



FCC TEST REPORT (15.407)

REPORT NO.: RF130403C25C

MODEL NO.: XT85

FCC ID: UTWXT85WA

RECEIVED: Apr. 03, 2013

TESTED: Apr. 13 ~ Jun. 28, 2013

ISSUED: Jul. 01, 2013

APPLICANT: Janam Technologies LLC

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

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Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130403C25C	Original release	Jul. 01, 2013



1. CERTIFICATION

PRODUCT: Portable Data Terminal

MODEL: XT85

BRAND: JANAM

APPLICANT: Janam Technologies LLC

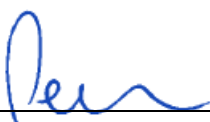
TESTED: Apr. 13 ~ Jun. 28, 2013

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (model: XT85) 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 :  , **DATE :** Jul. 01, 2013
Pettie Chen / Senior Specialist

APPROVED BY :  , **DATE :** Jul. 01, 2013
Ken Liu / Senior Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5350MHz, 5470MHz and 5725MHz.
15.407(b)(1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.7dB at 5725.00MHz.
15.407(a)(1/2)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a)(1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Portable Data Terminal
MODEL NO.	XT85
POWER SUPPLY	3.7Vdc (Battery) 5.0Vdc (Adapter or host equipment)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 72.2Mbps
OPERATING FREQUENCY	5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz)
OUTPUT POWER	5.248mW for 5260 ~ 5320MHz 16.982mW for 5500 ~ 5700MHz
ANTENNA TYPE	5260 ~ 5320MHz: PIFA antenna with 2.50dBi gain 5500 ~ 5700MHz: PIFA antenna with 2.64dBi gain
ANTENNA CONNECTOR	N/A
DATA CABLE	Refer to Note
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note

NOTE:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of BV ADT report no.: RF130403C25-1. Difference compared with the original report is adding 5260~5320MHz and 5500~5700MHz band. Therefore, the EUT was re-tested and presented in the test report.
2. The EUT provides one completed transmitter and one receiver.

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

3. There are two types of barcode scanners for the EUT: 1D & 2D. After pretesting, 2D is the worst for the final test.
4. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
AC Adapter	Sunny	SYS1460-1005	I/P: 100-240Vac, 1.0A, 50-60Hz O/P: 5.0Vdc, 2.0A
Battery 1	JANAM	BAT-T1-001	Rating: 3.7Vdc, 2400mAh
Battery 2	JANAM	BAT-T21-001	Rating: 3.7Vdc, 3600mAh
USB cable	JANAM	NA	1.2m non-shielded cable without core

*After pretesting, Battery 1 was the worst case for the final test.

5. The following support units provided by client.

ITEM	BRAND	MODEL	SPECIFICATION
AC Adapter	EDAC	EA10302	I/P: 100-240Vac, 1.0A, 50-60Hz O/P: 9.0Vdc, 3.0A 1.2m non-shielded cable with one core
USB Host Cable	JANAM	NA	1.2m non-shielded cable with one core
USB Client Cable	JANAM	NA	1.2m non-shielded cable with one core
Power cord	JANAM	NA	2.0m non-shielded cable without core

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

3.2 DESCRIPTION OF TEST MODES

FOR 5260 ~ 5320MHz

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

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

FOR 5500 ~ 5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter model: EA10302
B	-	-	√	-	Power from adapter model: SYS1460-1005

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	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5260-5700	52 to 140	140	OFDM	BPSK	6.0

POWER LINE CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	5260-5700	52 to 140	140	OFDM	BPSK	6.0

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	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5

TEST CONDITION:

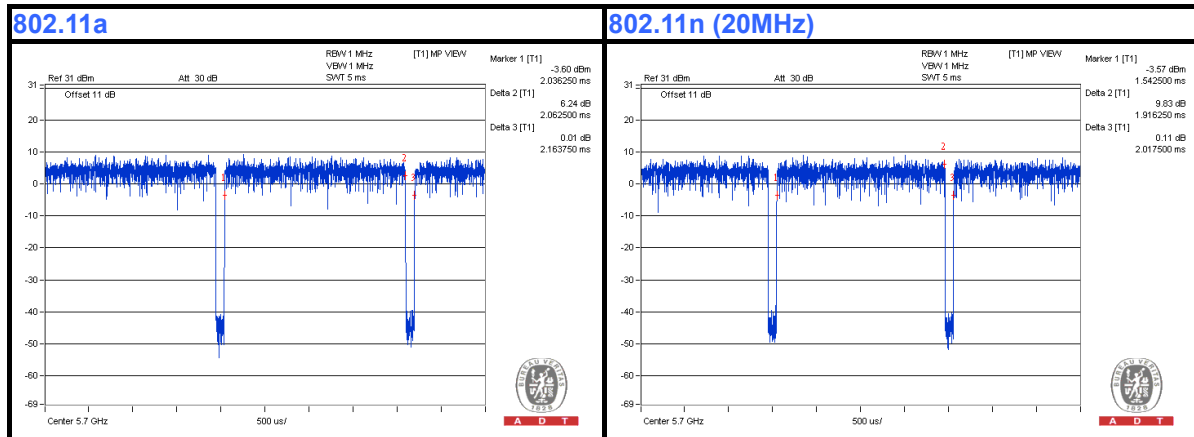
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE \geq 1G	25deg. C, 65%RH	120Vac, 60Hz	Brad Tung
RE<1G	25deg. C, 69%RH	120Vac, 60Hz	Brad Tung
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jun Wu

3.3 DUTY CYCLE OF TEST SIGNAL

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

802.11a: Duty cycle = 2.0625/2.16375 = 0.953, Duty factor = $10 * \log(1/0.953) = 0.21$

802.11n (20MHz): Duty cycle = 1.91625/2.0175 = 0.950, Duty factor = $10 * \log(1/0.950) = 0.22$



3.4 DESCRIPTION OF SUPPORT UNITS

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

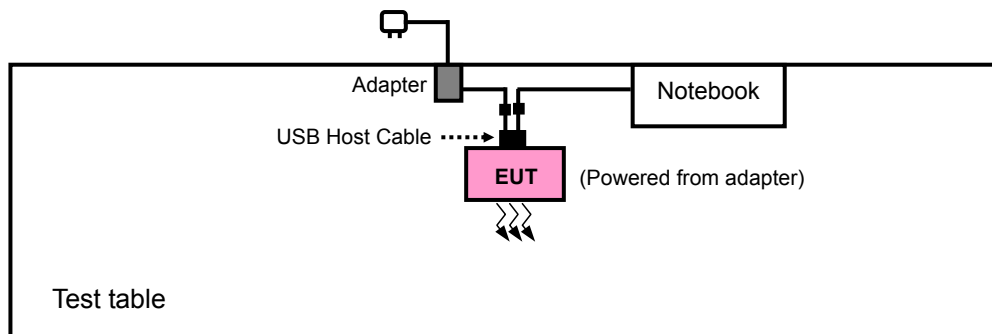
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5420	33MLMQ1	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.2m USB host cable with one core (Provided by client)

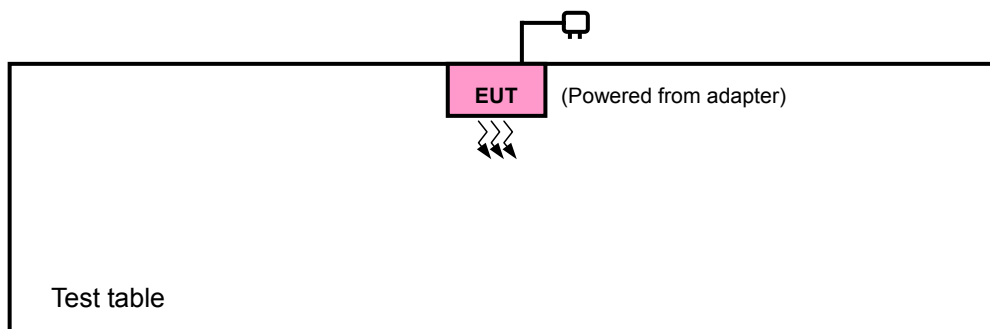
NOTE: All power cords of the above support units are non shielded (1.8m).

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST

Test Mode A



Test Mode B



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 D01 General UNII Test Procedures v01 r03

662911 D01 Multiple Transmitter Output v01 r02

ANSI C63.10-2009

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

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

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

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



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4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jan. 31, 2013	Jan. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Mar. 20, 2013	Mar. 19, 2014
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/4	Aug. 28, 2012	Aug. 27, 2013
Software BV ADT	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 25, 2012	Oct. 24, 2013
High Speed Peak Power Meter	ML2495A	0824012	Aug. 22, 2012	Aug. 21, 2013
Power Sensor	MA2411B	0738171	Jul. 30, 2012	Jul. 29, 2013
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 13, 2012	Jun. 12, 2013

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 3.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 988962.
 5. The IC Site Registration No. is IC 7450F-3.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

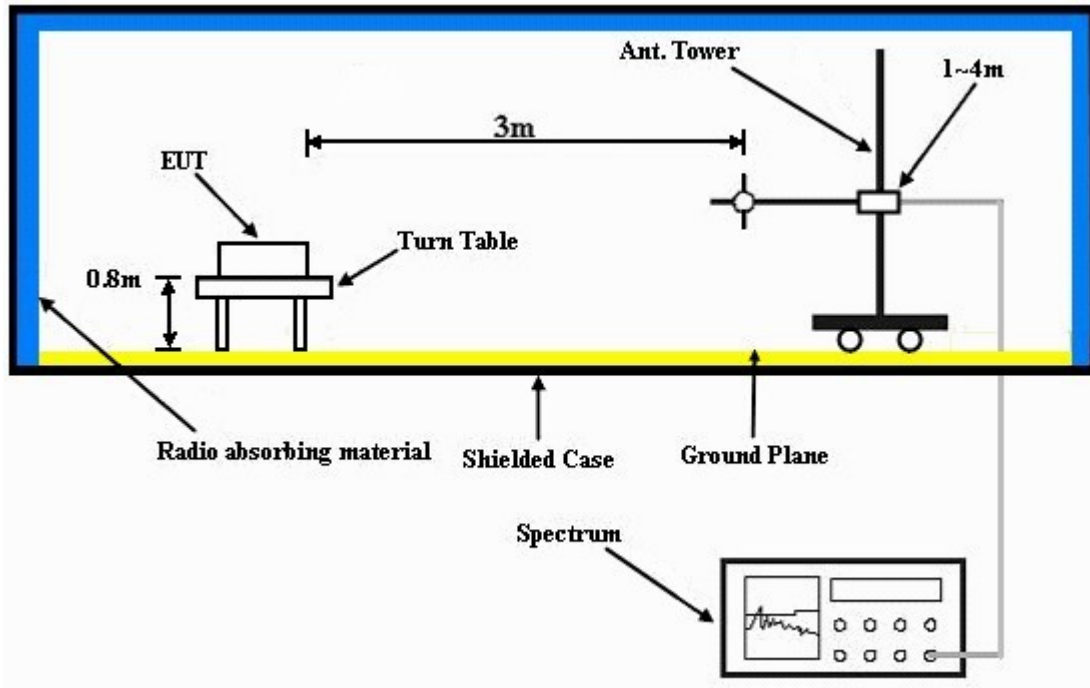
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection 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



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

4.1.7 EUT OPERATING CONDITION

- a. Connected EUT with a notebook system via USB cable and placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.



4.1.8 TEST RESULTS

ABOVE 1GHz DATA :

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	103.6 PK			1.45 H	89	65.70	37.90
2	*5260.00	93.5 AV			1.45 H	89	55.60	37.90
3	5420.00	60.2 PK	74.0	-13.8	1.24 H	285	22.10	38.10
4	5420.00	47.2 AV	54.0	-6.8	1.24 H	285	9.10	38.10
5	#10520.00	57.6 PK	74.0	-16.4	1.06 H	241	8.40	49.20
6	#10520.00	47.8 AV	54.0	-6.2	1.06 H	241	-1.40	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	113.1 PK			1.08 V	70	75.20	37.90
2	*5260.00	103.2 AV			1.08 V	70	65.30	37.90
3	5420.00	62.8 PK	74.0	-11.2	1.21 V	41	24.70	38.10
4	5420.00	51.8 AV	54.0	-2.2	1.21 V	41	13.70	38.10
5	#10520.00	58.4 PK	74.0	-15.6	1.24 V	278	9.20	49.20
6	#10520.00	47.5 AV	54.0	-6.5	1.24 V	278	-1.70	49.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#“:The radiated frequency is out the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.7 PK			1.48 H	77	67.80	37.90
2	*5300.00	95.3 AV			1.48 H	77	57.40	37.90
3	5460.00	56.7 PK	74.0	-17.3	1.04 H	252	18.50	38.20
4	5460.00	46.2 AV	54.0	-7.8	1.04 H	252	8.00	38.20
5	10600.00	57.8 PK	74.0	-16.2	1.08 H	232	8.60	49.20
6	10600.00	47.2 AV	54.0	-6.8	1.08 H	232	-2.00	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.2 PK			1.09 V	68	75.30	37.90
2	*5300.00	102.9 AV			1.09 V	68	65.00	37.90
3	5460.00	60.9 PK	74.0	-13.1	1.18 V	37	22.70	38.20
4	5460.00	51.7 AV	54.0	-2.3	1.18 V	37	13.50	38.20
5	10600.00	58.9 PK	74.0	-15.1	1.35 V	47	9.70	49.20
6	10600.00	48.0 AV	54.0	-6.0	1.35 V	47	-1.20	49.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.7 PK			1.24 H	58	69.70	38.00
2	*5320.00	97.2 AV			1.24 H	58	59.20	38.00
3	5350.00	63.6 PK	74.0	-10.4	1.38 H	63	25.60	38.00
4	5350.00	48.1 AV	54.0	-5.9	1.38 H	63	10.10	38.00
5	#5480.00	56.9 PK	74.0	-17.1	1.32 H	102	18.70	38.20
6	#5480.00	47.0 AV	54.0	-7.0	1.32 H	102	8.80	38.20
7	10640.00	58.8 PK	74.0	-15.2	1.02 H	247	9.50	49.30
8	10640.00	47.8 AV	54.0	-6.2	1.02 H	247	-1.50	49.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.2 PK			1.11 V	39	75.20	38.00
2	*5320.00	103.2 AV			1.11 V	39	65.20	38.00
3	5350.00	68.5 PK	74.0	-5.5	1.12 V	82	30.50	38.00
4	5350.00	52.8 AV	54.0	-1.2	1.12 V	82	14.80	38.00
5	#5480.00	59.3 PK	74.0	-14.7	1.24 V	56	21.10	38.20
6	#5480.00	49.0 AV	54.0	-5.0	1.24 V	56	10.80	38.20
7	10640.00	58.7 PK	74.0	-15.3	1.28 V	58	9.40	49.30
8	10640.00	47.9 AV	54.0	-6.1	1.28 V	58	-1.40	49.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.1 PK	74.0	-18.9	1.20 H	58	16.90	38.20
2	5460.00	37.1 AV	54.0	-16.9	1.20 H	58	-1.10	38.20
3	#5470.00	58.6 PK	74.0	-15.4	1.20 H	58	20.40	38.20
4	#5470.00	40.8 AV	54.0	-13.2	1.20 H	58	2.60	38.20
5	*5500.00	107.5 PK			1.09 H	58	69.30	38.20
6	*5500.00	97.8 AV			1.09 H	58	59.60	38.20
7	11000.00	59.1 PK	74.0	-14.9	1.04 H	228	9.40	49.70
8	11000.00	48.2 AV	54.0	-5.8	1.04 H	228	-1.50	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.0	-16.2	1.07 V	41	19.60	38.20
2	5460.00	42.1 AV	54.0	-11.9	1.07 V	41	3.90	38.20
3	#5470.00	64.3 PK	74.0	-9.7	1.07 V	41	26.10	38.20
4	#5470.00	47.3 AV	54.0	-6.7	1.07 V	41	9.10	38.20
5	*5500.00	113.1 PK			1.00 V	21	74.90	38.20
6	*5500.00	103.2 AV			1.00 V	21	65.00	38.20
7	11000.00	59.5 PK	74.0	-14.5	1.31 V	35	9.80	49.70
8	11000.00	48.6 AV	54.0	-5.4	1.31 V	35	-1.10	49.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	105.2 PK			1.42 H	98	66.80	38.40
2	*5580.00	95.0 AV			1.42 H	98	56.60	38.40
3	#5740.00	57.2 PK	74.0	-16.8	1.12 H	234	18.50	38.70
4	#5740.00	46.8 AV	54.0	-7.2	1.12 H	234	8.10	38.70
5	11160.00	57.6 PK	74.0	-16.4	1.02 H	241	7.90	49.70
6	11160.00	46.8 AV	54.0	-7.2	1.02 H	241	-2.90	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	113.0 PK			1.04 V	48	74.60	38.40
2	*5580.00	103.4 AV			1.04 V	48	65.00	38.40
3	#5740.00	61.6 PK	74.0	-12.4	1.23 V	41	22.90	38.70
4	#5740.00	50.9 AV	54.0	-3.1	1.23 V	41	12.20	38.70
5	11160.00	59.6 PK	74.0	-14.4	1.28 V	54	9.90	49.70
6	11160.00	48.8 AV	54.0	-5.2	1.28 V	54	-0.90	49.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
6. "#":The radiated frequency is out the restricted band.
4. Margin value = Emission Level – Limit value



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	106.3 PK			1.22 H	42	67.60	38.70
2	*5700.00	96.0 AV			1.22 H	42	57.30	38.70
3	#5725.00	67.9 PK	74.0	-6.1	1.18 H	46	29.20	38.70
4	#5725.00	49.0 AV	54.0	-5.0	1.18 H	46	10.30	38.70
5	#5860.00	59.6 PK	74.0	-14.4	1.37 H	56	20.70	38.90
6	#5860.00	47.7 AV	54.0	-6.3	1.37 H	56	8.80	38.90
7	11400.00	59.1 PK	74.0	-14.9	1.02 H	248	9.60	49.50
8	11400.00	48.4 AV	54.0	-5.6	1.02 H	248	-1.10	49.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.4 PK			1.18 V	57	72.70	38.70
2	*5700.00	101.6 AV			1.18 V	57	62.90	38.70
3	#5725.00	70.8 PK	74.0	-3.2	1.06 V	21	32.10	38.70
4	#5725.00	53.0 AV	54.0	-1.0	1.06 V	21	14.30	38.70
5	#5860.00	56.3 PK	74.0	-17.7	1.00 V	70	17.40	38.90
6	#5860.00	46.3 AV	54.0	-7.7	1.00 V	70	7.40	38.90
7	11400.00	58.2 PK	74.0	-15.8	1.28 V	64	8.70	49.50
8	11400.00	47.8 AV	54.0	-6.2	1.28 V	64	-1.70	49.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



802.11n(20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	102.8 PK			1.25 H	96	64.90	37.90
2	*5260.00	92.6 AV			1.25 H	96	54.70	37.90
3	5420.00	60.4 PK	74.0	-13.6	1.27 H	296	22.30	38.10
4	5420.00	47.5 AV	54.0	-6.5	1.27 H	296	9.40	38.10
5	#10520.00	56.8 PK	74.0	-17.2	1.08 H	248	7.60	49.20
6	#10520.00	47.2 AV	54.0	-6.8	1.08 H	248	-2.00	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	113.3 PK			1.13 V	40	75.40	37.90
2	*5260.00	103.3 AV			1.13 V	40	65.40	37.90
3	5420.00	61.7 PK	74.0	-12.3	1.22 V	85	23.60	38.10
4	5420.00	51.4 AV	54.0	-2.6	1.22 V	85	13.30	38.10
5	#10520.00	57.6 PK	74.0	-16.4	1.22 V	247	8.40	49.20
6	#10520.00	47.2 AV	54.0	-6.8	1.22 V	247	-2.00	49.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.1 PK			1.52 H	102	67.20	37.90
2	*5300.00	95.0 AV			1.52 H	102	57.10	37.90
3	5460.00	56.2 PK	74.0	-17.8	1.27 H	267	18.00	38.20
4	5460.00	45.8 AV	54.0	-8.2	1.27 H	267	7.60	38.20
5	10600.00	57.2 PK	74.0	-16.8	1.12 H	248	8.00	49.20
6	10600.00	46.8 AV	54.0	-7.2	1.12 H	248	-2.40	49.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.8 PK			1.04 V	78	74.90	37.90
2	*5300.00	92.8 AV			1.04 V	78	54.90	37.90
3	5460.00	61.2 PK	74.0	-12.8	1.21 V	48	23.00	38.20
4	5460.00	51.9 AV	54.0	-2.1	1.21 V	48	13.70	38.20
5	10600.00	58.4 PK	74.0	-15.6	1.48 V	58	9.20	49.20
6	10600.00	48.2 AV	54.0	-5.8	1.48 V	58	-1.00	49.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	106.8 PK			1.24 H	62	68.80	38.00
2	*5320.00	96.4 AV			1.24 H	62	58.40	38.00
3	5350.00	62.8 PK	74.0	-11.2	1.34 H	89	24.80	38.00
4	5350.00	47.8 AV	54.0	-6.2	1.34 H	89	9.80	38.00
5	#5480.00	56.4 PK	74.0	-17.6	1.38 H	117	18.20	38.20
6	#5480.00	46.8 AV	54.0	-7.2	1.38 H	117	8.60	38.20
7	10640.00	58.4 PK	74.0	-15.6	1.08 H	254	9.10	49.30
8	10640.00	47.2 AV	54.0	-6.8	1.08 H	254	-2.10	49.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.5 PK			1.24 V	41	74.50	38.00
2	*5320.00	102.6 AV			1.24 V	41	64.60	38.00
3	5350.00	68.5 PK	74.0	-5.5	1.22 V	39	30.50	38.00
4	5350.00	52.7 AV	54.0	-1.3	1.22 V	39	14.70	38.00
5	#5480.00	61.7 PK	74.0	-12.3	1.33 V	57	23.50	38.20
6	#5480.00	49.7 AV	54.0	-4.3	1.33 V	57	11.50	38.20
7	10640.00	58.6 PK	74.0	-15.4	1.22 V	221	9.30	49.30
8	10640.00	48.0 AV	54.0	-6.0	1.22 V	221	-1.30	49.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	54.3 PK	74.0	-19.7	1.24 H	71	16.10	38.20
2	5460.00	36.3 AV	54.0	-17.7	1.24 H	71	-1.90	38.20
3	#5470.00	58.1 PK	74.0	-15.9	1.24 H	71	19.90	38.20
4	#5470.00	50.7 AV	54.0	-3.3	1.24 H	71	12.50	38.20
5	*5500.00	107.5 PK			1.08 H	92	69.30	38.20
6	*5500.00	97.8 AV			1.08 H	92	59.60	38.20
7	11000.00	57.6 PK	74.0	-16.4	1.05 H	202	7.90	49.70
8	11000.00	47.2 AV	54.0	-6.8	1.05 H	202	-2.50	49.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	1.32 V	61	19.00	38.20
2	5460.00	41.1 AV	54.0	-12.9	1.32 V	61	2.90	38.20
3	#5470.00	63.9 PK	74.0	-10.1	1.32 V	61	25.70	38.20
4	#5470.00	45.8 AV	54.0	-8.2	1.32 V	61	7.60	38.20
5	*5500.00	113.1 PK			1.18 V	39	74.90	38.20
6	*5500.00	103.2 AV			1.18 V	39	65.00	38.20
7	11000.00	58.4 PK	74.0	-15.6	1.28 V	188	8.70	49.70
8	11000.00	48.2 AV	54.0	-5.8	1.28 V	188	-1.50	49.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.6 PK			1.34 H	79	66.20	38.40
2	*5580.00	94.2 AV			1.34 H	79	55.80	38.40
3	#5740.00	56.8 PK	74.0	-17.2	1.08 H	221	18.10	38.70
4	#5740.00	46.4 AV	54.0	-7.6	1.08 H	221	7.70	38.70
5	11160.00	57.8 PK	74.0	-16.2	1.06 H	235	8.10	49.70
6	11160.00	46.2 AV	54.0	-7.8	1.06 H	235	-3.50	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	112.8 PK			1.08 V	42	74.40	38.40
2	*5580.00	102.6 AV			1.08 V	42	64.20	38.40
3	#5740.00	61.2 PK	74.0	-12.8	1.08 V	75	22.50	38.70
4	#5740.00	50.4 AV	54.0	-3.6	1.08 V	75	11.70	38.70
5	11160.00	58.7 PK	74.0	-15.3	1.22 V	71	9.00	49.70
6	11160.00	48.5 AV	54.0	-5.5	1.22 V	71	-1.20	49.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	105.8 PK			1.24 H	69	67.10	38.70
2	*5700.00	95.2 AV			1.24 H	69	56.50	38.70
3	#5725.00	67.4 PK	74.0	-6.6	1.24 H	35	28.70	38.70
4	#5725.00	48.4 AV	54.0	-5.6	1.24 H	35	9.70	38.70
5	#5860.00	59.1 PK	74.0	-14.9	1.29 H	58	20.20	38.90
6	#5860.00	47.4 AV	54.0	-6.6	1.29 H	58	8.50	38.90
7	11400.00	58.2 PK	74.0	-15.8	1.08 H	217	8.70	49.50
8	11400.00	47.6 AV	54.0	-6.4	1.08 H	217	-1.90	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	113.2 PK			1.14 V	39	74.50	38.70
2	*5700.00	103.0 AV			1.14 V	39	64.30	38.70
3	#5725.00	73.3 PK	74.0	-0.7	1.25 V	35	34.60	38.70
4	#5725.00	53.2 AV	54.0	-0.8	1.25 V	35	14.50	38.70
5	#5860.00	60.8 PK	74.0	-13.2	1.36 V	55	21.90	38.90
6	#5860.00	49.0 AV	54.0	-5.0	1.36 V	55	10.10	38.90
7	11400.00	59.4 PK	74.0	-14.6	1.22 V	78	9.90	49.50
8	11400.00	48.3 AV	54.0	-5.7	1.22 V	78	-1.20	49.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	300.16	39.2 QP	46.0	-6.8	1.50 H	344	24.50	14.70
2	360.43	34.7 QP	46.0	-11.3	2.00 H	348	18.30	16.40
3	420.70	38.4 QP	46.0	-7.6	1.00 H	115	20.40	18.00
4	539.30	28.0 QP	46.0	-18.0	1.50 H	0	7.10	20.90
5	659.85	29.5 QP	46.0	-16.5	1.00 H	99	6.10	23.40
6	720.12	34.4 QP	46.0	-11.6	1.00 H	34	10.00	24.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	68.79	28.2 QP	40.0	-11.8	1.25 V	216	16.50	11.70
2	179.61	25.9 QP	43.5	-17.6	1.00 V	42	13.80	12.10
3	311.82	28.5 QP	46.0	-17.5	1.00 V	203	13.50	15.00
4	360.43	34.8 QP	46.0	-11.2	2.00 V	313	18.40	16.40
5	420.70	33.6 QP	46.0	-12.4	2.00 V	144	15.60	18.00
6	539.30	36.3 QP	46.0	-9.7	1.00 V	190	15.40	20.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 09, 2012	Nov. 08, 2013
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 06, 2012	Jul. 05, 2013
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 TEST PROCEDURES

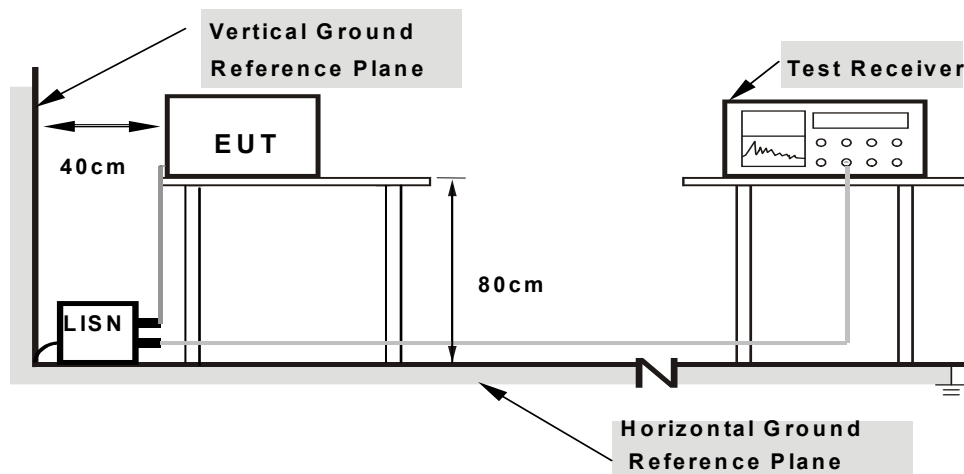
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

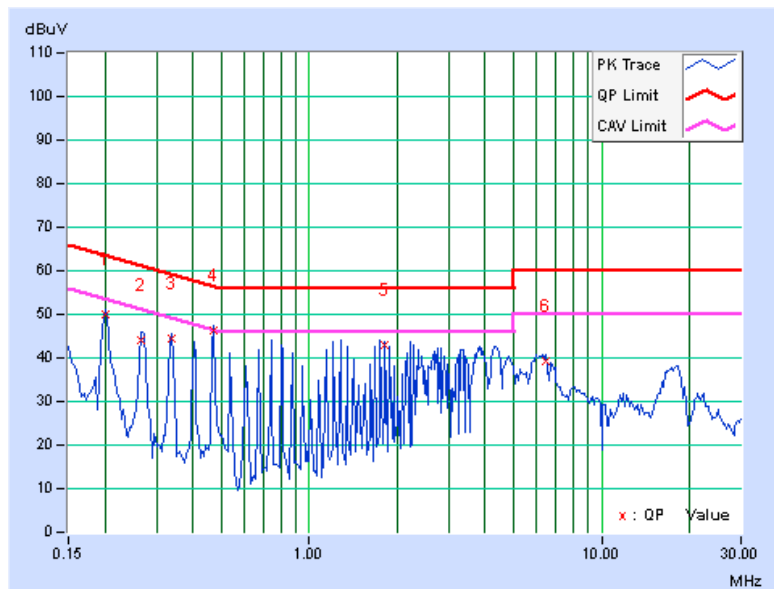
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140	TEST MODE	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20078	0.12	49.81	42.03	49.93	42.15	63.58	53.58	-13.65	-11.43
2	0.26719	0.13	44.11	38.99	44.24	39.12	61.20	51.20	-16.96	-12.08
3	0.33750	0.14	44.30	42.76	44.44	42.90	59.26	49.26	-14.82	-6.36
4	0.47031	0.16	46.02	44.46	46.18	44.62	56.51	46.51	-10.33	-1.89
5	1.81641	0.23	42.79	42.32	43.02	42.55	56.00	46.00	-12.98	-3.45
6	6.45703	0.47	38.96	38.74	39.43	39.21	60.00	50.00	-20.57	-10.79

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

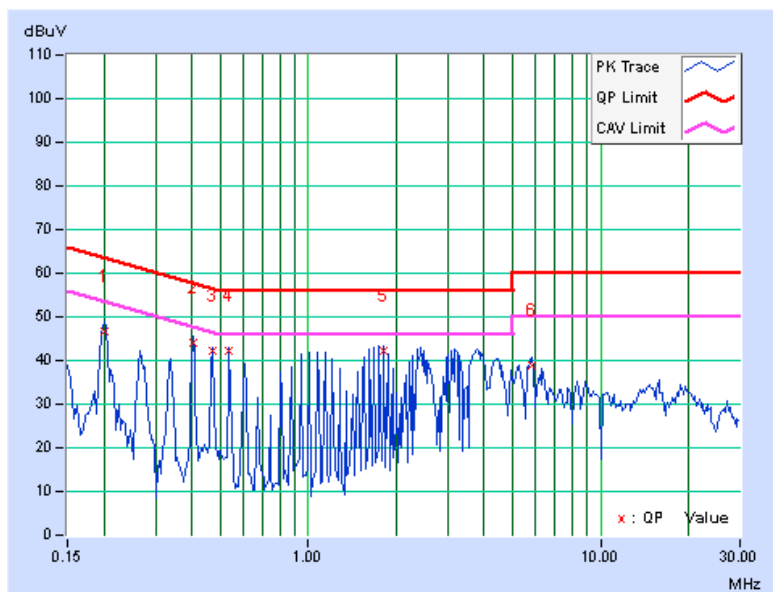




PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140	TEST MODE	A

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20078	0.17	46.67	39.70	46.84	39.87	63.58	53.58	-16.74	-13.71
2	0.40391	0.21	44.01	43.17	44.22	43.38	57.77	47.77	-13.55	-4.39
3	0.47031	0.21	41.95	41.38	42.16	41.59	56.51	46.51	-14.34	-4.91
4	0.53672	0.22	41.88	41.31	42.10	41.53	56.00	46.00	-13.90	-4.47
5	1.81641	0.27	41.94	41.49	42.21	41.76	56.00	46.00	-13.79	-4.24
6	5.85156	0.44	38.51	38.39	38.95	38.83	60.00	50.00	-21.05	-11.17

- 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 Value + Reading Value.



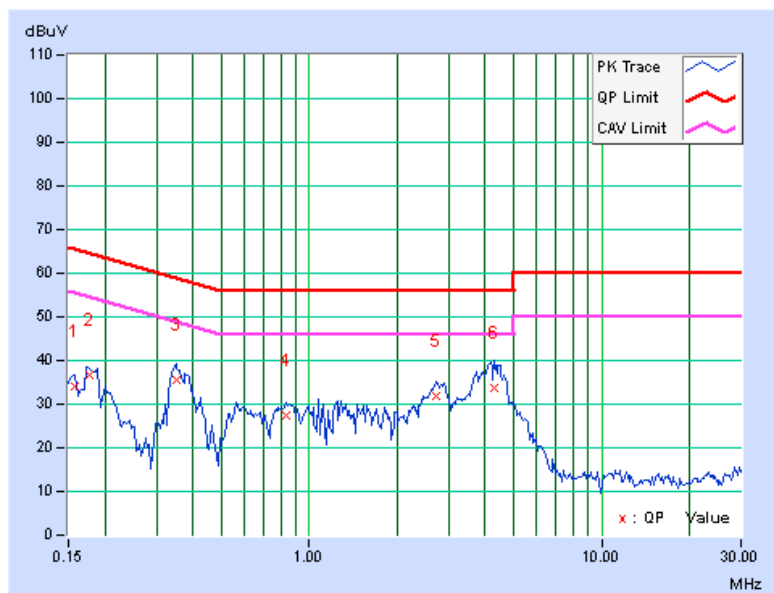


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PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140	TEST MODE	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.12	33.90	19.46	34.02	19.58	65.58	55.58	-31.55	-35.99
2	0.17726	0.12	36.45	27.08	36.57	27.20	64.61	54.61	-28.04	-27.41
3	0.34922	0.14	35.25	23.38	35.39	23.52	58.98	48.98	-23.59	-25.46
4	0.83359	0.19	27.27	12.91	27.46	13.10	56.00	46.00	-28.54	-32.90
5	2.72656	0.27	31.69	17.81	31.96	18.08	56.00	46.00	-24.04	-27.92
6	4.31250	0.37	33.18	17.91	33.55	18.28	56.00	46.00	-22.45	-27.72

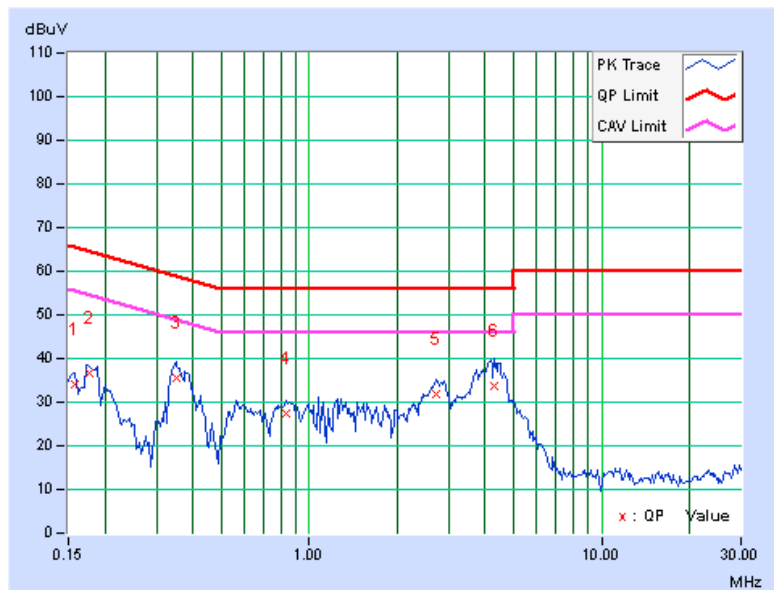
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Value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



PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140	TEST MODE	B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.12	33.90	19.46	34.02	19.58	65.58	55.58	-31.55	-35.99
2	0.17726	0.12	36.45	27.08	36.57	27.20	64.61	54.61	-28.04	-27.41
3	0.34922	0.14	35.25	23.38	35.39	23.52	58.98	48.98	-23.59	-25.46
4	0.83359	0.19	27.27	12.91	27.46	13.10	56.00	46.00	-28.54	-32.90
5	2.72656	0.27	31.69	17.81	31.96	18.08	56.00	46.00	-24.04	-27.92
6	4.31250	0.37	33.18	17.91	33.55	18.28	56.00	46.00	-22.45	-27.72

- 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 Value + Reading Value.



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

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

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

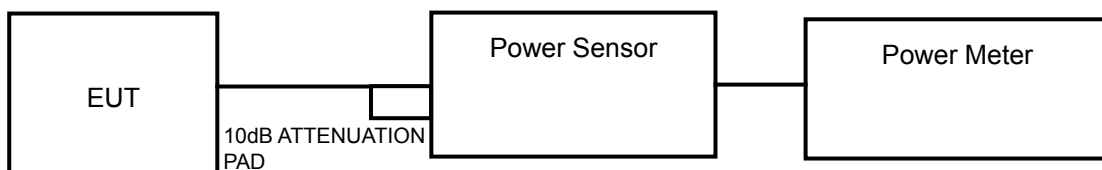
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

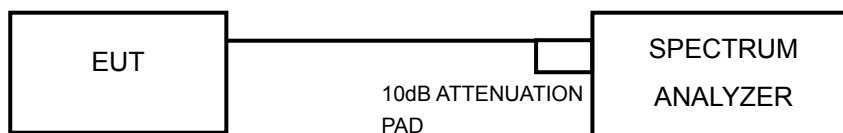
For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

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

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

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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



4.3.7 TEST RESULTS

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
52	5260	5.248	7.20	24	PASS
60	5300	5.035	7.02	24	PASS
64	5320	5.000	6.99	24	PASS
100	5500	10.715	10.30	24	PASS
116	5580	13.996	11.46	24	PASS
140	5700	16.982	12.30	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
52	5260	4.539	6.57	24	PASS
60	5300	4.446	6.48	24	PASS
64	5320	4.395	6.43	24	PASS
100	5500	8.750	9.42	24	PASS
116	5580	11.749	10.70	24	PASS
140	5700	16.444	12.16	24	PASS



26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	20.13	PASS
60	5300	18.54	PASS
64	5320	18.47	PASS
100	5500	21.67	PASS
116	5580	20.42	PASS
140	5700	22.71	PASS

802.11n (20MHz)

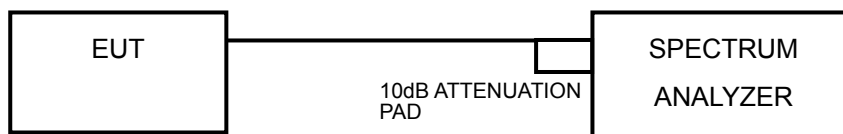
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
52	5260	20.30	PASS
60	5300	20.39	PASS
64	5320	19.42	PASS
100	5500	20.38	PASS
116	5580	22.98	PASS
140	5700	24.78	PASS

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

Using method SA-2 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 = 30ms.
- 5) Perform a single sweep.
- 6) Record the max value and add $10 \log (1/\text{duty cycle})$

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.



4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
52	5260	-5.14	0.21	-4.93	11	PASS
60	5300	-5.16	0.21	-4.95	11	PASS
64	5320	-5.37	0.21	-5.16	11	PASS
100	5500	-2.14	0.21	-1.93	11	PASS
116	5580	-0.55	0.21	-0.34	11	PASS
140	5700	0.28	0.21	0.49	11	PASS

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

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
52	5260	-6.05	0.22	-5.83	11	PASS
60	5300	-6.42	0.22	-6.20	11	PASS
64	5320	-6.16	0.22	-5.94	11	PASS
100	5500	-3.52	0.22	-3.30	11	PASS
116	5580	-2.20	0.22	-1.98	11	PASS
140	5700	-0.23	0.22	-0.01	11	PASS

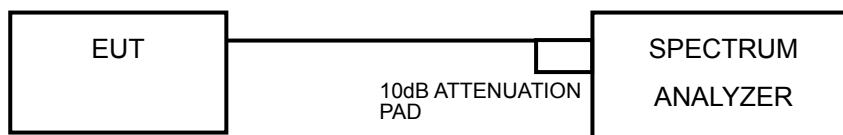
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6



4.5.7 TEST RESULTS

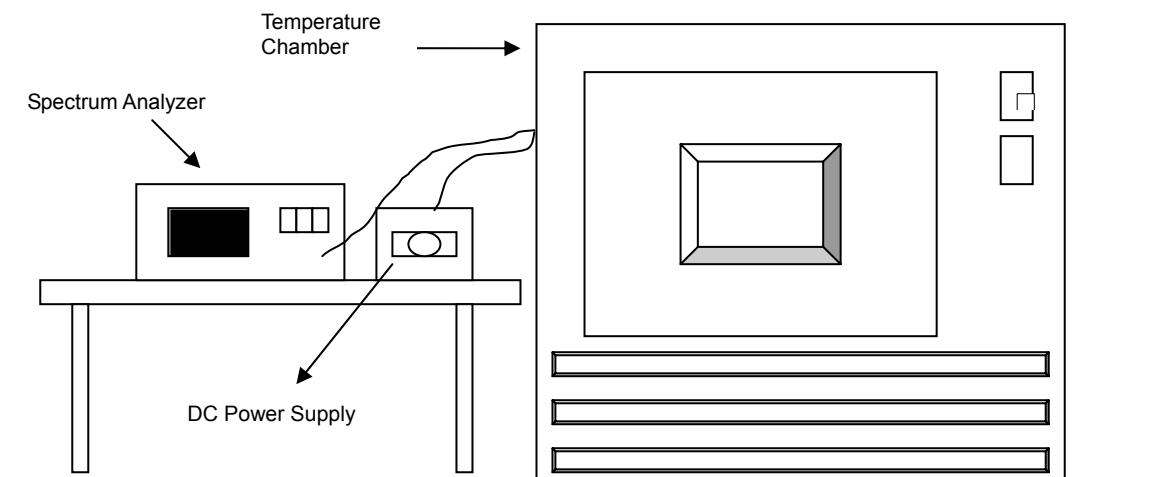
MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11a	BPSK	5500	7.46	-2.14	-1.93	9.39	13	PASS
	QPSK		8.13	-2.55	-2.34	10.47	13	PASS
	16QAM		7.53	-3.97	-3.76	11.29	13	PASS
	64QAM		3.56	-9.03	-8.82	12.38	13	PASS
802.11n (20MHz)	BPSK	5300	2.66	-6.16	-5.94	8.60	13	PASS
	QPSK		4.61	-6.92	-6.70	11.31	13	PASS
	16QAM		3.95	-7.91	-7.69	11.64	13	PASS
	64QAM		3.54	-9.11	-8.89	12.43	13	PASS

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

- a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

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



4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5260MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	3.7	5299.9897	-0.00019	5299.986	-0.00026	5299.9923	-0.00015	5299.9845	-0.00029
40	3.7	5300.0133	0.00025	5300.009	0.00017	5300.0129	0.00024	5300.0101	0.00019
30	3.7	5299.9786	-0.00040	5299.9838	-0.00031	5299.9826	-0.00033	5299.9821	-0.00034
20	3.7	5300.0195	0.00037	5300.0242	0.00046	5300.0186	0.00035	5300.0219	0.00041
10	3.7	5299.9945	-0.00010	5299.9979	-0.00004	5299.9943	-0.00011	5300.0016	0.00003
0	3.7	5299.9911	-0.00017	5299.9867	-0.00025	5299.9893	-0.00020	5299.9935	-0.00012
-10	3.7	5300.0122	0.00023	5300.0118	0.00022	5300.0086	0.00016	5300.017	0.00032
-20	3.7	5299.9891	-0.00021	5299.9831	-0.00032	5299.9868	-0.00025	5299.993	-0.00013

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5260MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	4.255	5300.0202	0.00038	5300.0243	0.00046	5300.0187	0.00035	5300.0211	0.00040
	3.7	5300.0195	0.00037	5300.0242	0.00046	5300.0186	0.00035	5300.0219	0.00041
	3.145	5300.0194	0.00037	5300.0243	0.00046	5300.0184	0.00035	5300.0221	0.00042



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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.

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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 modifications were made to the EUT by the lab during the test.

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