5700	12.190	10.86	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	17.179	12.35	17	PASS
44	5220	17.258	12.37	17	PASS
48	5240	17.140	12.34	17	PASS
52	5260	17.338	12.39	24	PASS
60	5300	16.749	12.24	24	PASS
64	5320	17.061	12.32	24	PASS
100	5500	16.982	12.30	24	PASS
116	5580	16.634	12.21	24	PASS
140	5700	11.641	10.66	24	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	16.596	12.20	17	PASS
46	5230	17.100	12.33	17	PASS
54	5270	16.634	12.21	24	PASS
62	5310	16.255	12.11	24	PASS
102	5510	9.638	9.84	24	PASS
110	5550	16.069	12.06	24	PASS
134	5670	8.933	9.51	24	PASS



26dB BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	20.00	PASS
44	5220	20.42	PASS
48	5240	19.87	PASS
52	5260	19.88	PASS
60	5300	21.56	PASS
64	5320	20.63	PASS
100	5500	20.02	PASS
116	5580	20.09	PASS
140	5700	19.91	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	20.64	PASS
44	5220	20.44	PASS
48	5240	20.32	PASS
52	5260	20.55	PASS
60	5300	20.57	PASS
64	5320	20.59	PASS
100	5500	20.48	PASS
116	5580	20.52	PASS
140	5700	20.48	PASS

802.11n (40MHz)

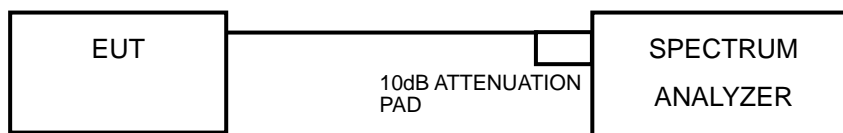
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	45.55	PASS
46	5230	45.99	PASS
54	5270	45.23	PASS
62	5310	46.74	PASS
102	5510	46.13	PASS
110	5550	46.09	PASS
134	5670	45.65	PASS

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	2.11	0.25	2.36	4	PASS
44	5220	2.16	0.25	2.41	4	PASS
48	5240	2.26	0.25	2.51	4	PASS
52	5260	2.32	0.25	2.57	11	PASS
60	5300	3.27	0.25	3.52	11	PASS
64	5320	3.37	0.25	3.62	11	PASS
100	5500	2.89	0.25	3.14	11	PASS
116	5580	2.75	0.25	3.00	11	PASS
140	5700	-0.37	0.25	-0.12	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	0.72	0.27	0.99	4	PASS
44	5220	0.92	0.27	1.19	4	PASS
48	5240	0.86	0.27	1.13	4	PASS
52	5260	1.10	0.27	1.37	11	PASS
60	5300	1.15	0.27	1.42	11	PASS
64	5320	1.25	0.27	1.52	11	PASS
100	5500	1.60	0.27	1.87	11	PASS
116	5580	1.40	0.27	1.67	11	PASS
140	5700	-0.52	0.27	-0.25	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	-4.18	0.46	-3.72	4	PASS
46	5230	-3.02	0.46	-2.56	4	PASS
54	5270	-2.77	0.46	-2.31	11	PASS
62	5310	-2.66	0.46	-2.20	11	PASS
102	5510	-4.65	0.46	-4.19	11	PASS
110	5550	-2.42	0.46	-1.96	11	PASS
134	5670	-5.48	0.46	-5.02	11	PASS

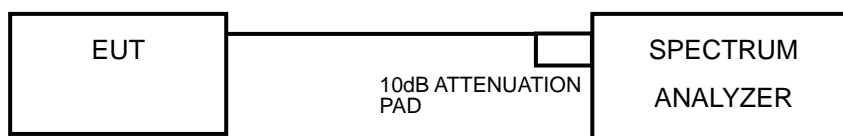
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

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.

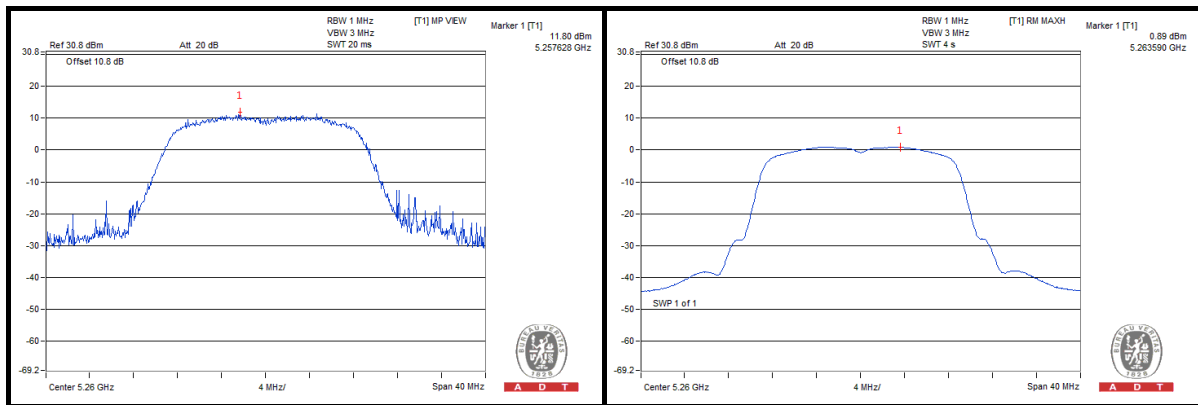
4.5.6 EUT OPERATING CONDITIONS

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	13.43	3.37	3.62	9.81	13	PASS
	QPSK		13.59	3.08	3.52	10.07	13	PASS
	16QAM		13.75	2.73	3.47	10.28	13	PASS
	64QAM		13.70	2.32	3.64	10.06	13	PASS
802.11n (20MHz)	BPSK	5260	10.56	1.10	1.58	8.98	13	PASS
	QPSK		11.80	0.89	1.16	10.64	13	PASS
	16QAM		11.66	0.59	1.36	10.30	13	PASS
	64QAM		11.38	0.02	1.37	10.01	13	PASS
802.11n (40MHz)	BPSK	5190	6.51	-3.02	-2.56	9.07	13	PASS
	QPSK		7.34	-3.47	-2.67	10.01	13	PASS
	16QAM		7.91	-3.88	-2.50	10.41	13	PASS
	64QAM		7.97	-4.41	-2.26	10.23	13	PASS

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

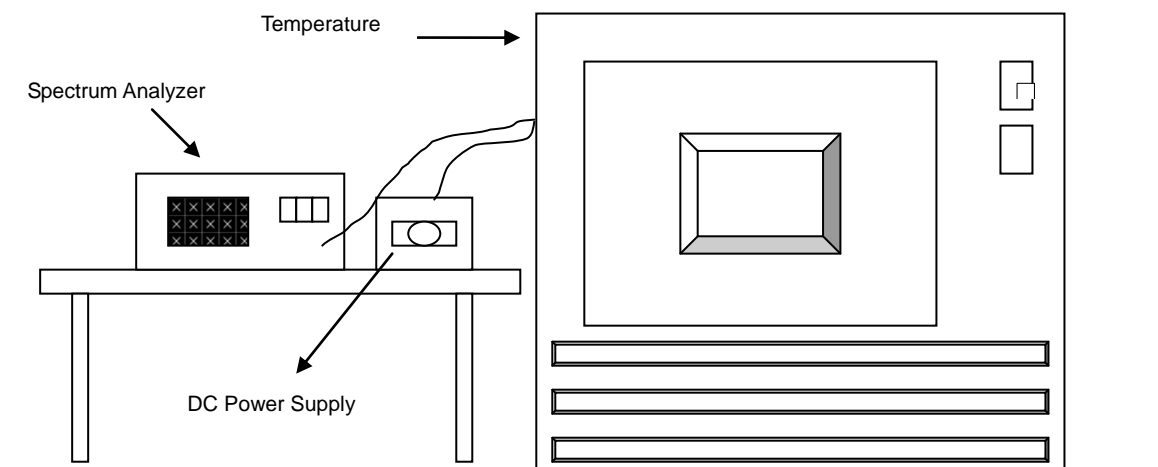


4.6 FREQUENCY STABILITY

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	3.7	5320.015122	2.842	5320.015123	2.843	5320.015582	2.929	5320.015154	2.848
40	3.7	5320.015773	2.965	5320.015766	2.964	5320.015883	2.986	5320.015996	3.007
30	3.7	5320.016994	3.194	5320.016833	3.164	5320.017218	3.236	5320.017236	3.240
20	3.7	5320.017948	3.374	5320.018257	3.432	5320.018288	3.438	5320.018311	3.442
10	3.7	5320.019440	3.654	5320.019552	3.675	5320.019805	3.723	5320.019343	3.636
0	3.7	5320.017966	3.377	5320.018228	3.426	5320.018210	3.423	5320.017930	3.370
-10	3.7	5320.016426	3.088	5320.016901	3.177	5320.016707	3.140	5320.016497	3.101
-20	3.7	5320.015926	2.994	5320.015741	2.959	5320.016120	3.030	5320.015774	2.965
-30	3.7	5320.014835	2.789	5320.015269	2.870	5320.014835	2.789	5320.015195	2.856

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	3.2	5320.017708	3.329	5320.017396	3.270	5320.017373	3.266	5320.017753	3.337
	3.7	5320.017718	3.330	5320.018289	3.438	5320.017779	3.342	5320.018301	3.440
	4.2	5320.019055	3.582	5320.019367	3.640	5320.019635	3.691	5320.019178	3.605

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

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

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

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Web Site: www.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---