FCC TEST REPORT (15.407)

REPORT NO.:	RF141216C25-3
MODEL NO.:	K013C
FCC ID:	MSQK013C
RECEIVED:	Dec. 16, 2014
TESTED:	Dec. 24, 2014 ~ Dec. 27, 2014
ISSUED:	Jan. 14, 2015

APPLICANT:	ASUSTek COMPUTER INC.
ADDRESS:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47-2, 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
RF141216C25-3	Original release	Jan. 14, 2015

1. CERTIFICATION

PRODUCT:	ASUS Tablet
MODEL NO.:	K013C
BRAND:	ASUS
APPLICANT:	ASUSTek COMPUTER INC.
TESTED:	Dec. 24, 2014 ~ Dec. 27, 2014
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	ANSI C63.10-2009

The above equipment (model: K013C) 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 : Evonne Liu , **DATE :** Jan. 14, 2015

Evonne Liu / Specialist

APPROVED BY : Sam Chen , **DATE :** Jan. 14, 2015

Sam Chen / Senior Project Engineer

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 -11.57dB at 0.49017MHz.
15.407(b/1/2/3) (b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.01dB at 5470MHz.
15.407(a/1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
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	ASUS Tablet
MODEL NO.	K013C
POWER SUPPLY	3.8Vdc (Battery) 5.2Vdc (Adapter)
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, 5745 ~ 5825MHz
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) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	13.52mW for 5180 ~ 5240MHz 13.65mW for 5260 ~ 5320MHz 13.74mW for 5500 ~ 5700MHz 17.38mW for 5745 ~ 5825MHz
ANTENNA TYPE	PCB antenna with 3.08dBi gain (5180 ~ 5240MHz) PCB antenna with 3.08dBi gain (5260 ~ 5320MHz) PCB antenna with 2.27dBi gain (5500 ~ 5700MHz) PCB antenna with 1.09dBi gain (5745 ~ 5825MHz)
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter 1	ASUS	PSM06A-050Q	I/P: 100-240Vac, 50/60Hz, 0.25A O/P: 5.2Vdc, 1.35A
Adapter 2	ASUS	PA1070-07	I/P: 100-240Vac, 50/60Hz, 0.25A O/P: 5.2Vdc, 1.35A
Adapter 3	ASUS	AD2005320	I/P: 100-240Vac, 50/60Hz, 0.25A O/P: 5.2Vdc, 1.35A
Battery 1	ASUS	C11P1326	3.8Vdc, 15Wh **Manufacturer:** Simplo Technology Co., LTD.
Battery 2	ASUS	C11P1326	3.8Vdc, 15Wh **Manufacturer:** Celxpert Energy Corporation
USB Cable 1	ASUS	CUBB04M-AS0D0-EF	0.84m shielded cable w/o core
USB Cable 2	ASUS	AA781000	0.85m shielded cable w/o core
USB Cable 3	ASUS	L65U2009-CS-B	0.89m shielded cable w/o core
CPU	Intel	Z3745	1.3GHZ/2M
LCD Panel	INNOLUX	N070ICE-G02	7”
Front Camera	CHICONY	CIFE02920003870LH	--
Rear Camera	LITEON	4SF227T2A	--
WLAN/BT Module	Broadcom	BCM43340XKUBG	--
EMMC 1	HYNIX	H26M52103FMR	16GB
EMMC 2	KSI	EMMC16G-S100-A08	16GB

2. The EUT provides 1 completed transmitter and 1 receiver.

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

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

WLAN 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

WLAN 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		

FOR 5.0GHz (5745 ~ 5825MHz):

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 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 **Y-plane for 5180-5240MHz& 5260-5320MHz, and Z-plane for 5500 ~ 5700MHz & 5745 ~ 5825MHz.**

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	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
-	802.11a	5745-5825	149 to 161	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 161	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)		151 to 159	151, 159	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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (20MHz)	5500-5700	100 to 140	100	OFDM	BPSK	MCS0

POWER LINE CONDUCTED EMISSION TEST:

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (20MHz)	5500-5700	100 to 140	100	OFDM	BPSK	MCS0

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.

EUT CONFIGURE MODE	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
-	802.11a	5745-5825	149 to 161	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 161	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)		151 to 159	151, 159	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.

EUT CONFIGURE MODE	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
-	802.11a	5745-5825	149 to 161	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 161	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0

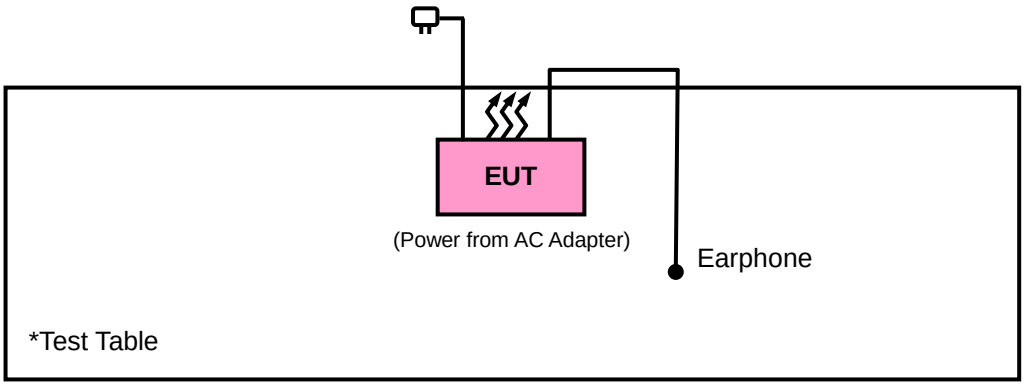
Test CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Karl Lee, Charles Hsiao
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Karl Lee
PLC	25deg. C, 65%RH	120Vac, 60Hz	Toby Tian
APCM	25deg. C, 65%RH	120Vac, 60Hz	Dylan Yang

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



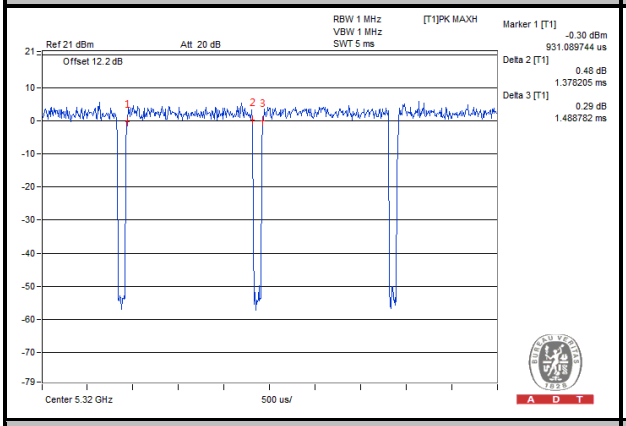
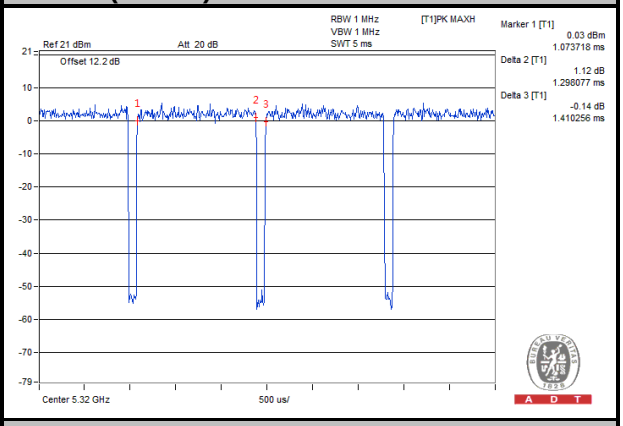
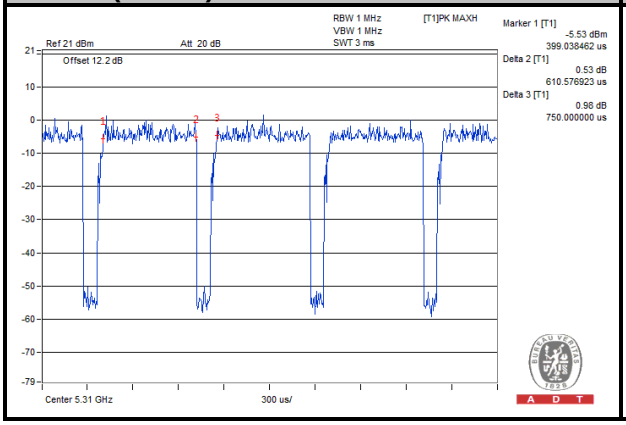
3.4 DUTY CYCLE TEST SIGNAL

MODULATION TYPE: BPSK

802.11a: Duty cycle = 1.378/1.488 = 0.925, Duty factor = 10 * log(1/0.925) = 0.34

802.11n (20MHz): Duty cycle = 1.298/1.410 = 0.920, Duty factor = 10 * log(1/0.920) = 0.36

802.11n (40MHz): Duty cycle = 610/750 = 0.814, Duty factor = 10 * log(1/0.814) = 0.89

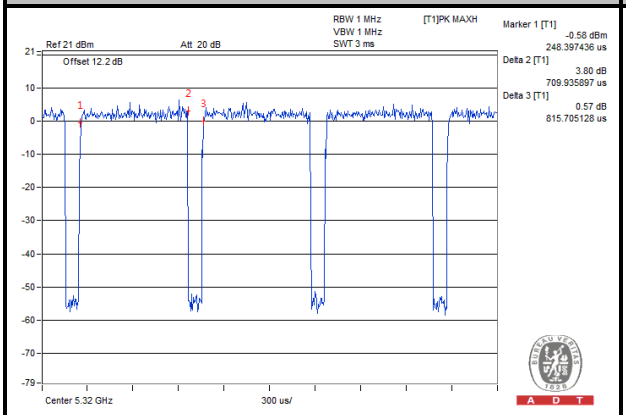
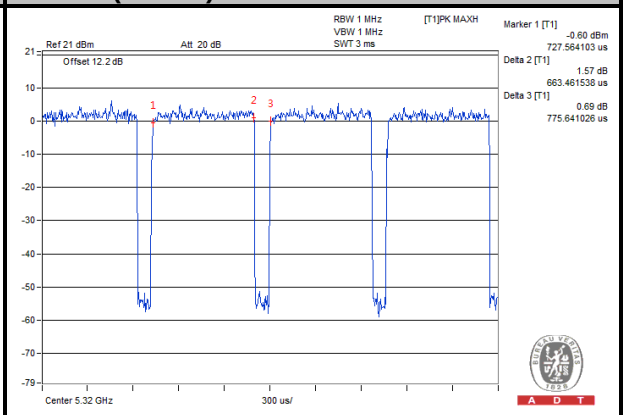
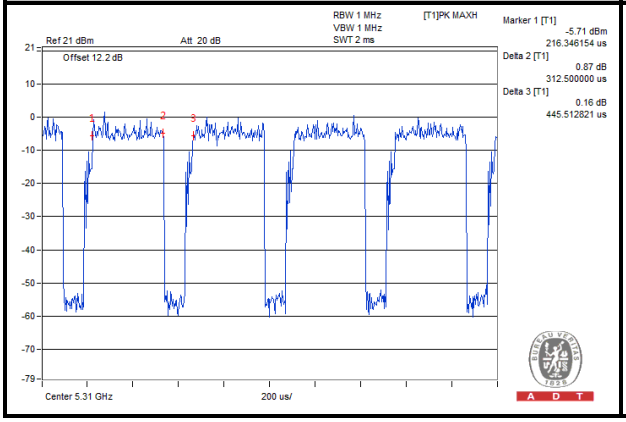
802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

MODULATION TYPE: QPSK

802.11a: Duty cycle = 709/815 = 0.870, Duty factor = 10 * log(1/0.870) = 0.60

802.11n (20MHz): Duty cycle = 663/775 = 0.855, Duty factor = 10 * log(1/0.855) = 0.68

802.11n (40MHz): Duty cycle = 312/445 = 0.701, Duty factor = 10 * log(1/0.701) = 1.54

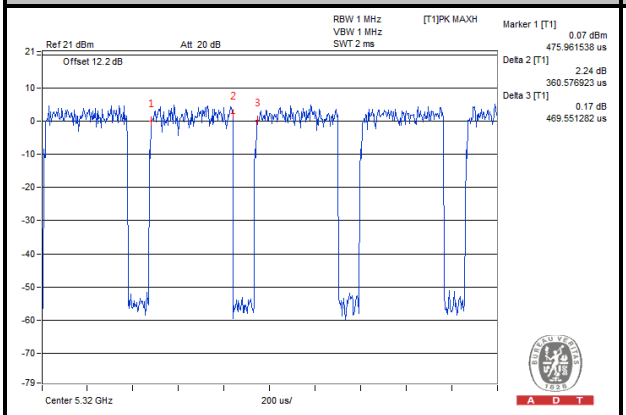
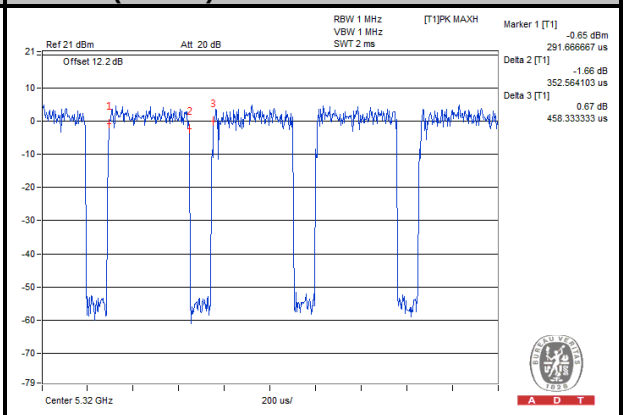
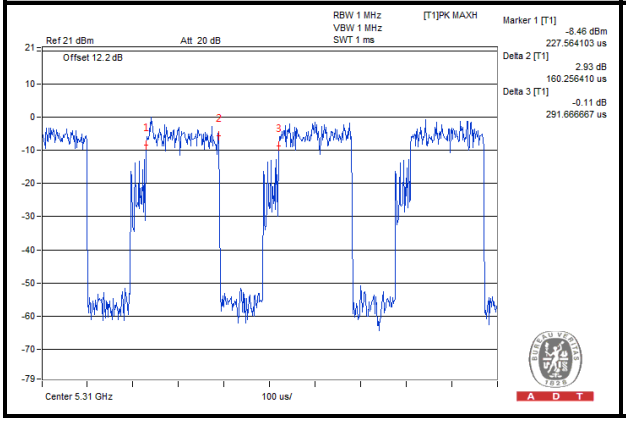
802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

MODULATION TYPE: 16QAM

802.11a: Duty cycle = 360/469 = 0.768, Duty factor = 10 * log(1/0.768) = 1.15

802.11n (20MHz): Duty cycle = 352/458 = 0.769, Duty factor = 10 * log(1/0.769) = 1.14

802.11n (40MHz): Duty cycle = 160/291 = 0.549, Duty factor = 10 * log(1/0.549) = 2.60

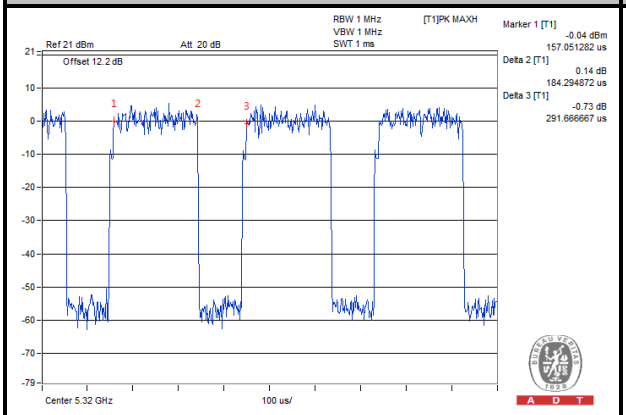
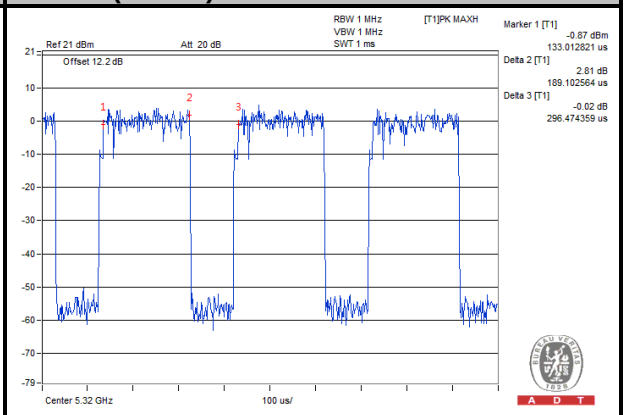
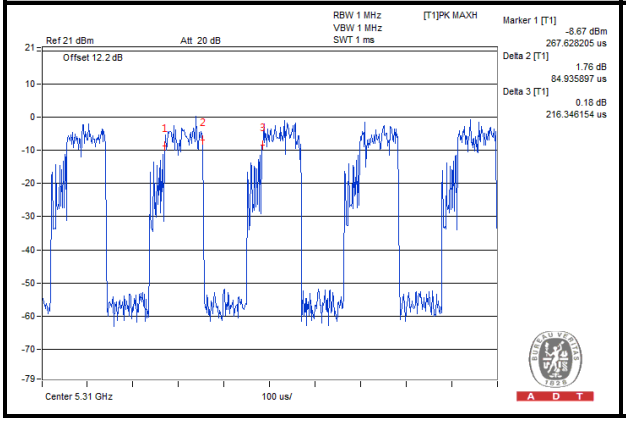
802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

MODULATION TYPE: 64QAM

802.11a: Duty cycle = 184/291 = 0.631, Duty factor = 10 * log(1/631) = 1.99

802.11n (20MHz): Duty cycle = 189/296 = 0.637, Duty factor = 10 * log(1/0.637) = 1.95

802.11n (40MHz): Duty cycle = 84/216 = 0.392, Duty factor = 10 * log(1/0.392) = 4.06

802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

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)
789033 D02 General UNII Test Procedures New Rules v01
ANSI C63.10-2009

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
APPLICABLE TO	**EIRP LIMIT**	**EQUIVALENT FIELD STRENGTH AT 3m**
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) *1 PK: -17 (dBm/MHz) *2	PK: 68.2 (dBμV/m) *1 PK: 78.2 (dBμV/m) *2

NOTE: *1 beyond 10MHz of the band edge *2 within 10 MHz of band edge

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	Jan. 17, 2014	Jan. 16, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 10, 2014	Dec. 09, 2015
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 27. 2014	Feb. 26, 2015
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Feb. 19, 2014	Feb. 18, 2015
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Aug. 27, 2014	Aug. 26, 2015
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 12, 2014	Dec. 11, 2015
Preamplifier EMCI	EMC 184045	980116	Jan. 13, 2014	Jan. 12, 2015
Preamplifier EMCI	EMC 330H	980071	Feb. 27, 2014	Feb. 26, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 18, 2014	Oct. 17, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2014	Oct. 17, 2015
RF signal cable Worken	RG-213	NA	Nov. 07, 2014	Nov. 06, 2015
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	1232002	Sep. 17, 2014	Sep. 16, 2015
Power Sensor	MA2411B	1207325	Sep. 17, 2014	Sep. 16, 2015

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 meters 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:

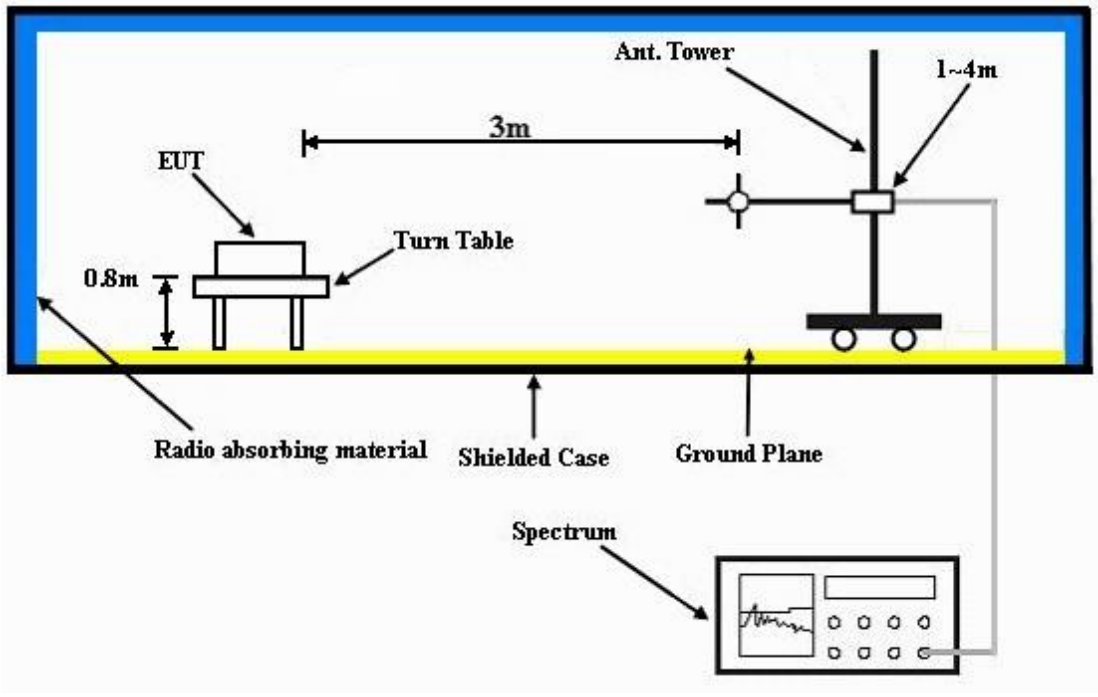
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) 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

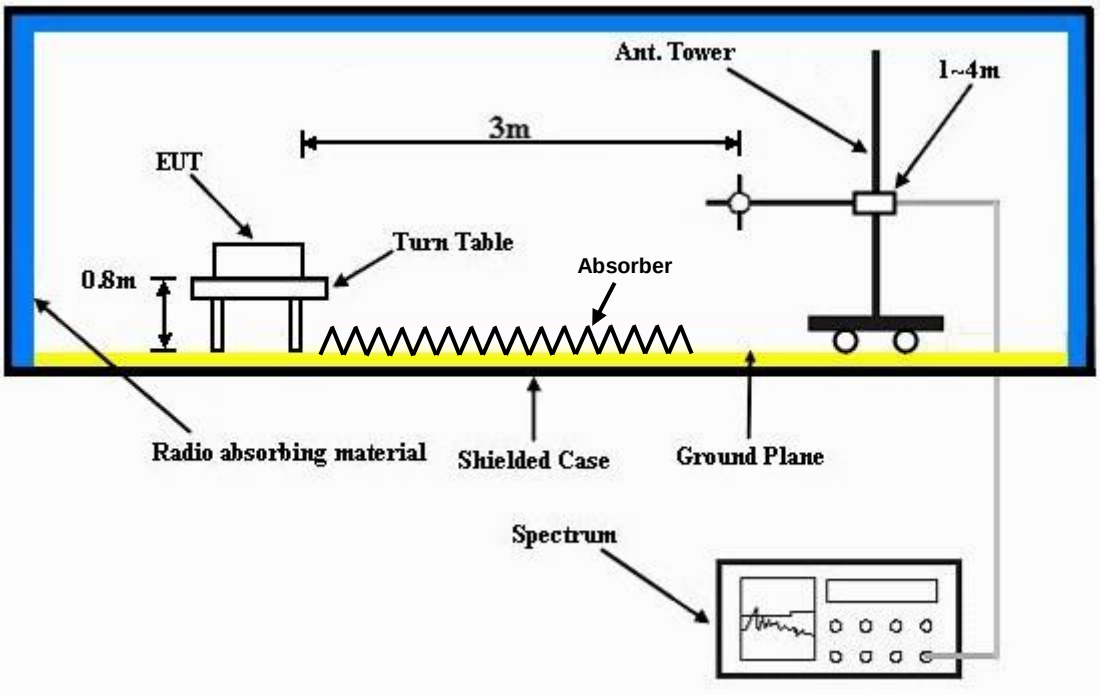
No deviation.

4.1.6 TEST SETUP

Frequency Range 30MHz ~ 1GHz



Frequency Range above 1GHz



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

4.1.7 EUT OPERATING CONDITIONS

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 WORST-CASE DATA

802.11a

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

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	47.72	39.47	54	-6.28	34.12	8.13	34	137	46	Average
5148	61.12	52.87	74	-12.88	34.12	8.13	34	137	46	Peak
5180	101.84	93.53			34.15	8.16	34	137	46	Average
5180	109.52	101.21			34.15	8.16	34	137	46	Peak
5364	42.72	34.08	54	-11.28	34.29	8.38	34.03	137	46	Average
5364	57.13	48.49	74	-16.87	34.29	8.38	34.03	137	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5148	45.52	37.27	54	-8.48	34.12	8.13	34	115	232	Average
5148	58.17	49.92	74	-15.83	34.12	8.13	34	115	232	Peak
5180	98.36	90.05			34.15	8.16	34	115	232	Average
5180	105.88	97.57			34.15	8.16	34	115	232	Peak
5382	42.63	33.95	54	-11.37	34.31	8.41	34.04	115	232	Average
5382	57.83	49.15	74	-16.17	34.31	8.41	34.04	115	232	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180MHz: Fundamental frequency.

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

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
5122	44.11	35.91	54	-9.89	34.09	8.1	33.99	137	36	Average
5122	57.74	49.54	74	-16.26	34.09	8.1	33.99	137	36	Peak
5220	101.48	93.09			34.17	8.22	34	137	36	Average
5220	109.23	100.84			34.17	8.22	34	137	36	Peak
5360	43.73	35.1	54	-10.27	34.28	8.38	34.03	137	36	Average
5360	57.38	48.75	74	-16.62	34.28	8.38	34.03	137	36	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5038	42.77	34.7	54	-11.23	34.04	8	33.97	115	233	Average
5038	57.23	49.16	74	-16.77	34.04	8	33.97	115	233	Peak
5220	97.06	88.67			34.17	8.22	34	115	233	Average
5220	105.12	96.73			34.17	8.22	34	115	233	Peak
5374	42.89	34.23	54	-11.11	34.29	8.41	34.04	115	233	Average
5374	57.7	49.04	74	-16.3	34.29	8.41	34.04	115	233	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	43.38	35.13	54	-10.62	34.12	8.13	34	138	34	Average
5146	56.91	48.66	74	-17.09	34.12	8.13	34	138	34	Peak
5240	101.6	93.16			34.19	8.26	34.01	138	34	Average
5240	109.18	100.74			34.19	8.26	34.01	138	34	Peak
5452	44.18	35.36	54	-9.82	34.36	8.51	34.05	138	34	Average
5452	56.92	48.1	74	-17.08	34.36	8.51	34.05	138	34	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
5128	42.69	34.47	54	-11.31	34.11	8.1	33.99	113	234	Average
5128	56.42	48.2	74	-17.58	34.11	8.1	33.99	113	234	Peak
5240	97.5	89.06			34.19	8.26	34.01	113	234	Average
5240	105.57	97.13			34.19	8.26	34.01	113	234	Peak
5410	43.05	34.33	54	-10.95	34.32	8.44	34.04	113	234	Average
5410	57.13	48.41	74	-16.87	34.32	8.44	34.04	113	234	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240MHz: Fundamental frequency.

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

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	43.53	35.28	54	-10.47	34.12	8.13	34	100	286	Average
5148	55.44	47.19	74	-18.56	34.12	8.13	34	100	286	Peak
5260	101.37	92.91			34.21	8.26	34.01	100	286	Average
5260	109.4	100.94			34.21	8.26	34.01	100	286	Peak
5392	57.25	48.57	74	-16.75	34.31	8.41	34.04	100	286	Peak
5392	43.65	34.97	74	-30.35	34.31	8.41	34.04	100	286	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
5128	42.33	34.11	54	-11.67	34.11	8.1	33.99	110	64	Average
5128	56.17	47.95	74	-17.83	34.11	8.1	33.99	110	64	Peak
5260	97.72	89.26			34.21	8.26	34.01	110	64	Average
5260	105.49	97.03			34.21	8.26	34.01	110	64	Peak
5460	43.49	34.67	54	-10.51	34.36	8.51	34.05	110	64	Average
5460	56.96	48.14	74	-17.04	34.36	8.51	34.05	110	64	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260MHz: Fundamental frequency.

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

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	43.21	34.96	54	-10.79	34.12	8.13	34	115	46	Average
5148	55.65	47.4	74	-18.35	34.12	8.13	34	115	46	Peak
5300	101.3	92.76			34.24	8.32	34.02	115	46	Average
5300	109.25	100.71			34.24	8.32	34.02	115	46	Peak
5406	46.33	37.61	54	-7.67	34.32	8.44	34.04	115	46	Average
5406	56.91	48.19	74	-17.09	34.32	8.44	34.04	115	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5050	42.1	34.04	54	-11.9	34.04	8	33.98	129	8	Average
5050	55.76	47.7	74	-18.24	34.04	8	33.98	129	8	Peak
5300	96.93	88.39			34.24	8.32	34.02	129	8	Average
5300	105.11	96.57			34.24	8.32	34.02	129	8	Peak
5354	44.38	35.75	54	-9.62	34.28	8.38	34.03	129	8	Average
5354	56.48	47.85	74	-17.52	34.28	8.38	34.03	129	8	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300MHz: Fundamental frequency.

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

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
5138	42.31	34.06	54	-11.69	34.11	8.13	33.99	114	46	Average
5138	55.96	47.71	74	-18.04	34.11	8.13	33.99	114	46	Peak
5320	101.78	93.2			34.25	8.35	34.02	114	46	Average
5320	109.68	101.1			34.25	8.35	34.02	114	46	Peak
5350	46.27	37.64	54	-7.73	34.28	8.38	34.03	114	46	Average
5350	58.14	49.51	74	-15.86	34.28	8.38	34.03	114	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5110	42.36	34.16	54	-11.64	34.09	8.1	33.99	117	47	Average
5110	56.49	48.29	74	-17.51	34.09	8.1	33.99	117	47	Peak
5320	96.61	88.03			34.25	8.35	34.02	117	47	Average
5320	104.92	96.34			34.25	8.35	34.02	117	47	Peak
5448	44.93	36.1	54	-9.07	34.36	8.51	34.04	117	47	Average
5448	57.75	48.92	74	-16.25	34.36	8.51	34.04	117	47	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320MHz: Fundamental frequency.

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

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	44.19	35.37	54	-9.81	34.36	8.51	34.05	142	340	Average
5452	57.88	49.06	74	-16.12	34.36	8.51	34.05	142	340	Peak
5470	60.89	52.06	68.2	-7.31	34.37	8.51	34.05	142	340	Peak
5500	96.37	87.45			34.4	8.57	34.05	142	340	Average
5500	104.15	95.23			34.4	8.57	34.05	142	340	Peak
5725	55.99	46.83	68.2	-12.21	34.62	8.65	34.11	142	340	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
5442	46.21	37.42	54	-7.79	34.35	8.48	34.04	138	15	Average
5442	59.37	50.58	74	-14.63	34.35	8.48	34.04	138	15	Peak
5470	64.47	55.64	68.2	-3.73	34.37	8.51	34.05	138	15	Peak
5500	100.94	92.02			34.4	8.57	34.05	138	15	Average
5500	108.76	99.84			34.4	8.57	34.05	138	15	Peak
5725	55.3	46.14	68.2	-12.9	34.62	8.65	34.11	138	15	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5430	42.58	33.79	54	-11.42	34.35	8.48	34.04	141	346	Average
5430	56.95	48.16	74	-17.05	34.35	8.48	34.04	141	346	Peak
5470	54.68	45.85	68.2	-13.52	34.37	8.51	34.05	141	346	Peak
5580	96.49	87.5			34.47	8.6	34.08	141	346	Average
5580	104.24	95.25			34.47	8.6	34.08	141	346	Peak
5725	54.98	45.82	68.2	-13.22	34.62	8.65	34.11	141	346	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	42.94	34.15	54	-11.06	34.35	8.48	34.04	137	21	Average
5444	57.72	48.93	74	-16.28	34.35	8.48	34.04	137	21	Peak
5470	55.79	46.96	68.2	-12.41	34.37	8.51	34.05	137	21	Peak
5580	101.19	92.2			34.47	8.6	34.08	137	21	Average
5580	108.83	99.84			34.47	8.6	34.08	137	21	Peak
5725	55.2	46.04	68.2	-13	34.62	8.65	34.11	137	21	Peak

REMARKS:

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

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

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
5412	42.49	33.76	54	-11.51	34.33	8.44	34.04	100	329	Average
5412	57.46	48.73	74	-16.54	34.33	8.44	34.04	100	329	Peak
5470	54.84	46.01	68.2	-13.36	34.37	8.51	34.05	100	329	Peak
5700	96.6	87.47			34.59	8.64	34.1	100	329	Average
5700	104.63	95.5			34.59	8.64	34.1	100	329	Peak
5725	63.84	54.68	68.2	-4.36	34.62	8.65	34.11	100	329	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	42.52	33.7	54	-11.48	34.36	8.51	34.05	100	280	Average
5456	57.83	49.01	74	-16.17	34.36	8.51	34.05	100	280	Peak
5470	55.44	46.61	68.2	-12.76	34.37	8.51	34.05	100	280	Peak
5700	100.73	91.6			34.59	8.64	34.1	100	280	Average
5700	108.33	99.2			34.59	8.64	34.1	100	280	Peak
5725	64.98	55.82	68.2	-3.22	34.62	8.65	34.11	100	280	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5710	59.64	50.49	68.2	-8.56	34.61	8.65	34.11	117	334	Peak
5724	70.38	61.22	78.2	-7.82	34.62	8.65	34.11	117	334	Peak
5745	97.1	87.91			34.64	8.66	34.11	117	334	Average
5745	104.55	95.36			34.64	8.66	34.11	117	334	Peak
5852	57.11	47.81	78.2	-21.09	34.74	8.7	34.14	117	334	Peak
5868	56.29	46.96	68.2	-11.91	34.76	8.71	34.14	117	334	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
5700	56.96	47.83	68.2	-11.24	34.59	8.64	34.1	139	295	Peak
5724	70.52	61.36	78.2	-7.68	34.62	8.65	34.11	139	295	Peak
5745	99.98	90.79			34.64	8.66	34.11	139	295	Average
5745	107.58	98.39			34.64	8.66	34.11	139	295	Peak
5858	57.44	48.12	78.2	-20.76	34.76	8.7	34.14	139	295	Peak
5864	57.32	47.99	68.2	-10.88	34.76	8.71	34.14	139	295	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5710MHz, 5724MHz, 5852MHz & 5868MHz: Out of restricted band
   5700MHz, 5724MHz, 5858MHz & 5864MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5658	57.86	48.77	68.2	-10.34	34.56	8.63	34.1	125	335	Peak
5724	57.49	48.33	78.2	-20.71	34.62	8.65	34.11	125	335	Peak
5785	97.25	88.02			34.68	8.68	34.13	125	335	Average
5785	104.87	95.64			34.68	8.68	34.13	125	335	Peak
5854	57.74	48.42	78.2	-20.46	34.76	8.7	34.14	125	335	Peak
5870	57.5	48.17	68.2	-10.7	34.76	8.71	34.14	125	335	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
5660	58.09	49	68.2	-10.11	34.56	8.63	34.1	132	261	Peak
5722	57.16	48	78.2	-21.04	34.62	8.65	34.11	132	261	Peak
5785	99.93	90.7			34.68	8.68	34.13	132	261	Average
5785	107.92	98.69			34.68	8.68	34.13	132	261	Peak
5852	56.58	47.28	78.2	-21.62	34.74	8.7	34.14	132	261	Peak
5864	56.35	47.02	68.2	-11.85	34.76	8.71	34.14	132	261	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5658MHz, 5724MHz, 5854MHz & 5870MHz: Out of restricted band
   5660MHz, 5722MHz, 5852MHz & 5864MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5702	57.78	48.63	68.2	-10.42	34.61	8.64	34.1	125	335	Peak
5722	56.56	47.4	78.2	-21.64	34.62	8.65	34.11	125	335	Peak
5825	96.63	87.34			34.73	8.69	34.13	125	335	Average
5825	104.01	94.72			34.73	8.69	34.13	125	335	Peak
5852	67.82	58.52	78.2	-10.38	34.74	8.7	34.14	125	335	Peak
5870	59.46	50.13	68.2	-8.74	34.76	8.71	34.14	125	335	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
5618	57.73	48.68	68.2	-10.47	34.52	8.61	34.08	137	295	Peak
5722	57.76	48.6	78.2	-20.44	34.62	8.65	34.11	137	295	Peak
5825	99.4	90.11			34.73	8.69	34.13	137	295	Average
5825	107.18	97.89			34.73	8.69	34.13	137	295	Peak
5852	69.22	59.92	78.2	-8.98	34.74	8.7	34.14	137	295	Peak
5868	60.24	50.91	68.2	-7.96	34.76	8.71	34.14	137	295	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825MHz: Fundamental frequency.
3. 5702MHz, 5722MHz, 5852MHz & 5870MHz: Out of restricted band
   5618MHz, 5722MHz, 5852MHz & 5868MHz: Out of restricted band

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	47.68	39.43	54	-6.32	34.12	8.13	34	137	46	Average
5146	63.27	55.02	74	-10.73	34.12	8.13	34	137	46	Peak
5180	100.64	92.33			34.15	8.16	34	137	46	Average
5180	108.95	100.64			34.15	8.16	34	137	46	Peak
5440	42.84	34.05	54	-11.16	34.35	8.48	34.04	137	46	Average
5440	58.04	49.25	74	-15.96	34.35	8.48	34.04	137	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	47.72	39.47	54	-6.28	34.12	8.13	34	115	232	Average
5150	60.86	52.61	74	-13.14	34.12	8.13	34	115	232	Peak
5180	97.99	89.68			34.15	8.16	34	115	232	Average
5180	105.83	97.52			34.15	8.16	34	115	232	Peak
5458	44.7	35.88	54	-9.3	34.36	8.51	34.05	115	232	Average
5458	57.76	48.94	74	-16.24	34.36	8.51	34.05	115	232	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180MHz: Fundamental frequency.

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

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
5070	43.99	35.89	54	-10.01	34.05	8.03	33.98	137	36	Average
5070	58.11	50.01	74	-15.89	34.05	8.03	33.98	137	36	Peak
5220	101.48	93.09			34.17	8.22	34	137	36	Average
5220	108.88	100.49			34.17	8.22	34	137	36	Peak
5380	43.25	34.57	54	-10.75	34.31	8.41	34.04	137	36	Average
5380	57.42	48.74	74	-16.58	34.31	8.41	34.04	137	36	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
5062	42.94	34.84	54	-11.06	34.05	8.03	33.98	115	233	Average
5062	56.91	48.81	74	-17.09	34.05	8.03	33.98	115	233	Peak
5220	98.74	90.35			34.17	8.22	34	115	233	Average
5220	105.7	97.31			34.17	8.22	34	115	233	Peak
5428	42.91	34.14	54	-11.09	34.33	8.48	34.04	115	233	Average
5428	57.01	48.24	74	-16.99	34.33	8.48	34.04	115	233	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220MHz: Fundamental frequency.

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

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	43.58	35.36	54	-10.42	34.11	8.1	33.99	138	34	Average
5132	57.53	49.31	74	-16.47	34.11	8.1	33.99	138	34	Peak
5240	101.34	92.9			34.19	8.26	34.01	138	34	Average
5240	109.05	100.61			34.19	8.26	34.01	138	34	Peak
5350	44.18	35.55	54	-9.82	34.28	8.38	34.03	138	34	Average
5350	56.75	48.12	74	-17.25	34.28	8.38	34.03	138	34	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
5094	42.68	34.52	54	-11.32	34.08	8.07	33.99	113	234	Average
5094	56.33	48.17	74	-17.67	34.08	8.07	33.99	113	234	Peak
5240	97.13	88.69			34.19	8.26	34.01	113	234	Average
5240	105.77	97.33			34.19	8.26	34.01	113	234	Peak
5430	43.16	34.37	54	-10.84	34.35	8.48	34.04	113	234	Average
5430	57.06	48.27	74	-16.94	34.35	8.48	34.04	113	234	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5124	42.61	34.39	54	-11.39	34.11	8.1	33.99	100	286	Average
5124	56.61	48.39	74	-17.39	34.11	8.1	33.99	100	286	Peak
5260	101.59	93.13			34.21	8.26	34.01	100	286	Average
5260	109.32	100.86			34.21	8.26	34.01	100	286	Peak
5354	43.1	34.47	54	-10.9	34.28	8.38	34.03	100	286	Average
5354	57.05	48.42	74	-16.95	34.28	8.38	34.03	100	286	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	42.27	34.15	54	-11.73	34.07	8.03	33.98	144	7	Average
5078	56.09	47.97	74	-17.91	34.07	8.03	33.98	144	7	Peak
5260	97.49	89.03			34.21	8.26	34.01	144	7	Average
5260	104.85	96.39			34.21	8.26	34.01	144	7	Peak
5432	43	34.21	54	-11	34.35	8.48	34.04	144	7	Average
5432	57.1	48.31	74	-16.9	34.35	8.48	34.04	144	7	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260MHz: Fundamental frequency.

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

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
5102	42.29	34.13	54	-11.71	34.08	8.07	33.99	115	45	Average
5102	57.13	48.97	74	-16.87	34.08	8.07	33.99	115	45	Peak
5300	101.02	92.48			34.24	8.32	34.02	115	45	Average
5300	108.96	100.42			34.24	8.32	34.02	115	45	Peak
5350	45.51	36.88	54	-8.49	34.28	8.38	34.03	115	45	Average
5350	57.99	49.36	74	-16.01	34.28	8.38	34.03	115	45	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5124	42.32	34.1	54	-11.68	34.11	8.1	33.99	129	8	Average
5124	56.79	48.57	74	-17.21	34.11	8.1	33.99	129	8	Peak
5300	96.82	88.28			34.24	8.32	34.02	129	8	Average
5300	105.13	96.59			34.24	8.32	34.02	129	8	Peak
5442	44.64	35.85	54	-9.36	34.35	8.48	34.04	129	8	Average
5442	57.96	49.17	74	-16.04	34.35	8.48	34.04	129	8	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300MHz: Fundamental frequency.

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

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
5126	43.25	35.03	54	-10.75	34.11	8.1	33.99	115	48	Average
5126	56.6	48.38	74	-17.4	34.11	8.1	33.99	115	48	Peak
5320	101.11	92.53			34.25	8.35	34.02	115	48	Average
5320	109.53	100.95			34.25	8.35	34.02	115	48	Peak
5350	46.96	38.33	54	-7.04	34.28	8.38	34.03	115	48	Average
5350	60.64	52.01	74	-13.36	34.28	8.38	34.03	115	48	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
5100	42.29	34.13	54	-11.71	34.08	8.07	33.99	117	47	Average
5100	56.48	48.32	74	-17.52	34.08	8.07	33.99	117	47	Peak
5320	98.22	89.64			34.25	8.35	34.02	117	47	Average
5320	105.74	97.16			34.25	8.35	34.02	117	47	Peak
5354	44.9	36.27	54	-9.1	34.28	8.38	34.03	117	47	Average
5354	57.81	49.18	74	-16.19	34.28	8.38	34.03	117	47	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320MHz: Fundamental frequency.

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

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	45.47	36.65	54	-8.53	34.36	8.51	34.05	112	329	Average
5460	58.57	49.75	74	-15.43	34.36	8.51	34.05	112	329	Peak
5470	63.78	54.95	68.2	-4.42	34.37	8.51	34.05	112	329	Peak
5500	96.34	87.42			34.4	8.57	34.05	112	329	Average
5500	103.57	94.65			34.4	8.57	34.05	112	329	Peak
5725	55.96	46.8	68.2	-12.24	34.62	8.65	34.11	112	329	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	46.21	37.39	54	-7.79	34.36	8.51	34.05	138	15	Average
5456	59.23	50.41	74	-14.77	34.36	8.51	34.05	138	15	Peak
5470	65.19	56.36	68.2	-3.01	34.37	8.51	34.05	138	15	Peak
5500	99.39	90.47			34.4	8.57	34.05	138	15	Average
5500	107.53	98.61			34.4	8.57	34.05	138	15	Peak
5725	56.19	47.03	68.2	-12.01	34.62	8.65	34.11	138	15	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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	42.69	33.87	54	-11.31	34.36	8.51	34.05	141	333	Average
5454	57.82	49	74	-16.18	34.36	8.51	34.05	141	333	Peak
5470	56.99	48.16	68.2	-11.21	34.37	8.51	34.05	141	333	Peak
5580	95.71	86.72			34.47	8.6	34.08	141	333	Average
5580	103.87	94.88			34.47	8.6	34.08	141	333	Peak
5725	55.75	46.59	68.2	-12.45	34.62	8.65	34.11	141	333	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	42.68	33.86	54	-11.32	34.36	8.51	34.05	137	21	Average
5456	58.26	49.44	74	-15.74	34.36	8.51	34.05	137	21	Peak
5470	56.7	47.87	68.2	-11.5	34.37	8.51	34.05	137	21	Peak
5580	99.38	90.39			34.47	8.6	34.08	137	21	Average
5580	107.26	98.27			34.47	8.6	34.08	137	21	Peak
5725	57.04	47.88	68.2	-11.16	34.62	8.65	34.11	137	21	Peak

REMARKS:

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

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

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	42.63	33.8	54	-11.37	34.36	8.51	34.04	100	330	Average
5446	57.89	49.06	74	-16.11	34.36	8.51	34.04	100	330	Peak
5470	56.03	47.2	68.2	-12.17	34.37	8.51	34.05	100	330	Peak
5700	95.38	86.25			34.59	8.64	34.1	100	330	Average
5700	103.36	94.23			34.59	8.64	34.1	100	330	Peak
5725	59.3	50.14	68.2	-8.9	34.62	8.65	34.11	100	330	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
5450	42.6	33.78	54	-11.4	34.36	8.51	34.05	100	279	Average
5450	58.14	49.32	74	-15.86	34.36	8.51	34.05	100	279	Peak
5470	56.86	48.03	68.2	-11.34	34.37	8.51	34.05	100	279	Peak
5700	99.51	90.38			34.59	8.64	34.1	100	279	Average
5700	107.02	97.89			34.59	8.64	34.1	100	279	Peak
5725	65.18	56.02	68.2	-3.02	34.62	8.65	34.11	100	279	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5700MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5712	60.2	51.05	68.2	-8	34.61	8.65	34.11	117	335	Peak
5724	73.49	64.33	78.2	-4.71	34.62	8.65	34.11	117	335	Peak
5745	96.72	87.53			34.64	8.66	34.11	117	335	Average
5745	104.79	95.6			34.64	8.66	34.11	117	335	Peak
5854	57.65	48.33	78.2	-20.55	34.76	8.7	34.14	117	335	Peak
5870	56.78	47.45	68.2	-11.42	34.76	8.71	34.14	117	335	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
5704	61.64	52.49	68.2	-6.56	34.61	8.64	34.1	139	295	Peak
5724	74.96	65.8	78.2	-3.24	34.62	8.65	34.11	139	295	Peak
5745	100.07	90.88			34.64	8.66	34.11	139	295	Average
5745	107.87	98.68			34.64	8.66	34.11	139	295	Peak
5854	57.49	48.17	78.2	-20.71	34.76	8.7	34.14	139	295	Peak
5866	57.09	47.76	68.2	-11.11	34.76	8.71	34.14	139	295	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5712MHz, 5724MHz, 5854MHz & 5870MHz: Out of restricted band
   5704MHz, 5724MHz, 5854MHz & 5866MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5702	58.07	48.92	68.2	-10.13	34.61	8.64	34.1	126	335	Peak
5722	57.49	48.33	78.2	-20.71	34.62	8.65	34.11	126	335	Peak
5785	96.91	87.68			34.68	8.68	34.13	126	335	Average
5785	104.06	94.83			34.68	8.68	34.13	126	335	Peak
5856	58.14	48.82	78.2	-20.06	34.76	8.7	34.14	126	335	Peak
5870	57.33	48	68.2	-10.87	34.76	8.71	34.14	126	335	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
5646	58.11	49.04	68.2	-10.09	34.54	8.62	34.09	132	270	Peak
5716	57.65	48.5	78.2	-20.55	34.61	8.65	34.11	132	270	Peak
5785	99.35	90.12			34.68	8.68	34.13	132	270	Average
5785	106.99	97.76			34.68	8.68	34.13	132	270	Peak
5856	57.3	47.98	78.2	-20.9	34.76	8.7	34.14	132	270	Peak
5862	57.25	47.92	68.2	-10.95	34.76	8.71	34.14	132	270	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5702MHz, 5722MHz, 5856MHz & 5870MHz: Out of restricted band
   5646MHz, 5716MHz, 5856MHz & 5862MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5346	57.98	49.35	68.2	-10.22	34.28	8.38	34.03	125	335	Peak
5724	56.72	47.56	78.2	-21.48	34.62	8.65	34.11	125	335	Peak
5825	96.37	87.08			34.73	8.69	34.13	125	335	Average
5825	104.05	94.76			34.73	8.69	34.13	125	335	Peak
5852	68.9	59.6	78.2	-9.3	34.74	8.7	34.14	125	335	Peak
5864	60.51	51.18	68.2	-7.69	34.76	8.71	34.14	125	335	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
5690	57.29	48.16	68.2	-10.91	34.59	8.64	34.1	137	295	Peak
5722	57.08	47.92	78.2	-21.12	34.62	8.65	34.11	137	295	Peak
5825	99.39	90.1			34.73	8.69	34.13	137	295	Average
5825	107.13	97.84			34.73	8.69	34.13	137	295	Peak
5852	69.67	60.37	78.2	-8.53	34.74	8.7	34.14	137	295	Peak
5870	61.24	51.91	68.2	-6.96	34.76	8.71	34.14	137	295	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825MHz: Fundamental frequency.
3. 5346MHz, 5724MHz, 5852MHz & 5864MHz: Out of restricted band
   5690MHz, 5722MHz, 5852MHz & 5870MHz: Out of restricted band

802.11n (40MHz)

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

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	50.94	42.69	54	-3.06	34.12	8.13	34	137	46	Average
5150	64.92	56.67	74	-9.08	34.12	8.13	34	137	46	Peak
5190	101.51	93.17			34.15	8.19	34	137	46	Average
5190	109.53	101.19			34.15	8.19	34	137	46	Peak
5444	43.44	34.65	54	-10.56	34.35	8.48	34.04	137	46	Average
5444	58.25	49.46	74	-15.75	34.35	8.48	34.04	137	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	48.22	39.97	54	-5.78	34.12	8.13	34	115	233	Average
5150	58.88	50.63	74	-15.12	34.12	8.13	34	115	233	Peak
5190	97.48	89.14			34.15	8.19	34	115	233	Average
5190	105.35	97.01			34.15	8.19	34	115	233	Peak
5448	43.15	34.32	54	-10.85	34.36	8.51	34.04	115	233	Average
5448	57.33	48.5	74	-16.67	34.36	8.51	34.04	115	233	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190MHz: Fundamental frequency.

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

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	45.51	37.26	54	-8.49	34.12	8.13	34	138	34	Average
5148	56.68	48.43	74	-17.32	34.12	8.13	34	138	34	Peak
5230	101.01	92.61			34.19	8.22	34.01	138	34	Average
5230	109.36	100.96			34.19	8.22	34.01	138	34	Peak
5352	44.01	35.38	54	-9.99	34.28	8.38	34.03	138	34	Average
5352	56.69	48.06	74	-17.31	34.28	8.38	34.03	138	34	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
5142	44.07	35.81	54	-9.93	34.12	8.13	33.99	113	234	Average
5142	56.63	48.37	74	-17.37	34.12	8.13	33.99	113	234	Peak
5230	97.34	88.94			34.19	8.22	34.01	113	234	Average
5230	105.84	97.44			34.19	8.22	34.01	113	234	Peak
5458	43.53	34.71	54	-10.47	34.36	8.51	34.05	113	234	Average
5458	57.48	48.66	74	-16.52	34.36	8.51	34.05	113	234	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5230MHz: Fundamental frequency.

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

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	43.16	35.04	54	-10.84	34.07	8.03	33.98	110	288	Average
5080	55.9	47.78	74	-18.1	34.07	8.03	33.98	110	288	Peak
5270	100.71	92.22			34.21	8.29	34.01	110	288	Average
5270	109.09	100.6			34.21	8.29	34.01	110	288	Peak
5352	45.73	37.1	54	-8.27	34.28	8.38	34.03	110	288	Average
5352	56.58	47.95	74	-17.42	34.28	8.38	34.03	110	288	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
5094	42.79	34.63	54	-11.21	34.08	8.07	33.99	131	6	Average
5094	56.62	48.46	74	-17.38	34.08	8.07	33.99	131	6	Peak
5270	97.76	89.27			34.21	8.29	34.01	131	6	Average
5270	105.75	97.26			34.21	8.29	34.01	131	6	Peak
5450	44.98	36.16	54	-9.02	34.36	8.51	34.05	131	6	Average
5450	57.46	48.64	74	-16.54	34.36	8.51	34.05	131	6	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5270MHz: Fundamental frequency.

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

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	42.83	34.58	54	-11.17	34.12	8.13	34	114	46	Average
5144	56.46	48.21	74	-17.54	34.12	8.13	34	114	46	Peak
5310	101.24	92.69			34.25	8.32	34.02	114	46	Average
5310	109.2	100.65			34.25	8.32	34.02	114	46	Peak
5354	48.06	39.43	54	-5.94	34.28	8.38	34.03	114	46	Average
5354	59.66	51.03	74	-14.34	34.28	8.38	34.03	114	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5086	42.54	34.38	54	-11.46	34.07	8.07	33.98	121	303	Average
5086	55.98	47.82	74	-18.02	34.07	8.07	33.98	121	303	Peak
5310	97.47	88.92			34.25	8.32	34.02	121	303	Average
5310	104.91	96.36			34.25	8.32	34.02	121	303	Peak
5350	46.93	38.3	54	-7.07	34.28	8.38	34.03	121	303	Average
5350	58.39	49.76	74	-15.61	34.28	8.38	34.03	121	303	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5310MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	45.71	36.88	54	-8.29	34.36	8.51	34.04	112	329	Average
5448	59.73	50.9	74	-14.27	34.36	8.51	34.04	112	329	Peak
5470	60.31	51.48	68.2	-7.89	34.37	8.51	34.05	112	329	Peak
5510	96.48	87.57			34.4	8.57	34.06	112	329	Average
5510	104.43	95.52			34.4	8.57	34.06	112	329	Peak
5725	57.03	47.87	68.2	-11.17	34.62	8.65	34.11	112	329	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	46.92	38.1	54	-7.08	34.36	8.51	34.05	138	15	Average
5460	59.59	50.77	74	-14.41	34.36	8.51	34.05	138	15	Peak
5470	64.86	56.03	68.2	-3.34	34.37	8.51	34.05	138	15	Peak
5510	99.9	90.99			34.4	8.57	34.06	138	15	Average
5510	108.18	99.27			34.4	8.57	34.06	138	15	Peak
5725	57.08	47.92	68.2	-11.12	34.62	8.65	34.11	138	15	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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	43.74	34.91	54	-10.26	34.36	8.51	34.04	143	334	Average
5446	59.08	50.25	74	-14.92	34.36	8.51	34.04	143	334	Peak
5470	56.96	48.13	68.2	-11.24	34.37	8.51	34.05	143	334	Peak
5550	96.21	87.24			34.45	8.59	34.07	143	334	Average
5550	104.32	95.35			34.45	8.59	34.07	143	334	Peak
5725	56.98	47.82	68.2	-11.22	34.62	8.65	34.11	143	334	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
5450	44.76	35.94	54	-9.24	34.36	8.51	34.05	137	16	Average
5450	58.16	49.34	74	-15.84	34.36	8.51	34.05	137	16	Peak
5470	56.88	48.05	68.2	-11.32	34.37	8.51	34.05	137	16	Peak
5550	100.49	91.52			34.45	8.59	34.07	137	16	Average
5550	108.68	99.71			34.45	8.59	34.07	137	16	Peak
5725	56.88	47.72	68.2	-11.32	34.62	8.65	34.11	137	16	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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	43.01	34.22	54	-10.99	34.35	8.48	34.04	100	330	Average
5434	58.41	49.62	74	-15.59	34.35	8.48	34.04	100	330	Peak
5470	55.32	46.49	68.2	-12.88	34.37	8.51	34.05	100	330	Peak
5670	96.41	87.31			34.57	8.63	34.1	100	330	Average
5670	104.66	95.56			34.57	8.63	34.1	100	330	Peak
5725	58.3	49.14	68.2	-9.9	34.62	8.65	34.11	100	330	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	42.87	34.19	54	-11.13	34.31	8.41	34.04	100	278	Average
5390	56.78	48.1	74	-17.22	34.31	8.41	34.04	100	278	Peak
5470	55.78	46.95	68.2	-12.42	34.37	8.51	34.05	100	278	Peak
5670	100.27	91.17			34.57	8.63	34.1	100	278	Average
5670	108.52	99.42			34.57	8.63	34.1	100	278	Peak
5725	62.11	52.95	68.2	-6.09	34.62	8.65	34.11	100	278	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5712	62.52	53.37	68.2	-5.68	34.61	8.65	34.11	117	335	Peak
5722	70.58	61.42	78.2	-7.62	34.62	8.65	34.11	117	335	Peak
5755	96.61	87.4			34.66	8.66	34.11	117	335	Average
5755	104.52	95.31			34.66	8.66	34.11	117	335	Peak
5860	57.14	47.82	78.2	-21.06	34.76	8.7	34.14	117	335	Peak
5868	56.56	47.23	68.2	-11.64	34.76	8.71	34.14	117	335	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
5710	62.54	53.39	68.2	-5.66	34.61	8.65	34.11	139	296	Peak
5724	71.38	62.22	78.2	-6.82	34.62	8.65	34.11	139	296	Peak
5755	99.61	90.4			34.66	8.66	34.11	139	296	Average
5755	107.87	98.66			34.66	8.66	34.11	139	296	Peak
5854	57.4	48.08	78.2	-20.8	34.76	8.7	34.14	139	296	Peak
5862	56.69	47.36	68.2	-11.51	34.76	8.71	34.14	139	296	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755MHz: Fundamental frequency.
3. 5712MHz, 5722MHz, 5860MHz & 5868MHz: Out of restricted band
   5710MHz, 5724MHz, 5854MHz & 5862MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Charles Hsiao

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
5658	58.52	49.43	68.2	-9.68	34.56	8.63	34.1	126	335	Peak
5724	57.82	48.66	78.2	-20.38	34.62	8.65	34.11	126	335	Peak
5795	96.1	86.86			34.69	8.68	34.13	126	335	Average
5795	103.99	94.75			34.69	8.68	34.13	126	335	Peak
5852	58.85	49.55	78.2	-19.35	34.74	8.7	34.14	126	335	Peak
5864	57.68	48.35	68.2	-10.52	34.76	8.71	34.14	126	335	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
5662	58.25	49.16	68.2	-9.95	34.56	8.63	34.1	132	261	Peak
5724	58.13	48.97	78.2	-20.07	34.62	8.65	34.11	132	261	Peak
5795	99.86	90.62			34.69	8.68	34.13	132	261	Average
5795	107.29	98.05			34.69	8.68	34.13	132	261	Peak
5860	59.24	49.92	78.2	-18.96	34.76	8.7	34.14	132	261	Peak
5870	57.65	48.32	68.2	-10.55	34.76	8.71	34.14	132	261	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5795MHz: Fundamental frequency.
3. 5658MHz, 5724MHz, 5852MHz & 5864MHz: Out of restricted band
   5662MHz, 5724MHz, 5860MHz & 5870MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA:

Band 1

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Karl Lee

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
96.15	30.95	52.33	43.5	-12.55	9.38	1.28	32.04	161	83	Peak
176.88	31.73	52.11	43.5	-11.77	10.25	1.61	32.24	107	99	Peak
266.79	27.76	44.44	46	-18.24	13.49	1.94	32.11	158	333	Peak
400.1	33.15	44.93	46	-12.85	18.1	2.34	32.22	111	288	Peak
674.5	37.35	43.02	46	-8.65	23.4	3.05	32.12	137	119	Peak
943.3	28.23	29.57	46	-17.77	26.2	3.62	31.16	197	76	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
95.61	31.01	52.43	43.5	-12.49	9.34	1.28	32.04	144	25	Peak
176.61	21.76	42.14	43.5	-21.74	10.25	1.61	32.24	120	312	Peak
266.79	19.95	36.63	46	-26.05	13.49	1.94	32.11	124	245	Peak
400.1	30.22	42	46	-15.78	18.1	2.34	32.22	180	242	Peak
673.8	35.62	41.29	46	-10.38	23.4	3.05	32.12	120	263	Peak
928.6	28.96	30.41	46	-17.04	26.2	3.62	31.27	154	248	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

Band 2

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Karl Lee

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
97.23	32.53	53.89	43.5	-10.97	9.46	1.28	32.1	125	321	Peak
176.61	35.6	55.98	43.5	-7.9	10.25	1.61	32.24	120	264	Peak
266.79	28.89	45.57	46	-17.11	13.49	1.94	32.11	124	348	Peak
400.1	31.09	42.87	46	-14.91	18.1	2.34	32.22	112	215	Peak
668.9	36.73	42.63	46	-9.27	23.18	3.05	32.13	164	234	Peak
800.5	29.06	33.2	46	-16.94	24.6	3.32	32.06	164	268	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
95.88	32.81	54.19	43.5	-10.69	9.38	1.28	32.04	134	264	Peak
175.8	25.38	45.79	43.5	-18.12	10.22	1.61	32.24	168	210	Peak
266.79	22.2	38.88	46	-23.8	13.49	1.94	32.11	154	233	Peak
400.1	28.36	40.14	46	-17.64	18.1	2.34	32.22	120	284	Peak
668.2	35.24	41.14	46	-10.76	23.18	3.05	32.13	168	313	Peak
800.5	28.27	32.41	46	-17.73	24.6	3.32	32.06	190	340	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

Band 3

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Karl Lee

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
96.42	32.88	54.22	43.5	-10.62	9.42	1.28	32.04	134	202	Peak
174.45	33.29	53.74	43.5	-10.21	10.18	1.61	32.24	164	264	Peak
266.79	28.95	45.63	46	-17.05	13.49	1.94	32.11	184	260	Peak
400.1	31.73	43.51	46	-14.27	18.1	2.34	32.22	186	320	Peak
668.9	37.36	43.26	46	-8.64	23.18	3.05	32.13	140	259	Peak
800.5	29.09	33.23	46	-16.91	24.6	3.32	32.06	143	348	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
95.34	33.12	54.49	43.5	-10.38	9.34	1.28	31.99	163	327	Peak
174.45	24.48	44.93	43.5	-19.02	10.18	1.61	32.24	129	259	Peak
266.79	22.65	39.33	46	-23.35	13.49	1.94	32.11	136	304	Peak
400.1	29.42	41.2	46	-16.58	18.1	2.34	32.22	106	20	Peak
666.1	36.22	42.39	46	-9.78	22.97	2.99	32.13	146	36	Peak
929.3	28.49	29.93	46	-17.51	26.2	3.62	31.26	180	120	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

Band 4

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Karl Lee

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
96.96	32.54	53.9	43.5	-10.96	9.46	1.28	32.1	105	263	Peak
174.72	33.5	53.95	43.5	-10	10.18	1.61	32.24	134	280	Peak
266.79	29.14	45.82	46	-16.86	13.49	1.94	32.11	139	36	Peak
400.1	32.16	43.94	46	-13.84	18.1	2.34	32.22	133	80	Peak
681.5	36.88	42.63	46	-9.12	23.31	3.05	32.11	120	66	Peak
800.5	28.69	32.83	46	-17.31	24.6	3.32	32.06	165	46	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
95.88	32.39	53.77	43.5	-11.11	9.38	1.28	32.04	130	103	Peak
174.99	22.85	43.3	43.5	-20.65	10.18	1.61	32.24	116	301	Peak
266.79	22.1	38.78	46	-23.9	13.49	1.94	32.11	105	320	Peak
400.1	30.02	41.8	46	-15.98	18.1	2.34	32.22	106	308	Peak
666.8	35.81	41.92	46	-10.19	22.97	3.05	32.13	116	205	Peak
924.4	28.14	29.71	46	-17.86	26.2	3.53	31.3	154	69	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 (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	ESCI	100612	Sep. 30, 2014	Sep. 29, 2015
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 13, 2014	Feb. 12, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 21, 2014	Jul. 20, 2015
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 1.
3. The VCCI Site Registration No. is C-2040.

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.

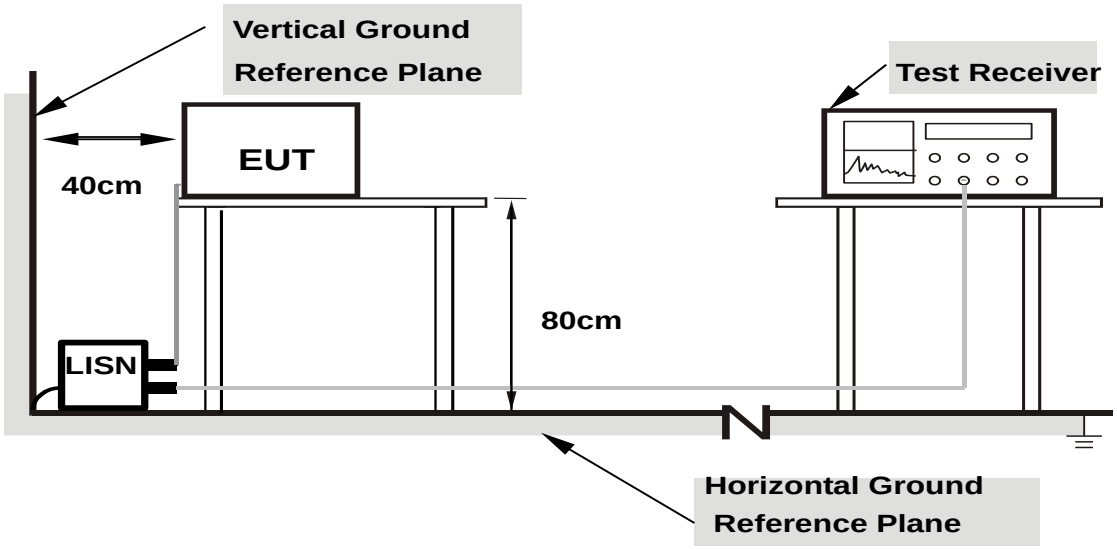
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 section 4.1.6.

4.2.7 TEST RESULTS

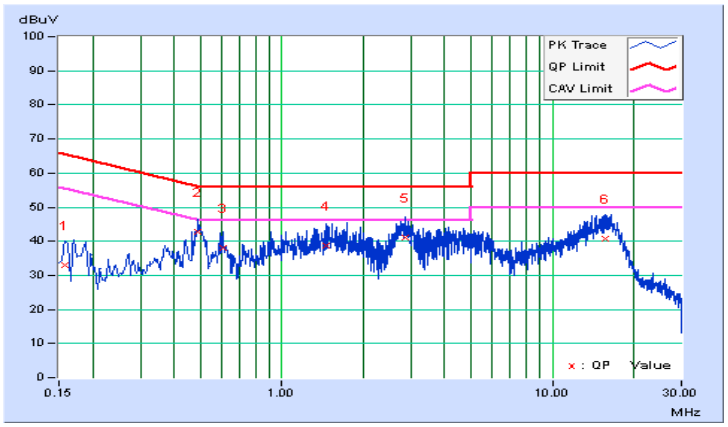
CONDUCTED WORST-CASE DATA：

PHASE	Line 1	**6dB BANDWIDTH**	9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15760	0.08	33.00	23.19	33.08	23.27	65.59	55.59	-32.51	-32.32
2	**0.49017**	**0.08**	**42.55**	**34.51**	**42.63**	**34.59**	**56.16**	**46.16**	**-13.53**	**-11.57**
3	0.60356	0.09	38.08	27.35	38.17	27.44	56.00	46.00	-17.83	-18.56
4	1.46440	0.13	38.62	27.90	38.75	28.03	56.00	46.00	-17.25	-17.97
5	2.85215	0.18	40.88	32.01	41.06	32.19	56.00	46.00	-14.94	-13.81
6	15.73526	0.81	40.04	31.84	40.85	32.65	60.00	50.00	-19.15	-17.35

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

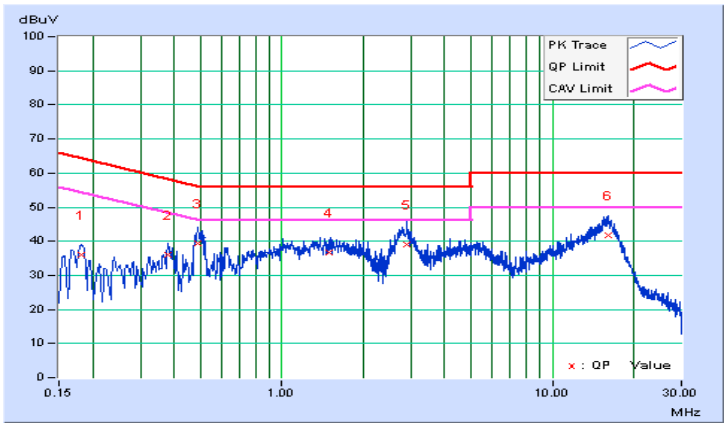


PHASE	Line 2	6dB BANDWIDTH	9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18075	0.05	35.92	24.00	35.97	24.05	64.45	54.45	-28.48	-30.40
2	0.37999	0.07	35.87	27.65	35.94	27.72	58.28	48.28	-22.34	-20.56
3	0.49017	0.07	39.26	30.83	39.33	30.90	56.16	46.16	-16.83	-15.26
4	1.49954	0.11	36.73	27.69	36.84	27.80	56.00	46.00	-19.16	-18.20
5	2.90655	0.17	38.82	30.35	38.99	30.52	56.00	46.00	-17.01	-15.48
6	16.13408	0.73	41.13	31.65	41.86	32.38	60.00	50.00	-18.14	-17.62

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 TRANSMIT POWER MEASUREMENT

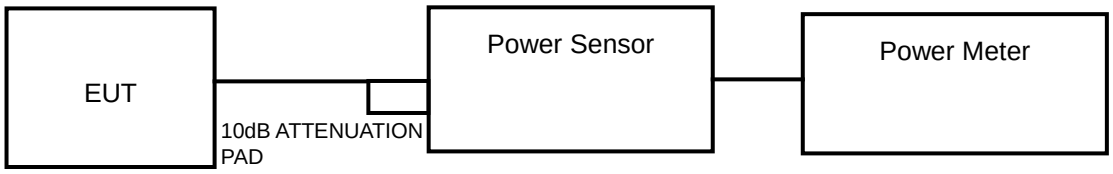
4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

OPERATION BAND	EUT CATEGORY		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√	---	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√	---	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√	---	1 Watt (30 dBm)

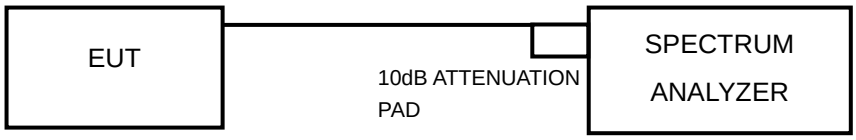
NOTE: Where B is the 26dB emission bandwidth in MHz.

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

<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 not added to measured value.

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

POWER OUTPUT

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	13.15	11.19	23.84	PASS
44	5220	13.52	11.31	23.83	PASS
48	5240	13.43	11.28	23.82	PASS
52	5260	13.58	11.33	23.79	PASS
60	5300	13.65	11.35	23.81	PASS
64	5320	13.52	11.31	23.80	PASS
100	5500	13.68	11.36	23.80	PASS
116	5580	13.74	11.38	23.84	PASS
140	5700	13.65	11.35	23.84	PASS
149	5745	17.10	12.33	30	PASS
157	5785	17.38	12.4	30	PASS
165	5825	16.79	12.25	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(19.02) = 23.79 dBm < 24dBm.
2. 11dBm + 10log(19.10) = 23.81 dBm < 24dBm.
3. 11dBm + 10log(19.06) = 23.80 dBm < 24dBm.
4. 11dBm + 10log(19.04) = 23.80 dBm < 24dBm.
5. 11dBm + 10log(19.24) = 23.84 dBm < 24dBm.
6. 11dBm + 10log(19.21) = 23.84 dBm < 24dBm.

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	13.09	11.17	23.91	PASS
44	5220	13.24	11.22	23.88	PASS
48	5240	13.21	11.21	23.89	PASS
52	5260	13.30	11.24	23.90	PASS
60	5300	13.40	11.27	23.90	PASS
64	5320	13.34	11.25	23.88	PASS
100	5500	10.50	10.21	23.89	PASS
116	5580	10.69	10.29	23.90	PASS
140	5700	10.64	10.27	23.90	PASS
149	5745	16.67	12.22	30	PASS
157	5785	17.10	12.33	30	PASS
165	5825	16.44	12.16	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(19.52) = 23.90 dBm < 24dBm.
2. 11dBm + 10log(19.51) = 23.90 dBm < 24dBm.
3. 11dBm + 10log(19.42) = 23.88 dBm < 24dBm.
4. 11dBm + 10log(19.46) = 23.89 dBm < 24dBm.
5. 11dBm + 10log(19.51) = 23.90 dBm < 24dBm.
6. 11dBm + 10log(19.52) = 23.90 dBm < 24dBm.

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	13.15	11.19	24	PASS
46	5230	13.21	11.21	24	PASS
54	5270	13.49	11.30	24	PASS
62	5310	13.61	11.34	24	PASS
102	5510	13.58	11.33	24	PASS
110	5550	13.65	11.35	24	PASS
134	5670	13.34	11.25	24	PASS
151	5755	16.44	12.16	30	PASS
159	5795	16.94	12.29	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(41.01) = 27.13 dBm > 24dBm.
2. 11dBm + 10log(41.07) = 27.14 dBm > 24dBm.
3. 11dBm + 10log(41.09) = 27.14 dBm > 24dBm.
4. 11dBm + 10log(40.91) = 27.12 dBm > 24dBm.
5. 11dBm + 10log(41.15) = 27.14 dBm > 24dBm.

26dB BANDWIDTH

802.11a

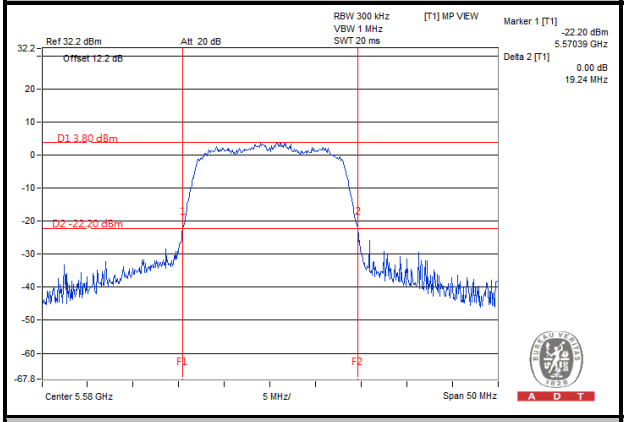
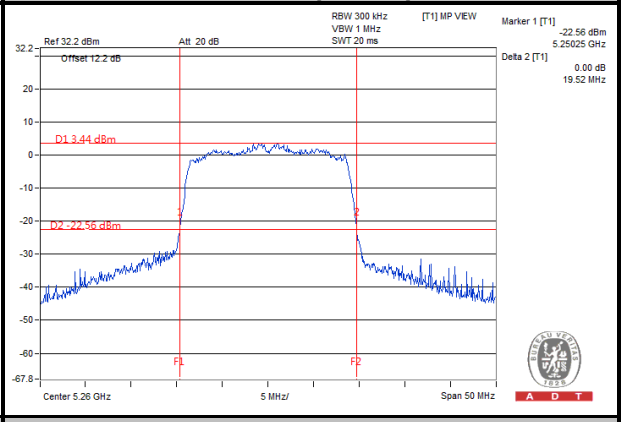
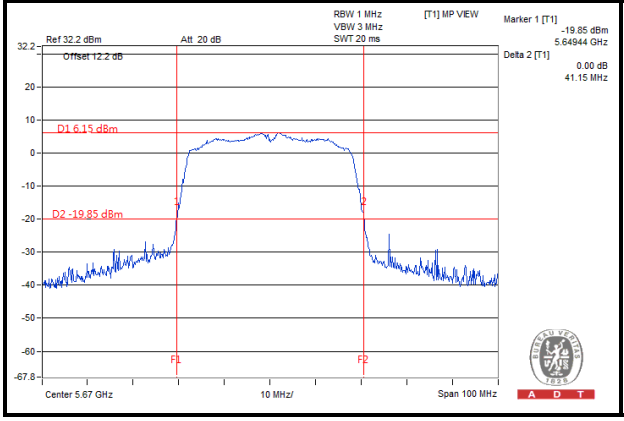
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	19.02	PASS
60	5300	19.10	PASS
64	5320	19.06	PASS
100	5500	19.04	PASS
116	5580	19.24	PASS
140	5700	19.21	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	19.52	PASS
60	5300	19.51	PASS
64	5320	19.42	PASS
100	5500	19.46	PASS
116	5580	19.51	PASS
140	5700	19.52	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
54	5270	41.01	PASS
62	5310	41.07	PASS
102	5510	41.09	PASS
110	5550	40.91	PASS
134	5670	41.15	PASS

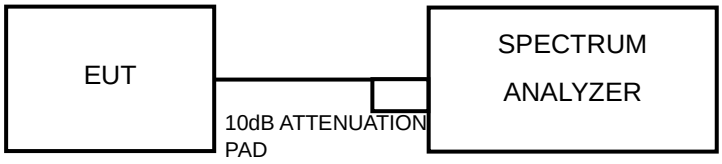
SPECTRUM PLOT OF WORST VALUE	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	
	

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√	---	11dBm/ MHz
U-NII-2C	√	---	11dBm/ MHz
U-NII-3	√	---	30dBm/ 500KHz

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

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-1

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = 4s second.
5) Perform a single sweep.
6) Record the max value

Using method SA-2 alternative

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = 4s second.
5) Perform a single sweep.
6) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, 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 and add 10 log (1/duty cycle)

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

For U-NII-1, U-NII-2A, U-NII-2C Band

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	-0.26	0.34	0.08	11	PASS
44	5220	0.19	0.34	0.53	11	PASS
48	5240	0.07	0.34	0.41	11	PASS
52	5260	0.19	0.34	0.53	11	PASS
60	5300	0.65	0.34	0.99	11	PASS
64	5320	0.64	0.34	0.98	11	PASS
100	5500	0.50	0.34	0.84	11	PASS
116	5580	0.21	0.34	0.55	11	PASS
140	5700	0.26	0.34	0.60	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	-0.62	0.36	-0.26	11	PASS
44	5220	-0.12	0.36	0.24	11	PASS
48	5240	-0.17	0.36	0.19	11	PASS
52	5260	-0.08	0.36	0.28	11	PASS
60	5300	0.28	0.36	0.64	11	PASS
64	5320	0.39	0.36	0.75	11	PASS
100	5500	-0.80	0.36	-0.44	11	PASS
116	5580	-1.08	0.36	-0.72	11	PASS
140	5700	-1.17	0.36	-0.81	11	PASS

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

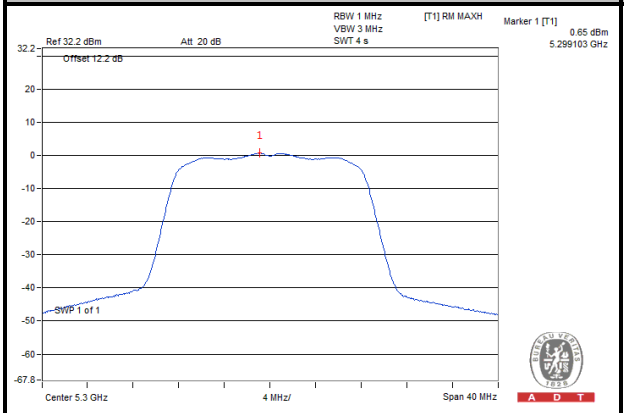
802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-3.01	0.89	-2.12	11	PASS
46	5230	-2.82	0.89	-1.93	11	PASS
54	5270	-2.66	0.89	-1.77	11	PASS
62	5310	-2.34	0.89	-1.45	11	PASS
102	5510	-2.56	0.89	-1.67	11	PASS
110	5550	-2.91	0.89	-2.02	11	PASS
134	5670	-2.90	0.89	-2.01	11	PASS

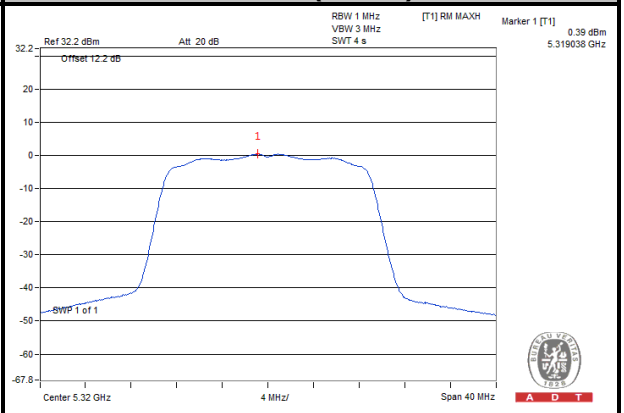
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

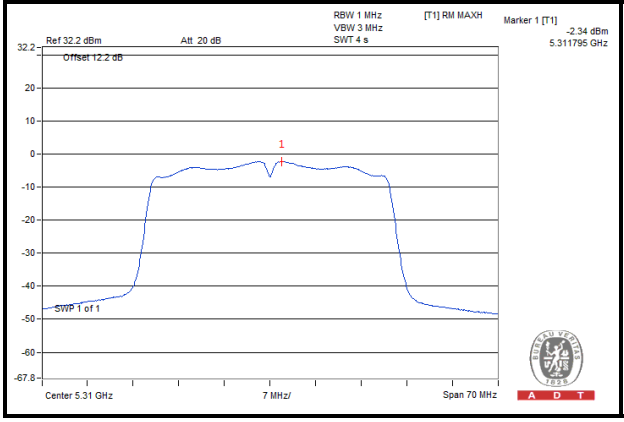
802.11a



802.11n (20MHz)



802.11n (40MHz)



For U-NII-3 Band

802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	LIMIT (dBm/500kHz)	PASS/FAIL
149	5745	-2.41	0.34	-2.07	30	PASS
157	5785	-1.98	0.34	-1.64	30	PASS
165	5825	-1.90	0.34	-1.56	30	PASS

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

802.11n (20MHz)

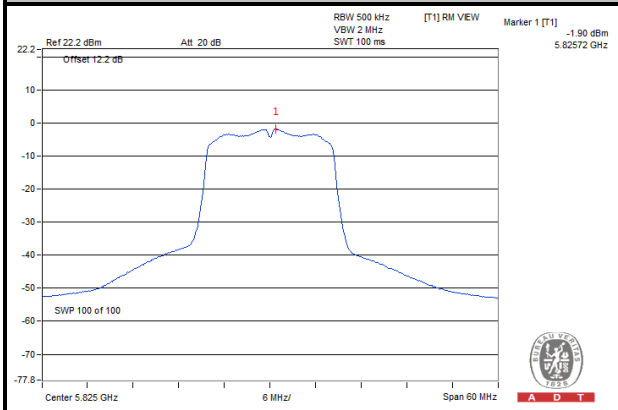
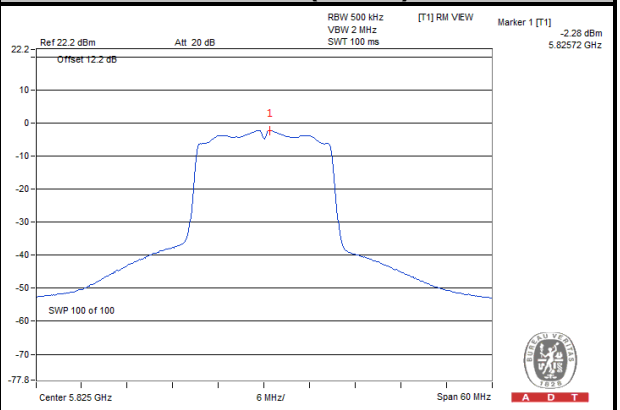
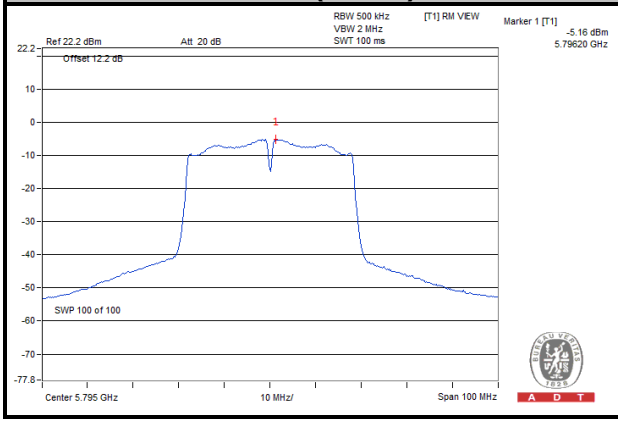
CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	LIMIT (dBm/500kHz)	PASS/FAIL
149	5745	-2.72	0.36	-2.36	30	PASS
157	5785	-2.44	0.36	-2.08	30	PASS
165	5825	-2.28	0.36	-1.92	30	PASS

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)	LIMIT (dBm/500kHz)	PASS/FAIL
151	5755	-5.59	0.89	-4.70	30	PASS
159	5795	-5.16	0.89	-4.27	30	PASS

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

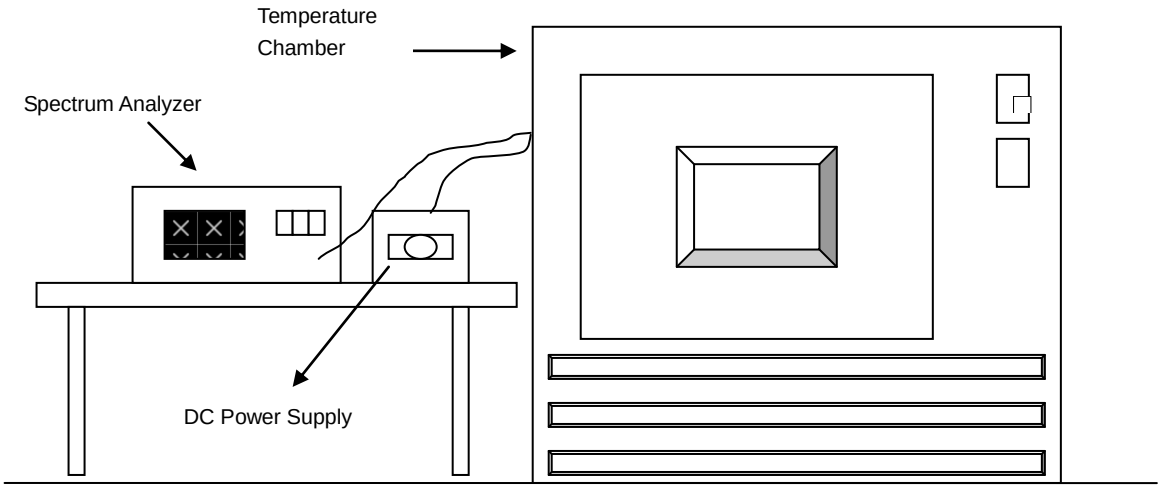
SPECTRUM PLOT OF WORST VALUE	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	
	

4.5 FREQUENCY STABILITY

4.5.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

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

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.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

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

4.5.7 TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.8	5320.025989	4.885	5320.036795	6.916	5320.037052	6.965	5320.037163	6.986
40	3.8	5320.027128	5.099	5320.038390	7.216	5320.037887	7.122	5320.038088	7.159
30	3.8	5320.028361	5.331	5320.039630	7.449	5320.039426	7.411	5320.039595	7.443
20	3.8	5320.029074	5.465	5320.040616	7.635	5320.040121	7.542	5320.040612	7.634
10	3.8	5320.030779	5.786	5320.041879	7.872	5320.041882	7.873	5320.041564	7.813
0	3.8	5320.029177	5.484	5320.040193	7.555	5320.039942	7.508	5320.040248	7.565
-10	3.8	5320.027532	5.175	5320.038626	7.261	5320.038841	7.301	5320.038361	7.211
-20	3.8	5320.027099	5.094	5320.038304	7.200	5320.038196	7.180	5320.038266	7.193
-30	3.8	5320.026183	4.922	5320.037101	6.974	5320.037060	6.966	5320.037190	6.991

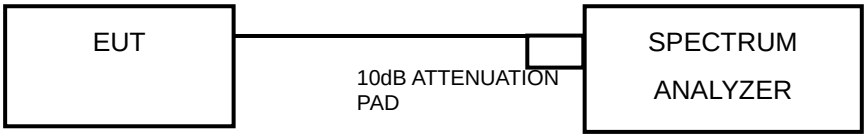
FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.4	5320.028956	5.443	5320.040209	7.558	5320.040410	7.596	5320.040349	7.584
	3.8	5320.029074	5.465	5320.040616	7.635	5320.040121	7.542	5320.040612	7.634
	4.3	5320.030568	5.746	5320.041445	7.790	5320.041539	7.808	5320.041595	7.819

4.6 6dB BANDWIDTH MEASUREMENT

4.6.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.6.7 TEST RESULTS

802.11a

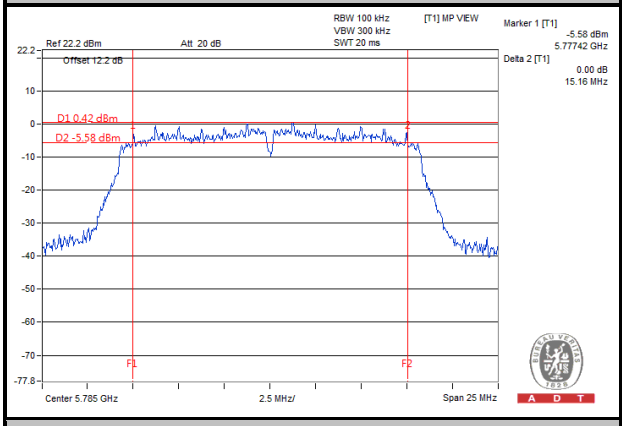
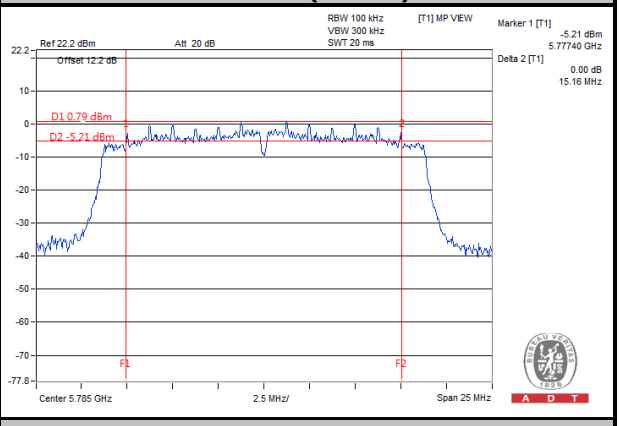
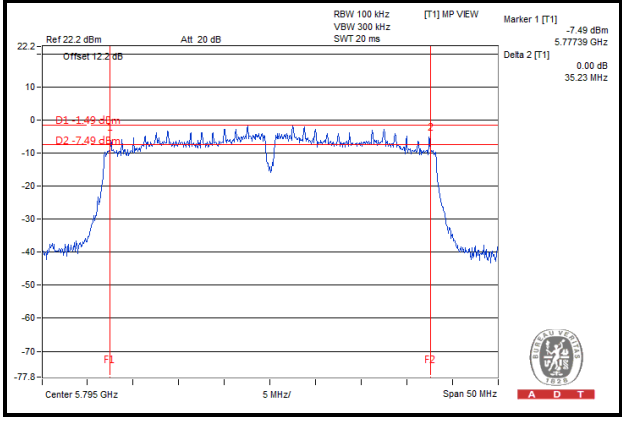
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.11	0.5	PASS
157	5785	15.16	0.5	PASS
165	5825	15.15	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.13	0.5	PASS
157	5785	15.16	0.5	PASS
165	5825	15.16	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.16	0.5	PASS
159	5795	35.23	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	
	

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.
If you have any comments, please feel free to contact us at the following:

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

Hsin Chu EMC/RF/Telecom Lab:
Tel: 886-3-5935343
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Tel: 886-3-3183232
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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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

No any modifications are made to the EUT by the lab during the test.

---END---