FCC TEST REPORT (15.407)

REPORT NO.:	RF120405C14-4
MODEL NO.:	FJI13
FCC ID:	YUW-FJI13
RECEIVED:	Apr. 05, 2012
TESTED:	May 13 ~ May 15, 2012
ISSUED:	Jun. 01, 2012

APPLICANT:	Fujitsu Mobile Communications Ltd.
ADDRESS:	1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki 211-8588, Japan

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120405C14-4	Original release	Jun. 01, 2012

1. CERTIFICATION

PRODUCT:	CDMA FJI13
MODEL NO.:	FJI13
BRAND:	Fujitsu Mobile Communications Ltd.
APPLICANT:	Fujitsu Mobile Communications Ltd.
TESTED:	May 13 ~ May 15, 2012
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	ANSI C63.10-2009

The above equipment (model: FJI13) 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 : Ivonne Wu / Senior Specialist , **DATE :** Jun. 01, 2012

APPROVED BY : Gary Chang / Technical Manager , **DATE :** Jun. 01, 2012

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 12.73dB at 1.38672MHz.
15.407(b/1/2/3)(b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -5.96dB at 247.08MHz.
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	3.34 dB
	200MHz ~1000MHz	3.35 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	CDMA FJI13
MODEL NO.	FJI13
POWER SUPPLY	5.0Vdc (adapter) 3.7Vdc (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 72.2Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz)
OUTPUT POWER	6.516mW for 5180 ~ 5240MHz 6.194mW for 5260 ~ 5320MHz 6.237mW for 5500 ~ 5700MHz
ANTENNA TYPE	PCB Antenna with -3.5dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Battery

NOTE:

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

Frequency Band (MHz)	2412~2462	5180~5240	5260~5320	5500~5700
802.11b	√			
802.11g	√			
802.11a		√	√	√
802.11n (20MHz)	√	√	√	√

2. The EUT provides one completed transmitter and one receiver.

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

3. The EUT contains following accessory and components.

ITEM	BRAND	MODEL	SPECIFICATION
Battery	Panasonic	FJI13UAA	Rating: 3.7Vdc, 1800mAh Type: Li-ion
LCD Panel	TMD	LT046MDY0000	--
Camera 1	SONY	IU091F-Z	--
Camera 2	SAMSUNG	S5K6AAFX13	--
WLAN/BT Module	TI	WL1283	--
WiMAX Module	Broadcom	BCSM350	--

4. The following accessory is for support unit only.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter	HOSHIDEN	0204PTA	Input: 100-240Vac, 220mA Output: 5Vdc, 600mA

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

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 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

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

FOR 5500 ~ 5700MHz

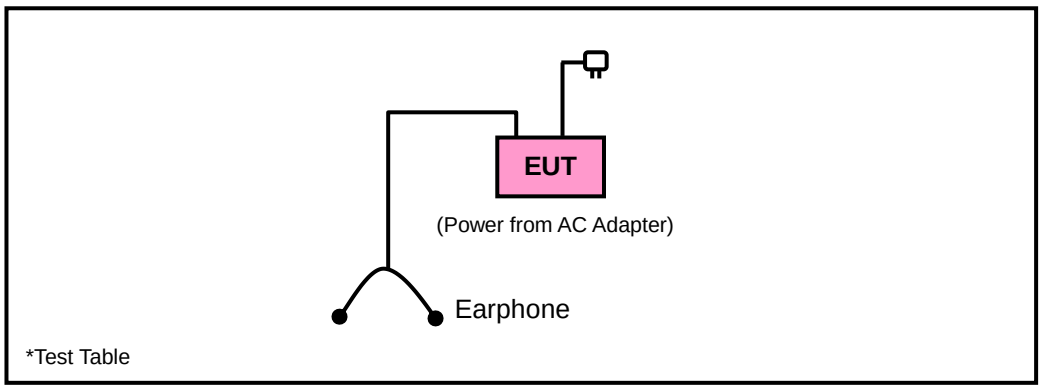
8 channels are provided for 802.11a, 802.11n (20MHz):

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

3.2.1 DESCRIPTION OF SUPPORT UNITS

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

3.2.2 CONFIGURATION OF SYSTEM UNDER TEST



3.2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Where **RE≥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.**

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	7.2
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	7.2
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	7.2

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	5180-5320	36 to 64	36	OFDM	BPSK	6.0

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320	36 to 64	36	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

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	7.2
802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	7.2
802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	7.2

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.

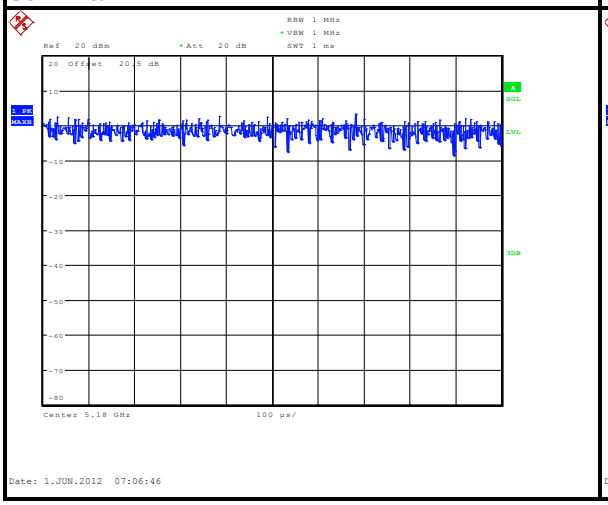
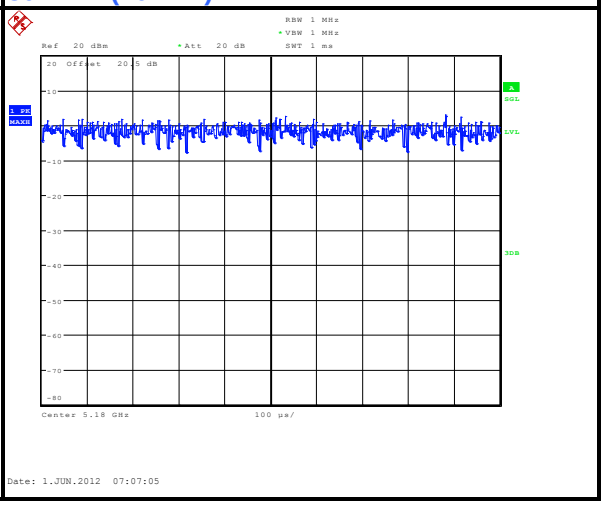
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	7.2
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
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	7.2

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	22deg. C, 56%RH	120Vac, 60Hz	Skys Huang
APCM	25deg. C, 65%RH	120Vac, 60Hz	Phoenix Chen

3.3 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is > 98 %

802.11a	802.11n (20MHz)
	

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2009

KDB 789033 D01 General UNII Test Procedures v01r01

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

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

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/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 Agilent	N9038A	MY51210203	Dec. 22, 2011	Dec. 21, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2011	Dec. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 20, 2011	Dec. 19, 2012
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 330H	980112	Dec. 30, 2011	Dec. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 21, 2011	Oct. 20, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Jan. 02, 2012	Jan. 01, 2013
RF signal cable Worken	RG-213	NA	Jan. 02, 2012	Jan. 01, 2013
Software	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
Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2011	May 24, 2012
JFW 20dB attenuation	50HF-020-SMA	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 Chamber 9.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 460141.

5. The IC Site Registration No. is IC 7450F-4.

4.1.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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.

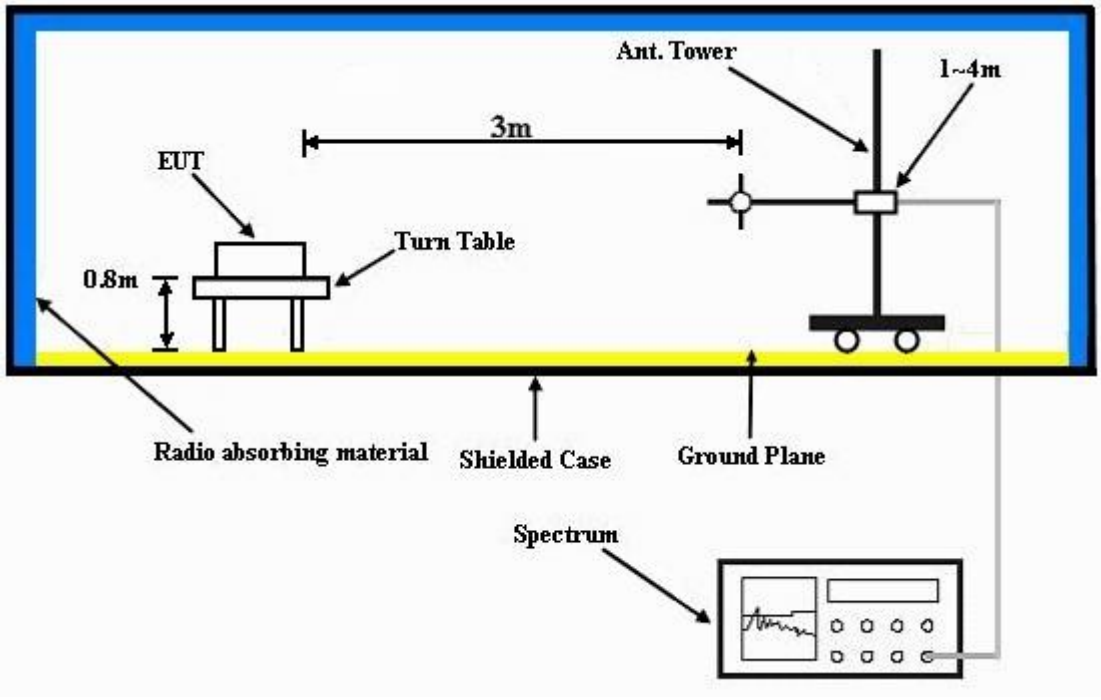
NOTE:

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**	30MHz ~ 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**
5130	35.45	30.42	54	-18.55	31.86	7.98	34.81	113	144	Average
5130	50.69	45.66	74	-23.31	31.86	7.98	34.81	113	144	Peak
5180	76.98	71.93			31.88	7.94	34.77	113	144	Average
5180	87.38	82.33			31.88	7.94	34.77	113	144	Peak
5460	35.11	29.62	54	-18.89	32.01	8.17	34.69	113	144	Average
5460	50.61	45.12	74	-23.39	32.01	8.17	34.69	113	144	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**
5052	37.41	32.55	54	-16.59	31.82	7.86	34.82	127	128	Average
5052	49.45	44.59	74	-24.55	31.82	7.86	34.82	127	128	Peak
5180	87.28	82.23			31.88	7.94	34.77	127	128	Average
5180	99.41	94.36			31.88	7.94	34.77	127	128	Peak
5458	36.55	31.06	54	-17.45	32.01	8.17	34.69	127	128	Average
5458	49.81	44.32	74	-24.19	32.01	8.17	34.69	127	128	Peak

REMARKS: 5180MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	30MHz ~ 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
5112	37.19	32.16	54	-16.81	31.85	8	34.82	149	205	Average
5112	49.55	44.52	74	-24.45	31.85	8	34.82	149	205	Peak
5220	76.35	71.28			31.9	7.93	34.76	149	205	Average
5220	86.8	81.73			31.9	7.93	34.76	149	205	Peak
5352	36.38	31.08	54	-17.62	31.97	8.02	34.69	149	205	Average
5352	50.45	45.15	74	-23.55	31.97	8.02	34.69	149	205	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
5010	37.73	33.03	54	-16.27	31.8	7.71	34.81	127	127	Average
5010	50.62	45.92	74	-23.38	31.8	7.71	34.81	127	127	Peak
5220	88.31	83.24			31.9	7.93	34.76	127	127	Average
5220	98.53	93.43			31.9	7.95	34.75	127	127	Peak
5368	36.62	31.32	54	-17.38	31.97	8.02	34.69	127	127	Average
5368	50.04	44.74	74	-23.96	31.97	8.02	34.69	127	127	Peak

REMARKS: 5220MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	30MHz ~ 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
5056	36.64	31.78	54	-17.36	31.82	7.86	34.82	104	204	Average
5056	49.56	44.7	74	-24.44	31.82	7.86	34.82	104	204	Peak
5240	76.29	71.18			31.91	7.95	34.75	104	204	Average
5240	86.68	81.57			31.91	7.95	34.75	104	204	Peak
5410	36.83	31.51	54	-17.17	31.99	8.01	34.68	104	204	Average
5410	50.11	44.79	74	-23.89	31.99	8.01	34.68	104	204	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
5112	37.77	32.74	54	-16.23	31.85	8	34.82	113	128	Average
5112	49.37	44.34	74	-24.63	31.85	8	34.82	113	128	Peak
5240	88.14	83.03			31.91	7.95	34.75	113	128	Average
5240	98.82	93.7			31.92	7.95	34.75	113	128	Peak
5406	36.82	31.5	54	-17.18	31.99	8.01	34.68	113	128	Average
5406	49.84	44.52	74	-24.16	31.99	8.01	34.68	113	128	Peak

REMARKS: 5240MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	30MHz ~ 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
5096	36.95	31.93	54	-17.05	31.84	8	34.82	104	204	Average
5096	49.48	44.46	74	-24.52	31.84	8	34.82	104	204	Peak
5260	76.87	71.72			31.92	7.97	34.74	104	204	Average
5260	87.06	81.91			31.92	7.97	34.74	104	204	Peak
5408	37.46	32.14	54	-16.54	31.99	8.01	34.68	104	204	Average
5408	49.75	44.43	74	-24.25	31.99	8.01	34.68	104	204	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	37.58	32.56	54	-16.42	31.85	7.98	34.81	104	161	Average
5122	50.22	45.2	74	-23.78	31.85	7.98	34.81	104	161	Peak
5260	89.13	83.98			31.92	7.97	34.74	104	161	Average
5260	98.97	93.82			31.92	7.97	34.74	104	161	Peak
5458	36.98	31.49	54	-17.02	32.01	8.17	34.69	104	161	Average
5458	50.05	44.56	74	-23.95	32.01	8.17	34.69	104	161	Peak

REMARKS: 5260MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	30MHz ~ 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
5116	36.63	31.6	54	-17.37	31.85	8	34.82	113	206	Average
5116	49.79	44.76	74	-24.21	31.85	8	34.82	113	206	Peak
5300	77.15	71.9			31.94	8.02	34.71	113	206	Average
5300	87.19	81.94			31.94	8.02	34.71	113	206	Peak
5400	37.02	31.7	54	-16.98	31.99	8.01	34.68	113	206	Average
5400	49.84	44.52	74	-24.16	31.99	8.01	34.68	113	206	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
5076	36.96	32.02	54	-17.04	31.83	7.93	34.82	116	160	Average
5076	49.22	44.28	74	-24.78	31.83	7.93	34.82	116	160	Peak
5300	88.07	82.82			31.94	8.02	34.71	116	160	Average
5300	98.52	93.3			31.94	8	34.72	116	160	Peak
5366	37.73	32.43	54	-16.27	31.97	8.02	34.69	116	160	Average
5366	50.11	44.81	74	-23.89	31.97	8.02	34.69	116	160	Peak

REMARKS: 5300MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	30MHz ~ 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	36.07	31.04	54	-17.93	31.86	7.98	34.81	113	206	Average
5128	50.01	44.98	74	-23.99	31.86	7.98	34.81	113	206	Peak
5320	77.44	72.18			31.95	8.02	34.71	113	206	Average
5320	88.1	82.84			31.95	8.02	34.71	113	206	Peak
5420	36.32	30.99	54	-17.68	32	8.01	34.68	113	206	Average
5420	50.52	45.19	74	-23.48	32	8.01	34.68	113	206	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
5112	36.29	31.26	54	-17.71	31.85	8	34.82	125	131	Average
5112	50.09	45.06	74	-23.91	31.85	8	34.82	125	131	Peak
5320	87.93	82.67			31.95	8.02	34.71	125	131	Average
5320	98.27	93.01			31.95	8.02	34.71	125	131	Peak
5402	38.32	33	54	-15.68	31.99	8.01	34.68	125	131	Average
5402	49.9	44.58	74	-24.1	31.99	8.01	34.68	125	131	Peak

REMARKS: 5320MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	30MHz ~ 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
5434	35.57	30.15	54	-18.43	32.01	8.09	34.68	100	196	Average
5434	50.43	45.01	74	-23.57	32.01	8.09	34.68	100	196	Peak
5470	48.34	42.84	68.3	-19.96	32.02	8.17	34.69	100	196	Peak
5500	77.06	71.47			32.04	8.24	34.69	100	196	Average
5500	87.48	81.89			32.04	8.24	34.69	100	196	Peak
5725	48.02	42.07	68.3	-20.28	32.36	8.36	34.77	100	196	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	37.1	31.68	54	-16.9	32.01	8.09	34.68	108	130	Average
5448	50.85	45.43	74	-23.15	32.01	8.09	34.68	108	130	Peak
5470	48.26	42.76	68.3	-20.04	32.02	8.17	34.69	108	130	Peak
5500	89.32	83.73			32.04	8.24	34.69	108	130	Average
5500	99.67	94.09			32.03	8.24	34.69	108	130	Peak
5725	48.18	42.23	68.3	-20.12	32.36	8.36	34.77	108	130	Peak

REMARKS:
1. 5550MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	30MHz ~ 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
5382	37.64	32.34	54	-16.36	31.98	8.01	34.69	101	192	Average
5382	49.42	44.12	74	-24.58	31.98	8.01	34.69	101	192	Peak
5470	48.72	43.22	68.3	-19.58	32.02	8.17	34.69	101	192	Peak
5580	76.39	70.85			32.14	8.18	34.78	101	192	Average
5580	86.52	80.94			32.14	8.2	34.76	101	192	Peak
5725	49.52	43.57	68.3	-18.78	32.36	8.36	34.77	101	192	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	38.04	32.62	54	-15.96	32.01	8.09	34.68	110	160	Average
5448	50.62	45.2	74	-23.38	32.01	8.09	34.68	110	160	Peak
5470	47.97	42.47	68.3	-20.33	32.02	8.17	34.69	110	160	Peak
5580	89.57	84.03			32.14	8.18	34.78	110	160	Average
5580	99.89	94.35			32.14	8.18	34.78	110	160	Peak
5725	49.38	43.43	68.3	-18.92	32.36	8.36	34.77	110	160	Peak

REMARKS:
1. 5580MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	30MHz ~ 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	37.55	32.06	54	-16.45	32.01	8.17	34.69	103	176	Average
5458	50.6	45.11	74	-23.4	32.01	8.17	34.69	103	176	Peak
5470	48.07	42.57	68.3	-20.23	32.02	8.17	34.69	103	176	Peak
5700	81.55	75.69			32.31	8.33	34.78	103	176	Average
5700	91.47	85.61			32.31	8.33	34.78	103	176	Peak
5725	49.74	43.79	68.3	-18.56	32.36	8.36	34.77	103	176	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
5384	37.04	31.74	54	-16.96	31.98	8.01	34.69	110	160	Average
5384	50.42	45.12	74	-23.58	31.98	8.01	34.69	110	160	Peak
5470	49.59	44.09	68.3	-18.71	32.02	8.17	34.69	110	160	Peak
5700	89.97	84.11			32.31	8.33	34.78	110	160	Average
5700	100.39	94.53			32.31	8.33	34.78	110	160	Peak
5725	51.15	45.2	68.3	-17.15	32.36	8.36	34.77	110	160	Peak

REMARKS:
1. 5700MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	30MHz ~ 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
5076	36.68	31.74	54	-17.32	31.83	7.93	34.82	129	206	Average
5076	50.13	45.19	74	-23.87	31.83	7.93	34.82	129	206	Peak
5180	75.05	70			31.88	7.94	34.77	129	206	Average
5180	85.55	80.5			31.88	7.94	34.77	129	206	Peak
5386	36.86	31.56	54	-17.14	31.98	8.01	34.69	129	206	Average
5386	50.22	44.92	74	-23.78	31.98	8.01	34.69	129	206	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	38.32	33.28	54	-15.68	31.87	7.96	34.79	128	129	Average
5148	50.39	45.35	74	-23.61	31.87	7.96	34.79	128	129	Peak
5180	89.22	84.17			31.88	7.94	34.77	128	129	Average
5180	99.22	94.17			31.88	7.94	34.77	128	129	Peak
5432	36.5	31.08	54	-17.5	32.01	8.09	34.68	128	129	Average
5432	49.76	44.34	74	-24.24	32.01	8.09	34.68	128	129	Peak

REMARKS: 5180MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	30MHz ~ 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
5040	36.29	31.5	54	-17.71	31.82	7.78	34.81	105	204	Average
5040	50.35	45.56	74	-23.65	31.82	7.78	34.81	105	204	Peak
5220	76.33	71.26			31.9	7.93	34.76	105	204	Average
5220	86.66	81.59			31.9	7.93	34.76	105	204	Peak
5372	36.89	31.59	54	-17.11	31.97	8.02	34.69	105	204	Average
5372	50.74	45.44	74	-23.26	31.97	8.02	34.69	105	204	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
5056	37.21	32.35	54	-16.79	31.82	7.86	34.82	106	159	Average
5056	49.91	45.05	74	-24.09	31.82	7.86	34.82	106	159	Peak
5220	88.68	83.61			31.9	7.93	34.76	106	159	Average
5220	99.12	94.05			31.9	7.93	34.76	106	159	Peak
5456	37.38	31.89	54	-16.62	32.01	8.17	34.69	106	159	Average
5456	49.89	44.4	74	-24.11	32.01	8.17	34.69	106	159	Peak

REMARKS: 5220MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	30MHz ~ 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
5016	36.24	31.54	54	-17.76	31.8	7.71	34.81	112	206	Average
5016	49.9	45.2	74	-24.1	31.8	7.71	34.81	112	206	Peak
5240	76.06	70.95			31.91	7.95	34.75	112	206	Average
5240	86.3	81.19			31.91	7.95	34.75	112	206	Peak
5392	36.81	31.51	54	-17.19	31.98	8.01	34.69	112	206	Average
5392	49.57	44.27	74	-24.43	31.98	8.01	34.69	112	206	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	36.69	31.67	54	-17.31	31.84	8	34.82	105	159	Average
5104	49.99	44.97	74	-24.01	31.84	8	34.82	105	159	Peak
5240	88.34	83.23			31.91	7.95	34.75	105	159	Average
5240	98.77	93.66			31.91	7.95	34.75	105	159	Peak
5408	36.71	31.39	54	-17.29	31.99	8.01	34.68	105	159	Average
5408	50.31	44.99	74	-23.69	31.99	8.01	34.68	105	159	Peak

REMARKS: 5240MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	30MHz ~ 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
5082	36.17	31.23	54	-17.83	31.83	7.93	34.82	124	207	Average
5082	49.04	44.1	74	-24.96	31.83	7.93	34.82	124	207	Peak
5260	74.29	69.14			31.92	7.97	34.74	124	207	Average
5260	86.6	81.45			31.92	7.97	34.74	124	207	Peak
5446	36.55	31.13	54	-17.45	32.01	8.09	34.68	124	207	Average
5446	49.39	43.97	74	-24.61	32.01	8.09	34.68	124	207	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
5116	37.1	32.07	54	-16.9	31.85	8	34.82	126	130	Average
5116	50.3	45.27	74	-23.7	31.85	8	34.82	126	130	Peak
5260	88.25	83.1			31.92	7.97	34.74	126	130	Average
5260	99.54	94.39			31.92	7.97	34.74	126	130	Peak
5382	36.65	31.35	54	-17.35	31.98	8.01	34.69	126	130	Average
5382	50.39	45.09	74	-23.61	31.98	8.01	34.69	126	130	Peak

REMARKS: 5260MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	30MHz ~ 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
5026	36.45	31.67	54	-17.55	31.81	7.78	34.81	100	206	Average
5026	48.89	44.11	74	-25.11	31.81	7.78	34.81	100	206	Peak
5300	76.99	71.74			31.94	8.02	34.71	100	206	Average
5300	87	81.75			31.94	8.02	34.71	100	206	Peak
5370	36.38	31.08	54	-17.62	31.97	8.02	34.69	100	206	Average
5370	49.16	43.86	74	-24.84	31.97	8.02	34.69	100	206	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	37.27	32.25	54	-16.73	31.84	8	34.82	113	130	Average
5098	49.75	44.73	74	-24.25	31.84	8	34.82	113	130	Peak
5300	87.86	82.61			31.94	8.02	34.71	113	130	Average
5300	97.99	92.74			31.94	8.02	34.71	113	130	Peak
5376	36.81	31.52	54	-17.19	31.97	8.01	34.69	113	130	Average
5376	49.26	43.97	74	-24.74	31.97	8.01	34.69	113	130	Peak

REMARKS: 5300MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	30MHz ~ 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
5080	36.66	31.72	54	-17.34	31.83	7.93	34.82	100	206	Average
5080	49.53	44.59	74	-24.47	31.83	7.93	34.82	100	206	Peak
5320	76.61	71.35			31.95	8.02	34.71	100	206	Average
5320	87.05	81.79			31.95	8.02	34.71	100	206	Peak
5398	38.43	33.12	54	-15.57	31.99	8.01	34.69	100	206	Average
5398	48.94	43.63	74	-25.06	31.99	8.01	34.69	100	206	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
5090	36.25	31.3	54	-17.75	31.84	7.93	34.82	125	129	Average
5090	49.95	45	74	-24.05	31.84	7.93	34.82	125	129	Peak
5320	87.12	81.86			31.95	8.02	34.71	125	129	Average
5320	98.03	92.77			31.95	8.02	34.71	125	129	Peak
5396	37.3	31.99	54	-16.7	31.99	8.01	34.69	125	129	Average
5396	49.67	44.36	74	-24.33	31.99	8.01	34.69	125	129	Peak

REMARKS: 5320MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	30MHz ~ 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
5452	36.75	31.26	54	-17.25	32.01	8.17	34.69	100	200	Average
5452	48.81	43.32	74	-25.19	32.01	8.17	34.69	100	200	Peak
5470	46.98	41.48	68.3	-21.32	32.02	8.17	34.69	100	200	Peak
5500	76.47	70.88			32.04	8.24	34.69	100	200	Average
5500	87.01	81.45			32.04	8.23	34.71	100	200	Peak
5725	47.41	41.46	68.3	-20.89	32.36	8.36	34.77	100	200	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
5444	38	32.58	54	-16	32.01	8.09	34.68	109	127	Average
5444	49.05	43.63	74	-24.95	32.01	8.09	34.68	109	127	Peak
5470	47.87	42.37	68.3	-20.43	32.02	8.17	34.69	109	127	Peak
5500	88.6	83.01			32.04	8.24	34.69	109	127	Average
5500	99.25	93.69			32.04	8.23	34.71	109	127	Peak
5725	48.26	42.31	68.3	-20.04	32.36	8.36	34.77	109	127	Peak

REMARKS:
1. 5500MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	30MHz ~ 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	36.75	31.26	54	-17.25	32.01	8.17	34.69	100	194	Average
5458	49.02	43.53	74	-24.98	32.01	8.17	34.69	100	194	Peak
5470	47.67	42.17	68.3	-20.63	32.02	8.17	34.69	100	194	Peak
5580	76.42	70.88			32.14	8.18	34.78	100	194	Average
5580	86.36	80.78			32.14	8.2	34.76	100	194	Peak
5725	49.08	43.13	68.3	-19.22	32.36	8.36	34.77	100	194	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
5390	37.46	32.16	54	-16.54	31.98	8.01	34.69	100	154	Average
5390	49.16	43.86	74	-24.84	31.98	8.01	34.69	100	154	Peak
5470	48.21	42.71	68.3	-20.09	32.02	8.17	34.69	100	154	Peak
5580	89.25	83.71			32.14	8.18	34.78	100	154	Average
5580	99.88	94.34			32.14	8.18	34.78	100	154	Peak
5725	48.61	42.66	68.3	-19.69	32.36	8.36	34.77	100	154	Peak

REMARKS:
1. 5580MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	30MHz ~ 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	37.19	31.7	54	-16.81	32.01	8.17	34.69	100	175	Average
5456	49.51	44.02	74	-24.49	32.01	8.17	34.69	100	175	Peak
5470	47.51	42.01	68.3	-20.79	32.02	8.17	34.69	100	175	Peak
5700	79.18	73.32			32.31	8.33	34.78	100	175	Average
5700	90.38	84.52			32.31	8.33	34.78	100	175	Peak
5725	48.78	42.83	68.3	-19.52	32.36	8.36	34.77	100	175	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	37.76	32.46	54	-16.24	31.98	8.01	34.69	100	154	Average
5394	48.97	43.67	74	-25.03	31.98	8.01	34.69	100	154	Peak
5470	48.58	43.08	68.3	-19.72	32.02	8.17	34.69	100	154	Peak
5700	88.89	83.03			32.31	8.33	34.78	100	154	Average
5700	99.08	93.22			32.31	8.33	34.78	100	154	Peak
5725	49.44	43.49	68.3	-18.86	32.36	8.36	34.77	100	154	Peak

REMARKS:
1. 5700MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	30MHz ~ 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
137.19	31.64	49.84	43.5	-11.86	12.21	1.28	31.69	100	199	Peak
191.73	30.55	50.77	43.5	-12.95	9.91	1.56	31.69	241	121	Peak
247.08	**40.04**	**58.76**	**46**	**-5.96**	**11.36**	**1.82**	**31.9**	**102**	**228**	**Peak**
394.5	32.43	46.9	46	-13.57	15.21	2.4	32.08	212	274	Peak
472.9	29.29	41.69	46	-16.71	16.79	2.69	31.88	102	225	Peak
719.3	26.9	33.98	46	-19.1	21.09	3.49	31.66	123	312	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
39.45	28.8	45.6	40	-11.2	13.54	0.65	30.99	100	85	Peak
138.27	26.94	45.04	43.5	-16.56	12.27	1.29	31.66	100	196	Peak
246.81	28.19	46.91	46	-17.81	11.36	1.82	31.9	100	332	Peak
404.3	25.18	39.38	46	-20.82	15.43	2.44	32.07	127	47	Peak
489	30.21	42.15	46	-15.79	17.1	2.74	31.78	100	57	Peak
769	27.34	33.24	46	-18.66	21.79	3.62	31.31	100	332	Peak

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 19, 2011	Nov. 18, 2012
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 22, 2011	Dec. 21, 2012
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2011	Dec. 29, 2012
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 07, 2011	Jul. 06, 2012
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

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

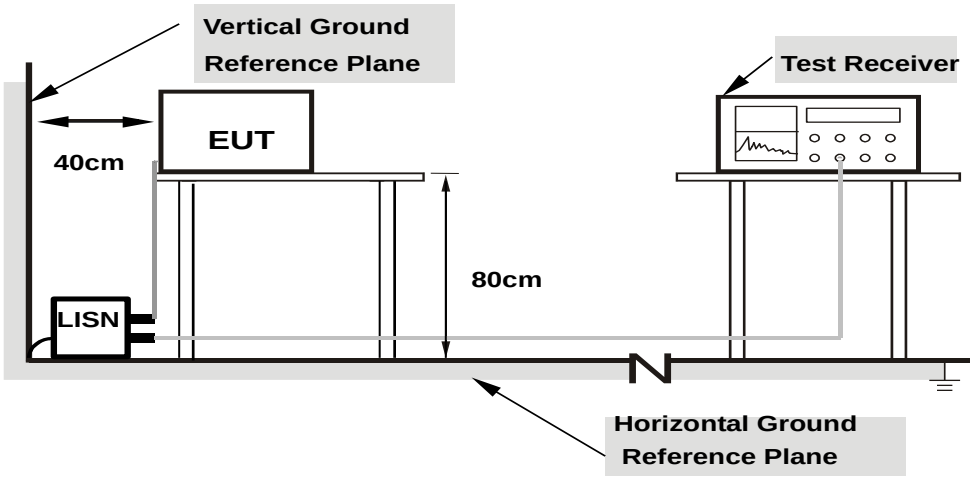
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：

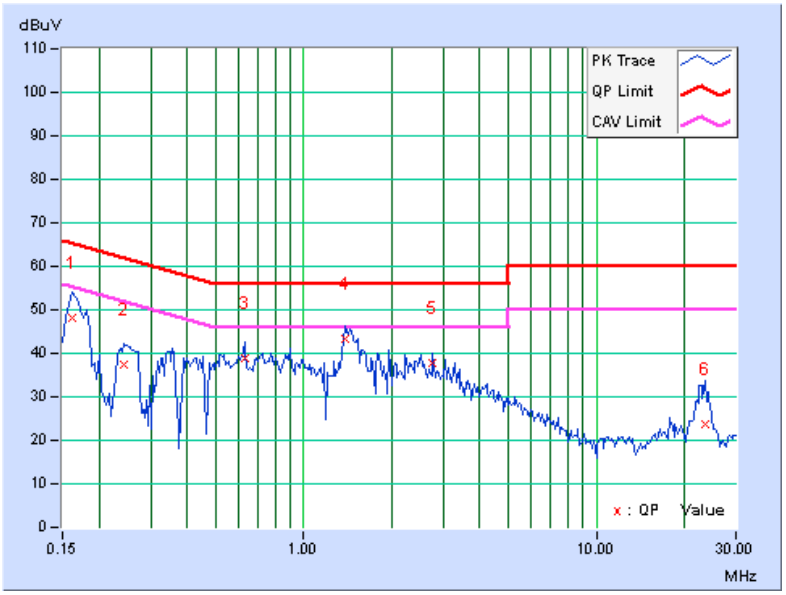
802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.27	47.74	27.65	48.01	27.92	65.38	55.38	-17.37	-27.46
2	0.24375	0.27	37.30	25.33	37.57	25.60	61.97	51.97	-24.39	-26.36
3	0.62656	0.30	38.46	24.86	38.76	25.16	56.00	46.00	-17.24	-20.84
4	**1.38672**	**0.33**	**42.94**	**23.84**	**43.27**	**24.17**	**56.00**	**46.00**	**-12.73**	**-21.83**
5	2.76953	0.40	37.41	22.17	37.81	22.57	56.00	46.00	-18.19	-23.43
6	23.52734	0.69	23.00	10.91	23.69	11.60	60.00	50.00	-36.31	-38.40

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.

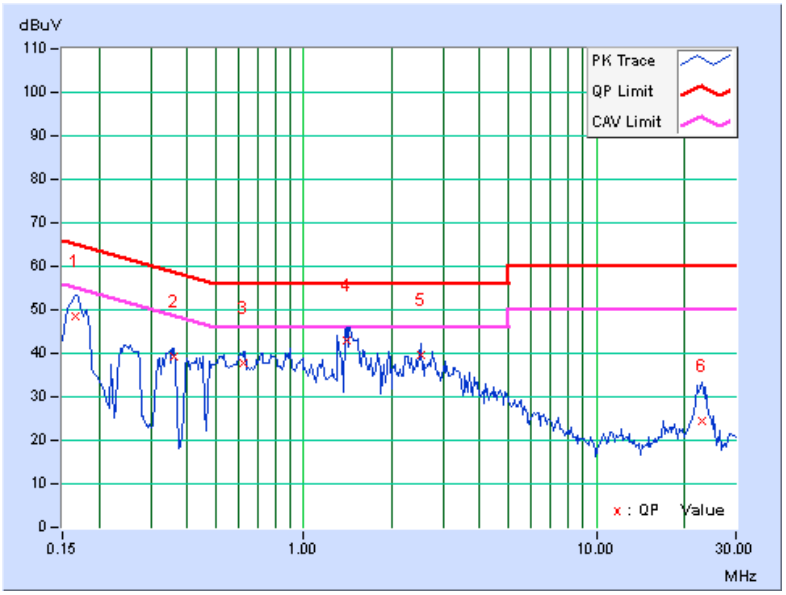


PHASE	Line 2	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.29	48.18	29.27	48.47	29.56	65.18	55.18	-16.71	-25.62
2	0.36094	0.30	38.81	24.93	39.11	25.23	58.71	48.71	-19.60	-23.48
3	0.62266	0.31	37.62	24.56	37.93	24.87	56.00	46.00	-18.07	-21.13
4	1.39844	0.35	42.70	23.38	43.05	23.73	56.00	46.00	-12.95	-22.27
5	2.51172	0.41	39.09	23.63	39.50	24.04	56.00	46.00	-16.50	-21.96
6	22.84375	0.84	23.45	10.51	24.29	11.35	60.00	50.00	-35.71	-38.65

REMARKS:

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

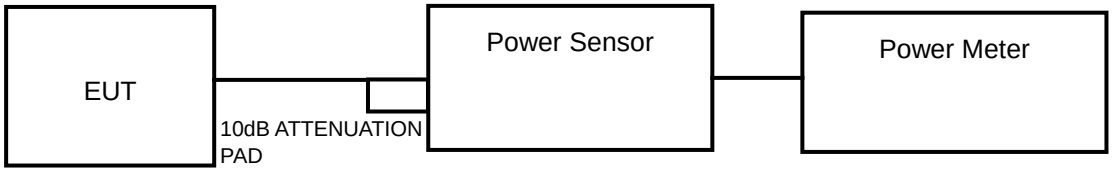
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

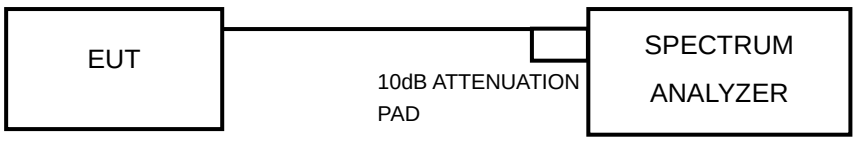
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

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

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	6.516	8.14	17	PASS
44	5220	6.339	8.02	17	PASS
48	5240	6.223	7.94	17	PASS
52	5260	6.194	7.92	24	PASS
60	5300	6.124	7.87	24	PASS
64	5320	5.821	7.65	24	PASS
100	5500	6.237	7.95	24	PASS
116	5580	6.152	7.89	24	PASS
140	5700	5.970	7.76	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	6.339	8.02	17	PASS
44	5220	6.081	7.84	17	PASS
48	5240	6.053	7.82	17	PASS
52	5260	5.957	7.75	24	PASS
60	5300	5.861	7.68	24	PASS
64	5320	5.794	7.63	24	PASS
100	5500	6.109	7.86	24	PASS
116	5580	5.998	7.78	24	PASS
140	5700	5.943	8.02	24	PASS

26dB BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.90	PASS
44	5220	22.80	PASS
48	5240	22.75	PASS
52	5260	22.50	PASS
60	5300	22.70	PASS
64	5320	22.75	PASS
100	5500	22.90	PASS
116	5580	22.60	PASS
140	5700	22.60	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	23.85	PASS
44	5220	24.10	PASS
48	5240	24.20	PASS
52	5260	23.90	PASS
60	5300	24.15	PASS
64	5320	23.65	PASS
100	5500	24.20	PASS
116	5580	24.00	PASS
140	5700	24.00	PASS

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP

4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

Using method SA-1

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Sweep time = auto, trigger set to “free run”.
4) Trace average at least 100 traces in power averaging mode.
5) Record the max value

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-2.34	4	PASS
44	5220	-2.64	4	PASS
48	5240	-2.47	4	PASS
52	5260	-2.46	11	PASS
60	5300	-2.63	11	PASS
64	5320	-3.01	11	PASS
100	5500	-2.63	11	PASS
116	5580	-2.60	11	PASS
140	5700	-2.34	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-2.78	4	PASS
44	5220	-2.80	4	PASS
48	5240	-2.84	4	PASS
52	5260	-2.93	11	PASS
60	5300	-3.10	11	PASS
64	5320	-3.03	11	PASS
100	5500	-3.13	11	PASS
116	5580	-2.52	11	PASS
140	5700	-2.64	11	PASS

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP

4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

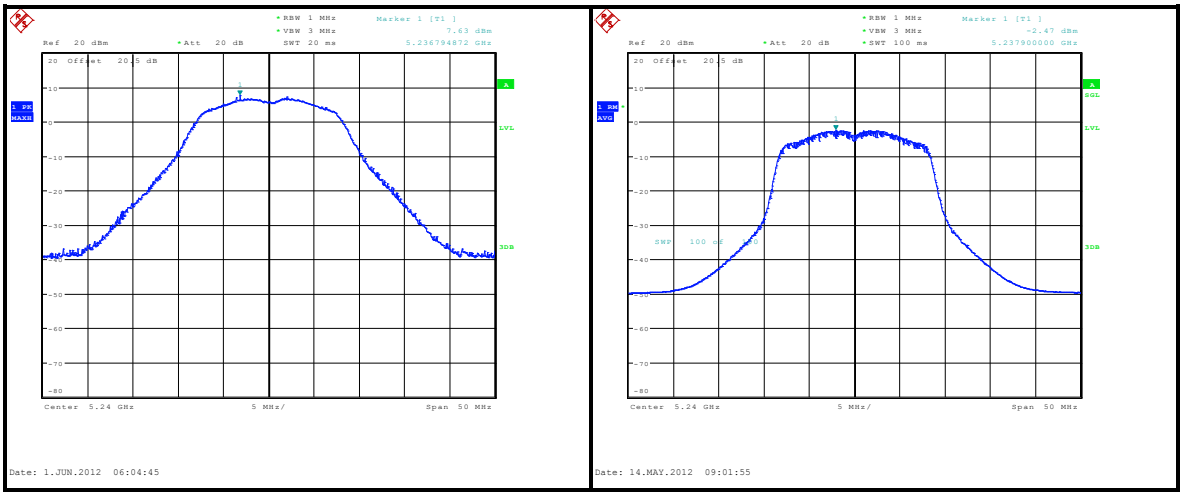
4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

4.5.7 TEST RESULTS

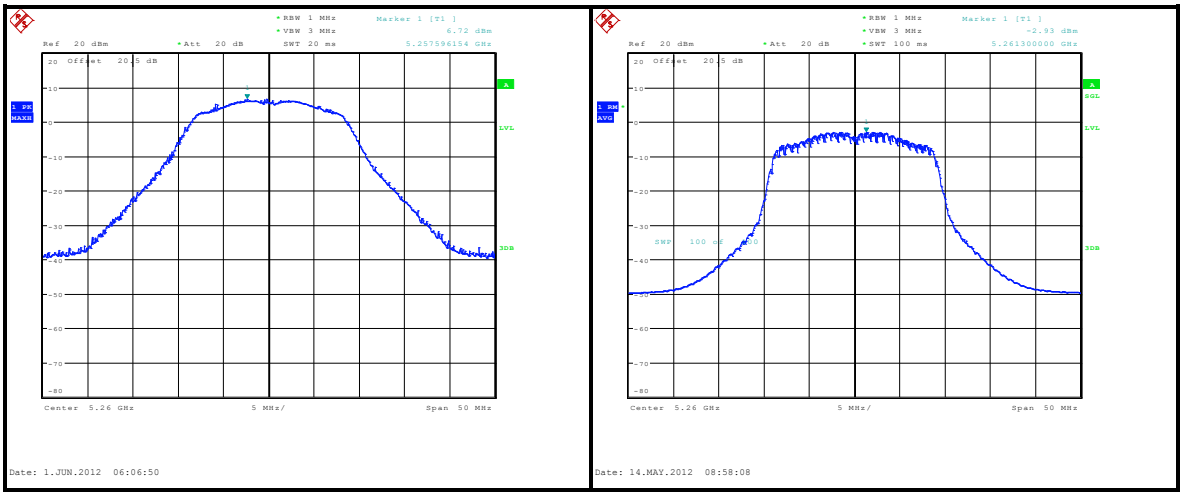
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	7.28	-2.34	9.62	13	PASS
44	5220	6.88	-2.64	9.52	13	PASS
48	5240	7.63	-2.47	10.10	13	PASS
52	5260	7.05	-2.46	9.51	13	PASS
60	5300	6.90	-2.63	9.53	13	PASS
64	5320	6.85	-3.01	9.86	13	PASS
100	5500	4.87	-2.63	7.50	13	PASS
116	5580	4.25	-2.60	6.85	13	PASS
140	5700	4.29	-2.34	6.63	13	PASS



802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	6.86	-2.78	9.64	13	PASS
44	5220	6.61	-2.80	9.41	13	PASS
48	5240	6.30	-2.84	9.14	13	PASS
52	5260	6.72	-2.93	9.65	13	PASS
60	5300	6.42	-3.10	9.52	13	PASS
64	5320	6.33	-3.03	9.36	13	PASS
100	5500	4.72	-3.13	7.85	13	PASS
116	5580	4.14	-2.52	6.66	13	PASS
140	5700	3.71	-2.64	6.35	13	PASS

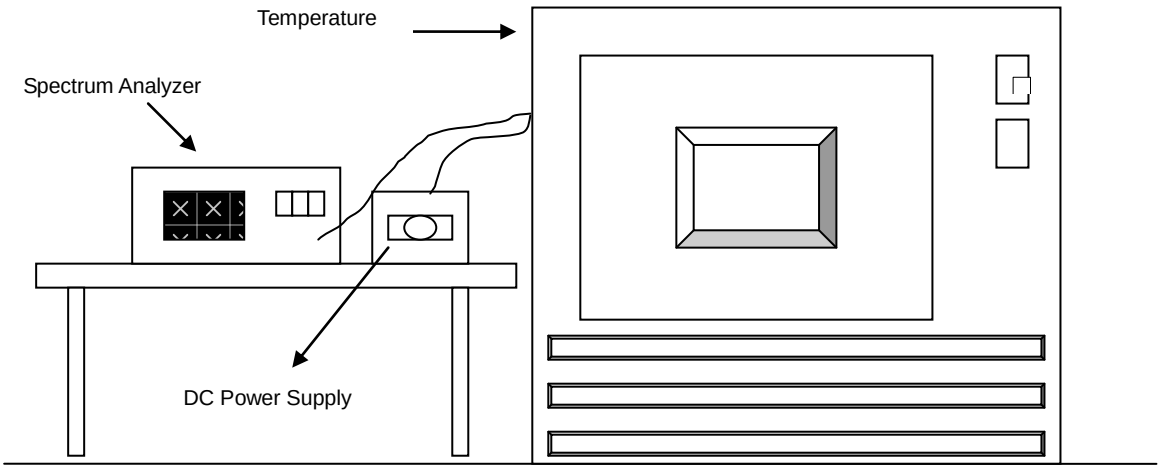


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.

c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

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

4.6.7 TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.				
802.11a				
Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.83	5188.20	2.41
40	5200	5211.80	5228.20	0.00
48	5240	5231.80	5248.20	0.00
52	5260	5251.80	5268.20	0.00
60	5300	5291.80	5308.20	0.00
64	5320	5311.80	5328.20	0.00
100	5500	5491.80	5508.20	0.00
116	5580	5571.80	5588.20	0.00
140	5700	5691.83	5708.20	2.19

FREQUEMCY STABILITY VERSUS TEMP.				
802.11n (20MHz)				
Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.20	5188.80	0.00
40	5200	5211.18	5228.83	0.00
48	5240	5231.18	5248.83	0.00
52	5260	5251.20	5268.80	0.00
60	5300	5291.20	5308.85	4.72
64	5320	5311.20	5328.85	4.70
100	5500	5491.20	5508.80	0.00
116	5580	5571.18	5588.83	0.00
140	5700	5691.18	5708.83	0.00

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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Fax: 886-3-3270892

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

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

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

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

---END---