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SUPPLEMENTARY FCC TEST REPORT (15.407)

REPORT NO.: RF120903C21Q
MODEL NO.: MC40N0
FCC ID: UZ7MC40N0
RECEIVED: Mar. 13, 2015
TESTED: Mar. 23, 2015 ~ Apr. 20, 2015
ISSUED: Apr. 24, 2015

APPLICANT: Zebra Technologies Corporation

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

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TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
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REPORT ISSUE HISTORY RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
1	Original release.	Sep. 17, 2012
2	Update 5G function under New UNII rule	Apr. 24, 2015



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120903C21Q	Original release	Apr. 24, 2015



1. CERTIFICATION

PRODUCT: Mobile Computer
MODEL NO.: MC40N0
BRAND: Symbol
APPLICANT: Zebra Technologies Corporation
TESTED: Mar. 23, 2015 ~ Apr. 20, 2015
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2013

The above equipment (model: MC40N0) 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 : Gina Liu , **DATE** : Apr. 24, 2015
Gina Liu / Specialist

APPROVED BY : Sam Chen , **DATE** : Apr. 24, 2015
Sam Chen / Senior Project Engineer

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.30dB at 0.32442MHz.
15.407(b/1/2/3) (b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.04dB at 5144MHz.
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	Mobile Computer
MODEL NO.	MC40N0
POWER SUPPLY	5Vdc (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) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz)
OUTPUT POWER	69.18mW for 5180 ~ 5240MHz 77.98mW for 5745 ~ 5825MHz
ANTENNA TYPE	Refer to Note as below
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
SW	Android Version 4.1.1 Build number : 09-4AJ11-J-0900-0016-V0-M1-020815
HW	Mass Production Sample

NOTE:

1. This report is issued as a supplementary report of BV ADT report no.: RF120903C21-1. The difference compared with original report is update the standard to the latest version for WLAN 5G.
2. The device is available with or without MSR.
3. Antenna gain is listed as table below.

Configuration	Antenna type	Main antenna gain (dBi)		AUX antenna gain (dBi)	
		2.4GHz	5GHz	2.4GHz	5GHz
With MSR	PIFA	1.63	4.08	-0.15	5.44
Without MSR		1.72	4.01	-0.15	5.44



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4. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter	Motorola	IU08-2050120-WP	I/P: 100-240Vac, 50/60Hz, 0.2A O/P: 5Vdc, 1.2A
Earphone 1	Motorola	NA	1.3m
Earphone 2	Motorola	21-UNIV-HDSET1-01R	1.2m
Micro USB Cable	Motorola	25-MCXUSB-01R	1.5m

5. The EUT provides one completed transmitter and two receivers.

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

1. The EUT uses following battery.

Brand	Motorola
Rating	3.7Vdc,2680mAh, 9.91Wh

6. 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

FOR 5.0GHz (5745 ~ 5825MHz):

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

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



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION	
	RE \geq 1G	RE $<$ 1G	PLC	APCM	MSR /ANT.	Power Source
A	√	√	√	√	without MSR	Power from adapter
B	√	√	√	-	with MSR	Power from adapter

Where **RE \geq 1G**: Radiated Emission above 1GHz **RE $<$ 1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

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, B	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
A, B	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

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, B	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
A, B	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

POWER LINE CONDUCTED EMISSION TEST:

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0



BANDEDGE MEASUREMENT:

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

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

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
A	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

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
A	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

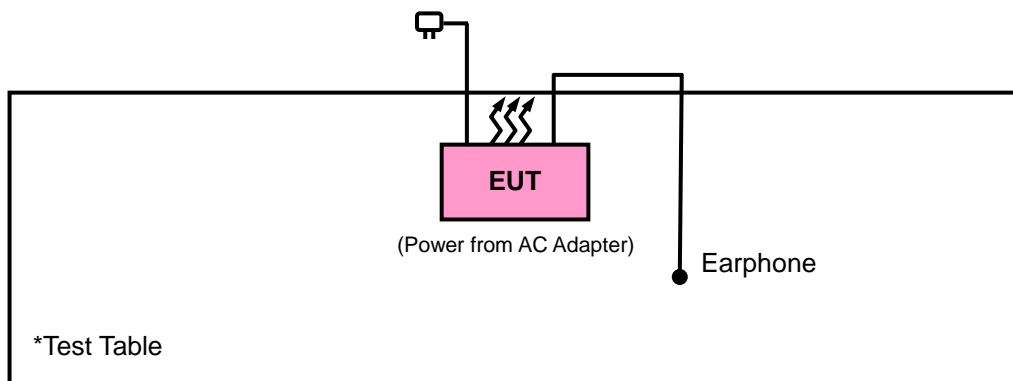
TEST CONDITION:

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

3.3 DESCRIPTION OF SUPPORT UNITS

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





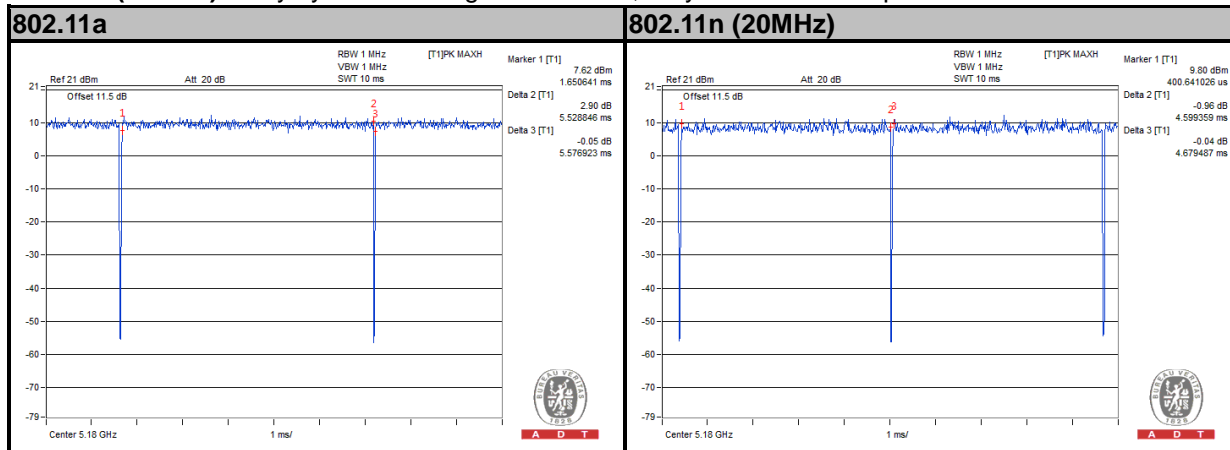
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3.4 DUTY CYCLE TEST SIGNAL

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.



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01

ANSI C63.10-2013

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

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

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

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

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



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4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver Agilent	N9038A	MY51210203	Jan.21, 2015	Jan.21, 2016
Spectrum Analyzer Agilent	N9010A	MY52220314	Sep.03, 2014	Sep.02, 2015
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 04, 2015	Feb. 04, 2016
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Feb. 09, 2015	Feb. 09, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Feb. 04, 2015	Feb. 04, 2016
Loop Antenna	EM-6879	269	Aug.13, 2014	Aug.12, 2015
Preamplifier EMCI	EMC 012645	980115	Dec. 12, 2014	Dec. 11, 2015
Preamplifier EMCI	EMC 184045	980116	Jan. 09, 2015	Jan. 08, 2016
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2014	Dec. 26, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 18, 2014	Oct. 17, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2014	Oct. 17, 2015
RF signal cable Worken	RG-213	NA	Nov. 07, 2014	Nov. 06, 2015
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Bluetooth Tester	CBT	100980	Feb. 10, 2015	Feb. 09, 2016
Power Meter	ML2495A	1232002	Sep. 17, 2014	Sep. 16, 2015
Power Sensor	MA2411B	1207325	Sep. 17, 2014	Sep. 16, 2015

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.

3. The test was performed in HwaYa Chamber 10.

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

5. The FCC Site Registration No. is 690701.

6. The IC Site Registration No. is IC 7450F-10.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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:

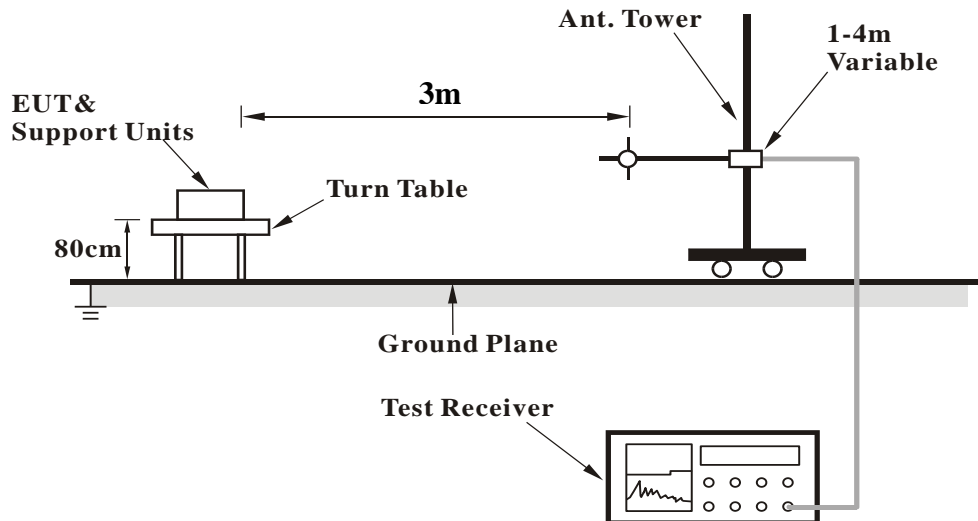
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency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

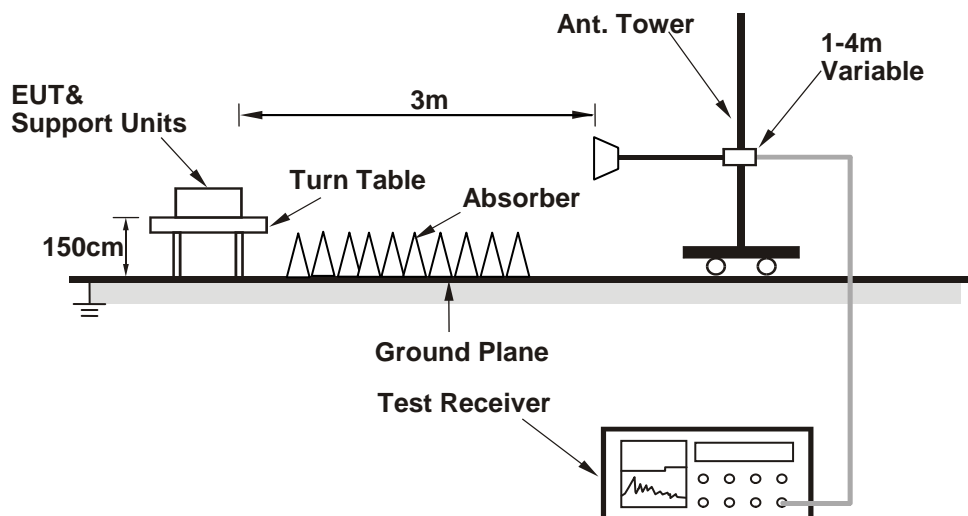
No deviation.

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.



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4.1.8 TEST RESULTS

Without MSR & Aux Ant.

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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5142	45.41	46.1	54	-8.59	31.32	5.29	37.3	104	152	Average
5142	60.19	60.88	74	-13.81	31.32	5.29	37.3	104	152	Peak
5180	96.73	97.41			31.35	5.31	37.34	104	152	Average
5180	106.29	106.97			31.35	5.31	37.34	104	152	Peak
5448	38.23	38.36	54	-15.77	31.56	5.44	37.13	104	152	Average
5448	59.46	59.59	74	-14.54	31.56	5.44	37.13	104	152	Peak
10360	49.12	53.94	68.2	-19.08	39.19	8.13	52.14	100	189	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	48.89	49.6	54	-5.11	31.32	5.29	37.32	185	205	Average
5150	66.8	67.51	74	-7.2	31.32	5.29	37.32	185	205	Peak
5180	99.19	99.87			31.35	5.31	37.34	185	205	Average
5180	108.32	109			31.35	5.31	37.34	185	205	Peak
5396	38.01	38.26	54	-15.99	31.52	5.41	37.18	185	205	Average
5396	59.3	59.55	74	-14.7	31.52	5.41	37.18	185	205	Peak
10360	48.58	53.4	68.2	-19.62	39.19	8.13	52.14	100	291	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.
- 10360MHz: Out of restricted band



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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	Toby Tian

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
5090	39	39.72	54	-15	31.28	5.27	37.27	104	193	Average
5090	58.69	59.41	74	-15.31	31.28	5.27	37.27	104	193	Peak
5220	98.48	99.14			31.37	5.33	37.36	104	193	Average
5220	107.79	108.45			31.37	5.33	37.36	104	193	Peak
5436	38.24	38.4	54	-15.76	31.55	5.42	37.13	104	193	Average
5436	58.71	58.87	74	-15.29	31.55	5.42	37.13	104	193	Peak
10440	50.54	55.54	68.2	-17.66	39.29	8.19	52.48	100	189	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
5054	39.84	40.6	54	-14.16	31.24	5.25	37.25	184	206	Average
5054	60.09	60.85	74	-13.91	31.24	5.25	37.25	184	206	Peak
5220	100.4	101.06			31.37	5.33	37.36	184	206	Average
5220	109.43	110.09			31.37	5.33	37.36	184	206	Peak
5390	38.12	38.38	54	-15.88	31.51	5.41	37.18	184	206	Average
5390	59.4	59.66	74	-14.6	31.51	5.41	37.18	184	206	Peak
10440	48.94	53.94	68.2	-19.26	39.29	8.19	52.48	100	292	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.
- 10440MHz: Out of restricted band



A D T

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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5122	38.37	39.1	54	-15.63	31.29	5.28	37.3	104	187	Average
5122	59.13	59.86	74	-14.87	31.29	5.28	37.3	104	187	Peak
5240	98.34	98.93			31.39	5.34	37.32	104	187	Average
5240	107.53	108.12			31.39	5.34	37.32	104	187	Peak
5400	38.02	38.27	54	-15.98	31.52	5.41	37.18	104	187	Average
5400	59.75	60	74	-14.25	31.52	5.41	37.18	104	187	Peak
10480	50.56	55.7	68.2	-17.64	39.37	8.2	52.71	100	189	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
5030	39.13	39.9	54	-14.87	31.23	5.24	37.24	200	203	Average
5030	59.65	60.42	74	-14.35	31.23	5.24	37.24	200	203	Peak
5240	100.41	101			31.39	5.34	37.32	200	203	Average
5240	109.5	110.09			31.39	5.34	37.32	200	203	Peak
5378	38.18	38.45	54	-15.82	31.51	5.4	37.18	200	203	Average
5378	60.07	60.34	74	-13.93	31.51	5.4	37.18	200	203	Peak
10480	51.08	56.22	68.2	-17.12	39.37	8.2	52.71	100	292	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



A D T

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	Toby Tian

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	58.9	58.81	68.2	-9.3	31.93	5.59	37.43	108	194	Peak
5725	66.52	66.4	78.2	-11.68	31.96	5.59	37.43	108	194	Peak
5745	94.94	94.82			31.99	5.6	37.47	108	194	Average
5745	104.1	103.98			31.99	5.6	37.47	108	194	Peak
5850	57.55	57.25	78.2	-20.65	32.15	5.66	37.51	108	194	Peak
5861	58.44	58.1	68.2	-9.76	32.18	5.66	37.5	108	194	Peak
11490	40.82	44.69	54	-13.18	39.91	9.05	52.83	100	166	Average
11490	51.98	55.85	74	-22.02	39.91	9.05	52.83	100	166	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	62.09	62	68.2	-6.11	31.93	5.59	37.43	100	233	Peak
5725	69.63	69.51	78.2	-8.57	31.96	5.59	37.43	100	233	Peak
5745	97.83	97.71			31.99	5.6	37.47	100	233	Average
5745	107.22	107.1			31.99	5.6	37.47	100	233	Peak
5850	59.19	58.89	78.2	-19.01	32.15	5.66	37.51	100	233	Peak
5861	57.71	57.37	68.2	-10.49	32.18	5.66	37.5	100	233	Peak
11490	40.43	44.3	54	-13.57	39.91	9.05	52.83	100	238	Average
11490	51.31	55.18	74	-22.69	39.91	9.05	52.83	100	238	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



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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	Toby Tian

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	59.61	59.52	68.2	-8.59	31.93	5.59	37.43	100	149	Peak
5725	60.18	60.06	78.2	-18.02	31.96	5.59	37.43	100	149	Peak
5785	98.65	98.53			32.04	5.62	37.54	100	149	Average
5785	107.84	107.72			32.04	5.62	37.54	100	149	Peak
5850	60.19	59.89	78.2	-18.01	32.15	5.66	37.51	100	149	Peak
5861	59	58.66	68.2	-9.2	32.18	5.66	37.5	100	149	Peak
11570	41.17	45.63	54	-12.83	39.78	9.09	53.33	100	166	Average
11570	51.68	56.14	74	-22.32	39.78	9.09	53.33	100	166	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	58.15	58.06	68.2	-10.05	31.93	5.59	37.43	121	234	Peak
5725	58.81	58.69	78.2	-19.39	31.96	5.59	37.43	121	234	Peak
5785	102.99	102.87			32.04	5.62	37.54	121	234	Average
5785	111.14	111.02			32.04	5.62	37.54	121	234	Peak
5850	59.63	59.33	78.2	-18.57	32.15	5.66	37.51	121	234	Peak
5861	58.1	57.76	68.2	-10.1	32.18	5.66	37.5	121	234	Peak
11570	40.58	45.04	54	-13.42	39.78	9.09	53.33	100	240	Average
11570	51.29	55.75	74	-22.71	39.78	9.09	53.33	100	240	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



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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	Toby Tian

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	59.65	59.56	68.2	-8.55	31.93	5.59	37.43	108	150	Peak
5725	59.66	59.54	78.2	-18.54	31.96	5.59	37.43	108	150	Peak
5825	99.01	98.78			32.12	5.64	37.53	108	150	Average
5825	108.83	108.6			32.12	5.64	37.53	108	150	Peak
5850	72.16	71.86	78.2	-6.04	32.15	5.66	37.51	108	150	Peak
5861	64.93	64.59	68.2	-3.27	32.18	5.66	37.5	108	150	Peak
11650	40.77	45.35	54	-13.23	39.65	9.12	53.35	100	166	Average
11650	51.59	56.17	74	-22.41	39.65	9.12	53.35	100	166	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	60.2	60.11	68.2	-8	31.93	5.59	37.43	112	203	Peak
5725	58.79	58.67	78.2	-19.41	31.96	5.59	37.43	112	203	Peak
5825	101.64	101.41			32.12	5.64	37.53	112	203	Average
5825	111.21	110.98			32.12	5.64	37.53	112	203	Peak
5850	74.92	74.62	78.2	-3.28	32.15	5.66	37.51	112	203	Peak
5861	65.03	64.69	68.2	-3.17	32.18	5.66	37.5	112	203	Peak
11650	40.53	45.11	54	-13.47	39.65	9.12	53.35	100	238	Average
11650	51.64	56.22	74	-22.36	39.65	9.12	53.35	100	238	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



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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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	49.04	49.75	54	-4.96	31.32	5.29	37.32	104	193	Average
5144	62.76	63.47	74	-11.24	31.32	5.29	37.32	104	193	Peak
5180	97.65	98.33			31.35	5.31	37.34	104	193	Average
5180	106.86	107.54			31.35	5.31	37.34	104	193	Peak
5436	38.01	38.17	54	-15.99	31.55	5.42	37.13	104	193	Average
5436	59.06	59.22	74	-14.94	31.55	5.42	37.13	104	193	Peak
10360	49.27	54.09	68.2	-18.93	39.19	8.13	52.14	100	190	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	51.95	52.66	54	-2.05	31.32	5.29	37.32	200	208	Average
5150	66.45	67.16	74	-7.55	31.32	5.29	37.32	200	208	Peak
5180	99.79	100.47			31.35	5.31	37.34	200	208	Average
5180	108.91	109.59			31.35	5.31	37.34	200	208	Peak
5382	37.91	38.18	54	-16.09	31.51	5.4	37.18	200	208	Average
5382	59.01	59.28	74	-14.99	31.51	5.4	37.18	200	208	Peak
10360	48.71	53.53	68.2	-19.49	39.19	8.13	52.14	100	292	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.
- 10360MHz: Out of restricted band



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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	Toby Tian

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
5134	39.03	39.74	54	-14.97	31.31	5.28	37.3	104	197	Average
5134	59.34	60.05	74	-14.66	31.31	5.28	37.3	104	197	Peak
5220	97.75	98.41			31.37	5.33	37.36	104	197	Average
5220	106.84	107.5			31.37	5.33	37.36	104	197	Peak
5414	38.14	38.37	54	-15.86	31.53	5.42	37.18	104	197	Average
5414	59	59.23	74	-15	31.53	5.42	37.18	104	197	Peak
10440	49.62	54.62	68.2	-18.58	39.29	8.19	52.48	100	190	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5142	40.33	41.02	54	-13.67	31.32	5.29	37.3	200	209	Average
5142	59.09	59.78	74	-14.91	31.32	5.29	37.3	200	209	Peak
5220	99.84	100.5			31.37	5.33	37.36	200	209	Average
5220	108.76	109.42			31.37	5.33	37.36	200	209	Peak
5442	38.23	38.37	54	-15.77	31.55	5.44	37.13	200	209	Average
5442	58.8	58.94	74	-15.2	31.55	5.44	37.13	200	209	Peak
10440	48.42	53.42	68.2	-19.78	39.29	8.19	52.48	100	291	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.
- 10440MHz: Out of restricted band



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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	Toby Tian

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
5140	38.22	38.91	54	-15.78	31.32	5.29	37.3	103	196	Average
5140	59.81	60.5	74	-14.19	31.32	5.29	37.3	103	196	Peak
5240	97.78	98.37			31.39	5.34	37.32	103	196	Average
5240	106.77	107.36			31.39	5.34	37.32	103	196	Peak
5428	38.45	38.63	54	-15.55	31.53	5.42	37.13	103	196	Average
5428	60.27	60.45	74	-13.73	31.53	5.42	37.13	103	196	Peak
10480	51.2	56.34	68.2	-17	39.37	8.2	52.71	100	190	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5100	39.29	40.02	54	-14.71	31.28	5.27	37.28	200	203	Average
5100	59.35	60.08	74	-14.65	31.28	5.27	37.28	200	203	Peak
5240	99.46	100.05			31.39	5.34	37.32	200	203	Average
5240	108.62	109.21			31.39	5.34	37.32	200	203	Peak
5348	38.15	38.46	54	-15.85	31.48	5.39	37.18	200	203	Average
5348	60.37	60.68	74	-13.63	31.48	5.39	37.18	200	203	Peak
10480	49.9	55.04	68.2	-18.3	39.37	8.2	52.71	100	291	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



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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	Toby Tian

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	59.87	59.78	68.2	-8.33	31.93	5.59	37.43	100	149	Peak
5725	72.16	72.04	78.2	-6.04	31.96	5.59	37.43	100	149	Peak
5745	94.74	94.62			31.99	5.6	37.47	100	149	Average
5745	104.72	104.6			31.99	5.6	37.47	100	149	Peak
5850	59.47	59.17	78.2	-18.73	32.15	5.66	37.51	100	149	Peak
5861	58.92	58.58	68.2	-9.28	32.18	5.66	37.5	100	149	Peak
11490	40.96	44.83	54	-13.04	39.91	9.05	52.83	100	165	Average
11490	52.21	56.08	74	-21.79	39.91	9.05	52.83	100	165	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	64.07	63.98	68.2	-4.13	31.93	5.59	37.43	121	234	Peak
5725	76.96	76.84	78.2	-1.24	31.96	5.59	37.43	121	234	Peak
5745	98.04	97.92			31.99	5.6	37.47	121	234	Average
5745	108.35	108.23			31.99	5.6	37.47	121	234	Peak
5850	60.1	59.8	78.2	-18.1	32.15	5.66	37.51	121	234	Peak
5861	58.82	58.48	68.2	-9.38	32.18	5.66	37.5	121	234	Peak
11490	40.9	44.77	54	-13.1	39.91	9.05	52.83	100	239	Average
11490	52.83	56.7	74	-21.17	39.91	9.05	52.83	100	239	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	Toby Tian

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	58.91	58.82	68.2	-9.29	31.93	5.59	37.43	109	150	Peak
5725	60.52	60.4	78.2	-17.68	31.96	5.59	37.43	109	150	Peak
5785	98.44	98.32			32.04	5.62	37.54	109	150	Average
5785	108.32	108.2			32.04	5.62	37.54	109	150	Peak
5850	60.62	60.32	78.2	-17.58	32.15	5.66	37.51	109	150	Peak
5861	61.07	60.73	68.2	-7.13	32.18	5.66	37.5	109	150	Peak
11570	40.92	45.38	54	-13.08	39.78	9.09	53.33	100	167	Average
11570	51.52	55.98	74	-22.48	39.78	9.09	53.33	100	167	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	59.49	59.4	68.2	-8.71	31.93	5.59	37.43	120	232	Peak
5725	60.26	60.14	78.2	-17.94	31.96	5.59	37.43	120	232	Peak
5785	100.6	100.48			32.04	5.62	37.54	120	232	Average
5785	111.05	110.93			32.04	5.62	37.54	120	232	Peak
5850	60.6	60.3	78.2	-17.6	32.15	5.66	37.51	120	232	Peak
5861	59.32	58.98	68.2	-8.88	32.18	5.66	37.5	120	232	Peak
11570	40.53	44.99	54	-13.47	39.78	9.09	53.33	100	238	Average
11570	50.76	55.22	74	-23.24	39.78	9.09	53.33	100	238	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	Toby Tian

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	60.64	60.55	68.2	-7.56	31.93	5.59	37.43	107	147	Peak
5725	59.37	59.25	78.2	-18.83	31.96	5.59	37.43	107	147	Peak
5825	98.51	98.28			32.12	5.64	37.53	107	147	Average
5825	108.16	107.93			32.12	5.64	37.53	107	147	Peak
5850	73.85	73.55	78.2	-4.35	32.15	5.66	37.51	107	147	Peak
5861	63.63	63.29	68.2	-4.57	32.18	5.66	37.5	107	147	Peak
11650	41.01	45.59	54	-12.99	39.65	9.12	53.35	100	165	Average
11650	50.4	54.98	74	-23.6	39.65	9.12	53.35	100	165	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	59.45	59.36	68.2	-8.75	31.93	5.59	37.43	113	214	Peak
5725	60.31	60.19	78.2	-17.89	31.96	5.59	37.43	113	214	Peak
5825	100.91	100.68			32.12	5.64	37.53	113	214	Average
5825	110.57	110.34			32.12	5.64	37.53	113	214	Peak
5850	75.31	75.01	78.2	-2.89	32.15	5.66	37.51	113	214	Peak
5861	65.57	65.23	68.2	-2.63	32.18	5.66	37.5	113	214	Peak
11650	41.17	45.75	54	-12.83	39.65	9.12	53.35	100	238	Average
11650	51.53	56.11	74	-22.47	39.65	9.12	53.35	100	238	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



A D T

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	Toby Tian

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
129.9	28.59	47.55	43.5	-14.91	11.68	1.24	31.88	103	36	Peak
198.48	28.18	48.92	43.5	-15.32	9.43	1.59	31.76	113	94	Peak
203.34	27.27	47.84	43.5	-16.23	9.52	1.61	31.7	130	321	Peak
697.6	24.21	31.81	46	-21.79	20.78	3.42	31.8	125	317	Peak
758.5	25.55	31.74	46	-20.45	21.64	3.59	31.42	107	219	Peak
794.9	25.83	31.41	46	-20.17	22.16	3.68	31.42	123	33	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
79.14	26.57	48.77	40	-13.43	8.37	0.97	31.54	109	118	Peak
82.92	26.28	48.76	40	-13.72	8.18	0.99	31.65	128	263	Peak
86.16	25.82	48.37	40	-14.18	8.23	1	31.78	121	162	Peak
616.4	22.66	31.85	46	-23.34	19.81	3.14	32.14	110	358	Peak
673.8	24.05	32.04	46	-21.95	20.5	3.33	31.82	139	42	Peak
770.4	25.47	31.34	46	-20.53	21.81	3.62	31.3	132	240	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 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	Toby Tian

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
119.64	24.89	44.67	43.5	-18.61	10.93	1.18	31.89	127	347	Peak
127.2	27.54	46.73	43.5	-15.96	11.48	1.22	31.89	109	199	Peak
133.68	28.08	46.66	43.5	-15.42	11.94	1.26	31.78	138	299	Peak
708.1	24.53	31.9	46	-21.47	20.93	3.45	31.75	136	113	Peak
762	26.1	32.22	46	-19.9	21.7	3.6	31.42	138	280	Peak
816.6	25.73	31.11	46	-20.27	22.44	3.74	31.56	111	217	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
78.33	26.91	48.91	40	-13.09	8.61	0.96	31.57	115	353	Peak
84	28.03	50.53	40	-11.97	8.2	0.99	31.69	103	175	Peak
85.89	24.78	47.33	40	-15.22	8.23	1	31.78	137	288	Peak
726.3	24.27	31.19	46	-21.73	21.19	3.51	31.62	111	353	Peak
755	26.42	32.62	46	-19.58	21.59	3.58	31.37	117	233	Peak
832.7	26.13	31.44	46	-19.87	22.65	3.78	31.74	103	329	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 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	Toby Tian

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
126.66	28.19	47.38	43.5	-15.31	11.48	1.22	31.89	139	108	Peak
130.44	28.55	47.41	43.5	-14.95	11.75	1.25	31.86	133	83	Peak
133.41	28.06	46.64	43.5	-15.44	11.94	1.26	31.78	100	52	Peak
674.5	23.65	31.64	46	-22.35	20.5	3.33	31.82	108	31	Peak
727	25.25	32.15	46	-20.75	21.2	3.51	31.61	118	234	Peak
757.8	25.83	32.02	46	-20.17	21.63	3.59	31.41	114	68	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
79.14	27.96	50.16	40	-12.04	8.37	0.97	31.54	127	242	Peak
81.3	28.71	51.14	40	-11.29	8.15	0.98	31.56	130	358	Peak
84.81	29.61	52.13	40	-10.39	8.22	1	31.74	131	325	Peak
644.4	23.25	31.95	46	-22.75	20.14	3.22	32.06	139	118	Peak
729.1	25.65	32.5	46	-20.35	21.23	3.52	31.6	115	117	Peak
780.9	26.74	32.56	46	-19.26	21.96	3.65	31.43	109	92	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 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	Toby Tian

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
128.55	29.55	48.59	43.5	-13.95	11.61	1.23	31.88	125	37	Peak
132.87	27.02	45.69	43.5	-16.48	11.88	1.26	31.81	129	348	Peak
202.8	25.75	46.38	43.5	-17.75	9.48	1.61	31.72	116	197	Peak
681.5	23.56	31.44	46	-22.44	20.6	3.36	31.84	131	108	Peak
757.1	25.38	31.57	46	-20.62	21.63	3.59	31.41	127	312	Peak
790.7	27.16	32.8	46	-18.84	22.09	3.67	31.4	126	53	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	29.5	51.91	40	-10.5	8.13	0.97	31.51	126	327	Peak
84.54	32.3	54.8	40	-7.7	8.2	0.99	31.69	131	273	Peak
85.62	30.32	52.84	40	-9.68	8.22	1	31.74	110	153	Peak
648.6	24.04	32.63	46	-21.96	20.2	3.24	32.03	129	194	Peak
729.1	24.8	31.65	46	-21.2	21.23	3.52	31.6	114	106	Peak
761.3	25.66	31.82	46	-20.34	21.68	3.6	31.44	129	274	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 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	Toby Tian

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
125.85	27.29	46.54	43.5	-16.21	11.42	1.22	31.89	121	14	Peak
132.33	27.04	45.81	43.5	-16.46	11.81	1.25	31.83	139	88	Peak
201.45	28.12	48.82	43.5	-15.38	9.44	1.6	31.74	127	303	Peak
662.6	24.15	32.41	46	-21.85	20.36	3.29	31.91	120	332	Peak
743.1	25.45	31.91	46	-20.55	21.42	3.55	31.43	122	259	Peak
778.1	26.54	32.38	46	-19.46	21.92	3.64	31.4	132	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
79.68	28.56	50.76	40	-11.44	8.37	0.97	31.54	122	121	Peak
84.81	31.69	54.21	40	-8.31	8.22	1	31.74	133	68	Peak
118.83	27.75	47.53	43.5	-15.75	10.93	1.18	31.89	124	180	Peak
665.4	23.73	31.9	46	-22.27	20.4	3.3	31.87	140	346	Peak
727	25.39	32.29	46	-20.61	21.2	3.51	31.61	109	116	Peak
757.1	25.46	31.65	46	-20.54	21.63	3.59	31.41	107	359	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 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	Toby Tian

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
128.82	28.13	47.17	43.5	-15.37	11.61	1.23	31.88	126	353	Peak
186.87	26.55	46.48	43.5	-16.95	10.26	1.53	31.72	114	67	Peak
201.99	26.86	47.56	43.5	-16.64	9.44	1.6	31.74	108	154	Peak
664.7	23.84	32.04	46	-22.16	20.39	3.3	31.89	106	293	Peak
727.7	25.05	31.95	46	-20.95	21.2	3.51	31.61	101	251	Peak
779.5	26.3	32.14	46	-19.7	21.94	3.65	31.43	134	352	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
79.41	27.94	50.14	40	-12.06	8.37	0.97	31.54	110	259	Peak
84.81	32.68	55.2	40	-7.32	8.22	1	31.74	111	265	Peak
119.64	27.83	47.61	43.5	-15.67	10.93	1.18	31.89	122	264	Peak
643	22.82	31.54	46	-23.18	20.13	3.22	32.07	111	79	Peak
741	24.68	31.2	46	-21.32	21.39	3.55	31.46	129	172	Peak
774.6	26.02	31.88	46	-19.98	21.87	3.63	31.36	124	341	Peak

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

Margin value = Emission level – Limit value



A D T

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	Toby Tian

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
120.18	25.19	44.88	43.5	-18.31	11.02	1.19	31.9	130	229	Peak
129.63	28.03	46.99	43.5	-15.47	11.68	1.24	31.88	120	243	Peak
138.54	26.76	44.86	43.5	-16.74	12.27	1.29	31.66	125	266	Peak
621.3	22.59	31.73	46	-23.41	19.87	3.15	32.16	118	1	Peak
717.2	24.03	31.18	46	-21.97	21.05	3.48	31.68	114	202	Peak
749.4	26.35	32.56	46	-19.65	21.52	3.57	31.3	132	85	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	27.79	49.79	40	-12.21	8.61	0.96	31.57	140	300	Peak
85.35	29.05	51.57	40	-10.95	8.22	1	31.74	118	272	Peak
86.7	22.58	45.13	40	-17.42	8.23	1	31.78	110	260	Peak
669.6	23.42	31.49	46	-22.58	20.44	3.31	31.82	127	223	Peak
700.4	24.47	32.01	46	-21.53	20.82	3.43	31.79	116	112	Peak
744.5	25.57	31.95	46	-20.43	21.45	3.56	31.39	110	29	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 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	Toby Tian

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
125.58	26.89	46.14	43.5	-16.61	11.42	1.22	31.89	106	54	Peak
131.52	28.38	47.15	43.5	-15.12	11.81	1.25	31.83	136	226	Peak
185.52	24.9	44.75	43.5	-18.6	10.39	1.52	31.76	140	9	Peak
627.6	23.26	32.3	46	-22.74	19.94	3.17	32.15	131	252	Peak
679.4	23.3	31.23	46	-22.7	20.56	3.35	31.84	101	120	Peak
731.9	24.8	31.58	46	-21.2	21.27	3.52	31.57	138	21	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
78.6	27.92	49.92	40	-12.08	8.61	0.96	31.57	139	26	Peak
84.54	31.06	53.56	40	-8.94	8.2	0.99	31.69	100	165	Peak
129.63	25.34	44.3	43.5	-18.16	11.68	1.24	31.88	129	205	Peak
661.2	24.07	32.35	46	-21.93	20.35	3.29	31.92	104	33	Peak
716.5	25.08	32.23	46	-20.92	21.05	3.48	31.68	139	272	Peak
767.6	25.71	31.68	46	-20.29	21.76	3.61	31.34	133	215	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 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	Toby Tian

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
128.28	28.5	47.6	43.5	-15	11.55	1.23	31.88	111	13	Peak
187.14	25.85	45.78	43.5	-17.65	10.26	1.53	31.72	109	153	Peak
204.42	25.68	46.19	43.5	-17.82	9.56	1.62	31.69	106	115	Peak
722.8	24.58	31.59	46	-21.42	21.13	3.5	31.64	122	4	Peak
776	26.84	32.69	46	-19.16	21.89	3.64	31.38	106	275	Peak
819.4	26.18	31.56	46	-19.82	22.48	3.74	31.6	138	236	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
79.95	29.33	51.53	40	-10.67	8.37	0.97	31.54	134	41	Peak
84.81	32.24	54.76	40	-7.76	8.22	1	31.74	124	237	Peak
126.93	27.11	46.3	43.5	-16.39	11.48	1.22	31.89	105	166	Peak
652.1	23.4	31.93	46	-22.6	20.23	3.25	32.01	139	353	Peak
747.3	25.78	32.09	46	-20.22	21.48	3.56	31.35	113	263	Peak
804	25.89	31.35	46	-20.11	22.28	3.7	31.44	133	341	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 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	Toby Tian

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
119.91	27.03	46.72	43.5	-16.47	11.02	1.19	31.9	101	307	Peak
129.63	28.31	47.27	43.5	-15.19	11.68	1.24	31.88	103	280	Peak
201.72	27.62	48.32	43.5	-15.88	9.44	1.6	31.74	119	127	Peak
668.9	23.94	32.01	46	-22.06	20.44	3.31	31.82	130	272	Peak
744.5	25.36	31.74	46	-20.64	21.45	3.56	31.39	127	206	Peak
792.8	26.47	32.08	46	-19.53	22.12	3.68	31.41	116	319	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	29.08	51.49	40	-10.92	8.13	0.97	31.51	137	93	Peak
84.81	32.01	54.53	40	-7.99	8.22	1	31.74	100	360	Peak
117.75	27.32	47.29	43.5	-16.18	10.74	1.17	31.88	100	360	Peak
666.8	24.84	32.99	46	-21.16	20.41	3.3	31.86	123	77	Peak
732.6	25.36	32.14	46	-20.64	21.27	3.52	31.57	102	129	Peak
771.1	27.39	33.26	46	-18.61	21.82	3.62	31.31	118	277	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 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	Toby Tian

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
129.09	28.41	47.45	43.5	-15.09	11.61	1.23	31.88	106	103	Peak
187.95	26.97	46.94	43.5	-16.53	10.19	1.54	31.7	103	58	Peak
201.18	27.73	48.48	43.5	-15.77	9.4	1.6	31.75	113	90	Peak
677.3	24.56	32.51	46	-21.44	20.54	3.34	31.83	108	131	Peak
739.6	26.14	32.69	46	-19.86	21.38	3.55	31.48	122	211	Peak
771.8	26.55	32.42	46	-19.45	21.83	3.63	31.33	116	240	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
81.57	29.41	51.84	40	-10.59	8.15	0.98	31.56	129	146	Peak
84.54	32.33	54.83	40	-7.67	8.2	0.99	31.69	105	305	Peak
119.64	27.63	47.41	43.5	-15.87	10.93	1.18	31.89	139	251	Peak
648.6	23.59	32.18	46	-22.41	20.2	3.24	32.03	120	164	Peak
725.6	25.26	32.2	46	-20.74	21.18	3.5	31.62	104	237	Peak
758.5	26.49	32.68	46	-19.51	21.64	3.59	31.42	104	182	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 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	Toby Tian

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
118.02	27.69	47.57	43.5	-15.81	10.83	1.18	31.89	123	205	Peak
127.74	28.39	47.49	43.5	-15.11	11.55	1.23	31.88	126	70	Peak
132.33	26.68	45.45	43.5	-16.82	11.81	1.25	31.83	123	329	Peak
644.4	23.07	31.77	46	-22.93	20.14	3.22	32.06	116	58	Peak
750.1	24.69	30.9	46	-21.31	21.52	3.57	31.3	113	323	Peak
771.8	25.63	31.5	46	-20.37	21.83	3.63	31.33	121	305	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
82.11	30.1	52.56	40	-9.9	8.16	0.98	31.6	117	182	Peak
85.08	33.27	55.79	40	-6.73	8.22	1	31.74	182	185	Peak
127.74	27.09	46.19	43.5	-16.41	11.55	1.23	31.88	112	212	Peak
667.5	23.54	31.66	46	-22.46	20.42	3.31	31.85	128	75	Peak
757.1	25.43	31.62	46	-20.57	21.63	3.59	31.41	135	245	Peak
781.6	26.98	32.78	46	-19.02	21.97	3.65	31.42	150	356	Peak

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

Margin value = Emission level – Limit value



A D T

With MSR& Aux Ant.

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	Toby Tian

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	49.71	54	-5	31.32	5.29	37.32	155	218	Average
5150	63.69	64.4	74	-10.31	31.32	5.29	37.32	155	218	Peak
5180	97.05	97.73			31.35	5.31	37.34	155	218	Average
5180	106.21	106.89			31.35	5.31	37.34	155	218	Peak
5414	38.05	38.28	54	-15.95	31.53	5.42	37.18	155	218	Average
5414	59.72	59.95	74	-14.28	31.53	5.42	37.18	155	218	Peak
10360	50.51	55.33	68.2	-17.69	39.19	8.13	52.14	100	314	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	52.96	53.67	54	-1.04	31.32	5.29	37.32	187	211	Average
5144	65.47	66.18	74	-8.53	31.32	5.29	37.32	187	211	Peak
5180	99.84	100.52			31.35	5.31	37.34	187	211	Average
5180	108.58	109.26			31.35	5.31	37.34	187	211	Peak
5360	38.04	38.35	54	-15.96	31.48	5.39	37.18	187	211	Average
5360	58.78	59.09	74	-15.22	31.48	5.39	37.18	187	211	Peak
10360	50.66	55.48	68.2	-17.54	39.19	8.13	52.14	100	137	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.
- 10360MHz: Out of restricted band



A D T

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	Toby Tian

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	37.93	38.64	54	-16.07	31.31	5.28	37.3	140	208	Average
5130	59.14	59.85	74	-14.86	31.31	5.28	37.3	140	208	Peak
5220	98.09	98.75			31.37	5.33	37.36	140	208	Average
5220	107.24	107.9			31.37	5.33	37.36	140	208	Peak
5438	38.49	38.63	54	-15.51	31.55	5.44	37.13	140	208	Average
5438	58.68	58.82	74	-15.32	31.55	5.44	37.13	140	208	Peak
10440	50.86	55.86	68.2	-17.34	39.29	8.19	52.48	100	338	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	39.56	40.26	54	-14.44	31.31	5.29	37.3	185	209	Average
5138	58.27	58.97	74	-15.73	31.31	5.29	37.3	185	209	Peak
5220	100.78	101.44			31.37	5.33	37.36	185	209	Average
5220	109.67	110.33			31.37	5.33	37.36	185	209	Peak
5404	37.99	38.24	54	-16.01	31.52	5.41	37.18	185	209	Average
5404	58.54	58.79	74	-15.46	31.52	5.41	37.18	185	209	Peak
10440	51.31	56.31	68.2	-16.89	39.29	8.19	52.48	100	70	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.
- 10440MHz: Out of restricted band



A D T

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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5048	38.03	38.79	54	-15.97	31.24	5.25	37.25	104	194	Average
5048	58.52	59.28	74	-15.48	31.24	5.25	37.25	104	194	Peak
5240	98.3	98.89			31.39	5.34	37.32	104	194	Average
5240	107.42	108.01			31.39	5.34	37.32	104	194	Peak
5434	38.3	38.46	54	-15.7	31.55	5.42	37.13	104	194	Average
5434	58.64	58.8	74	-15.36	31.55	5.42	37.13	104	194	Peak
10480	51.99	57.13	68.2	-16.21	39.37	8.2	52.71	100	256	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
5134	38.67	39.38	54	-15.33	31.31	5.28	37.3	184	213	Average
5134	58.76	59.47	74	-15.24	31.31	5.28	37.3	184	213	Peak
5240	100.96	101.55			31.39	5.34	37.32	184	213	Average
5240	109.86	110.45			31.39	5.34	37.32	184	213	Peak
5440	38.25	38.39	54	-15.75	31.55	5.44	37.13	184	213	Average
5440	58.5	58.64	74	-15.5	31.55	5.44	37.13	184	213	Peak
10480	52.28	57.42	68.2	-15.92	39.37	8.2	52.71	100	28	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



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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	Toby Tian

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	62.3	62.21	68.2	-5.9	31.93	5.59	37.43	100	198	Peak
5725	69.9	69.78	78.2	-8.3	31.96	5.59	37.43	100	198	Peak
5745	94.62	94.5			31.99	5.6	37.47	100	198	Average
5745	104.22	104.1			31.99	5.6	37.47	100	198	Peak
5850	57.45	57.15	78.2	-20.75	32.15	5.66	37.51	100	198	Peak
5861	58.4	58.06	68.2	-9.8	32.18	5.66	37.5	100	198	Peak
11490	41.54	45.41	54	-12.46	39.91	9.05	52.83	102	311	Average
11490	52.68	56.55	74	-21.32	39.91	9.05	52.83	102	311	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	63.28	63.19	68.2	-4.92	31.93	5.59	37.43	115	204	Peak
5725	76.42	76.3	78.2	-1.78	31.96	5.59	37.43	115	204	Peak
5745	99.09	98.97			31.99	5.6	37.47	115	204	Average
5745	108.73	108.61			31.99	5.6	37.47	115	204	Peak
5850	57.63	57.33	78.2	-20.57	32.15	5.66	37.51	115	204	Peak
5861	57.95	57.61	68.2	-10.25	32.18	5.66	37.5	115	204	Peak
11490	41.33	45.2	54	-12.67	39.91	9.05	52.83	100	89	Average
11490	51.71	55.58	74	-22.29	39.91	9.05	52.83	100	89	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



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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	Toby Tian

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	59.82	59.73	68.2	-8.38	31.93	5.59	37.43	100	156	Peak
5725	59.96	59.84	78.2	-18.24	31.96	5.59	37.43	100	156	Peak
5785	98.52	98.4			32.04	5.62	37.54	100	156	Average
5785	108.18	108.06			32.04	5.62	37.54	100	156	Peak
5850	58.75	58.45	78.2	-19.45	32.15	5.66	37.51	100	156	Peak
5861	57.65	57.31	68.2	-10.55	32.18	5.66	37.5	100	156	Peak
11570	40.89	45.35	54	-13.11	39.78	9.09	53.33	101	249	Average
11570	51.51	55.97	74	-22.49	39.78	9.09	53.33	101	249	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	59.28	59.19	68.2	-8.92	31.93	5.59	37.43	103	190	Peak
5725	59.17	59.05	78.2	-19.03	31.96	5.59	37.43	103	190	Peak
5785	102.96	102.84			32.04	5.62	37.54	103	190	Average
5785	112.25	112.13			32.04	5.62	37.54	103	190	Peak
5850	59.21	58.91	78.2	-18.99	32.15	5.66	37.51	103	190	Peak
5861	58.42	58.08	68.2	-9.78	32.18	5.66	37.5	103	190	Peak
11570	40.74	45.2	54	-13.26	39.78	9.09	53.33	100	122	Average
11570	50.79	55.25	74	-23.21	39.78	9.09	53.33	100	122	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	Toby Tian

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	57.34	57.25	68.2	-10.86	31.93	5.59	37.43	109	153	Peak
5725	57.59	57.47	78.2	-20.61	31.96	5.59	37.43	109	153	Peak
5825	98.79	98.56			32.12	5.64	37.53	109	153	Average
5825	108.32	108.09			32.12	5.64	37.53	109	153	Peak
5850	74.13	73.83	78.2	-4.07	32.15	5.66	37.51	109	153	Peak
5861	65.79	65.45	68.2	-2.41	32.18	5.66	37.5	109	153	Peak
11650	41.39	45.97	54	-12.61	39.65	9.12	53.35	101	241	Average
11650	52.85	57.43	74	-21.15	39.65	9.12	53.35	101	241	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	104	191	Peak
5725	57.12	57	78.2	-21.08	31.96	5.59	37.43	104	191	Peak
5825	102.8	102.57			32.12	5.64	37.53	104	191	Average
5825	112.33	112.1			32.12	5.64	37.53	104	191	Peak
5850	76.34	76.04	78.2	-1.86	32.15	5.66	37.51	104	191	Peak
5861	67.13	66.79	68.2	-1.07	32.18	5.66	37.5	104	191	Peak
11650	41.33	45.91	54	-12.67	39.65	9.12	53.35	100	47	Average
11650	51.65	56.23	74	-22.35	39.65	9.12	53.35	100	47	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



A D T

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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	48.19	48.9	54	-5.81	31.32	5.29	37.32	144	229	Average
5146	65.19	65.9	74	-8.81	31.32	5.29	37.32	144	229	Peak
5180	96.75	97.43			31.35	5.31	37.34	144	229	Average
5180	106.11	106.79			31.35	5.31	37.34	144	229	Peak
5456	38.17	38.25	54	-15.83	31.56	5.44	37.08	144	229	Average
5456	59.63	59.71	74	-14.37	31.56	5.44	37.08	144	229	Peak
10360	50.83	55.65	68.2	-17.37	39.19	8.13	52.14	100	277	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	52.8	53.51	54	-1.2	31.32	5.29	37.32	186	214	Average
5150	68.55	69.26	74	-5.45	31.32	5.29	37.32	186	214	Peak
5180	99.86	100.54			31.35	5.31	37.34	186	214	Average
5180	108.73	109.41			31.35	5.31	37.34	186	214	Peak
5434	38.02	38.18	54	-15.98	31.55	5.42	37.13	186	214	Average
5434	58.82	58.98	74	-15.18	31.55	5.42	37.13	186	214	Peak
10360	50.25	55.07	68.2	-17.95	39.19	8.13	52.14	100	120	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.
- 10360MHz: Out of restricted band



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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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5068	38.3	39.06	54	-15.7	31.25	5.26	37.27	140	210	Average
5068	58.82	59.58	74	-15.18	31.25	5.26	37.27	140	210	Peak
5220	97.46	98.12			31.37	5.33	37.36	140	210	Average
5220	106.84	107.5			31.37	5.33	37.36	140	210	Peak
5448	38.35	38.48	54	-15.65	31.56	5.44	37.13	140	210	Average
5448	58.37	58.5	74	-15.63	31.56	5.44	37.13	140	210	Peak
10440	50.99	55.99	68.2	-17.21	39.29	8.19	52.48	100	230	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5100	39.21	39.94	54	-14.79	31.28	5.27	37.28	168	215	Average
5100	60.06	60.79	74	-13.94	31.28	5.27	37.28	168	215	Peak
5220	100.41	101.07			31.37	5.33	37.36	168	215	Average
5220	109.38	110.04			31.37	5.33	37.36	168	215	Peak
5352	37.85	38.16	54	-16.15	31.48	5.39	37.18	168	215	Average
5352	59.18	59.49	74	-14.82	31.48	5.39	37.18	168	215	Peak
10440	51.82	56.82	68.2	-16.38	39.29	8.19	52.48	100	32	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.
- 10440MHz: Out of restricted band



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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	Toby Tian

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5126	37.76	38.47	54	-16.24	31.31	5.28	37.3	103	185	Average
5126	58.89	59.6	74	-15.11	31.31	5.28	37.3	103	185	Peak
5240	97.91	98.5			31.39	5.34	37.32	103	185	Average
5240	107.04	107.63			31.39	5.34	37.32	103	185	Peak
5446	38.33	38.46	54	-15.67	31.56	5.44	37.13	103	185	Average
5446	59.76	59.89	74	-14.24	31.56	5.44	37.13	103	185	Peak
10480	51.68	56.82	68.2	-16.52	39.37	8.2	52.71	100	278	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	38.58	39.3	54	-15.42	31.29	5.27	37.28	200	201	Average
5110	58.88	59.6	74	-15.12	31.29	5.27	37.28	200	201	Peak
5240	100.52	101.11			31.39	5.34	37.32	200	201	Average
5240	109.53	110.12			31.39	5.34	37.32	200	201	Peak
5420	37.89	38.12	54	-16.11	31.53	5.42	37.18	200	201	Average
5420	58.89	59.12	74	-15.11	31.53	5.42	37.18	200	201	Peak
10480	51.09	56.23	68.2	-17.11	39.37	8.2	52.71	100	161	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



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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	Toby Tian

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	62.4	62.31	68.2	-5.8	31.93	5.59	37.43	100	199	Peak
5725	71.96	71.84	78.2	-6.24	31.96	5.59	37.43	100	199	Peak
5745	94.9	94.78			31.99	5.6	37.47	100	199	Average
5745	104.62	104.5			31.99	5.6	37.47	100	199	Peak
5850	58.13	57.83	78.2	-20.07	32.15	5.66	37.51	100	199	Peak
5861	59.46	59.12	68.2	-8.74	32.18	5.66	37.5	100	199	Peak
11490	41.52	45.39	54	-12.48	39.91	9.05	52.83	101	298	Average
11490	52.26	56.13	74	-21.74	39.91	9.05	52.83	101	298	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	65.54	65.45	68.2	-2.66	31.93	5.59	37.43	105	196	Peak
5725	76.44	76.32	78.2	-1.76	31.96	5.59	37.43	105	196	Peak
5745	99.37	99.25			31.99	5.6	37.47	105	196	Average
5745	108.78	108.66			31.99	5.6	37.47	105	196	Peak
5850	59.64	59.34	78.2	-18.56	32.15	5.66	37.51	105	196	Peak
5861	58.96	58.62	68.2	-9.24	32.18	5.66	37.5	105	196	Peak
11490	41.29	45.16	54	-12.71	39.91	9.05	52.83	100	109	Average
11490	51.76	55.63	74	-22.24	39.91	9.05	52.83	100	109	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



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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	Toby Tian

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	58.37	58.28	68.2	-9.83	31.93	5.59	37.43	100	150	Peak
5725	57.91	57.79	78.2	-20.29	31.96	5.59	37.43	100	150	Peak
5785	98.37	98.25			32.04	5.62	37.54	100	150	Average
5785	107.82	107.7			32.04	5.62	37.54	100	150	Peak
5850	59.49	59.19	78.2	-18.71	32.15	5.66	37.51	100	150	Peak
5861	58.06	57.72	68.2	-10.14	32.18	5.66	37.5	100	150	Peak
11570	40.75	45.21	54	-13.25	39.78	9.09	53.33	100	306	Average
11570	51.29	55.75	74	-22.71	39.78	9.09	53.33	100	306	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	58.62	58.53	68.2	-9.58	31.93	5.59	37.43	103	195	Peak
5725	58.91	58.79	78.2	-19.29	31.96	5.59	37.43	103	195	Peak
5785	102.55	102.43			32.04	5.62	37.54	103	195	Average
5785	111.65	111.53			32.04	5.62	37.54	103	195	Peak
5850	59.82	59.52	78.2	-18.38	32.15	5.66	37.51	103	195	Peak
5861	58.67	58.33	68.2	-9.53	32.18	5.66	37.5	103	195	Peak
11570	40.71	45.17	54	-13.29	39.78	9.09	53.33	100	44	Average
11570	50.6	55.06	74	-23.4	39.78	9.09	53.33	100	44	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



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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	Toby Tian

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	57.14	57.05	68.2	-11.06	31.93	5.59	37.43	108	151	Peak
5725	58.08	57.96	78.2	-20.12	31.96	5.59	37.43	108	151	Peak
5825	98.18	97.95			32.12	5.64	37.53	108	151	Average
5825	107.69	107.46			32.12	5.64	37.53	108	151	Peak
5850	74.51	74.21	78.2	-3.69	32.15	5.66	37.51	108	151	Peak
5861	65.3	64.96	68.2	-2.9	32.18	5.66	37.5	108	151	Peak
11650	41.29	45.87	54	-12.71	39.65	9.12	53.35	101	288	Average
11650	52.77	57.35	74	-21.23	39.65	9.12	53.35	101	288	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5714	58.25	58.16	68.2	-9.95	31.93	5.59	37.43	103	200	Peak
5725	58.34	58.22	78.2	-19.86	31.96	5.59	37.43	103	200	Peak
5825	102.49	102.26			32.12	5.64	37.53	103	200	Average
5825	111.68	111.45			32.12	5.64	37.53	103	200	Peak
5850	76.48	76.18	78.2	-1.72	32.15	5.66	37.51	103	200	Peak
5861	65.66	65.32	68.2	-2.54	32.18	5.66	37.5	103	200	Peak
11650	41.28	45.86	54	-12.72	39.65	9.12	53.35	100	62	Average
11650	52.18	56.76	74	-21.82	39.65	9.12	53.35	100	62	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



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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	Toby Tian

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
133.14	28.1	46.77	43.5	-15.4	11.88	1.26	31.81	117	166	Peak
186.6	25.5	45.38	43.5	-18	10.33	1.53	31.74	103	288	Peak
200.37	26.22	46.97	43.5	-17.28	9.4	1.6	31.75	131	197	Peak
631.8	23.66	32.62	46	-22.34	19.99	3.18	32.13	127	148	Peak
730.5	24.45	31.28	46	-21.55	21.24	3.52	31.59	131	332	Peak
813.1	25.86	31.24	46	-20.14	22.39	3.73	31.5	130	174	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
84.27	25.01	47.51	40	-14.99	8.2	0.99	31.69	132	199	Peak
122.88	24.47	43.94	43.5	-19.03	11.22	1.2	31.89	105	206	Peak
131.25	25.42	44.28	43.5	-18.08	11.75	1.25	31.86	111	79	Peak
630.4	23.53	32.52	46	-22.47	19.97	3.18	32.14	118	200	Peak
734.7	24.37	31.09	46	-21.63	21.3	3.53	31.55	114	254	Peak
853	27.29	32.44	46	-18.71	22.9	3.83	31.88	114	337	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 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	Toby Tian

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
129.9	27.29	46.25	43.5	-16.21	11.68	1.24	31.88	108	144	Peak
135.3	24.81	43.2	43.5	-18.69	12.08	1.27	31.74	102	188	Peak
203.07	26.25	46.88	43.5	-17.25	9.48	1.61	31.72	114	350	Peak
639.5	22.98	31.79	46	-23.02	20.08	3.21	32.1	135	258	Peak
690.6	23.94	31.68	46	-22.06	20.7	3.4	31.84	136	116	Peak
738.9	25.19	31.77	46	-20.81	21.37	3.54	31.49	138	84	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
79.68	23.85	46.05	40	-16.15	8.37	0.97	31.54	118	103	Peak
118.83	22.86	42.64	43.5	-20.64	10.93	1.18	31.89	103	359	Peak
133.95	22.35	40.93	43.5	-21.15	11.94	1.26	31.78	117	289	Peak
662.6	23.79	32.05	46	-22.21	20.36	3.29	31.91	126	184	Peak
760.6	26.62	32.8	46	-19.38	21.67	3.6	31.45	106	340	Peak
860	26.88	31.93	46	-19.12	23	3.85	31.9	133	359	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 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	Toby Tian

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
133.68	26.89	45.47	43.5	-16.61	11.94	1.26	31.78	101	328	Peak
188.76	24.51	44.54	43.5	-18.99	10.12	1.54	31.69	117	315	Peak
199.56	26.61	47.43	43.5	-16.89	9.36	1.59	31.77	114	112	Peak
604.5	22.3	31.72	46	-23.7	19.66	3.1	32.18	129	73	Peak
708.1	24.15	31.52	46	-21.85	20.93	3.45	31.75	103	27	Peak
770.4	25.95	31.82	46	-20.05	21.81	3.62	31.3	112	331	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
77.25	23.27	45.06	40	-16.73	8.85	0.95	31.59	110	77	Peak
122.61	24.94	44.49	43.5	-18.56	11.15	1.2	31.9	105	168	Peak
130.17	24.43	43.39	43.5	-19.07	11.68	1.24	31.88	125	2	Peak
625.5	23.48	32.54	46	-22.52	19.92	3.17	32.15	105	246	Peak
717.2	24.39	31.54	46	-21.61	21.05	3.48	31.68	133	326	Peak
782.3	25.92	31.71	46	-20.08	21.98	3.65	31.42	112	16	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 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	Toby Tian

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
129.9	27.12	46.08	43.5	-16.38	11.68	1.24	31.88	112	72	Peak
134.76	26.3	44.78	43.5	-17.2	12.01	1.27	31.76	122	257	Peak
198.48	25.5	46.24	43.5	-18	9.43	1.59	31.76	126	351	Peak
673.1	24.03	32.03	46	-21.97	20.49	3.33	31.82	104	2	Peak
731.9	24.55	31.33	46	-21.45	21.27	3.52	31.57	127	166	Peak
777.4	25.87	31.71	46	-20.13	21.92	3.64	31.4	109	288	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
79.14	24.42	46.62	40	-15.58	8.37	0.97	31.54	120	215	Peak
84.54	25.71	48.21	40	-14.29	8.2	0.99	31.69	119	276	Peak
119.1	23.22	43	43.5	-20.28	10.93	1.18	31.89	124	176	Peak
676.6	23.69	31.64	46	-22.31	20.54	3.34	31.83	130	132	Peak
722.1	24.73	31.74	46	-21.27	21.13	3.5	31.64	107	132	Peak
746.6	25.46	31.77	46	-20.54	21.48	3.56	31.35	128	277	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 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	Toby Tian

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
130.17	27.54	46.5	43.5	-15.96	11.68	1.24	31.88	121	335	Peak
133.68	27.67	46.25	43.5	-15.83	11.94	1.26	31.78	134	60	Peak
203.07	25.09	45.72	43.5	-18.41	9.48	1.61	31.72	121	15	Peak
665.4	23.36	31.53	46	-22.64	20.4	3.3	31.87	101	231	Peak
731.9	25.77	32.55	46	-20.23	21.27	3.52	31.57	102	128	Peak
761.3	26.36	32.52	46	-19.64	21.68	3.6	31.44	129	166	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
77.25	23.74	45.53	40	-16.26	8.85	0.95	31.59	124	128	Peak
85.89	23.64	46.19	40	-16.36	8.23	1	31.78	139	16	Peak
118.02	22.25	42.13	43.5	-21.25	10.83	1.18	31.89	134	261	Peak
570.9	21.58	31.7	46	-24.42	18.95	3.01	32.08	124	254	Peak
636.7	24.07	32.94	46	-21.93	20.04	3.2	32.11	118	53	Peak
757.1	25.67	31.86	46	-20.33	21.63	3.59	31.41	126	287	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 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	Toby Tian

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
121.8	25.01	44.56	43.5	-18.49	11.15	1.2	31.9	106	233	Peak
132.06	28.67	47.44	43.5	-14.83	11.81	1.25	31.83	109	168	Peak
185.25	25.47	45.32	43.5	-18.03	10.39	1.52	31.76	128	260	Peak
636.7	23.65	32.52	46	-22.35	20.04	3.2	32.11	110	244	Peak
736.8	25.01	31.64	46	-20.99	21.34	3.54	31.51	118	250	Peak
784.4	26.11	31.86	46	-19.89	22.01	3.66	31.42	100	310	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
76.71	23.61	45.19	40	-16.39	9.09	0.95	31.62	133	162	Peak
119.37	23.22	43	43.5	-20.28	10.93	1.18	31.89	100	318	Peak
135.3	20.19	38.58	43.5	-23.31	12.08	1.27	31.74	121	354	Peak
679.4	23.79	31.72	46	-22.21	20.56	3.35	31.84	112	221	Peak
729.8	26.11	32.96	46	-19.89	21.23	3.52	31.6	136	271	Peak
770.4	25.51	31.38	46	-20.49	21.81	3.62	31.3	140	332	Peak

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

Margin value = Emission level – Limit value



A D T

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	Toby Tian

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
128.28	26.52	45.62	43.5	-16.98	11.55	1.23	31.88	106	263	Peak
132.33	28.85	47.62	43.5	-14.65	11.81	1.25	31.83	109	267	Peak
204.15	24.41	44.92	43.5	-19.09	9.56	1.62	31.69	137	181	Peak
732.6	24.35	31.13	46	-21.65	21.27	3.52	31.57	101	8	Peak
782.3	26.91	32.7	46	-19.09	21.98	3.65	31.42	124	135	Peak
833.4	26.1	31.41	46	-19.9	22.65	3.78	31.74	124	190	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
85.89	24.11	46.66	40	-15.89	8.23	1	31.78	125	359	Peak
119.1	23.05	42.83	43.5	-20.45	10.93	1.18	31.89	110	102	Peak
134.22	21.58	40.16	43.5	-21.92	11.94	1.26	31.78	109	279	Peak
666.8	23.58	31.73	46	-22.42	20.41	3.3	31.86	100	169	Peak
721.4	24.85	31.89	46	-21.15	21.12	3.49	31.65	100	117	Peak
762.7	25.87	31.99	46	-20.13	21.7	3.6	31.42	102	197	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 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	Toby Tian

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
129.9	27.36	46.32	43.5	-16.14	11.68	1.24	31.88	106	32	Peak
135.3	25.48	43.87	43.5	-18.02	12.08	1.27	31.74	133	54	Peak
199.02	25.13	45.87	43.5	-18.37	9.43	1.59	31.76	128	91	Peak
615.7	22.88	32.07	46	-23.12	19.8	3.14	32.13	108	33	Peak
726.3	24.37	31.29	46	-21.63	21.19	3.51	31.62	104	72	Peak
774.6	26.43	32.29	46	-19.57	21.87	3.63	31.36	105	110	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
85.35	23.88	46.4	40	-16.12	8.22	1	31.74	132	112	Peak
118.83	22.65	42.43	43.5	-20.85	10.93	1.18	31.89	117	146	Peak
133.14	23.5	42.17	43.5	-20	11.88	1.26	31.81	103	261	Peak
657	23.22	31.63	46	-22.78	20.29	3.27	31.97	113	137	Peak
727	24.87	31.77	46	-21.13	21.2	3.51	31.61	117	28	Peak
778.1	25.9	31.74	46	-20.1	21.92	3.64	31.4	101	155	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 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	Toby Tian

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
129.9	27.54	46.5	43.5	-15.96	11.68	1.24	31.88	101	199	Peak
133.95	27.14	45.72	43.5	-16.36	11.94	1.26	31.78	129	293	Peak
198.48	24.79	45.53	43.5	-18.71	9.43	1.59	31.76	110	84	Peak
662.6	23.12	31.38	46	-22.88	20.36	3.29	31.91	129	284	Peak
724.2	26.71	33.68	46	-19.29	21.16	3.5	31.63	131	340	Peak
777.4	25.89	31.73	46	-20.11	21.92	3.64	31.4	122	92	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
76.71	22.73	44.31	40	-17.27	9.09	0.95	31.62	112	33	Peak
122.07	24.82	44.37	43.5	-18.68	11.15	1.2	31.9	119	207	Peak
132.06	25.55	44.32	43.5	-17.95	11.81	1.25	31.83	113	334	Peak
677.3	23.78	31.73	46	-22.22	20.54	3.34	31.83	126	174	Peak
739.6	24.69	31.24	46	-21.31	21.38	3.55	31.48	134	314	Peak
769.7	26.06	31.93	46	-19.94	21.81	3.62	31.3	121	280	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 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	Toby Tian

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
119.91	24.06	43.75	43.5	-19.44	11.02	1.19	31.9	122	346	Peak
129.09	27.19	46.23	43.5	-16.31	11.61	1.23	31.88	100	354	Peak
134.76	25.51	43.99	43.5	-17.99	12.01	1.27	31.76	128	240	Peak
666.1	23.85	32	46	-22.15	20.41	3.3	31.86	138	350	Peak
741.7	25.23	31.71	46	-20.77	21.41	3.55	31.44	120	37	Peak
773.9	25.66	31.52	46	-20.34	21.86	3.63	31.35	122	315	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
78.06	24.27	46.27	40	-15.73	8.61	0.96	31.57	100	333	Peak
120.18	24.99	44.68	43.5	-18.51	11.02	1.19	31.9	133	330	Peak
130.98	25.68	44.54	43.5	-17.82	11.75	1.25	31.86	115	303	Peak
665.4	23.55	31.72	46	-22.45	20.4	3.3	31.87	135	36	Peak
724.9	24.61	31.58	46	-21.39	21.16	3.5	31.63	111	198	Peak
761.3	25.39	31.55	46	-20.61	21.68	3.6	31.44	131	5	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 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	Toby Tian

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
120.99	25.51	45.13	43.5	-17.99	11.09	1.19	31.9	122	84	Peak
129.9	27.44	46.4	43.5	-16.06	11.68	1.24	31.88	119	5	Peak
135.03	24.97	43.45	43.5	-18.53	12.01	1.27	31.76	110	67	Peak
650	23.71	32.28	46	-22.29	20.21	3.24	32.02	137	329	Peak
729.8	26.13	32.98	46	-19.87	21.23	3.52	31.6	140	50	Peak
757.8	25.89	32.08	46	-20.11	21.63	3.59	31.41	103	233	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
122.07	25.62	45.17	43.5	-17.88	11.15	1.2	31.9	117	165	Peak
132.6	24.51	43.18	43.5	-18.99	11.88	1.26	31.81	126	350	Peak
187.41	22.92	42.85	43.5	-20.58	10.26	1.53	31.72	110	326	Peak
665.4	23.48	31.65	46	-22.52	20.4	3.3	31.87	128	228	Peak
701.8	24.32	31.81	46	-21.68	20.85	3.44	31.78	140	144	Peak
744.5	24.72	31.1	46	-21.28	21.45	3.56	31.39	112	115	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 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	Toby Tian

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
128.28	26.05	45.15	43.5	-17.45	11.55	1.23	31.88	138	145	Peak
133.95	27.02	45.6	43.5	-16.48	11.94	1.26	31.78	130	175	Peak
186.87	25.46	45.39	43.5	-18.04	10.26	1.53	31.72	123	192	Peak
657.7	23.34	31.73	46	-22.66	20.3	3.27	31.96	140	247	Peak
741.7	25.86	32.34	46	-20.14	21.41	3.55	31.44	124	220	Peak
771.8	25.81	31.68	46	-20.19	21.83	3.63	31.33	104	322	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
84.54	25.2	47.7	40	-14.8	8.2	0.99	31.69	104	232	Peak
120.18	24.61	44.3	43.5	-18.89	11.02	1.19	31.9	115	352	Peak
132.06	25.04	43.81	43.5	-18.46	11.81	1.25	31.83	132	113	Peak
672.4	23.61	31.62	46	-22.39	20.48	3.33	31.82	118	143	Peak
732.6	25.43	32.21	46	-20.57	21.27	3.52	31.57	122	354	Peak
792.8	26.66	32.27	46	-19.34	22.12	3.68	31.41	118	143	Peak

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

Margin value = Emission level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE:

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

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Apr. 24, 2014	Apr. 23, 2015
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 27, 2013	Dec. 26, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 23, 2013	Dec. 22, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 10, 2014	Jul. 09, 2015
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 TEST PROCEDURES

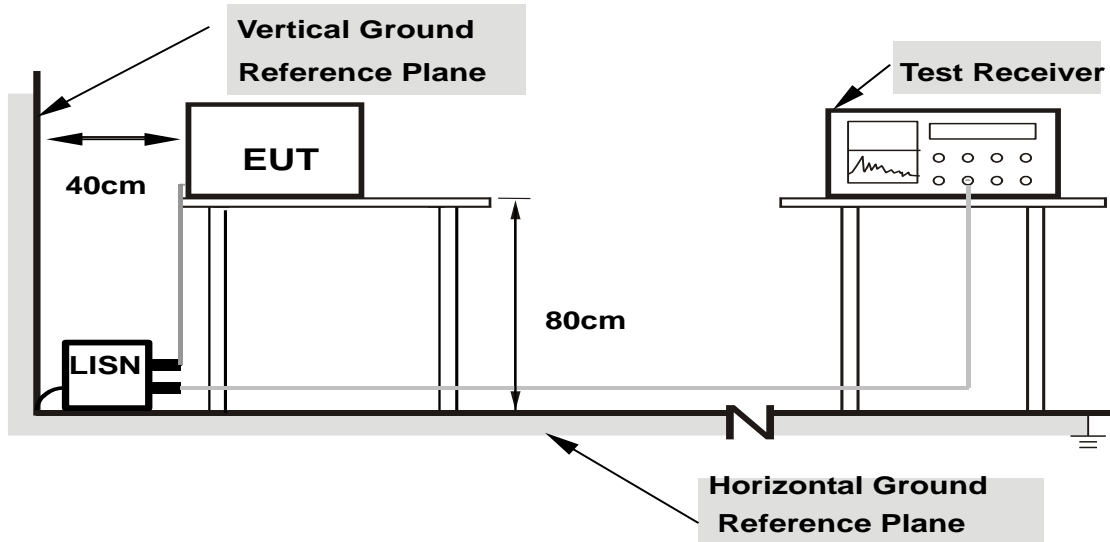
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as section 4.1.6.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA :

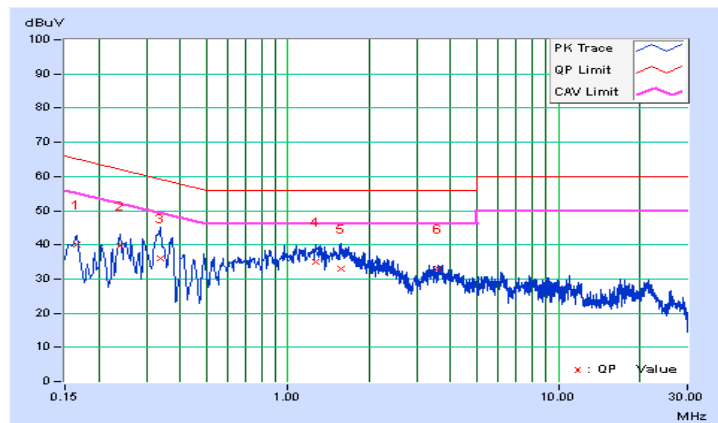
Without MSR

PHASE	Line 1	6dB BANDWIDTH	9kHz
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16526	0.05	39.95	30.27	40.00	30.32	65.20	55.20	-25.19	-24.87
2	0.23993	0.06	39.81	27.63	39.87	27.69	62.10	52.10	-22.23	-24.41
3	0.33750	0.06	35.91	19.96	35.97	20.02	59.26	49.26	-23.29	-29.24
4	1.26826	0.09	34.86	28.32	34.95	28.41	56.00	46.00	-21.05	-17.59
5	1.56933	0.10	33.04	20.45	33.14	20.55	56.00	46.00	-22.86	-25.45
6	3.60253	0.18	32.90	20.92	33.08	21.10	56.00	46.00	-22.92	-24.90

Remarks:

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





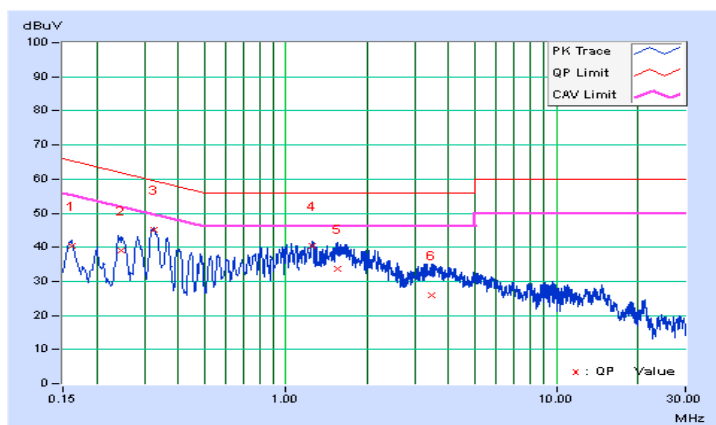
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PHASE	Line 2	6dB BANDWIDTH	9kHz
--------------	--------	----------------------	------

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16139	0.05	40.24	33.37	40.29	33.42	65.39	55.39	-25.10	-21.97
2	0.24775	0.05	38.96	28.20	39.01	28.25	61.83	51.83	-22.82	-23.58
3	0.32442	0.06	45.02	42.24	45.08	42.30	59.59	49.59	-14.52	-7.30
4	1.24871	0.09	40.44	29.88	40.53	29.97	56.00	46.00	-15.47	-16.03
5	1.54978	0.10	33.43	19.73	33.53	19.83	56.00	46.00	-22.47	-26.17
6	3.46959	0.17	25.87	17.97	26.04	18.14	56.00	46.00	-29.96	-27.86

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



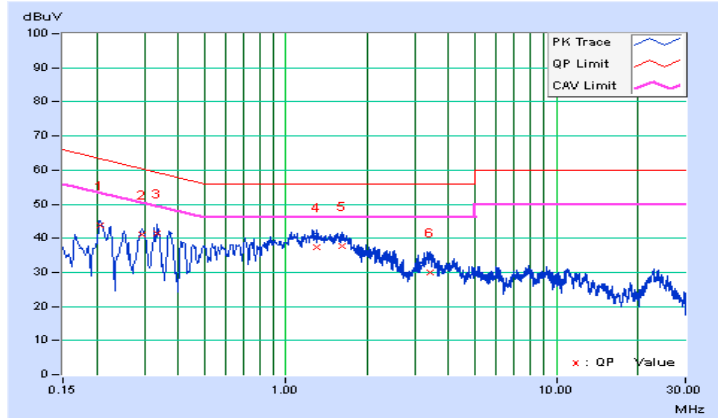
With MSR

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20511	0.06	43.55	31.10	43.61	31.16	63.40	53.40	-19.79	-22.24
2	0.29467	0.06	40.91	36.05	40.97	36.11	60.39	50.39	-19.42	-14.28
3	0.33396	0.06	41.25	34.81	41.31	34.87	59.35	49.35	-18.04	-14.48
4	1.30345	0.09	37.42	30.33	37.51	30.42	56.00	46.00	-18.49	-15.58
5	1.61234	0.10	37.60	27.40	37.70	27.50	56.00	46.00	-18.30	-18.50
6	3.41876	0.17	29.89	22.73	30.06	22.90	56.00	46.00	-25.94	-23.10

Remarks:

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





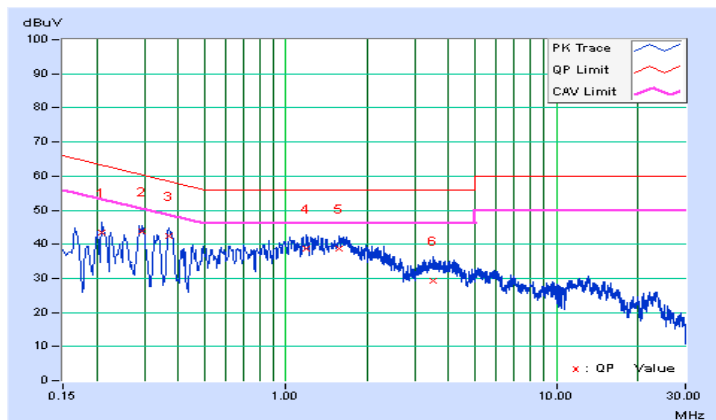
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PHASE	Line 2	6dB BANDWIDTH	9kHz
--------------	--------	----------------------	------

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20865	0.05	43.50	31.98	43.55	32.03	63.26	53.26	-19.71	-21.23
2	0.29506	0.05	43.62	37.42	43.67	37.47	60.38	50.38	-16.71	-12.91
3	0.36913	0.06	42.34	36.33	42.40	36.39	58.52	48.52	-16.12	-12.13
4	1.18608	0.09	38.49	27.92	38.58	28.01	56.00	46.00	-17.42	-17.99
5	1.56933	0.10	38.62	29.12	38.72	29.22	56.00	46.00	-17.28	-16.78
6	3.48914	0.17	29.12	23.02	29.29	23.19	56.00	46.00	-26.71	-22.81

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

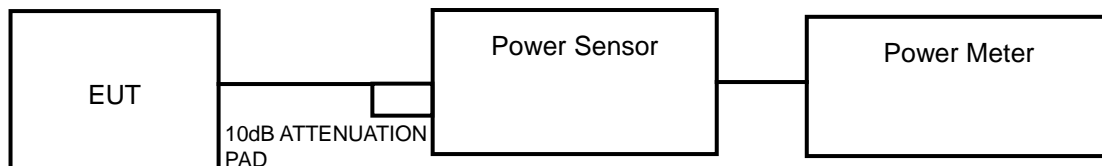
4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

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)

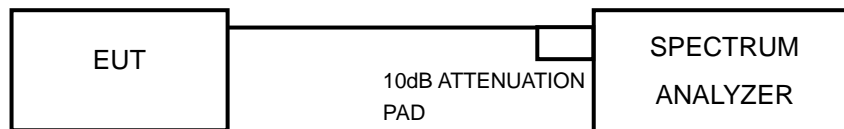
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

<802.11a, 802.11n (20MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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



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4.3.7 TEST RESULTS

POWER OUTPUT

802.11a

Main Ant.

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
36	5180	17.98	17.92	17.94	17.90	17.88	17.86	17.89	17.84
44	5220	18.31	18.28	18.29	18.30	18.27	18.24	18.27	18.23
48	5240	18.40	18.37	18.39	18.38	18.27	18.26	18.26	18.22
149	5745	16.36	16.35	16.34	16.35	16.24	16.33	16.28	16.22
157	5785	18.90	18.87	18.86	18.87	18.80	18.72	18.74	18.83
165	5825	18.92	18.83	18.89	18.83	18.74	18.68	18.76	18.77

Aux Ant.

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
36	5180	18.07	17.96	18.06	18.02	18.04	17.99	17.96	18.01
44	5220	18.36	18.35	18.34	18.30	18.21	18.17	18.21	18.24
48	5240	18.17	18.14	18.15	18.15	18.15	18.07	18.15	18.14
149	5745	16.20	16.12	16.20	16.18	16.19	16.08	16.09	16.12
157	5785	18.70	18.61	18.60	18.56	18.43	18.56	18.49	18.50
165	5825	18.66	18.65	18.52	18.53	18.54	18.55	18.53	18.57

CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	62.81	17.98	24	PASS
44	5220	67.76	18.31	24	PASS
48	5240	69.18	18.40	24	PASS
149	5745	43.25	16.36	30	PASS
157	5785	77.62	18.90	30	PASS
165	5825	77.98	18.92	30	PASS



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802.11n (20MHz)

Main Ant.

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
36	5180	17.10	17.04	16.96	17.02	17.04	17.04	16.88	17.02
44	5220	17.93	17.85	17.87	17.88	17.83	17.83	17.82	17.86
48	5240	17.99	17.96	17.84	17.95	17.97	17.87	17.87	17.96
149	5745	16.28	16.27	16.22	16.18	16.20	16.26	16.20	16.22
157	5785	18.46	18.43	18.44	18.33	18.44	18.29	18.35	18.41
165	5825	18.44	18.41	18.41	18.43	18.30	18.32	18.34	18.29

Aux Ant.

CHANNEL	FREQUENCY (MHz)	DATA RATE							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
36	5180	17.15	17.12	17.14	17.14	17.09	17.12	17.14	17.11
44	5220	17.86	17.74	17.78	17.80	17.82	17.81	17.77	17.84
48	5240	17.89	17.83	17.74	17.73	17.75	17.73	17.73	17.80
149	5745	16.18	16.02	15.99	16.11	16.15	16.02	16.02	16.17
157	5785	18.21	18.14	18.20	18.16	18.14	18.14	18.09	18.17
165	5825	18.14	18.13	18.12	18.13	18.07	18.10	17.97	18.13

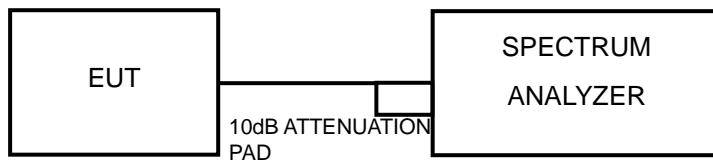
CHANNEL	CHANNEL FREQUENCY (MHz)	MAX. CONDUCTED POWER (mW)	MAX. CONDUCTED POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	51.29	17.10	24	PASS
44	5220	62.09	17.93	24	PASS
48	5240	62.95	17.99	24	PASS
149	5745	42.46	16.28	30	PASS
157	5785	70.15	18.46	30	PASS
165	5825	69.82	18.44	30	PASS

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:

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 kHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value



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Using method SA-1 alternative

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

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.



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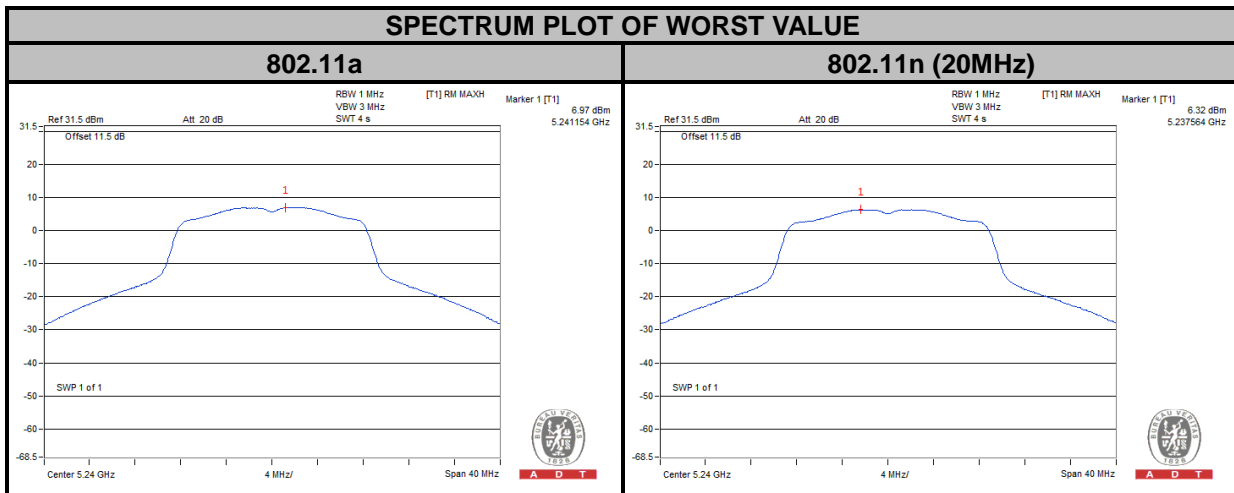
4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	6.27	11	PASS
44	5220	6.86	11	PASS
48	5240	6.97	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	5.10	11	PASS
44	5220	6.13	11	PASS
48	5240	6.32	11	PASS





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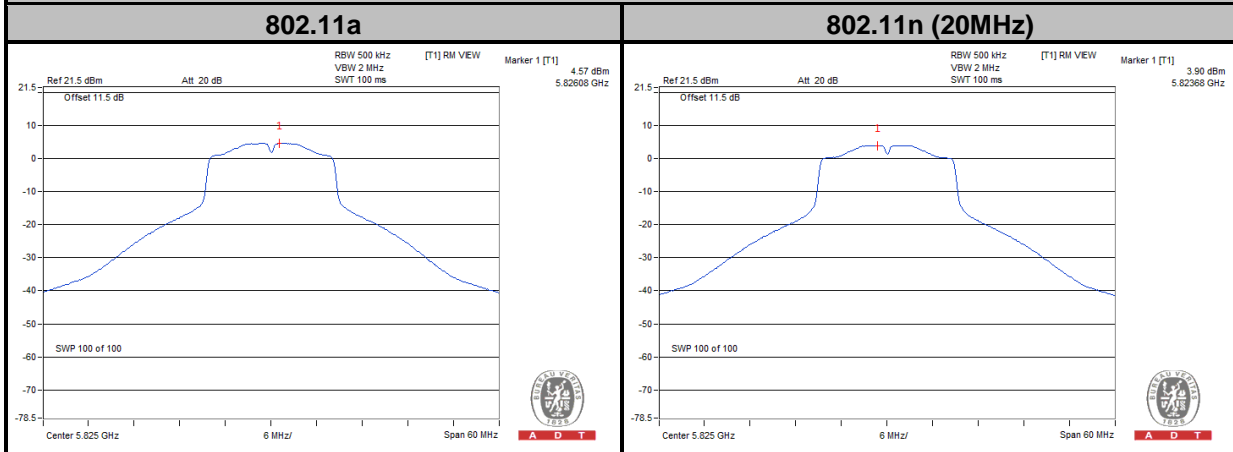
802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	LIMIT (dBm/500kHz)	PASS/FAIL
149	5745	1.74	0.05	1.74	30	PASS
157	5785	4.21	0.05	4.21	30	PASS
165	5825	4.57	0.05	4.57	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	LIMIT (dBm/500kHz)	PASS/FAIL
149	5745	1.39	0.06	1.39	30	PASS
157	5785	3.78	0.06	3.78	30	PASS
165	5825	3.90	0.06	3.90	30	PASS

SPECTRUM PLOT OF WORST VALUE

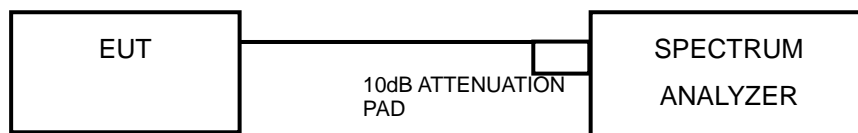


4.5 6dB BANDWIDTH MEASUREMENT

4.5.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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

- 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.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 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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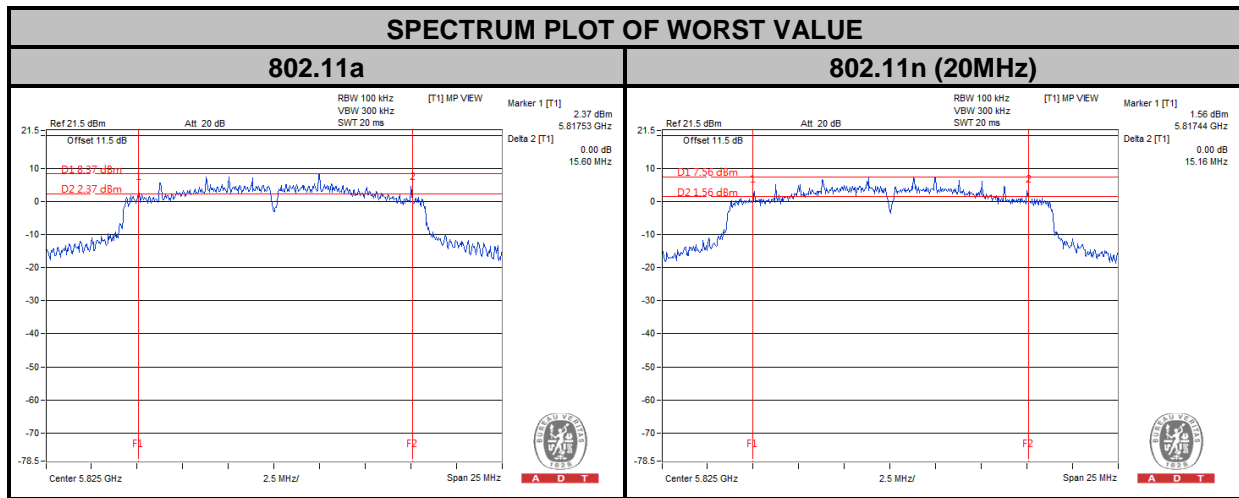
4.5.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.12	0.5	PASS
157	5785	15.13	0.5	PASS
165	5825	15.60	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	13.93	0.5	PASS
157	5785	15.13	0.5	PASS
165	5825	15.16	0.5	PASS





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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

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

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

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Hsin Chu EMC/RF/Telecom Lab:

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Web Site: www.bureauveritas-adt.com

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



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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---