

SUPPLEMENTARY FCC TEST REPORT (15.407)

REPORT NO.: RF140219C09I

MODEL NO.: TC700H

FCC ID: H9PTC700H

RECEIVED: Aug. 20, 2014

TESTED: Sep. 01, 2014 ~ Sep. 04, 2014

ISSUED: Sep. 10, 2014

APPLICANT: Symbol Technologies, Inc.

ADDRESS: One Motorola Plaza, Holtsville, NY 11742-1300 USA

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

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

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

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REPORT ISSUE HISTORY RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
1	Original release	Jul. 03, 2014
2	1. Update for FCC new rule 2. Add Earphone 3. Change HW/SW	Sep. 10, 2014



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140219C09I	Original release	Sep. 10, 2014

1. CERTIFICATION

PRODUCT: Touch Computer
MODEL NO.: TC700H
BRAND: Symbol
APPLICANT: Symbol Technologies, Inc.
TESTED: Sep. 01, 2014 ~ Sep. 04, 2014
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009

The above equipment (model: TC700H) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Vera Huang , **DATE** : Sep. 10, 2014
Vera Huang / Specialist
APPROVED BY : Sam chen , **DATE** : Sep. 10, 2014
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 -5.41dB at 13.56200MHz.
15.407(b/1/2/3)(b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.3dB at 5714MHz.
15.407(a/1/2/3)	Max Average Transmit Power	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	Touch Computer
MODEL NO.	TC700H
POWER SUPPLY	5.4Vdc (adapter or host equipment) 3.7Vdc (Li-ion battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7
OPERATING FREQUENCY	5180 ~ 5240MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	112.72mW for 5180 ~ 5240MHz 78.70mW for 5745 ~ 5825MHz
ANTENNA TYPE	PIFA antenna with 3.62dBi gain (5180 ~ 5240MHz) PIFA antenna with 2.57dBi 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
HW VERSION	DV1
SW VERSION	Android Version: 4.4.2 Build Number: 99-23245-K-07-04-01-G1-081114

NOTE:

1. This report is issued as a supplementary report of BV ADT report no.: RF140219C09G-1 (for 5745 ~ 5825MHz) and RF140219C09G-3 (for 5180 ~ 5240MHz). The differences compared with original report are listed as below. Therefore, all items had been retest for 5180 ~ 5240MHz and 5745 ~ 5825MHz.

- Update for FCC new rule
- Add Earphone
- Change HW/SW

2. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter	Motorola	86-14000-249R	I/P: 100-240Vac, 50/60Hz, 0.6A O/P: 5.4Vdc, 3A
Battery	Symbol	82-171249-02	3.7Vdc, 4500mAh
Charging only Cable Cup	Symbol	CHG-TC7X-CBL1-01	--
Earphone	Symbol	HDST-25MM-PTVP-01	1.3m non-shielded cable w/o core
TC7X SNAP ON AUDIO ADAPTER	Symbol	ADP-TC7X-AUDIO1-01	--
Snap On USB Cable	Symbol	CBL-TC7X-USB1-01	1.8m non-shielded cable with core
Holster	Symbol	SG-TC7X-HLSTR1-01	--
Hand-Strap	Symbol	SG-TC7X-HSTRP1-03	--

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

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

4. 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

WLAN 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 $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT + Earphone
B	√	√	-	-	EUT + U-Cup Cable + USB Cable

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. For both Mode A and B, the worst case was found when positioned on **Z-plane** for 5180-5240MHz, and 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)
A	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	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
B	802.11n (40MHz)	5180-5240	38 to 46	38, 46	OFDM	BPSK	MCS0
	802.11n (40MHz)	5745-5825	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)
A	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	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	MCS0
B	802.11n (40MHz)	5180-5240	38 to 46	38, 46	OFDM	BPSK	MCS0
	802.11n (40MHz)	5745-5825	151 to 159	151, 159	OFDM	BPSK	MCS0

POWER LINE CONDUCTED EMISSION TEST:

The EUT was tested with the following mode.

EUT CONFIGURE MODE	TEST CONDITION
A	BT Link + WLAN 5G Link + Adapter + U-Cup Cable + USB Cable + NFC Link

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)
A	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	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 165	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)
A	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	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)		149 to 165	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 $\geq$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
PLC	25deg. C, 65%RH	120Vac, 60Hz	Gavin Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz	David Huang

3.3 DESCRIPTION OF SUPPORT UNITS

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

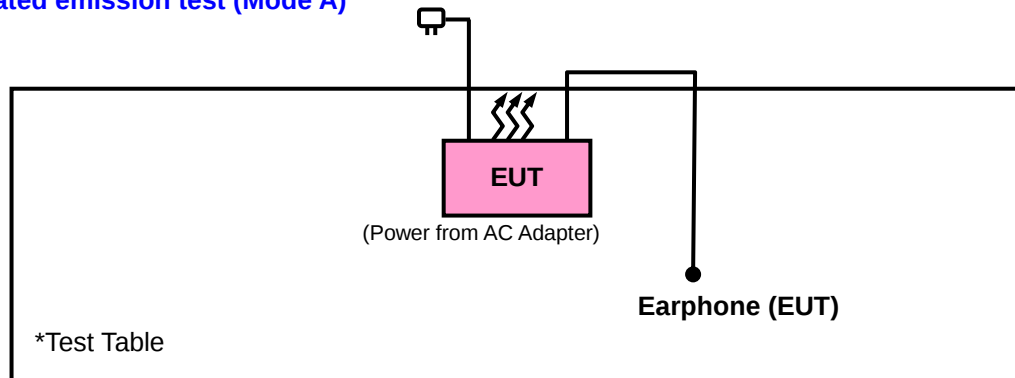
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	Inspiron 14R	8LRKKW1	NA

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

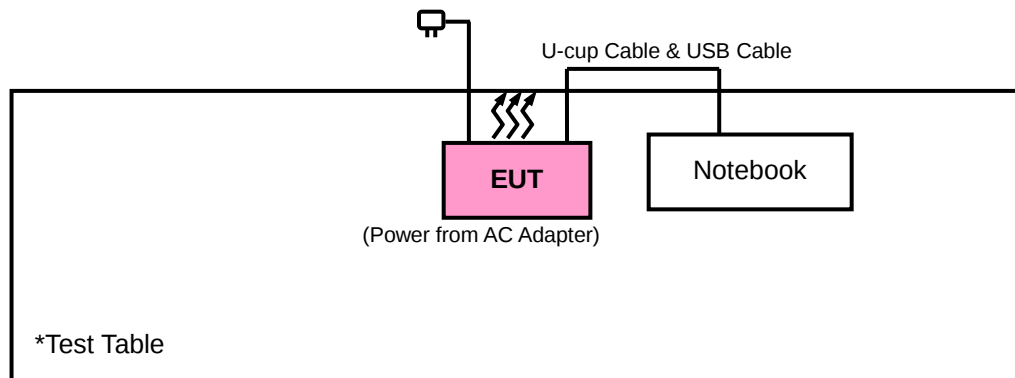
NOTE: 1. All power cords of the above support units are non shielded (1.8m).
 2. Item 1 as a communication partner to transfer data.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST

Radiated emission test (Mode A)



Radiated emission test (Mode B) & Conducted emission test



3.4 DUTY CYCLE TEST SIGNAL

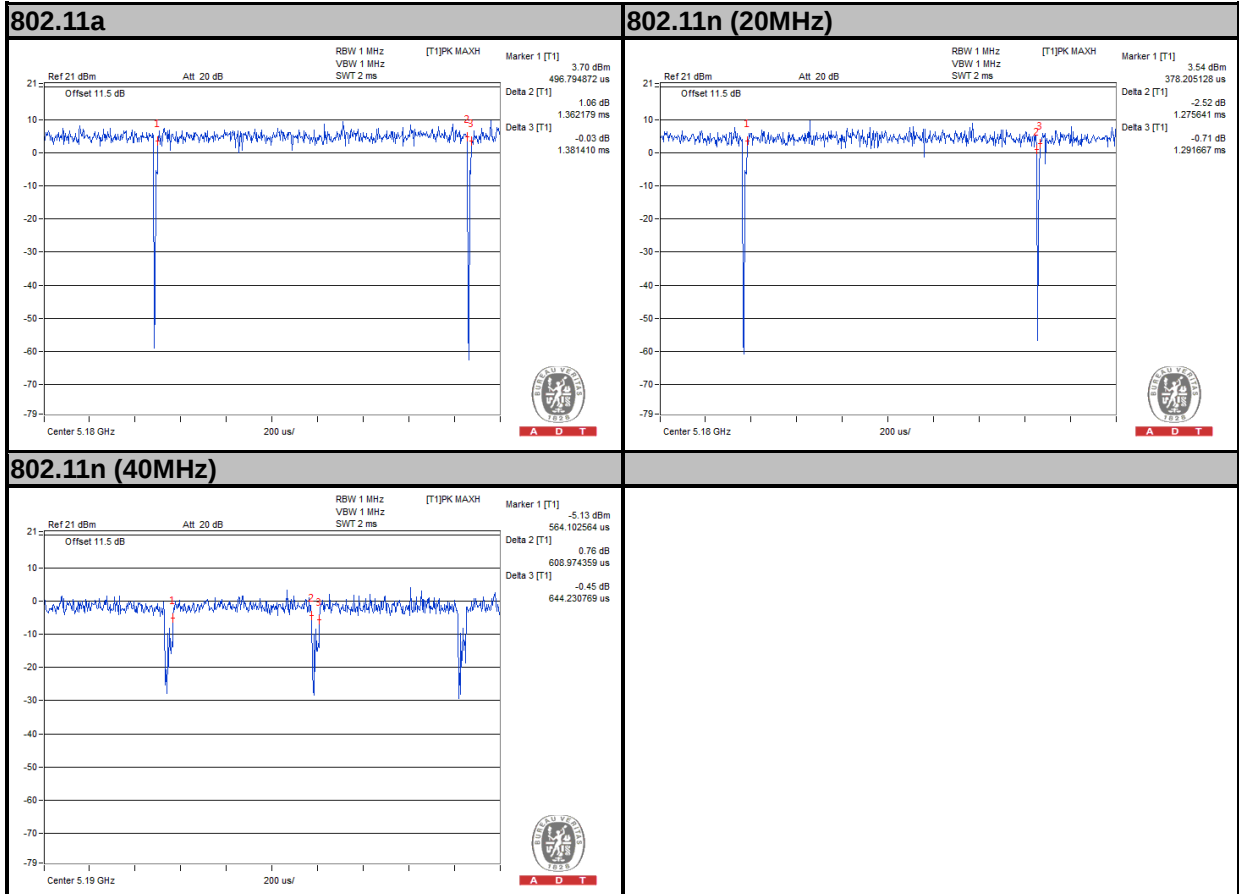
<For 5180 – 5240 MHz>

MODULATION TYPE: BPSK

802.11a: Duty cycle of test signal is > 98 %, duty factor is not required.

802.11n (20MHz): Duty cycle of test signal is > 98 %, duty factor is not required.

802.11n (40MHz): Duty cycle = $608.97/644.23 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.24$



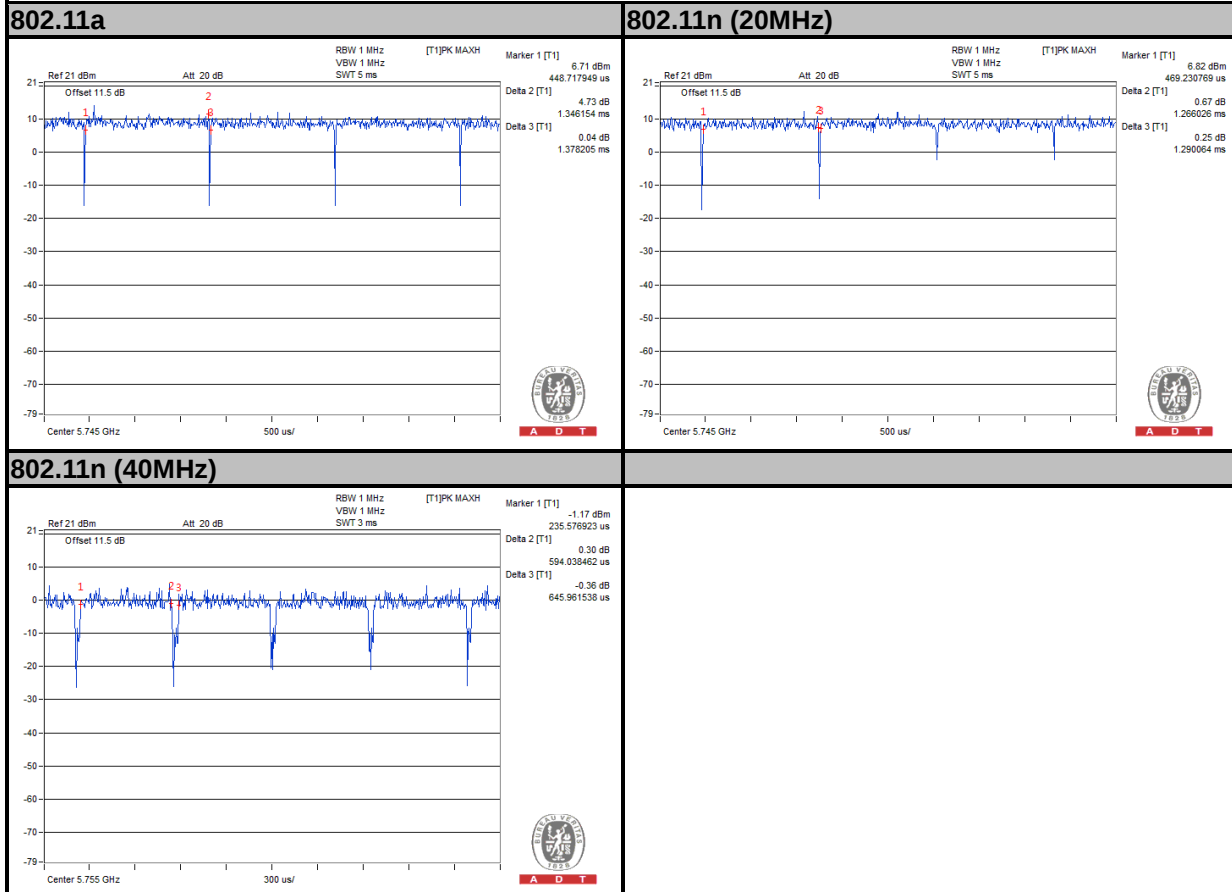
<For 5745 – 5825 MHz>

MODULATION TYPE: BPSK

802.11a: Duty cycle = $1.346/1.378 = 0.977$, Duty factor = $10 * \log(1/0.977) = 0.10$

802.11n (20MHz): Duty cycle of test signal is > 98 %, duty factor is not required.

802.11n (40MHz): Duty cycle = $594.03/645.96 = 0.920$, Duty factor = $10 * \log(1/0.920) = 0.36$



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)

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ } \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100412	Sep. 13, 2013	Sep. 12, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2013	Dec. 20, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 27, 2014	Feb. 26, 2015
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D- 209	Sep. 12, 2013	Sep. 11, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 18, 2013	Dec. 17, 2014
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 26, 2013	Dec. 25, 2014
Preamplifier EMCI	EMC 184045	980116	Jan. 13, 2014	Jan. 12, 2015
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2013	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Power Meter	ML2495A	1012010	Aug. 22, 2014	Aug. 21, 2015
Power Sensor	MA2411B	1315050	Aug. 22, 2014	Aug. 21, 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:

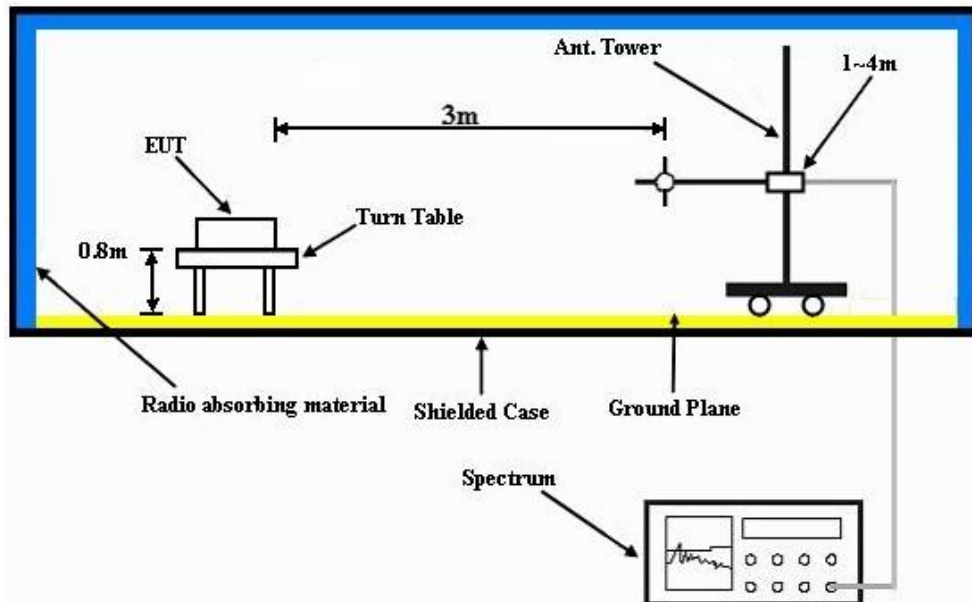
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency 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

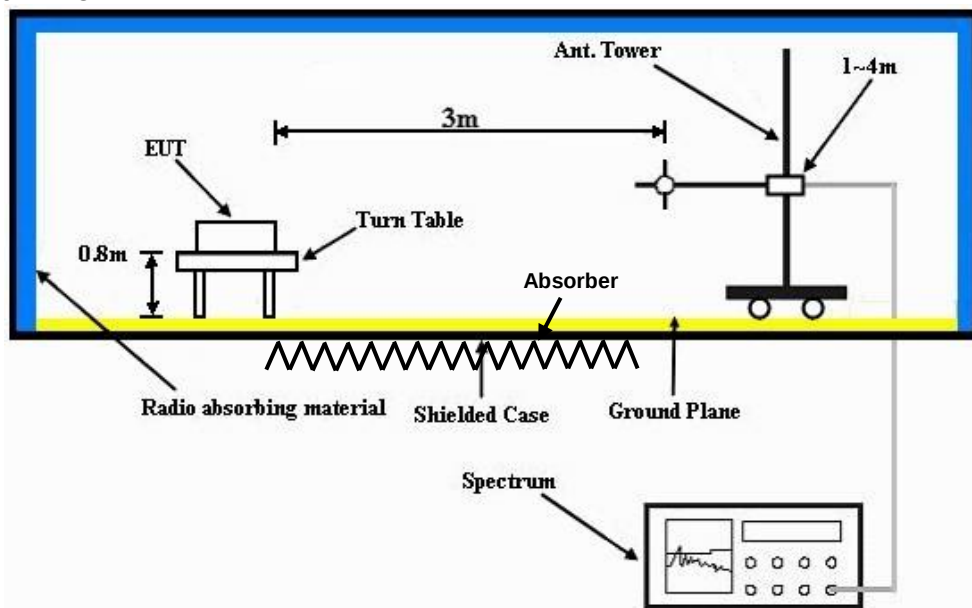
No deviation.

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

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

4.1.8 TEST RESULTS

Mode A

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	49.72	50.43	54	-4.28	31.32	5.29	37.32	100	104	Average
5150	66.97	67.68	74	-7.03	31.32	5.29	37.32	100	104	Peak
5180	103.54	104.22			31.35	5.31	37.34	100	104	Average
5180	111.63	112.31			31.35	5.31	37.34	100	104	Peak
5404	38.18	38.43	54	-15.82	31.52	5.41	37.18	100	104	Average
5404	60.34	60.59	74	-13.66	31.52	5.41	37.18	100	104	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	49.51	50.22	54	-4.49	31.32	5.29	37.32	100	168	Average
5150	68.3	69.01	74	-5.7	31.32	5.29	37.32	100	168	Peak
5180	102.22	102.9			31.35	5.31	37.34	100	168	Average
5180	110.94	111.62			31.35	5.31	37.34	100	168	Peak
5406	37.62	37.87	54	-16.38	31.52	5.41	37.18	100	168	Average
5406	59.89	60.14	74	-14.11	31.52	5.41	37.18	100	168	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	39.3	40.01	54	-14.7	31.32	5.29	37.32	100	102	Average
5150	60.78	61.49	74	-13.22	31.32	5.29	37.32	100	102	Peak
5220	103.94	104.6			31.37	5.33	37.36	100	102	Average
5220	112.55	113.21			31.37	5.33	37.36	100	102	Peak
5454	37.89	37.97	54	-16.11	31.56	5.44	37.08	100	102	Average
5454	60.64	60.72	74	-13.36	31.56	5.44	37.08	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5056	38.64	39.39	54	-15.36	31.25	5.25	37.25	100	171	Average
5056	59.73	60.48	74	-14.27	31.25	5.25	37.25	100	171	Peak
5220	103.33	103.99			31.37	5.33	37.36	100	171	Average
5220	112.43	113.09			31.37	5.33	37.36	100	171	Peak
5454	37.8	37.88	54	-16.2	31.56	5.44	37.08	100	171	Average
5454	59.52	59.6	74	-14.48	31.56	5.44	37.08	100	171	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5114	38.86	39.57	54	-15.14	31.29	5.28	37.28	100	107	Average
5114	59.74	60.45	74	-14.26	31.29	5.28	37.28	100	107	Peak
5240	103.99	104.58			31.39	5.34	37.32	100	107	Average
5240	112.45	113.04			31.39	5.34	37.32	100	107	Peak
5354	38.1	38.41	54	-15.9	31.48	5.39	37.18	100	107	Average
5354	59.17	59.48	74	-14.83	31.48	5.39	37.18	100	107	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5046	38.23	38.99	54	-15.77	31.24	5.25	37.25	109	179	Average
5046	59.63	60.39	74	-14.37	31.24	5.25	37.25	109	179	Peak
5240	103	103.59			31.39	5.34	37.32	109	179	Average
5240	111.72	112.31			31.39	5.34	37.32	109	179	Peak
5370	37.95	38.24	54	-16.05	31.49	5.4	37.18	109	179	Average
5370	59.16	59.45	74	-14.84	31.49	5.4	37.18	109	179	Peak

REMARKS:

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

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	65.47	65.38	68.2	-2.73	31.93	5.59	37.43	100	117	Peak
5725	75.85	75.73	78.2	-2.35	31.96	5.59	37.43	100	117	Peak
5745	99.19	99.07			31.99	5.6	37.47	100	117	Average
5745	108.45	108.33			31.99	5.6	37.47	100	117	Peak
5850	59.24	58.94	78.2	-18.96	32.15	5.66	37.51	100	117	Peak
5861	59.05	58.71	68.2	-9.15	32.18	5.66	37.5	100	117	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
5714	62.36	62.27	68.2	-5.84	31.93	5.59	37.43	113	68	Peak
5725	76.79	76.67	78.2	-1.41	31.96	5.59	37.43	113	68	Peak
5745	100.07	99.95			31.99	5.6	37.47	113	68	Average
5745	109.12	109			31.99	5.6	37.47	113	68	Peak
5850	58.09	57.79	78.2	-20.11	32.15	5.66	37.51	113	68	Peak
5861	58.91	58.57	68.2	-9.29	32.18	5.66	37.5	113	68	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band



A D T

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	59.44	59.35	68.2	-8.76	31.93	5.59	37.43	100	120	Peak
5725	59.52	59.4	78.2	-18.68	31.96	5.59	37.43	100	120	Peak
5785	99.07	98.95			32.04	5.62	37.54	100	120	Average
5785	108.21	108.09			32.04	5.62	37.54	100	120	Peak
5850	58.16	57.86	78.2	-20.04	32.15	5.66	37.51	100	120	Peak
5861	59.52	59.18	68.2	-8.68	32.18	5.66	37.5	100	120	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	58.89	58.8	68.2	-9.31	31.93	5.59	37.43	111	69	Peak
5725	59.31	59.19	78.2	-18.89	31.96	5.59	37.43	111	69	Peak
5785	100.05	99.93			32.04	5.62	37.54	111	69	Average
5785	109.16	109.04			32.04	5.62	37.54	111	69	Peak
5850	59.57	59.27	78.2	-18.63	32.15	5.66	37.51	111	69	Peak
5861	60.32	59.98	68.2	-7.88	32.18	5.66	37.5	111	69	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band



A D T

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	58.27	58.18	68.2	-9.93	31.93	5.59	37.43	102	136	Peak
5725	57.94	57.82	78.2	-20.26	31.96	5.59	37.43	102	136	Peak
5825	98.72	98.49			32.12	5.64	37.53	102	136	Average
5825	108.37	108.14			32.12	5.64	37.53	102	136	Peak
5850	66.66	66.36	78.2	-11.54	32.15	5.66	37.51	102	136	Peak
5861	60.4	60.06	68.2	-7.8	32.18	5.66	37.5	102	136	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
5714	58.08	57.99	68.2	-10.12	31.93	5.59	37.43	110	68	Peak
5725	58.64	58.52	78.2	-19.56	31.96	5.59	37.43	110	68	Peak
5825	99.73	99.5			32.12	5.64	37.53	110	68	Average
5825	108.74	108.51			32.12	5.64	37.53	110	68	Peak
5850	70.48	70.18	78.2	-7.72	32.15	5.66	37.51	110	68	Peak
5861	63.43	63.09	68.2	-4.77	32.18	5.66	37.5	110	68	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	51.8	52.51	54	-2.2	31.32	5.29	37.32	100	101	Average
5150	69.01	69.72	74	-4.99	31.32	5.29	37.32	100	101	Peak
5180	103.61	104.29			31.35	5.31	37.34	100	101	Average
5180	112.46	113.14			31.35	5.31	37.34	100	101	Peak
5412	37.94	38.18	54	-16.06	31.53	5.41	37.18	100	101	Average
5412	59.48	59.72	74	-14.52	31.53	5.41	37.18	100	101	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	51.37	52.08	54	-2.63	31.32	5.29	37.32	110	171	Average
5144	69.26	69.97	74	-4.74	31.32	5.29	37.32	110	171	Peak
5180	102.27	102.95			31.35	5.31	37.34	110	171	Average
5180	110.63	111.31			31.35	5.31	37.34	110	171	Peak
5354	37.76	38.07	54	-16.24	31.48	5.39	37.18	110	171	Average
5354	59.71	60.02	74	-14.29	31.48	5.39	37.18	110	171	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5078	38.78	39.52	54	-15.22	31.27	5.26	37.27	100	106	Average
5078	60.28	61.02	74	-13.72	31.27	5.26	37.27	100	106	Peak
5220	103.83	104.49			31.37	5.33	37.36	100	106	Average
5220	112.54	113.2			31.37	5.33	37.36	100	106	Peak
5418	38	38.23	54	-16	31.53	5.42	37.18	100	106	Average
5418	59.95	60.18	74	-14.05	31.53	5.42	37.18	100	106	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5044	39.42	40.18	54	-14.58	31.24	5.25	37.25	100	167	Average
5044	58.93	59.69	74	-15.07	31.24	5.25	37.25	100	167	Peak
5220	102.37	103.03			31.37	5.33	37.36	100	167	Average
5220	110.94	111.6			31.37	5.33	37.36	100	167	Peak
5372	37.62	37.91	54	-16.38	31.49	5.4	37.18	100	167	Average
5372	59.24	59.53	74	-14.76	31.49	5.4	37.18	100	167	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5120	38.96	39.69	54	-15.04	31.29	5.28	37.3	100	106	Average
5120	59.61	60.34	74	-14.39	31.29	5.28	37.3	100	106	Peak
5240	103.68	104.27			31.39	5.34	37.32	100	106	Average
5240	112.33	112.92			31.39	5.34	37.32	100	106	Peak
5446	38.24	38.37	54	-15.76	31.56	5.44	37.13	100	106	Average
5446	60.07	60.2	74	-13.93	31.56	5.44	37.13	100	106	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5110	38.25	38.97	54	-15.75	31.29	5.27	37.28	109	174	Average
5110	59.27	59.99	74	-14.73	31.29	5.27	37.28	109	174	Peak
5240	102.44	103.03			31.39	5.34	37.32	109	174	Average
5240	111.49	112.08			31.39	5.34	37.32	109	174	Peak
5422	37.97	38.2	54	-16.03	31.53	5.42	37.18	109	174	Average
5422	59.87	60.1	74	-14.13	31.53	5.42	37.18	109	174	Peak

REMARKS:

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

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	66.85	66.76	68.2	-1.35	31.93	5.59	37.43	100	116	Peak
5725	75.68	75.56	78.2	-2.52	31.96	5.59	37.43	100	116	Peak
5745	98.77	98.65			31.99	5.6	37.47	100	116	Average
5745	108.31	108.19			31.99	5.6	37.47	100	116	Peak
5850	58.86	58.56	78.2	-19.34	32.15	5.66	37.51	100	116	Peak
5861	59.53	59.19	68.2	-8.67	32.18	5.66	37.5	100	116	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
5714	65.2	65.11	68.2	-3	31.93	5.59	37.43	103	68	Peak
5725	76.46	76.34	78.2	-1.74	31.96	5.59	37.43	103	68	Peak
5745	99.64	99.52			31.99	5.6	37.47	103	68	Average
5745	109.02	108.9			31.99	5.6	37.47	103	68	Peak
5850	59.53	59.23	78.2	-18.67	32.15	5.66	37.51	103	68	Peak
5861	58.82	58.48	68.2	-9.38	32.18	5.66	37.5	103	68	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band



A D T

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	58.96	58.87	68.2	-9.24	31.93	5.59	37.43	100	118	Peak
5725	59.64	59.52	78.2	-18.56	31.96	5.59	37.43	100	118	Peak
5785	98.92	98.8			32.04	5.62	37.54	100	118	Average
5785	107.85	107.73			32.04	5.62	37.54	100	118	Peak
5850	58.4	58.1	78.2	-19.8	32.15	5.66	37.51	100	118	Peak
5861	59.37	59.03	68.2	-8.83	32.18	5.66	37.5	100	118	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
5714	59.19	59.1	68.2	-9.01	31.93	5.59	37.43	102	70	Peak
5725	60.78	60.66	78.2	-17.42	31.96	5.59	37.43	102	70	Peak
5785	100.18	100.06			32.04	5.62	37.54	102	70	Average
5785	109.21	109.09			32.04	5.62	37.54	102	70	Peak
5850	59.39	59.09	78.2	-18.81	32.15	5.66	37.51	102	70	Peak
5861	58.94	58.6	68.2	-9.26	32.18	5.66	37.5	102	70	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band



A D T

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	60.14	60.05	68.2	-8.06	31.93	5.59	37.43	118	117	Peak
5725	59.73	59.61	78.2	-18.47	31.96	5.59	37.43	118	117	Peak
5825	98.21	97.98			32.12	5.64	37.53	118	117	Average
5825	108.95	108.72			32.12	5.64	37.53	118	117	Peak
5850	70.53	70.23	78.2	-7.67	32.15	5.66	37.51	118	117	Peak
5861	61.64	61.3	68.2	-6.56	32.18	5.66	37.5	118	117	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
5714	59.77	59.68	68.2	-8.43	31.93	5.59	37.43	131	87	Peak
5725	60.21	60.09	78.2	-17.99	31.96	5.59	37.43	131	87	Peak
5825	100.15	99.92			32.12	5.64	37.53	131	87	Average
5825	109.34	109.11			32.12	5.64	37.53	131	87	Peak
5850	72.41	72.11	78.2	-5.79	32.15	5.66	37.51	131	87	Peak
5861	62.43	62.09	68.2	-5.77	32.18	5.66	37.5	131	87	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	51.86	52.57	54	-2.14	31.32	5.29	37.32	100	102	Average
5150	66.67	67.38	74	-7.33	31.32	5.29	37.32	100	102	Peak
5190	98.57	99.24			31.35	5.32	37.34	100	102	Average
5190	107.76	108.43			31.35	5.32	37.34	100	102	Peak
5352	38.17	38.48	54	-15.83	31.48	5.39	37.18	100	102	Average
5352	59.88	60.19	74	-14.12	31.48	5.39	37.18	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5140	50.23	50.92	54	-3.77	31.32	5.29	37.3	100	170	Average
5140	65.17	65.86	74	-8.83	31.32	5.29	37.3	100	170	Peak
5190	96.84	97.51			31.35	5.32	37.34	100	170	Average
5190	105.89	106.56			31.35	5.32	37.34	100	170	Peak
5452	38	38.08	54	-16	31.56	5.44	37.08	100	170	Average
5452	59.97	60.05	74	-14.03	31.56	5.44	37.08	100	170	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5128	42.03	42.74	54	-11.97	31.31	5.28	37.3	100	106	Average
5128	59.19	59.9	74	-14.81	31.31	5.28	37.3	100	106	Peak
5230	98.57	99.17			31.39	5.33	37.32	100	106	Average
5230	107.25	107.85			31.39	5.33	37.32	100	106	Peak
5392	40.52	40.78	54	-13.48	31.51	5.41	37.18	100	106	Average
5392	59.81	60.07	74	-14.19	31.51	5.41	37.18	100	106	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5138	40.6	41.3	54	-13.4	31.31	5.29	37.3	109	176	Average
5138	59.51	60.21	74	-14.49	31.31	5.29	37.3	109	176	Peak
5230	96.9	97.5			31.39	5.33	37.32	109	176	Average
5230	105.89	106.49			31.39	5.33	37.32	109	176	Peak
5432	37.41	37.57	54	-16.59	31.55	5.42	37.13	109	176	Average
5432	59.26	59.42	74	-14.74	31.55	5.42	37.13	109	176	Peak

REMARKS:

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

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	66.9	66.81	68.2	-1.3	31.93	5.59	37.43	100	116	Peak
5725	74.62	74.5	78.2	-3.58	31.96	5.59	37.43	100	116	Peak
5755	94.24	94.1			32.01	5.6	37.47	100	116	Average
5755	103.33	103.19			32.01	5.6	37.47	100	116	Peak
5850	60.08	59.78	78.2	-18.12	32.15	5.66	37.51	100	116	Peak
5861	59.29	58.95	68.2	-8.91	32.18	5.66	37.5	100	116	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
5714	66.07	65.98	68.2	-2.13	31.93	5.59	37.43	103	80	Peak
5725	71.94	71.82	78.2	-6.26	31.96	5.59	37.43	103	80	Peak
5755	95.08	94.94			32.01	5.6	37.47	103	80	Average
5755	104.2	104.06			32.01	5.6	37.47	103	80	Peak
5850	58.97	58.67	78.2	-19.23	32.15	5.66	37.51	103	80	Peak
5861	59.44	59.1	68.2	-8.76	32.18	5.66	37.5	103	80	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band



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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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	59.31	59.22	68.2	-8.89	31.93	5.59	37.43	100	102	Peak
5725	59.54	59.42	78.2	-18.66	31.96	5.59	37.43	100	102	Peak
5795	93.61	93.45			32.07	5.63	37.54	100	102	Average
5795	102.41	102.25			32.07	5.63	37.54	100	102	Peak
5850	59.8	59.5	78.2	-18.4	32.15	5.66	37.51	100	102	Peak
5861	58.82	58.48	68.2	-9.38	32.18	5.66	37.5	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	58.34	58.25	68.2	-9.86	31.93	5.59	37.43	103	81	Peak
5725	60.32	60.2	78.2	-17.88	31.96	5.59	37.43	103	81	Peak
5795	95.35	95.19			32.07	5.63	37.54	103	81	Average
5795	104.25	104.09			32.07	5.63	37.54	103	81	Peak
5850	61.16	60.86	78.2	-17.04	32.15	5.66	37.51	103	81	Peak
5861	61.53	61.19	68.2	-6.67	32.18	5.66	37.5	103	81	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA:

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
63.21	22.9	41.96	40	-17.1	11.59	0.85	31.5	110	154	Peak
132.6	31.19	49.86	43.5	-12.31	11.88	1.26	31.81	100	111	Peak
165.81	24.46	42.68	43.5	-19.04	12.15	1.42	31.79	132	303	Peak
304.2	20.79	37.55	46	-25.21	13.06	2.07	31.89	100	175	Peak
546.4	22.76	33.32	46	-23.24	18.37	2.93	31.86	102	265	Peak
640.2	24.65	33.44	46	-21.35	20.09	3.21	32.09	123	99	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
69.15	31.72	51.71	40	-8.28	10.89	0.89	31.77	116	203	Peak
128.28	32.75	51.85	43.5	-10.75	11.55	1.23	31.88	100	78	Peak
288.12	21.43	38.53	46	-24.57	12.6	2	31.7	110	10	Peak
374.9	20.3	35.16	46	-25.7	14.75	2.33	31.94	124	166	Peak
609.4	24.56	33.82	46	-21.44	19.72	3.12	32.1	100	289	Peak
721.4	26.7	33.74	46	-19.3	21.12	3.49	31.65	100	331	Peak

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

Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
61.32	19.95	38.71	40	-20.05	11.82	0.83	31.41	100	316	Peak
132.6	29.76	48.43	43.5	-13.74	11.88	1.26	31.81	100	244	Peak
167.43	23.35	41.72	43.5	-20.15	11.96	1.43	31.76	105	18	Peak
307.7	20.34	37.05	46	-25.66	13.13	2.08	31.92	100	187	Peak
497.4	21.73	33.35	46	-24.27	17.27	2.77	31.66	108	238	Peak
720	25.98	33.06	46	-20.02	21.09	3.49	31.66	100	66	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
68.88	32.33	52.32	40	-7.67	10.89	0.89	31.77	100	115	Peak
129.09	32.86	51.9	43.5	-10.64	11.61	1.23	31.88	100	103	Peak
168.24	21.33	39.77	43.5	-22.17	11.86	1.44	31.74	103	165	Peak
356.7	19.36	34.73	46	-26.64	14.31	2.25	31.93	100	106	Peak
600.3	23.88	33.43	46	-22.12	19.61	3.09	32.25	108	237	Peak
713	26.3	33.55	46	-19.7	21	3.47	31.72	101	143	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.73	20.38	38.67	40	-19.62	12.25	0.81	31.35	110	146	Peak
132.06	29.03	47.8	43.5	-14.47	11.81	1.25	31.83	100	321	Peak
168.24	23.71	42.15	43.5	-19.79	11.86	1.44	31.74	105	184	Peak
304.2	21.78	38.54	46	-24.22	13.06	2.07	31.89	106	191	Peak
541.5	22.48	33.05	46	-23.52	18.26	2.92	31.75	100	20	Peak
679.4	25.22	33.15	46	-20.78	20.56	3.35	31.84	108	176	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
68.34	32.16	52.15	40	-7.84	10.89	0.89	31.77	100	106	Peak
132.33	32.92	51.69	43.5	-10.58	11.81	1.25	31.83	108	72	Peak
167.16	21.36	39.65	43.5	-22.14	12.05	1.43	31.77	100	128	Peak
360.2	19.93	35.25	46	-26.07	14.38	2.27	31.97	100	120	Peak
541.5	22.66	33.23	46	-23.34	18.26	2.92	31.75	103	269	Peak
630.4	24.99	33.98	46	-21.01	19.97	3.18	32.14	104	222	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.73	24.02	42.31	40	-15.98	12.25	0.81	31.35	100	204	Peak
104.79	24.54	45.82	43.5	-18.96	9.53	1.09	31.9	140	339	Peak
126.39	24.91	44.16	43.5	-18.59	11.42	1.22	31.89	106	241	Peak
376.3	19.33	34.17	46	-26.67	14.77	2.33	31.94	104	89	Peak
499.5	21.97	33.51	46	-24.03	17.31	2.78	31.63	140	236	Peak
583.5	23.85	33.71	46	-22.15	19.23	3.04	32.13	124	351	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
74.01	31.36	52.33	40	-8.64	9.81	0.93	31.71	112	300	Peak
104.79	26.2	47.48	43.5	-17.3	9.53	1.09	31.9	120	9	Peak
153.39	26.6	44.21	43.5	-16.9	12.72	1.36	31.69	113	188	Peak
391	19.56	34.1	46	-26.44	15.12	2.39	32.05	126	102	Peak
497.4	22.07	33.69	46	-23.93	17.27	2.77	31.66	110	307	Peak
633.2	24.89	33.81	46	-21.11	20.01	3.19	32.12	108	74	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.73	23.31	41.6	40	-16.69	12.25	0.81	31.35	132	304	Peak
110.73	23.81	44.44	43.5	-19.69	10.09	1.13	31.85	136	317	Peak
187.41	20.87	40.8	43.5	-22.63	10.26	1.53	31.72	135	108	Peak
378.4	20.03	34.81	46	-25.97	14.82	2.34	31.94	140	82	Peak
497.4	21.19	32.81	46	-24.81	17.27	2.77	31.66	101	269	Peak
651.4	24.48	33.01	46	-21.52	20.23	3.25	32.01	118	193	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
72.39	31.42	52.19	40	-8.58	10.05	0.92	31.74	112	49	Peak
104.25	26.33	47.61	43.5	-17.17	9.53	1.09	31.9	140	120	Peak
153.12	26.42	44.03	43.5	-17.08	12.72	1.36	31.69	113	34	Peak
365.1	18	33.18	46	-28	14.49	2.28	31.95	122	191	Peak
507.2	21.36	32.68	46	-24.64	17.48	2.8	31.6	121	10	Peak
633.9	24.54	33.45	46	-21.46	20.02	3.19	32.12	127	125	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.19	22.73	40.92	40	-17.27	12.35	0.8	31.34	100	149	Peak
104.79	23.53	44.81	43.5	-19.97	9.53	1.09	31.9	121	275	Peak
161.22	18.93	36.77	43.5	-24.57	12.63	1.39	31.86	110	308	Peak
433	20.52	34	46	-25.48	15.98	2.55	32.01	137	304	Peak
552	22.92	33.44	46	-23.08	18.5	2.95	31.97	103	158	Peak
654.2	25.9	34.36	46	-20.1	20.27	3.26	31.99	138	292	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
73.2	31.47	52.44	40	-8.53	9.81	0.93	31.71	140	235	Peak
104.52	26.52	47.8	43.5	-16.98	9.53	1.09	31.9	104	308	Peak
153.12	26.15	43.76	43.5	-17.35	12.72	1.36	31.69	109	161	Peak
379.1	19.03	33.8	46	-26.97	14.84	2.34	31.95	106	313	Peak
528.9	21.71	32.54	46	-24.29	17.97	2.88	31.68	133	32	Peak
673.8	25.12	33.11	46	-20.88	20.5	3.33	31.82	131	308	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.73	19.81	38.1	40	-20.19	12.25	0.81	31.35	102	156	Peak
132.33	28.84	47.61	43.5	-14.66	11.81	1.25	31.83	100	213	Peak
167.7	23.8	42.17	43.5	-19.7	11.96	1.43	31.76	100	15	Peak
323.8	20.52	36.72	46	-25.48	13.52	2.14	31.86	100	275	Peak
533.1	22.85	33.58	46	-23.15	18.08	2.89	31.7	103	239	Peak
622.7	24.61	33.73	46	-21.39	19.88	3.16	32.16	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
68.88	31.83	51.82	40	-8.17	10.89	0.89	31.77	100	212	Peak
132.06	32.68	51.45	43.5	-10.82	11.81	1.25	31.83	114	107	Peak
166.35	22.77	41.06	43.5	-20.73	12.05	1.43	31.77	108	190	Peak
370	19.51	34.49	46	-26.49	14.63	2.31	31.92	100	206	Peak
574.4	23.36	33.43	46	-22.64	19.01	3.02	32.1	109	330	Peak
726.3	27.85	34.77	46	-18.15	21.19	3.51	31.62	107	185	Peak

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

Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
57	20.08	38.37	40	-19.92	12.25	0.81	31.35	120	127	Peak
131.25	28.63	47.49	43.5	-14.87	11.75	1.25	31.86	101	259	Peak
265.71	21.6	39.73	46	-24.4	11.94	1.89	31.96	139	184	Peak
430.2	20.43	33.95	46	-25.57	15.95	2.54	32.01	120	287	Peak
557.6	22.37	32.8	46	-23.63	18.64	2.97	32.04	131	200	Peak
671.7	25.26	33.27	46	-20.74	20.48	3.33	31.82	137	62	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
67.53	31.45	51.3	40	-8.55	11	0.88	31.73	137	108	Peak
128.28	33.1	52.2	43.5	-10.4	11.55	1.23	31.88	103	219	Peak
166.35	21.57	39.86	43.5	-21.93	12.05	1.43	31.77	114	11	Peak
393.8	19.79	34.28	46	-26.21	15.19	2.4	32.08	127	155	Peak
578.6	23.06	33.03	46	-22.94	19.12	3.03	32.12	138	337	Peak
696.2	26.17	33.79	46	-19.83	20.77	3.42	31.81	115	317	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.46	19.62	37.81	40	-20.38	12.35	0.8	31.34	130	11	Peak
132.87	28.95	47.62	43.5	-14.55	11.88	1.26	31.81	135	131	Peak
194.97	17.11	37.56	43.5	-26.39	9.7	1.57	31.72	126	74	Peak
412	19.2	33.15	46	-26.8	15.58	2.47	32	136	194	Peak
509.3	22.04	33.29	46	-23.96	17.53	2.81	31.59	120	138	Peak
673.8	25.09	33.08	46	-20.91	20.5	3.33	31.82	130	302	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
68.88	30.48	50.47	40	-9.52	10.89	0.89	31.77	113	199	Peak
125.85	31.74	50.99	43.5	-11.76	11.42	1.22	31.89	106	255	Peak
152.85	21.17	38.78	43.5	-22.33	12.72	1.36	31.69	103	136	Peak
454.7	20.56	33.49	46	-25.44	16.43	2.63	31.99	110	103	Peak
542.9	23.55	34.13	46	-22.45	18.3	2.92	31.8	121	80	Peak
645.8	25.37	34.03	46	-20.63	20.16	3.23	32.05	124	256	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.19	22.83	41.02	40	-17.17	12.35	0.8	31.34	106	233	Peak
119.64	23.79	43.57	43.5	-19.71	10.93	1.18	31.89	114	158	Peak
173.1	19.28	38.21	43.5	-24.22	11.38	1.46	31.77	118	328	Peak
377	20.12	34.93	46	-25.88	14.8	2.33	31.94	109	168	Peak
519.1	22.25	33.23	46	-23.75	17.75	2.84	31.57	117	40	Peak
734.7	25.98	32.7	46	-20.02	21.3	3.53	31.55	125	57	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
36.48	25.3	42.62	40	-14.7	13.09	0.62	31.03	104	337	Peak
72.93	31.33	52.1	40	-8.67	10.05	0.92	31.74	126	320	Peak
105.06	26.2	47.48	43.5	-17.3	9.53	1.09	31.9	104	70	Peak
379.1	18.84	33.61	46	-27.16	14.84	2.34	31.95	138	104	Peak
456.1	20.86	33.76	46	-25.14	16.45	2.64	31.99	113	228	Peak
582.8	23.76	33.64	46	-22.24	19.21	3.04	32.13	127	352	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.46	22.61	40.8	40	-17.39	12.35	0.8	31.34	120	219	Peak
104.52	23.29	44.57	43.5	-20.21	9.53	1.09	31.9	138	148	Peak
125.58	24.5	43.75	43.5	-19	11.42	1.22	31.89	133	34	Peak
362.3	19.62	34.85	46	-26.38	14.45	2.28	31.96	125	103	Peak
496.7	21.45	33.1	46	-24.55	17.25	2.77	31.67	130	76	Peak
646.5	24.81	33.45	46	-21.19	20.17	3.23	32.04	118	28	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.46	22.65	40.84	40	-17.35	12.35	0.8	31.34	137	18	Peak
72.39	31.69	52.46	40	-8.31	10.05	0.92	31.74	116	38	Peak
104.52	26.1	47.38	43.5	-17.4	9.53	1.09	31.9	102	277	Peak
384	18.41	33.08	46	-27.59	14.96	2.36	31.99	107	165	Peak
496.7	21.8	33.45	46	-24.2	17.25	2.77	31.67	126	276	Peak
588.4	23.76	33.5	46	-22.24	19.34	3.06	32.14	107	3	Peak

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

Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.19	22.74	40.93	40	-17.26	12.35	0.8	31.34	103	126	Peak
128.01	23.91	43.01	43.5	-19.59	11.55	1.23	31.88	122	348	Peak
181.2	20.12	39.76	43.5	-23.38	10.67	1.51	31.82	139	88	Peak
377.7	19.98	34.79	46	-26.02	14.8	2.33	31.94	138	199	Peak
498.8	21.92	33.51	46	-24.08	17.29	2.77	31.65	109	342	Peak
654.9	24.77	33.23	46	-21.23	20.27	3.26	31.99	119	222	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
36.21	25.11	42.61	40	-14.89	12.94	0.61	31.05	138	49	Peak
71.85	31.03	51.59	40	-8.97	10.29	0.91	31.76	112	182	Peak
152.04	25.87	43.47	43.5	-17.63	12.71	1.35	31.66	105	4	Peak
412	19.24	33.19	46	-26.76	15.58	2.47	32	134	37	Peak
503	21.8	33.22	46	-24.2	17.4	2.79	31.61	131	267	Peak
580	23.47	33.41	46	-22.53	19.15	3.03	32.12	114	172	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
57	19.12	37.41	40	-20.88	12.25	0.81	31.35	137	228	Peak
131.79	26.73	45.5	43.5	-16.77	11.81	1.25	31.83	134	76	Peak
177.15	19.06	38.37	43.5	-24.44	11.01	1.49	31.81	125	182	Peak
423.9	19.84	33.54	46	-26.16	15.81	2.52	32.03	112	360	Peak
559.7	22.56	32.97	46	-23.44	18.68	2.97	32.06	124	48	Peak
700.4	25.98	33.52	46	-20.02	20.82	3.43	31.79	137	79	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
83.19	31.8	54.28	40	-8.2	8.18	0.99	31.65	115	286	Peak
129.63	30.92	49.88	43.5	-12.58	11.68	1.24	31.88	125	260	Peak
175.26	18.47	37.6	43.5	-25.03	11.19	1.47	31.79	102	123	Peak
434.4	19.58	33.01	46	-26.42	16.02	2.56	32.01	100	91	Peak
573	23.04	33.13	46	-22.96	18.99	3.01	32.09	123	190	Peak
708.1	26.07	33.44	46	-19.93	20.93	3.45	31.75	105	81	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
81.3	16.01	38.44	40	-23.99	8.15	0.98	31.56	133	45	Peak
132.33	25.93	44.7	43.5	-17.57	11.81	1.25	31.83	138	211	Peak
172.02	20.26	38.99	43.5	-23.24	11.57	1.45	31.75	115	286	Peak
519.8	22.07	33.02	46	-23.93	17.77	2.85	31.57	132	64	Peak
664.7	25.47	33.67	46	-20.53	20.39	3.3	31.89	138	297	Peak
750.1	26.71	32.92	46	-19.29	21.52	3.57	31.3	135	143	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
36.48	27.65	44.97	40	-12.35	13.09	0.62	31.03	120	142	Peak
82.38	31.48	53.94	40	-8.52	8.16	0.98	31.6	122	243	Peak
126.12	31.23	50.48	43.5	-12.27	11.42	1.22	31.89	134	187	Peak
368.6	19.2	34.24	46	-26.8	14.59	2.3	31.93	125	327	Peak
484.8	21.56	33.62	46	-24.44	17.02	2.73	31.81	109	194	Peak
650.7	25.15	33.7	46	-20.85	20.22	3.24	32.01	102	239	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.19	22.94	41.13	40	-17.06	12.35	0.8	31.34	109	210	Peak
105.87	23.76	44.93	43.5	-19.74	9.62	1.1	31.89	124	1	Peak
180.66	20.61	40.21	43.5	-22.89	10.74	1.5	31.84	111	82	Peak
377	20.52	35.33	46	-25.48	14.8	2.33	31.94	125	140	Peak
561.8	23.16	33.52	46	-22.84	18.72	2.98	32.06	107	216	Peak
692.7	25.83	33.53	46	-20.17	20.73	3.4	31.83	120	3	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
72.66	31.73	52.5	40	-8.27	10.05	0.92	31.74	100	153	Peak
104.52	26.16	47.44	43.5	-17.34	9.53	1.09	31.9	134	233	Peak
152.58	26.22	43.82	43.5	-17.28	12.71	1.35	31.66	122	248	Peak
421.8	20.05	33.81	46	-25.95	15.77	2.51	32.04	133	266	Peak
506.5	22.3	33.64	46	-23.7	17.46	2.8	31.6	131	36	Peak
679.4	25.01	32.94	46	-20.99	20.56	3.35	31.84	129	271	Peak

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

Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.46	23.47	41.66	40	-16.53	12.35	0.8	31.34	112	253	Peak
105.6	24.01	45.18	43.5	-19.49	9.62	1.1	31.89	122	207	Peak
163.11	19.72	37.7	43.5	-23.78	12.44	1.41	31.83	132	20	Peak
377	20.05	34.86	46	-25.95	14.8	2.33	31.94	132	173	Peak
505.8	21.48	32.82	46	-24.52	17.46	2.8	31.6	125	90	Peak
594.7	23.88	33.52	46	-22.12	19.48	3.07	32.19	103	195	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
36.75	23.11	40.43	40	-16.89	13.09	0.62	31.03	103	11	Peak
77.52	29.39	51.18	40	-10.61	8.85	0.95	31.59	124	260	Peak
154.2	26.21	43.85	43.5	-17.29	12.72	1.36	31.72	127	347	Peak
391.7	18.48	33.01	46	-27.52	15.14	2.39	32.06	125	360	Peak
476.4	20.89	33.21	46	-25.11	16.85	2.7	31.87	121	172	Peak
556.2	23.32	33.79	46	-22.68	18.59	2.96	32.02	130	301	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

Mode B

ABOVE 1GHz WORST-CASE DATA

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	51.17	51.88	54	-2.83	31.32	5.29	37.32	100	104	Average
5150	65.54	66.25	74	-8.46	31.32	5.29	37.32	100	104	Peak
5190	97.81	98.48			31.35	5.32	37.34	100	104	Average
5190	107.19	107.86			31.35	5.32	37.34	100	104	Peak
5362	37.56	37.86	54	-16.44	31.49	5.39	37.18	100	104	Average
5362	59.73	60.03	74	-14.27	31.49	5.39	37.18	100	104	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	50.73	51.44	54	-3.27	31.32	5.29	37.32	104	112	Average
5146	64.72	65.43	74	-9.28	31.32	5.29	37.32	104	112	Peak
5190	97.62	98.29			31.35	5.32	37.34	104	112	Average
5190	106.93	107.6			31.35	5.32	37.34	104	112	Peak
5436	37.7	37.86	54	-16.3	31.55	5.42	37.13	104	112	Average
5436	59.67	59.83	74	-14.33	31.55	5.42	37.13	104	112	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5130	41.85	42.56	54	-12.15	31.31	5.28	37.3	100	102	Average
5130	58.86	59.57	74	-15.14	31.31	5.28	37.3	100	102	Peak
5230	98.55	99.15			31.39	5.33	37.32	100	102	Average
5230	107.35	107.95			31.39	5.33	37.32	100	102	Peak
5434	39.56	39.72	54	-14.44	31.55	5.42	37.13	100	102	Average
5434	58.91	59.07	74	-15.09	31.55	5.42	37.13	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5120	40.1	40.83	54	-13.9	31.29	5.28	37.3	102	112	Average
5120	58.8	59.53	74	-15.2	31.29	5.28	37.3	102	112	Peak
5230	97.95	98.55			31.39	5.33	37.32	102	112	Average
5230	107.26	107.86			31.39	5.33	37.32	102	112	Peak
5356	39.94	40.25	54	-14.06	31.48	5.39	37.18	102	112	Average
5356	59.5	59.81	74	-14.5	31.48	5.39	37.18	102	112	Peak

REMARKS:

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

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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	61.76	61.67	68.2	-6.44	31.93	5.59	37.43	100	102	Peak
5725	66.1	65.98	78.2	-12.1	31.96	5.59	37.43	100	102	Peak
5755	92.95	92.81			32.01	5.6	37.47	100	102	Average
5755	103.02	102.88			32.01	5.6	37.47	100	102	Peak
5850	57.75	57.45	78.2	-20.45	32.15	5.66	37.51	100	102	Peak
5861	58.86	58.52	68.2	-9.34	32.18	5.66	37.5	100	102	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	64.18	64.09	68.2	-4.02	31.93	5.59	37.43	124	128	Peak
5725	69.15	69.03	78.2	-9.05	31.96	5.59	37.43	124	128	Peak
5755	95.23	95.09			32.01	5.6	37.47	124	128	Average
5755	105.19	105.05			32.01	5.6	37.47	124	128	Peak
5850	59.94	59.64	78.2	-18.26	32.15	5.66	37.51	124	128	Peak
5861	59.34	59	68.2	-8.86	32.18	5.66	37.5	124	128	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: 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	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	59.16	59.07	68.2	-9.04	31.93	5.59	37.43	100	125	Peak
5725	58.49	58.37	78.2	-19.71	31.96	5.59	37.43	100	125	Peak
5795	92.65	92.49			32.07	5.63	37.54	100	125	Average
5795	102.97	102.81			32.07	5.63	37.54	100	125	Peak
5850	59.29	58.99	78.2	-18.91	32.15	5.66	37.51	100	125	Peak
5861	58.97	58.63	68.2	-9.23	32.18	5.66	37.5	100	125	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
5714	59.38	59.29	68.2	-8.82	31.93	5.59	37.43	111	128	Peak
5725	59.33	59.21	78.2	-18.87	31.96	5.59	37.43	111	128	Peak
5795	95.26	95.1			32.07	5.63	37.54	111	128	Average
5795	104.7	104.54			32.07	5.63	37.54	111	128	Peak
5850	60.8	60.5	78.2	-17.4	32.15	5.66	37.51	111	128	Peak
5861	59.19	58.85	68.2	-9.01	32.18	5.66	37.5	111	128	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795MHz: Fundamental frequency.
- 5714MHz & 5725MHz & 5850MHz & 5861MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA:

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
55.11	22.19	40.27	40	-17.81	12.45	0.8	31.33	100	132	Peak
124.5	25.69	45.09	43.5	-17.81	11.28	1.21	31.89	100	74	Peak
145.83	23.5	41.26	43.5	-20	12.54	1.32	31.62	120	18	Peak
317.5	22.48	38.92	46	-23.52	13.36	2.11	31.91	100	76	Peak
526.8	22.31	33.16	46	-23.69	17.93	2.87	31.65	105	287	Peak
647.2	24.52	33.16	46	-21.48	20.17	3.23	32.04	100	296	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
77.79	33.57	55.36	40	-6.43	8.85	0.95	31.59	100	148	Peak
118.83	31	50.78	43.5	-12.5	10.93	1.18	31.89	100	202	Peak
246.81	17.75	36.47	46	-28.25	11.36	1.82	31.9	108	179	Peak
323.1	19.13	35.37	46	-26.87	13.5	2.13	31.87	100	268	Peak
575.1	22.75	32.8	46	-23.25	19.03	3.02	32.1	100	100	Peak
698.3	25.81	33.38	46	-20.19	20.8	3.43	31.8	104	71	Peak

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

Margin value = Emission level – Limit value



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
55.92	22.49	40.68	40	-17.51	12.35	0.8	31.34	100	119	Peak
139.89	25.02	43.03	43.5	-18.48	12.34	1.29	31.64	124	275	Peak
155.01	22.62	40.27	43.5	-20.88	12.72	1.37	31.74	109	286	Peak
317.5	21.61	38.05	46	-24.39	13.36	2.11	31.91	104	265	Peak
604.5	23.81	33.23	46	-22.19	19.66	3.1	32.18	100	11	Peak
728.4	25.91	32.78	46	-20.09	21.22	3.51	31.6	100	326	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
78.87	32.19	54.19	40	-7.81	8.61	0.96	31.57	100	168	Peak
113.16	31.83	52.17	43.5	-11.67	10.37	1.15	31.86	136	313	Peak
237.9	18.25	37.32	46	-27.75	10.95	1.78	31.8	100	250	Peak
324.5	19.65	35.82	46	-26.35	13.54	2.14	31.85	148	0	Peak
481.3	21.62	33.79	46	-24.38	16.95	2.72	31.84	100	319	Peak
623.4	24.13	33.24	46	-21.87	19.89	3.16	32.16	100	123	Peak

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

Margin value = Emission level – Limit value

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
115.05	21.74	41.9	43.5	-21.76	10.55	1.16	31.87	102	152	Peak
129.63	22.62	41.58	43.5	-20.88	11.68	1.24	31.88	103	256	Peak
145.56	23.78	41.54	43.5	-19.72	12.54	1.32	31.62	133	214	Peak
538	20.5	31.12	46	-25.5	18.19	2.91	31.72	100	19	Peak
690.6	24.05	31.79	46	-21.95	20.7	3.4	31.84	100	111	Peak
750.8	25.5	31.7	46	-20.5	21.53	3.58	31.31	102	258	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
80.76	29.88	52.29	40	-10.12	8.13	0.97	31.51	103	196	Peak
106.95	29.3	50.36	43.5	-14.2	9.71	1.11	31.88	140	58	Peak
111.81	29.8	50.33	43.5	-13.7	10.18	1.14	31.85	103	71	Peak
584.9	22.25	32.08	46	-23.75	19.26	3.04	32.13	103	287	Peak
682.2	24.18	32.06	46	-21.82	20.6	3.36	31.84	100	47	Peak
746.6	25.15	31.46	46	-20.85	21.48	3.56	31.35	103	96	Peak

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

Margin value = Emission level – Limit value



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
77.79	22.14	43.93	40	-17.86	8.85	0.95	31.59	102	144	Peak
115.05	22.85	43.01	43.5	-20.65	10.55	1.16	31.87	100	178	Peak
137.19	23.89	42.09	43.5	-19.61	12.21	1.28	31.69	103	69	Peak
573	21.86	31.95	46	-24.14	18.99	3.01	32.09	100	105	Peak
666.8	23.51	31.66	46	-22.49	20.41	3.3	31.86	108	89	Peak
780.2	26.03	31.87	46	-19.97	21.94	3.65	31.43	100	58	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
104.25	28.57	49.85	43.5	-14.93	9.53	1.09	31.9	100	147	Peak
114.78	30.7	50.96	43.5	-12.8	10.46	1.15	31.87	103	69	Peak
123.96	26.14	45.54	43.5	-17.36	11.28	1.21	31.89	103	58	Peak
580	22.01	31.95	46	-23.99	19.15	3.03	32.12	100	117	Peak
696.2	24.31	31.93	46	-21.69	20.77	3.42	31.81	100	119	Peak
784.4	26.39	32.14	46	-19.61	22.01	3.66	31.42	100	240	Peak

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

Margin value = Emission level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 29, 2013	Nov. 28, 2014
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 27, 2013	Dec. 26, 2014
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_Conc_ 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

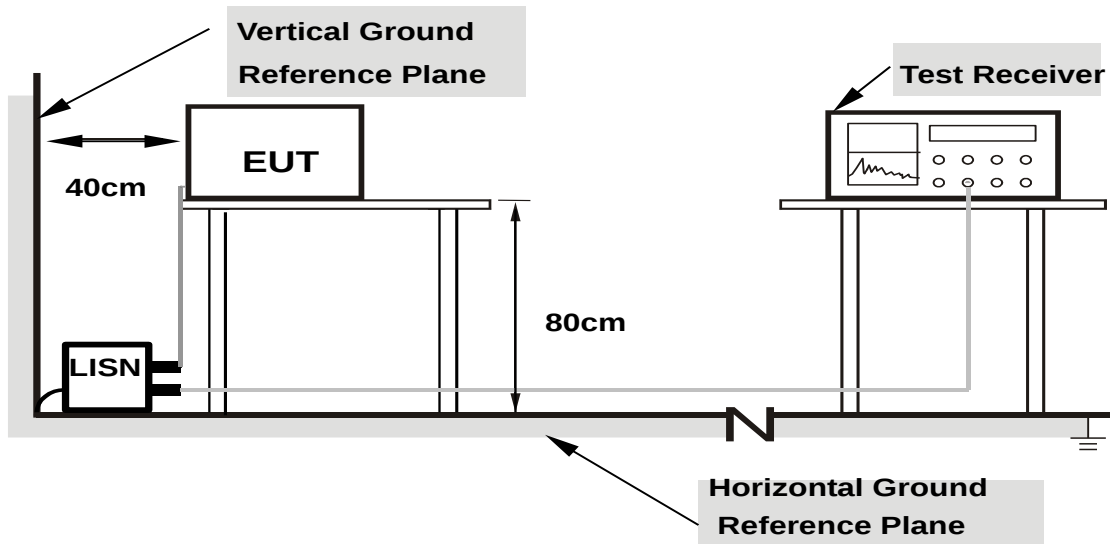
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

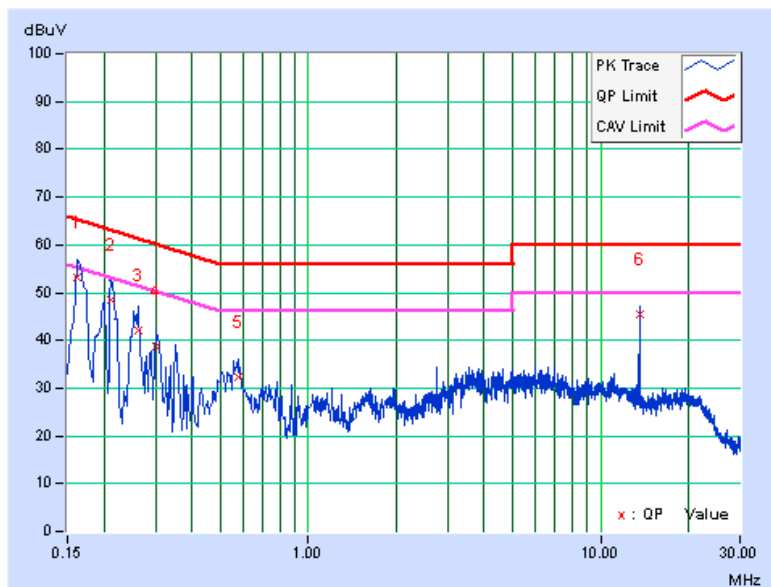
CONDUCTED WORST-CASE DATA :

PHASE	Line 1	6dB BANDWIDTH	9kHz
FUNCTION TYPE	BT Link + WLAN 5G Link + Adapter + U-Cup Cable + USB Cable + NFC Link		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	0.08	52.99	30.36	53.07	30.44	65.37	55.37	-12.30	-24.93
2	0.21015	0.07	48.55	30.24	48.62	30.31	63.20	53.20	-14.58	-22.89
3	0.26200	0.07	41.88	28.27	41.95	28.34	61.37	51.37	-19.41	-23.02
4	0.30230	0.08	38.51	24.78	38.59	24.86	60.18	50.18	-21.59	-25.32
5	0.57400	0.09	32.09	23.26	32.18	23.35	56.00	46.00	-23.82	-22.65
6	13.56200	0.70	44.89	43.89	45.59	44.59	60.00	50.00	-14.41	-5.41

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

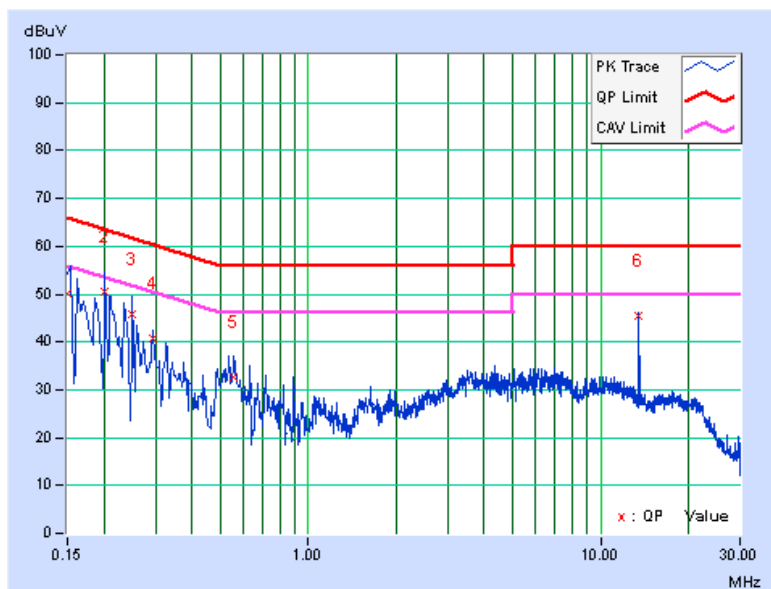


PHASE	Line 2	6dB BANDWIDTH	9kHz
FUNCTION TYPE	BT Link + WLAN 5G Link + Adapter + U-Cup Cable + USB Cable + NFC Link		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.05	49.96	29.39	50.01	29.44	66.00	56.00	-15.99	-26.56
2	0.20148	0.05	50.42	29.24	50.47	29.29	63.55	53.55	-13.08	-24.26
3	0.25000	0.06	45.83	27.59	45.89	27.65	61.76	51.76	-15.87	-24.11
4	0.29400	0.06	40.84	23.81	40.90	23.87	60.41	50.41	-19.51	-26.54
5	0.55800	0.08	32.52	24.20	32.60	24.28	56.00	46.00	-23.40	-21.72
6	13.55800	0.61	44.74	43.68	45.35	44.29	60.00	50.00	-14.65	-5.71

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

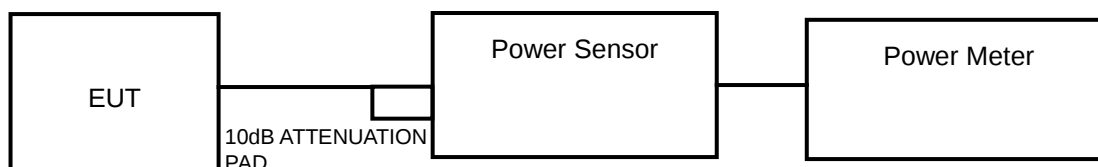
4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

OPERATION BAND	EUT CATEGORY		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 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



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

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.

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	FREQUENCY (MHz)	DATA RATE							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
36	5180	19.60	19.54	19.52	19.50	19.53	19.55	19.48	19.47
44	5220	20.51	20.47	20.50	20.45	20.49	20.48	20.42	20.39
48	5240	20.52	20.49	20.45	20.48	20.47	20.44	20.41	20.42
149	5745	18.92	18.79	18.86	18.90	18.72	18.84	18.91	18.89
157	5785	18.86	18.82	18.77	18.75	18.84	18.82	18.72	18.84
165	5825	18.92	18.88	18.73	18.81	18.87	18.90	18.83	18.89

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	91.20	19.60	24	PASS
44	5220	112.46	20.51	24	PASS
48	5240	112.72	20.52	24	PASS
149	5745	77.98	18.92	30	PASS
157	5785	76.91	18.86	30	PASS
165	5825	77.98	18.92	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
36	5180	19.71	19.64	19.59	19.70	19.63	19.68	19.59	19.55
44	5220	20.52	20.47	20.45	20.49	20.42	20.48	20.50	20.51
48	5240	20.49	20.43	20.41	20.44	20.40	20.39	20.48	20.47
149	5745	18.96	18.87	18.91	18.95	18.93	18.92	18.89	18.88
157	5785	18.92	18.78	18.85	18.86	18.91	18.90	18.88	18.77
165	5825	18.94	18.89	18.85	18.86	18.88	18.90	18.91	18.83

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	93.54	19.71	24	PASS
44	5220	112.72	20.52	24	PASS
48	5240	111.94	20.49	24	PASS
149	5745	78.70	18.96	30	PASS
157	5785	77.98	18.92	30	PASS
165	5825	78.34	18.94	30	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
38	5190	16.92	16.83	16.90	16.81	16.77	16.88	16.89	16.91
46	5230	16.97	16.90	16.93	16.92	16.89	16.96	16.94	16.95
151	5755	16.81	16.73	16.79	16.73	16.72	16.78	16.74	16.79
159	5795	16.68	16.66	16.64	16.67	16.60	16.58	16.61	16.64

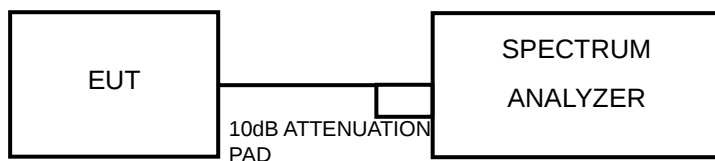
CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	49.20	16.92	24	PASS
46	5230	49.77	16.97	24	PASS
151	5755	47.97	16.81	30	PASS
159	5795	46.56	16.68	30	PASS

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 band:

Using method SA-2 alternative

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- 3) Sweep time = 4second.
- 4) Perform a single sweep.
- 5) Record the max value and add 10 log (1/duty cycle)

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 $\geq$ 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 Band

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	6.66	11	PASS
44	5220	7.58	11	PASS
48	5240	7.73	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	6.55	11	PASS
44	5220	7.50	11	PASS
48	5240	7.60	11	PASS

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	1.16	0.24	1.40	11	PASS
46	5230	1.32	0.24	1.56	11	PASS

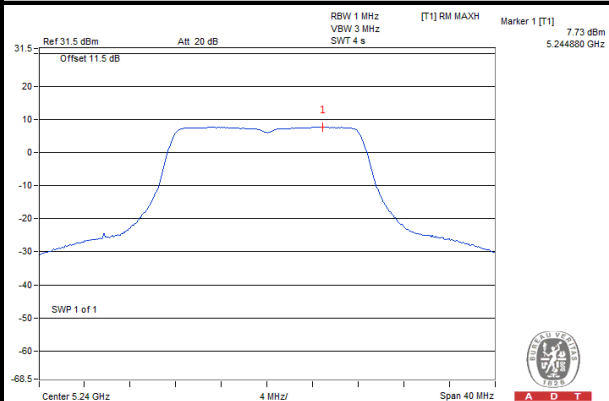
NOTE: Refer to section 3.3 for duty cycle spectrum plot.



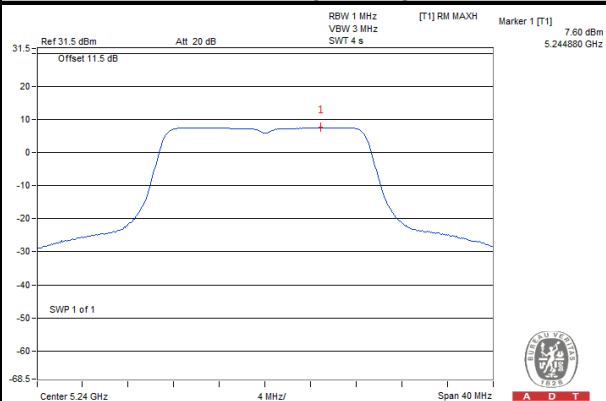
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SPECTRUM PLOT OF WORST VALUE

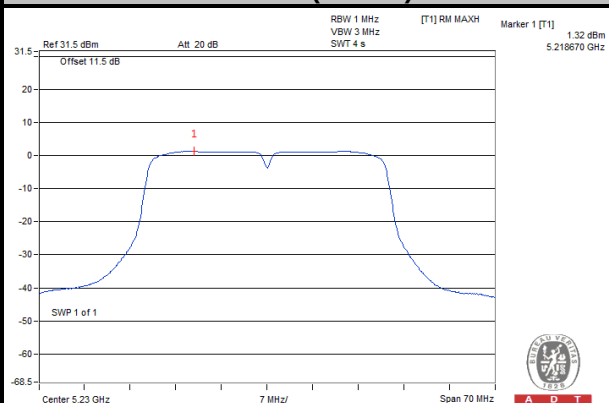
802.11a



802.11n (20MHz)



802.11n (40MHz)



**A D T****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	3.23	0.10	3.33	30	PASS
157	5785	3.37	0.10	3.47	30	PASS
165	5825	3.78	0.10	3.88	30	PASS

802.11n (20MHz)

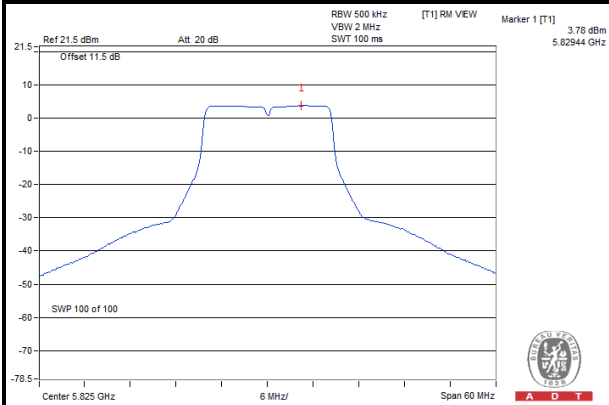
CHANNEL	FREQUENCY (MHz)	PSD (dBm/500kHz)	LIMIT (dBm/500kHz)	PASS / FAIL
149	5745	2.98	30	PASS
157	5785	3.05	30	PASS
165	5825	3.49	30	PASS

802.11n (40MHz)

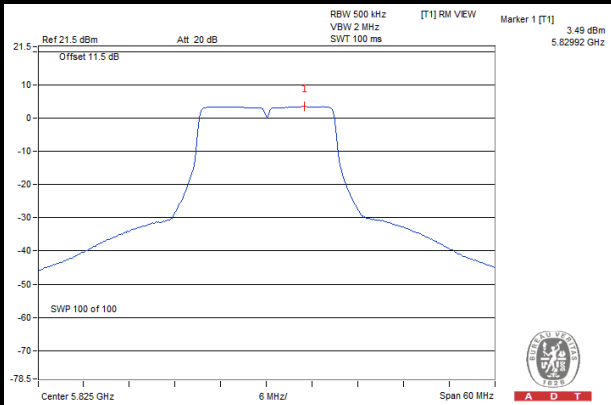
CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	LIMIT (dBm/500kHz)	PASS/FAIL
151	5755	-1.84	0.36	-1.48	30	PASS
159	5795	-1.78	0.36	-1.42	30	PASS

SPECTRUM PLOT OF WORST VALUE

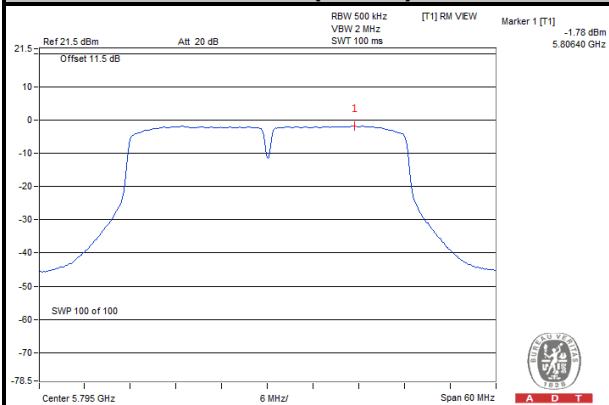
802.11a



802.11n (20MHz)



802.11n (40MHz)

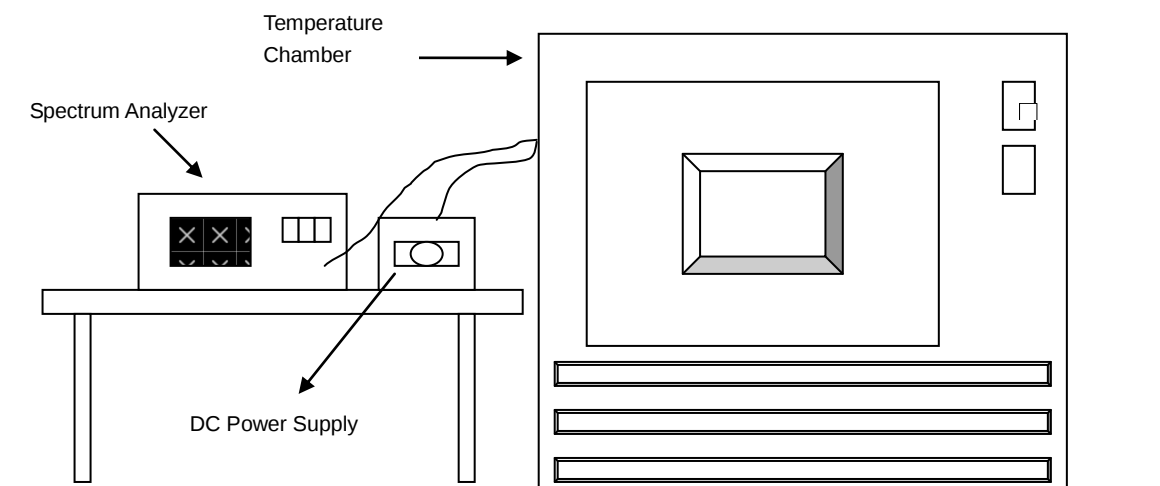


4.5 FREQUENCY STABILITY

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

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.7	5180.037985	7.333	5180.037895	7.316	5180.038119	7.359	5180.038071	7.350
40	3.7	5180.038329	7.399	5180.038469	7.426	5180.038284	7.391	5180.038464	7.425
30	3.7	5180.039343	7.595	5180.038893	7.508	5180.039052	7.539	5180.038735	7.478
20	3.7	5180.047851	9.238	5180.048424	9.348	5180.048302	9.325	5180.048217	9.308
10	3.7	5180.041434	7.999	5180.041113	7.937	5180.041367	7.986	5180.041493	8.010
0	3.7	5180.040861	7.888	5180.040743	7.865	5180.040812	7.879	5180.040227	7.766
-10	3.7	5180.038360	7.405	5180.038599	7.452	5180.038435	7.420	5180.038703	7.472
-20	3.7	5180.037794	7.296	5180.038052	7.346	5180.038109	7.357	5180.038358	7.405
-30	3.7	5180.037236	7.188	5180.037754	7.288	5180.037210	7.183	5180.036974	7.138

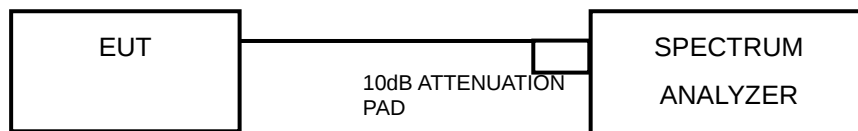
FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.4	5180.047733	9.215	5180.047406	9.152	5180.047581	9.186	5180.047526	9.175
	3.7	5180.047851	9.238	5180.048424	9.348	5180.048302	9.325	5180.048217	9.308
	4.2	5180.050047	9.662	5180.049587	9.573	5180.049423	9.541	5180.049447	9.546

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

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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.

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4.6.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.40	0.5	PASS
157	5785	16.40	0.5	PASS
165	5825	16.41	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.63	0.5	PASS
157	5785	17.61	0.5	PASS
165	5825	17.65	0.5	PASS

802.11n (40MHz)

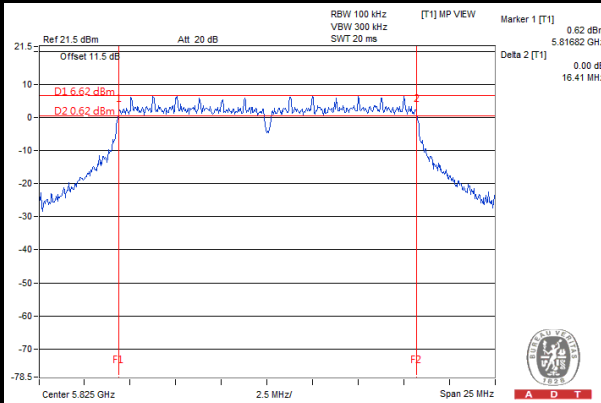
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.51	0.5	PASS
159	5795	35.45	0.5	PASS



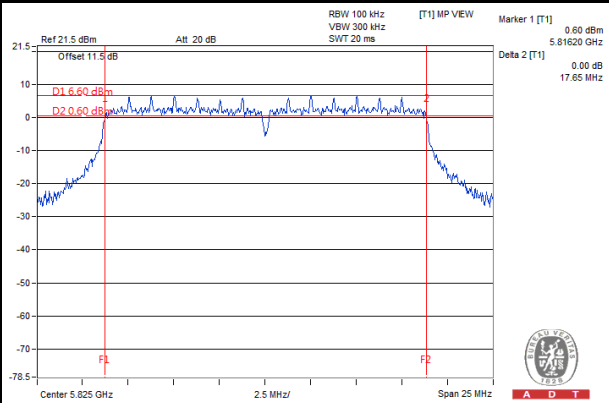
A D T

SPECTRUM PLOT OF WORST VALUE

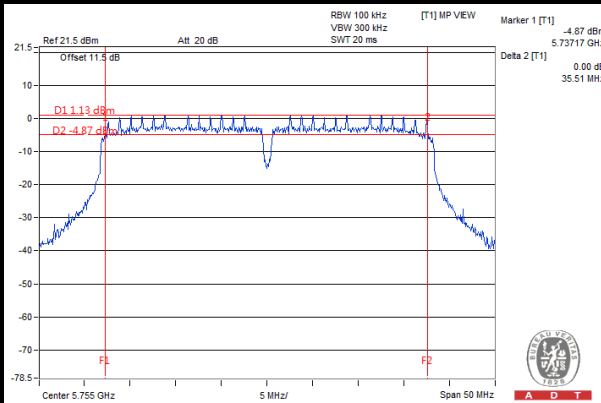
802.11a



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

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

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.



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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---