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# FCC TEST REPORT (15.247)

**REPORT NO.:** RF110427C17

**MODEL NO.:** VAP2400

**FCC ID:** ACQ-VAP2400

**RECEIVED:** Apr. 27, 2011

**TESTED:** May 04, 2011 ~ Apr. 08, 2012

**ISSUED:** Apr. 09, 2012

**APPLICANT:** Motorola Mobility Inc.

**ADDRESS:** 101 Tournament Drive Horsham, PA 19044 United States

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

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

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

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110427C17	Original release	Apr. 09, 2012



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## 1. CERTIFICATION

**PRODUCT:** VAP2400 Video Access Point/Client

**MODEL:** VAP2400

**BRAND:** Motorola Mobility Inc.

**APPLICANT:** Motorola Mobility Inc.

**TEST SAMPLE:** ENGINEERING SAMPLE

**TESTED:** May 04, 2011 ~ Apr. 08, 2012

**STANDARDS:** **FCC Part 15, Subpart C (Section 15.247)**

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: VAP2400) 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** : Ivy Lin , **DATE:** Apr. 09, 2012  
Ivy Lin / Specialist

**APPROVED BY** : Gary Chang , **DATE:** Apr. 09, 2012  
Gary Chang / Technical Manager



## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.47dB at 0.43906MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 11490.00MHz, 11570.00MHz, 11590.00MHz, 11650.00MHz & 5725.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is I-PEX not a standard connector.

### 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	3.19 dB
	200MHz ~1000MHz	3.21 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

<b>EUT</b>	VAP2400 Video Access Point/Client
<b>MODEL NO.</b>	VAP2400
<b>FCC ID</b>	ACQ-VAP2400
<b>POWER SUPPLY</b>	12Vdc (adapter)
<b>MODULATION TYPE</b>	64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n (20MHz): up to 300.0Mbps
<b>OPERATING FREQUENCY</b>	5745 ~ 5825MHz
<b>NUMBER OF CHANNEL</b>	5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
<b>OUTPUT POWER</b>	475.1mW
<b>ANTENNA TYPE</b>	Dipole antenna with 2.0dBi gain
<b>ANTENNA CONNECTOR</b>	I-PEX
<b>I/O PORTS</b>	Refer to users' manual
<b>DATA CABLE</b>	NA
<b>ACCESSORY DEVICES</b>	Adapter

#### NOTE:

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

Frequency Band (MHz)	5180~5320	5500~5580	5670~5700	5745~5825
802.11a	√	√	√	√
802.11n (20MHz)	√	√	√	√
802.11n (40MHz)	√	√	√	√

2. The EUT has disabled the 5600-5650MHz band by S/W to avoid 5600-5650MHz band for FCC certification.
3. The EUT incorporates a MIMO function. Physically, the EUT provides four completed transmitters and four receivers.

MODULATION MODE	TX FUNCTION
802.11a	4TX
802.11n (20MHz)	4TX
802.11n (40MHz)	4TX



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4. The EUT was powered by the following adapters:

<b>ADAPTER 1</b>	
<b>BRAND</b>	LEADER
<b>MODEL</b>	MT12-Y120100-A1
<b>INPUT POWER</b>	100-120Vac, 50/60Hz, 0.3A
<b>OUTPUT POWER</b>	12Vdc, 1.0A
<b>POWER LINE</b>	DC: 1.8m non-shielded cable with 1 core

<b>ADAPTER 2</b>	
<b>BRAND</b>	DELTA ELECTRONICS. INC
<b>MODEL</b>	EADP-13BB B
<b>INPUT POWER</b>	100-240Vac, 0.4A, 50/60Hz
<b>OUTPUT POWER</b>	12Vdc, 1.085A
<b>POWER LINE</b>	DC: 1.8m non-shielded cable without core

\*After pre-testing, the adapter 2 is the worst case for final test.

5. This report is issued for version: VAP2400 Rev. 1.0.
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

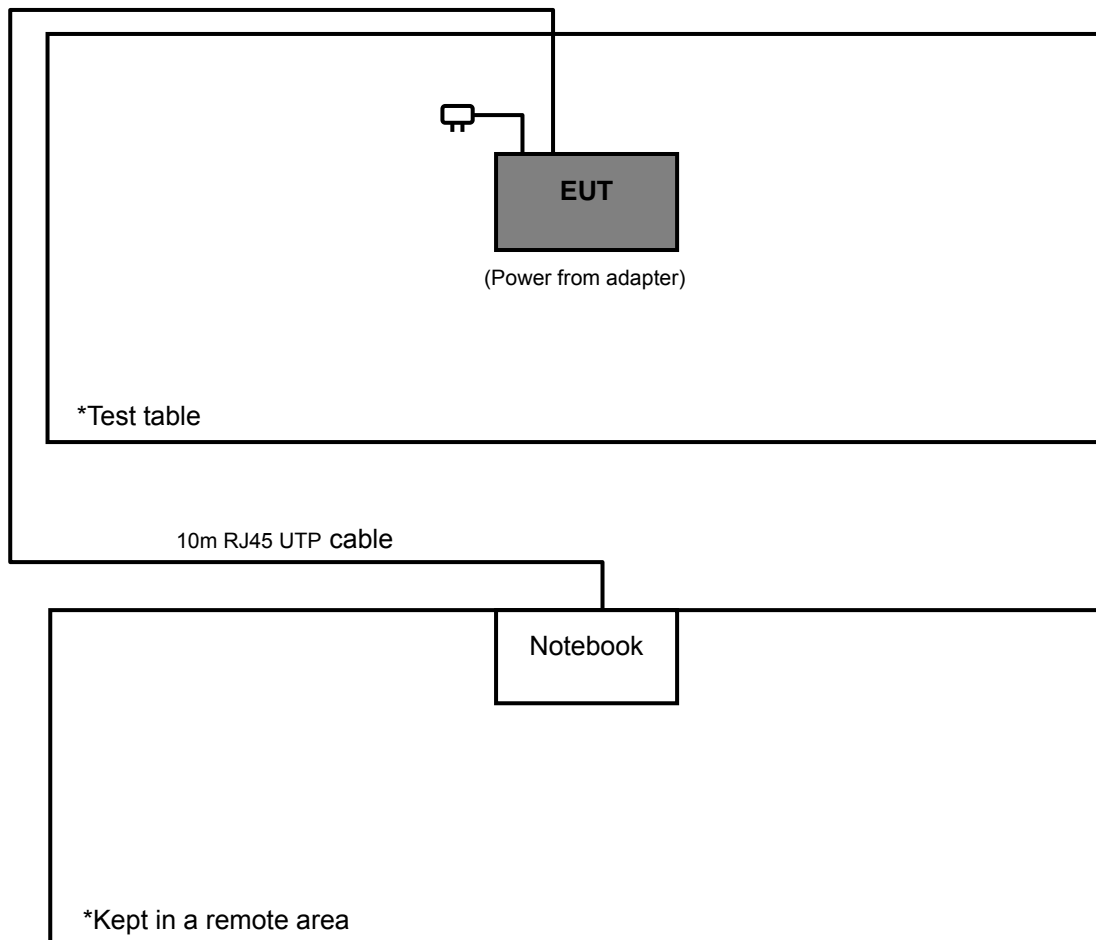
5 channels are provided for 802.11a, 802.11n (20MHz):

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

#### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	Adapter model: EADP-13BB B

Where **RE≥1G**: Radiated Emission above 1GHz      **RE<1G**: Radiated Emission below 1GHz  
**PLC**: Power Line Conducted Emission      **APCM**: Antenna Port Conducted Measurement  
**NOTE**: “-” means no effect.

#### **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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

#### **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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

**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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

**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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	7.2
-	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0

**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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0



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### TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 66%RH, 1008 hPa, 26deg. C, 66%RH, 1009 hPa	120Vac, 60Hz	Mark Liao, Frank Wang
RE $<$ 1G	25deg. C, 64%RH, 1009 hPa, 23deg. C, 65%RH, 1009 hPa	120Vac, 60Hz	Frank Wang, Alan Wu, Anderson Hong
PLC	25deg. C, 68%RH, 1004 hPa	120Vac, 60Hz	Sun Lin
APCM	25deg. C, 65%RH, 1005 hPa	120Vac, 60Hz	Haru Yang

### 3.3 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 C (15.247)**

**ANSI C63.4-2003**

**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.



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### 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	PP05L	25191592336	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m RJ45 UTP cable.

**NOTE:**

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



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## 4. TEST TYPES AND RESULTS

### 4.1 RADIATED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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. As shown in 15.35(b), 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.



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#### 4.1.2 TEST INSTRUMENTS

Test date: May 04 ~ Dec. 16, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 27, 2010	Dec. 26, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Feb. 23, 2011	Feb. 22, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 06, 2011	Jan. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01961	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10738	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Nov. 03, 2011	Nov. 02, 2012
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT.	TT100.	TT93021704	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012
High Speed Peak Power Meter	ML2495A	0842014	Apr. 26, 2011	Apr. 25, 2012
Power Sensor	MA2411B	0738404	Apr. 26, 2011	Apr. 25, 2012

**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 4.

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

4. The FCC Site Registration No. is 460141.

5. The IC Site Registration No. is IC7450F-4.



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Test date: Apr. 06 ~ Apr. 07, 2012

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Jan. 03, 2012	Jan. 02, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 30, 2012	Jan. 29, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 05, 2012	Jan. 04, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01961	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10738	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Nov. 03, 2011	Nov. 02, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Nov. 03, 2011	Nov. 02, 2012
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table ADT.	TT100.	TT93021704	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.





#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

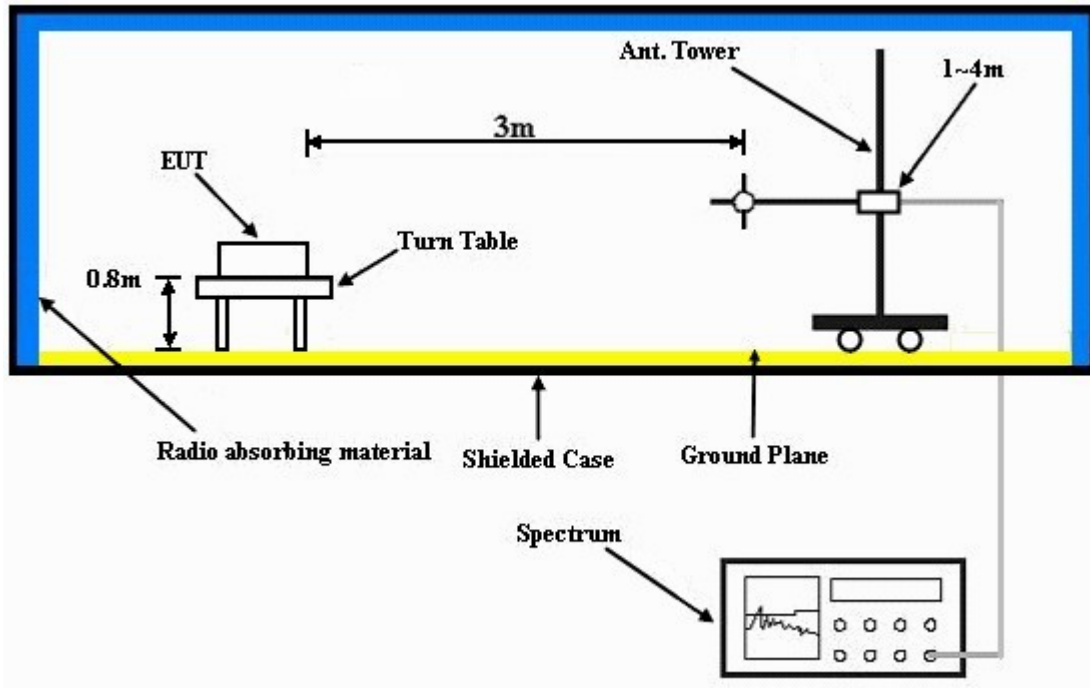
**NOTE:**

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 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.1.5 TEST SETUP



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

#### 4.1.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared notebook to act as communication partner and placed it outside of testing area.
- c. The communication partner connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The communication partner sent data to EUT by command "PING".



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#### 4.1.7 TEST RESULTS

##### 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1008 hPa	TESTED BY	Mark Liao
TEST MODE	Adapter model: EADP-13BB B		

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	#5725.00	72.9 PK	84.1	-11.2	1.17 H	217	33.50	39.40
2	#5725.00	57.1 AV	75.0	-17.9	1.17 H	217	17.70	39.40
3	*5745.00	114.1 PK			1.17 H	217	74.70	39.40
4	*5745.00	105.0 AV			1.17 H	217	65.60	39.40
5	11490.00	67.8 PK	74.0	-6.2	1.52 H	314	17.40	50.40
6	11490.00	52.9 AV	54.0	-1.1	1.52 H	314	2.50	50.40

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	#5725.00	79.1 PK	91.6	-12.5	1.28 V	89	39.80	39.30
2	#5725.00	66.0 AV	81.4	-15.4	1.28 V	89	26.70	39.30
3	*5745.00	121.6 PK			1.31 V	327	82.20	39.40
4	*5745.00	111.4 AV			1.31 V	327	72.00	39.40
5	11490.00	64.3 PK	74.0	-9.7	1.07 V	5	13.90	50.40
6	11490.00	52.2 AV	54.0	-1.8	1.07 V	5	1.80	50.40

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1008 hPa	TESTED BY	Mark Liao
TEST MODE	Adapter model: EADP-13BB B		

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	*5785.00	114.2 PK			1.33 H	253	74.70	39.50
2	*5785.00	104.5 AV			1.33 H	253	65.00	39.50
3	#5850.00	54.3 PK	84.2	-29.9	1.33 H	253	14.70	39.60
4	#5850.00	41.1 AV	74.5	-33.4	1.33 H	253	1.50	39.60
5	11570.00	66.8 PK	74.0	-7.2	1.33 H	36	16.60	50.20
6	11570.00	52.9 AV	54.0	-1.1	1.33 H	36	2.70	50.20
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	*5785.00	121.9 PK			1.26 V	310	82.50	39.40
2	*5785.00	111.8 AV			1.26 V	310	72.40	39.40
3	#5850.00	56.2 PK	91.9	-35.7	1.26 V	310	16.60	39.60
4	#5850.00	43.5 AV	81.8	-38.3	1.26 V	310	3.90	39.60
5	11570.00	65.7 PK	74.0	-8.3	1.33 V	175	15.50	50.20
6	11570.00	52.6 AV	54.0	-1.4	1.33 V	175	2.40	50.20

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1008 hPa	TESTED BY	Mark Liao
TEST MODE	Adapter model: EADP-13BB B		

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	*5825.00	115.1 PK			1.06 H	216	75.60	39.50
2	*5825.00	105.2 AV			1.06 H	216	65.70	39.50
3	#5850.00	74.4 PK	85.1	-10.7	1.05 H	213	34.80	39.60
4	#5850.00	58.5 AV	75.2	-16.7	1.05 H	213	18.90	39.60
5	11650.00	66.1 PK	74.0	-7.9	1.18 H	39	16.00	50.10
6	11650.00	52.9 AV	54.0	-1.1	1.18 H	39	2.80	50.10
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	*5825.00	120.8 PK			1.24 V	291	81.20	39.60
2	*5825.00	110.6 AV			1.24 V	291	71.00	39.60
3	#5850.00	76.7 PK	90.8	-14.1	1.23 V	107	37.10	39.60
4	#5850.00	61.1 AV	80.6	-19.5	1.23 V	107	21.50	39.60
5	11650.00	65.4 PK	74.0	-8.6	1.14 V	244	15.30	50.10
6	11650.00	52.6 AV	54.0	-1.4	1.14 V	244	2.50	50.10

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	#5725.00	79.4 PK	80.4	-1.0	1.20 H	237	40.10	39.30
2	#5725.00	65.5 AV	67.2	-1.7	1.20 H	237	26.20	39.30
3	*5745.00	110.4 PK			1.25 H	238	71.00	39.40
4	*5745.00	97.2 AV			1.25 H	238	57.80	39.40
5	11490.00	68.4 PK	74.0	-5.6	1.00 H	42	18.00	50.40
6	11490.00	53.0 AV	54.0	-1.0	1.00 H	42	2.60	50.40
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	#5725.00	87.4 PK	89.9	-2.5	1.02 V	320	48.00	39.40
2	#5725.00	70.5 AV	77.5	-7.0	1.02 V	320	31.10	39.40
3	*5745.00	119.9 PK			1.00 V	324	80.50	39.40
4	*5745.00	107.5 AV			1.00 V	324	68.10	39.40
5	11490.00	67.6 PK	74.0	-6.4	1.10 V	250	17.20	50.40
6	11490.00	52.5 AV	54.0	-1.5	1.10 V	250	2.10	50.40

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	*5785.00	109.3 PK			1.20 H	38	69.90	39.40
2	*5785.00	97.5 AV			1.20 H	38	58.10	39.40
3	11570.00	69.0 PK	74.0	-5.0	1.78 H	42	18.80	50.20
4	11570.00	53.0 AV	54.0	-1.0	1.78 H	42	2.80	50.20
5	#17355.00	67.3 PK	79.3	-12.0	1.25 H	290	13.40	53.90
6	#17355.00	52.5 AV	67.5	-15.0	1.25 H	290	-1.40	53.90
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	*5785.00	120.3 PK			1.17 V	104	80.80	39.50
2	*5785.00	108.0 AV			1.17 V	104	68.50	39.50
3	11570.00	68.5 PK	74.0	-5.5	1.30 V	250	18.30	50.20
4	11570.00	52.5 AV	54.0	-1.5	1.30 V	250	2.30	50.20
5	#17355.00	66.8 PK	90.3	-23.5	1.20 V	290	12.80	54.00
6	#17355.00	52.0 AV	78.0	-26.0	1.20 V	290	-2.00	54.00

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	*5825.00	110.3 PK			1.15 H	236	70.80	39.50
2	*5825.00	97.4 AV			1.15 H	236	57.90	39.50
3	#5850.00	76.1 PK	80.3	-4.2	1.27 H	237	36.50	39.60
4	#5850.00	61.9 AV	67.4	-5.5	1.27 H	237	22.30	39.60
5	11650.00	68.7 PK	74.0	-5.3	1.77 H	56	18.60	50.10
6	11650.00	53.0 AV	54.0	-1.0	1.77 H	56	2.90	50.10
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	*5825.00	119.0 PK			1.00 V	145	79.40	39.60
2	*5825.00	106.6 AV			1.00 V	145	67.00	39.60
3	#5850.00	81.9 PK	89.0	-7.1	1.00 V	142	42.30	39.60
4	#5850.00	65.1 AV	76.6	-11.5	1.00 V	142	25.50	39.60
5	11650.00	65.3 PK	74.0	-8.7	1.00 V	195	15.20	50.10
6	11650.00	50.5 AV	54.0	-3.5	1.00 V	195	0.40	50.10

- 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 limit value is defined as per 15.247.
  7. “#”:The radiated frequency is out the restricted band.





A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	#5725.00	79.7 PK	80.9	-1.2	1.18 H	223	40.40	39.30
2	#5725.00	61.7 AV	67.5	-5.8	1.18 H	223	22.40	39.30
3	*5755.00	110.9 PK			1.20 H	220	71.50	39.40
4	*5755.00	97.5 AV			1.20 H	220	58.10	39.40
5	11510.00	66.2 PK	74.0	-7.8	1.24 H	36	15.80	50.40
6	11510.00	52.5 AV	54.0	-1.5	1.24 H	36	2.10	50.40
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	#5725.00	85.0 PK	88.4	-3.4	1.18 V	105	45.70	39.30
2	#5725.00	66.7 AV	75.1	-8.4	1.18 V	105	27.40	39.30
3	*5755.00	118.4 PK			1.18 V	105	79.00	39.40
4	*5755.00	105.1 AV			1.18 V	105	65.70	39.40
5	11510.00	64.2 PK	74.0	-9.8	1.30 V	250	13.80	50.40
6	11510.00	50.4 AV	54.0	-3.6	1.30 V	250	0.00	50.40

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	*5795.00	113.1 PK			1.00 H	220	73.60	39.50
2	*5795.00	100.3 AV			1.00 H	220	60.80	39.50
3	#5850.00	75.1 PK	83.1	-8.0	1.06 H	221	35.50	39.60
4	#5850.00	62.3 AV	70.3	-8.0	1.06 H	221	22.70	39.60
5	11590.00	66.9 PK	74.0	-7.1	1.78 H	35	16.80	50.10
6	11590.00	53.0 AV	54.0	-1.0	1.78 H	35	2.90	50.10
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	*5795.00	120.8 PK			1.00 V	184	81.30	39.50
2	*5795.00	107.8 AV			1.00 V	184	68.30	39.50
3	#5850.00	83.4 PK	90.8	-7.4	1.15 V	100	43.80	39.60
4	#5850.00	69.6 AV	77.8	-8.2	1.15 V	100	30.00	39.60
5	11590.00	64.5 PK	74.0	-9.5	1.08 V	173	14.40	50.10
6	11590.00	49.4 AV	54.0	-4.6	1.08 V	173	-0.70	50.10

- 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 limit value is defined as per 15.247.
  7. "#":The radiated frequency is out the restricted band.



A D T

**BELOW 1GHz WORST-CASE DATA : 802.11a**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Alan Wu

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	53.23	27.2 QP	40.0	-12.8	1.00 H	74	13.20	14.00
2	300.16	33.9 QP	46.0	-12.1	1.00 H	63	18.20	15.70
3	681.24	27.9 QP	46.0	-18.1	1.50 H	101	3.70	24.20
4	720.12	31.1 QP	46.0	-14.9	2.00 H	158	6.20	24.90
5	799.84	35.8 QP	46.0	-10.2	1.50 H	169	8.70	27.10
6	920.38	32.8 QP	46.0	-13.2	1.25 H	4	4.00	28.80
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	64.90	32.3 QP	40.0	-7.7	1.00 V	31	19.30	13.00
2	136.84	29.1 QP	43.5	-14.4	1.75 V	120	15.50	13.60
3	278.77	31.7 QP	46.0	-14.3	1.50 V	182	16.90	14.80
4	325.43	33.0 QP	46.0	-13.0	1.25 V	110	16.60	16.40
5	725.96	32.7 QP	46.0	-13.3	1.50 V	174	7.60	25.10
6	776.51	33.7 QP	46.0	-12.3	1.00 V	48	7.20	26.50

**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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Alan Wu
TEST MODE	Adapter model: EADP-13BB B		

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	53.23	26.8 QP	40.0	-13.2	1.75 H	89	12.80	14.00
2	136.84	28.1 QP	43.5	-15.4	1.00 H	262	14.50	13.60
3	181.55	27.4 QP	46.0	-16.1	2.00 H	112	14.50	12.90
4	424.59	32.5 QP	46.0	-13.5	1.25 H	112	13.40	19.10
5	525.69	32.4 QP	46.0	-13.6	1.00 H	199	10.70	21.70
6	840.67	33.6 QP	46.0	-12.4	1.50 H	56	6.00	27.60
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	64.90	32.6 QP	40.0	-7.4	1.25 V	10	19.60	13.00
2	103.78	29.2 QP	43.5	-14.3	1.25 V	181	19.10	10.10
3	125.17	29.5 QP	46.0	-14.0	2.00 V	132	16.90	12.60
4	700.68	27.3 QP	46.0	-18.7	1.00 V	132	2.90	24.40
5	799.84	31.3 QP	46.0	-14.7	1.00 V	57	4.20	27.10
6	920.38	35.1 QP	46.0	-10.9	1.00 V	115	6.30	28.80

**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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Alan Wu
TEST MODE	Adapter model: EADP-13BB B		

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	105.73	20.7 QP	43.5	-22.8	1.25 H	88	10.30	10.40
2	224.33	30.8 QP	46.0	-15.2	1.00 H	267	18.30	12.50
3	300.16	31.0 QP	46.0	-15.0	1.25 H	228	15.30	15.70
4	500.42	30.3 QP	46.0	-15.7	1.50 H	191	9.20	21.10
5	574.30	29.5 QP	46.0	-16.5	1.00 H	191	6.60	22.90
6	840.67	33.8 QP	46.0	-12.2	1.75 H	55	6.20	27.60
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	64.90	32.5 QP	40.0	-7.5	1.25 V	331	19.50	13.00
2	103.78	29.5 QP	43.5	-14.0	1.00 V	245	19.40	10.10
3	136.84	29.6 QP	43.5	-13.9	1.75 V	145	16.00	13.60
4	278.77	32.1 QP	46.0	-13.9	1.00 V	187	17.30	14.80
5	374.04	34.4 QP	46.0	-11.6	1.00 V	43	16.70	17.70
6	475.14	32.9 QP	46.0	-13.1	1.50 V	256	12.50	20.40

**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.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Anderson Hong
TEST MODE	Adapter model: EADP-13BB B		

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	53.23	27.2 QP	40.0	-12.8	1.00 H	81	13.20	14.00
2	136.84	27.4 QP	43.5	-16.1	1.00 H	88	13.80	13.60
3	249.60	34.4 QP	46.0	-11.6	1.25 H	75	20.80	13.60
4	475.14	28.7 QP	46.0	-17.3	1.00 H	106	8.30	20.40
5	550.97	28.5 QP	46.0	-17.5	1.50 H	20	6.10	22.40
6	640.41	33.4 QP	46.0	-12.6	1.00 H	70	9.60	23.80

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	64.90	32.1 QP	40.0	-7.9	1.25 V	278	19.10	13.00
2	103.78	29.1 QP	43.5	-14.4	1.50 V	245	19.00	10.10
3	249.60	34.8 QP	46.0	-11.2	1.00 V	16	21.20	13.60
4	348.76	30.8 QP	46.0	-15.2	1.25 V	16	13.80	17.00
5	440.14	33.9 QP	46.0	-12.1	1.00 V	255	14.40	19.50
6	599.58	31.5 QP	46.0	-14.5	2.00 V	16	8.00	23.50

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Anderson Hong
TEST MODE	Adapter model: EADP-13BB B		

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	138.78	26.7 QP	43.5	-16.8	1.25 H	239	12.90	13.80
2	249.60	32.7 QP	46.0	-13.3	1.50 H	228	19.10	13.60
3	348.76	29.8 QP	46.0	-16.2	1.00 H	188	12.80	17.00
4	475.14	27.2 QP	46.0	-18.8	1.00 H	229	6.80	20.40
5	574.30	30.5 QP	46.0	-15.5	1.75 H	188	7.60	22.90
6	675.40	32.1 QP	46.0	-13.9	1.00 H	183	7.90	24.20
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	64.90	32.6 QP	40.0	-7.4	1.25 V	43	19.60	13.00
2	224.33	33.6 QP	46.0	-12.4	1.00 V	78	21.10	12.50
3	300.16	27.3 QP	46.0	-18.7	1.75 V	81	11.60	15.70
4	399.31	34.3 QP	46.0	-11.7	1.00 V	78	15.90	18.40
5	550.97	33.9 QP	46.0	-12.1	1.00 V	15	11.50	22.40
6	675.40	32.4 QP	46.0	-13.6	2.00 V	67	8.20	24.20

**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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Anderson Hong
TEST MODE	Adapter model: EADP-13BB B		

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	53.23	26.6 QP	40.0	-13.4	1.25 H	183	12.60	14.00
2	146.56	26.8 QP	43.5	-16.7	1.00 H	83	12.60	14.20
3	300.16	32.4 QP	46.0	-13.6	1.50 H	56	16.70	15.70
4	374.04	34.9 QP	46.0	-11.1	1.00 H	81	17.20	17.70
5	449.87	32.2 QP	46.0	-13.8	1.75 H	66	12.40	19.80
6	624.85	32.7 QP	46.0	-13.3	1.00 H	22	9.00	23.70
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	64.90	32.5 QP	40.0	-7.5	1.25 V	16	19.50	13.00
2	224.33	31.5 QP	46.0	-14.5	1.00 V	15	19.00	12.50
3	348.76	29.1 QP	46.0	-16.9	1.50 V	125	12.10	17.00
4	440.14	31.2 QP	46.0	-14.8	1.00 V	16	11.70	19.50
5	550.97	34.8 QP	46.0	-11.2	1.50 V	79	12.40	22.40
6	640.41	31.2 QP	46.0	-14.8	1.25 V	123	7.40	23.80

**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.





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802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH 1009 hPa	TESTED BY	Anderson Hong
TEST MODE	Adapter model: EADP-13BB B		

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	59.06	22.2 QP	40.0	-17.8	1.00 H	123	8.60	13.60
2	249.60	26.1 QP	46.0	-19.9	1.75 H	163	12.50	13.60
3	278.77	29.7 QP	46.0	-16.3	1.00 H	20	14.90	14.80
4	374.04	26.4 QP	46.0	-19.6	1.00 H	96	8.70	17.70
5	440.14	31.0 QP	46.0	-15.0	1.50 H	83	11.50	19.50
6	640.41	30.4 QP	46.0	-15.6	2.00 H	175	6.60	23.80
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	64.90	32.3 QP	40.0	-7.7	1.25 V	2	19.30	13.00
2	224.33	33.2 QP	46.0	-12.8	1.00 V	11	20.70	12.50
3	374.04	29.6 QP	46.0	-16.4	1.00 V	18	11.90	17.70
4	475.14	33.0 QP	46.0	-13.0	1.75 V	348	12.60	20.40
5	574.30	34.2 QP	46.0	-11.8	1.00 V	18	11.30	22.90
6	751.23	33.2 QP	46.0	-12.8	2.00 V	18	7.40	25.80

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH 1009 hPa	TESTED BY	Frank Wang
TEST MODE	Adapter model: EADP-13BB B		

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	125.17	32.8 QP	43.5	-10.7	1.50 H	121	20.20	12.60
2	249.60	36.8 QP	46.0	-9.2	1.00 H	250	23.20	13.60
3	300.16	35.9 QP	46.0	-10.1	1.00 H	145	20.30	15.60
4	525.69	34.2 QP	46.0	-11.8	1.50 H	145	12.70	21.50
5	640.41	35.3 QP	46.0	-10.7	1.25 H	250	11.70	23.60
6	751.23	37.1 QP	46.0	-8.9	1.00 H	151	11.70	25.40

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	97.95	32.6 QP	43.5	-10.9	1.25 V	202	23.00	9.60
2	374.04	33.0 QP	46.0	-13.0	1.25 V	343	15.40	17.60
3	500.42	36.4 QP	46.0	-9.6	1.00 V	202	15.40	21.00
4	574.30	34.1 QP	46.0	-11.9	1.00 V	64	11.50	22.60
5	751.23	38.7 QP	46.0	-7.3	1.25 V	196	13.30	25.40
6	875.67	36.7 QP	46.0	-9.3	1.25 V	241	8.90	27.80

- 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 (dBµV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

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

### 4.2.2 TEST INSTRUMENTS

Test date: Jun. 08, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 23, 2011	Nov. 22, 2012
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 22, 2011	Dec. 21, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jul. 07, 2011	Jul. 06, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 22, 2011	Feb. 21, 2012
Software ADT	ADT_Cond_ V7.3.7	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
 2. The test was performed in HwaYa Shielded Room 1.  
 3. The VCCI Site Registration No. is C-2040.



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Test date: Apr. 08, 2012

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 23, 2011	Nov. 22, 2012
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 22, 2011	Dec. 21, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jul. 07, 2011	Jul. 06, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	835239/001	Feb. 07, 2012	Feb. 06, 2013
Software ADT	ADT_Cond_ V7.3.7	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

#### 4.2.3 TEST PROCEDURES

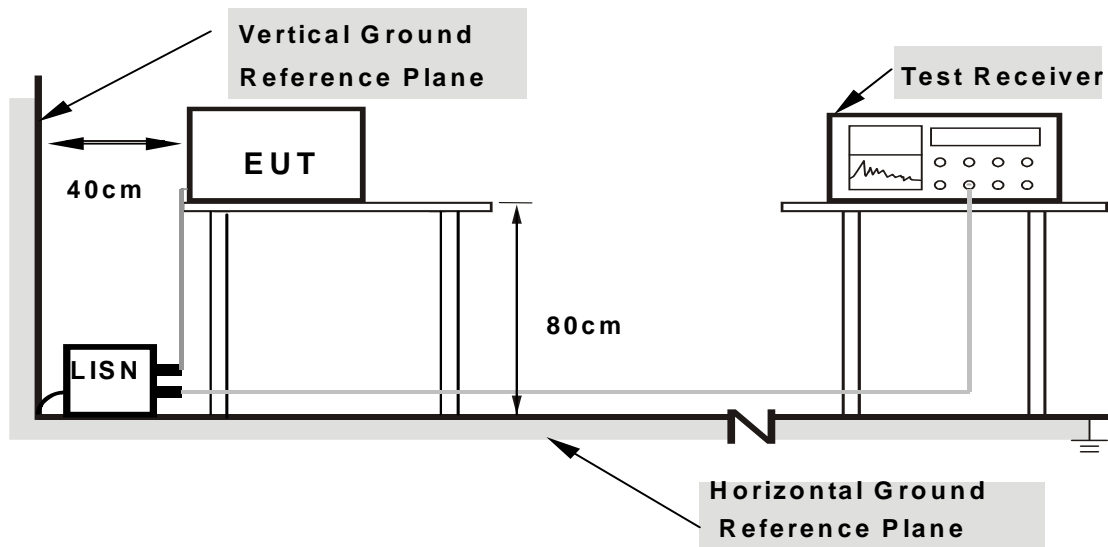
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.2.5 TEST SETUP



**Note: 1.Support units were connected to second LISN.**

**2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

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

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

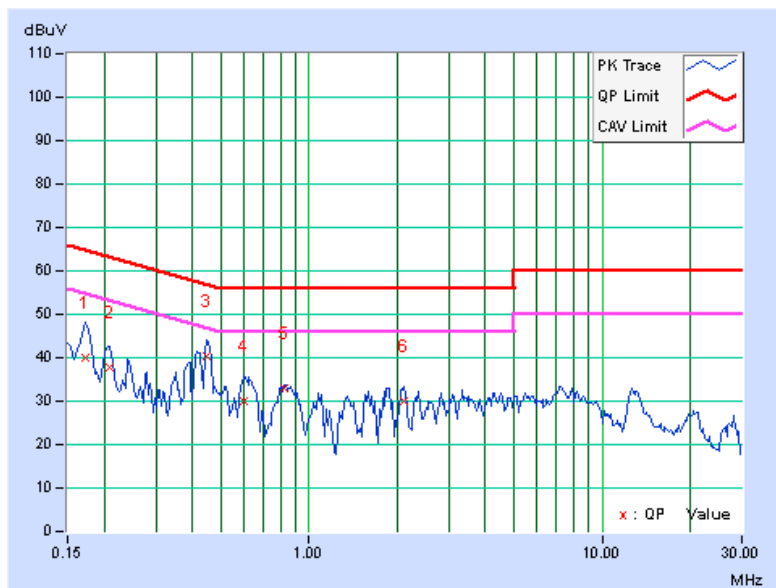
### 4.2.7 TEST RESULTS

**CONDUCTED WORST-CASE DATA : 802.11a**

<b>CHANNEL</b>	Channel 149	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	0.12	39.93	-	40.05	-	64.79	54.79	-24.74	-
2	0.20859	0.13	37.60	-	37.73	-	63.26	53.26	-25.53	-
3	0.44688	0.13	40.26	-	40.39	-	56.93	46.93	-16.54	-
4	0.59922	0.15	29.70	-	29.85	-	56.00	46.00	-26.15	-
5	0.82578	0.17	32.66	-	32.83	-	56.00	46.00	-23.17	-
6	2.12109	0.23	29.70	-	29.93	-	56.00	46.00	-26.07	-

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



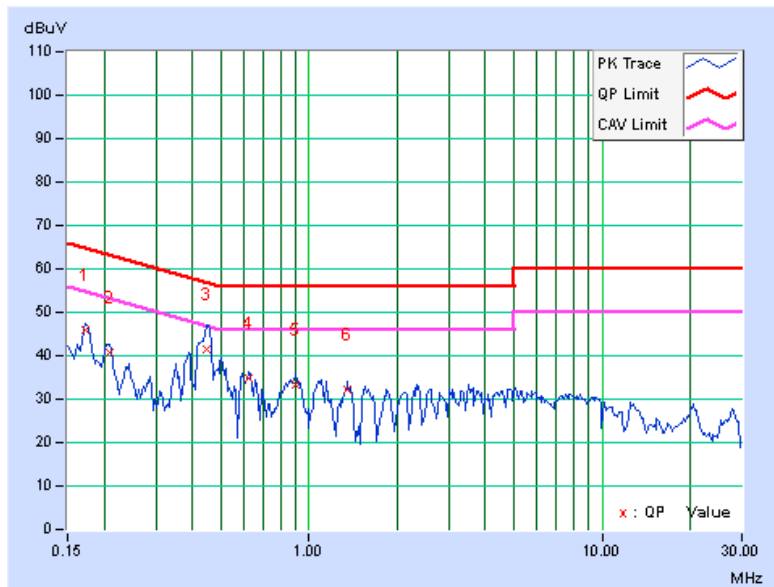


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<b>CHANNEL</b>	Channel 149	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB B

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	0.17344	0.13	45.72	-	45.85	-	64.79	54.79	-18.94	-
2	0.20859	0.14	40.63	-	40.77	-	63.26	53.26	-22.49	-
3	0.44688	0.15	41.45	-	41.60	-	56.93	46.93	-15.33	-
4	0.62266	0.17	34.62	-	34.79	-	56.00	46.00	-21.21	-
5	0.90000	0.20	33.24	-	33.44	-	56.00	46.00	-22.56	-
6	1.35547	0.22	32.10	-	32.32	-	56.00	46.00	-23.68	-

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



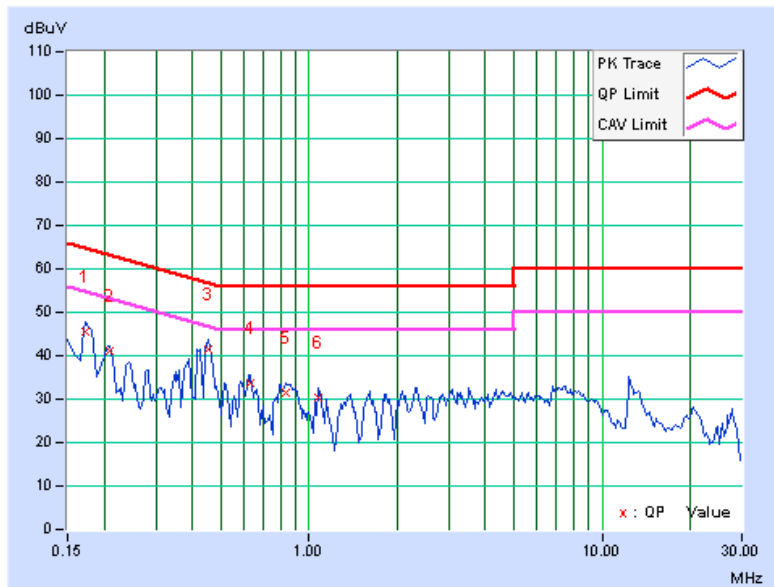


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<b>CHANNEL</b>	Channel 157	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB B

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	0.17344	0.12	45.56	-	45.68	-	64.79	54.79	-19.11	-
2	0.20859	0.13	40.98	-	41.11	-	63.26	53.26	-22.15	-
3	0.45078	0.14	41.18	-	41.32	-	56.86	46.86	-15.55	-
4	0.62656	0.15	33.51	-	33.66	-	56.00	46.00	-22.34	-
5	0.83750	0.17	31.42	-	31.59	-	56.00	46.00	-24.41	-
6	1.07813	0.19	30.13	-	30.32	-	56.00	46.00	-25.68	-

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





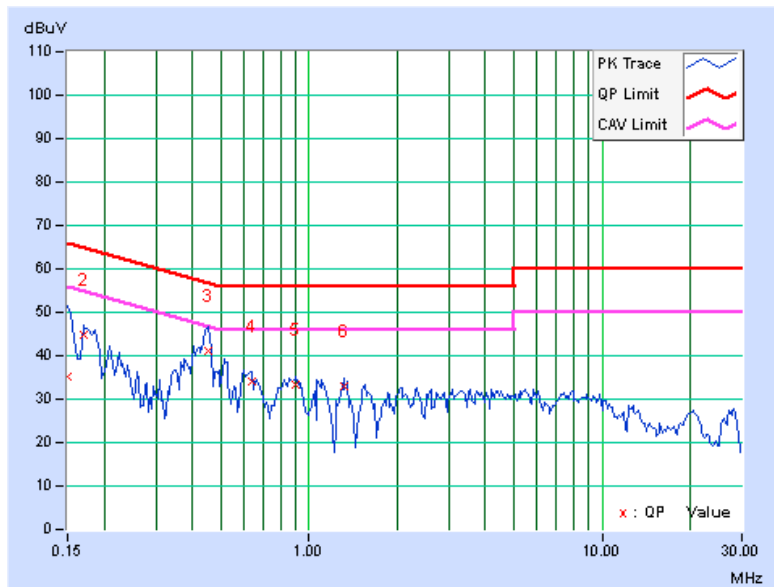


A D T

<b>CHANNEL</b>	Channel 157	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.15000	0.12	35.03	-	35.15	-	66.00	56.00	-30.85	-
2	0.16953	0.13	44.52	-	44.65	-	64.98	54.98	-20.33	-
3	0.45078	0.16	41.13	-	41.29	-	56.86	46.86	-15.58	-
4	0.63828	0.17	33.99	-	34.16	-	56.00	46.00	-21.84	-
5	0.90000	0.20	33.28	-	33.48	-	56.00	46.00	-22.52	-
6	1.31250	0.22	32.69	-	32.91	-	56.00	46.00	-23.09	-

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



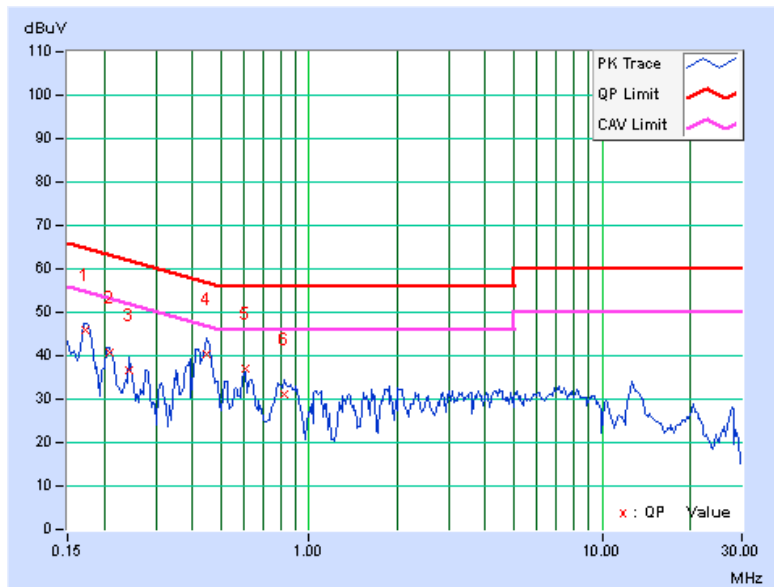


A D T

<b>CHANNEL</b>	Channel 165	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.12	45.95	-	46.07	-	64.79	54.79	-18.72	-
2	0.20859	0.13	40.45	-	40.58	-	63.26	53.26	-22.68	-
3	0.24375	0.13	36.41	-	36.54	-	61.97	51.97	-25.43	-
4	0.44688	0.13	40.39	-	40.52	-	56.93	46.93	-16.41	-
5	0.60313	0.15	36.77	-	36.92	-	56.00	46.00	-19.08	-
6	0.82578	0.17	30.77	-	30.94	-	56.00	46.00	-25.06	-

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



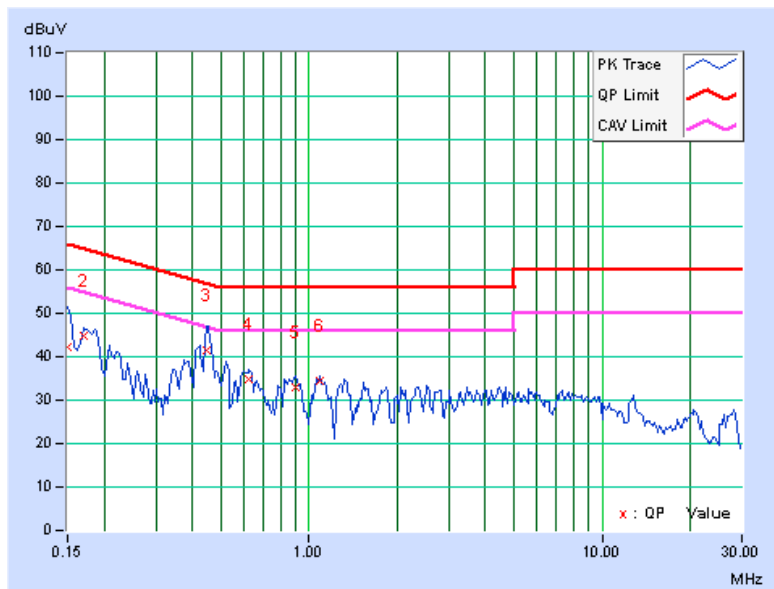


A D T

<b>CHANNEL</b>	Channel 165	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.15000	0.12	42.27	-	42.39	-	66.00	56.00	-23.61	-
2	0.16953	0.13	44.62	-	44.75	-	64.98	54.98	-20.23	-
3	0.44688	0.15	41.37	-	41.52	-	56.93	46.93	-15.41	-
4	0.62266	0.17	34.56	-	34.73	-	56.00	46.00	-21.27	-
5	0.89609	0.20	32.69	-	32.89	-	56.00	46.00	-23.11	-
6	1.08594	0.21	34.10	-	34.31	-	56.00	46.00	-21.69	-

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

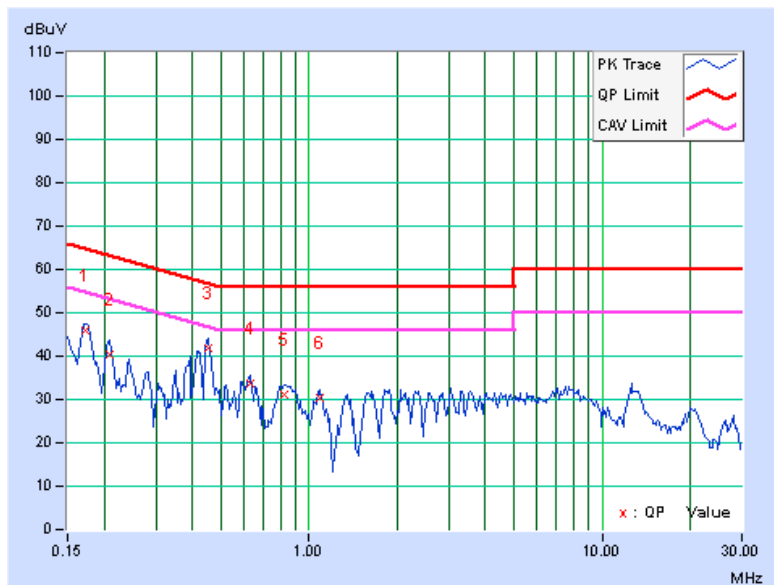


802.11n (20MHz)

<b>CHANNEL</b>	Channel 149	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	0.12	45.87	-	45.99	-	64.79	54.79	-18.80	-
2	0.20859	0.13	40.39	-	40.52	-	63.26	53.26	-22.74	-
3	0.45078	0.14	41.75	-	41.89	-	56.86	46.86	-14.98	-
4	0.62656	0.15	33.56	-	33.71	-	56.00	46.00	-22.29	-
5	0.82578	0.17	30.87	-	31.04	-	56.00	46.00	-24.96	-
6	1.08203	0.19	30.08	-	30.27	-	56.00	46.00	-25.73	-

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



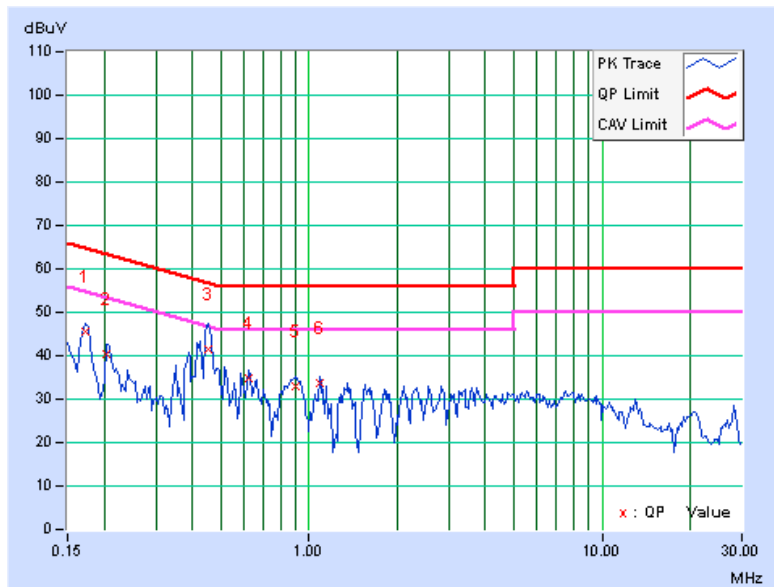


A D T

<b>CHANNEL</b>	Channel 149	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.13	45.58	-	45.71	-	64.79	54.79	-19.08	-
2	0.20469	0.14	40.11	-	40.25	-	63.42	53.42	-23.17	-
3	0.45078	0.16	41.19	-	41.35	-	56.86	46.86	-15.52	-
4	0.62266	0.17	34.58	-	34.75	-	56.00	46.00	-21.25	-
5	0.90000	0.20	32.83	-	33.03	-	56.00	46.00	-22.97	-
6	1.08203	0.21	33.61	-	33.82	-	56.00	46.00	-22.18	-

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



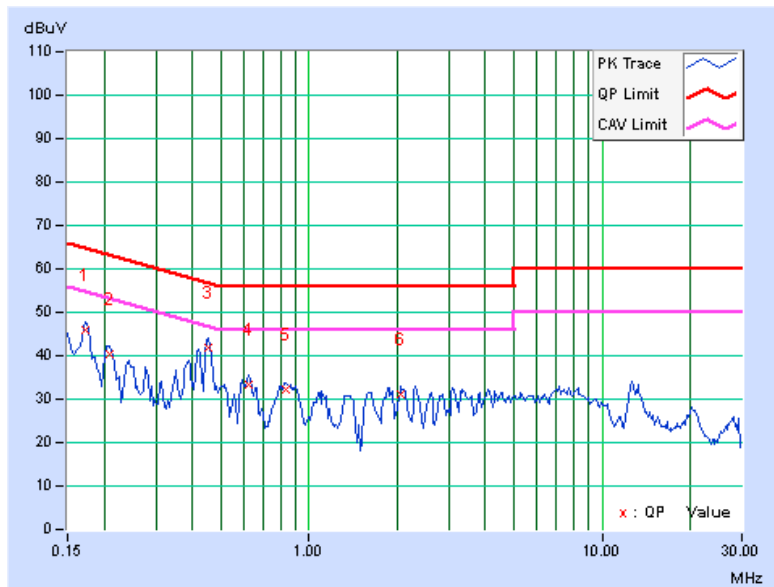


A D T

<b>CHANNEL</b>	Channel 157	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.12	45.89	-	46.01	-	64.79	54.79	-18.78	-
2	0.20859	0.13	40.33	-	40.46	-	63.26	53.26	-22.80	-
3	0.45078	0.14	41.71	-	41.85	-	56.86	46.86	-15.02	-
4	0.61875	0.15	33.01	-	33.16	-	56.00	46.00	-22.84	-
5	0.82969	0.17	32.11	-	32.28	-	56.00	46.00	-23.72	-
6	2.06641	0.22	30.86	-	31.08	-	56.00	46.00	-24.92	-

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



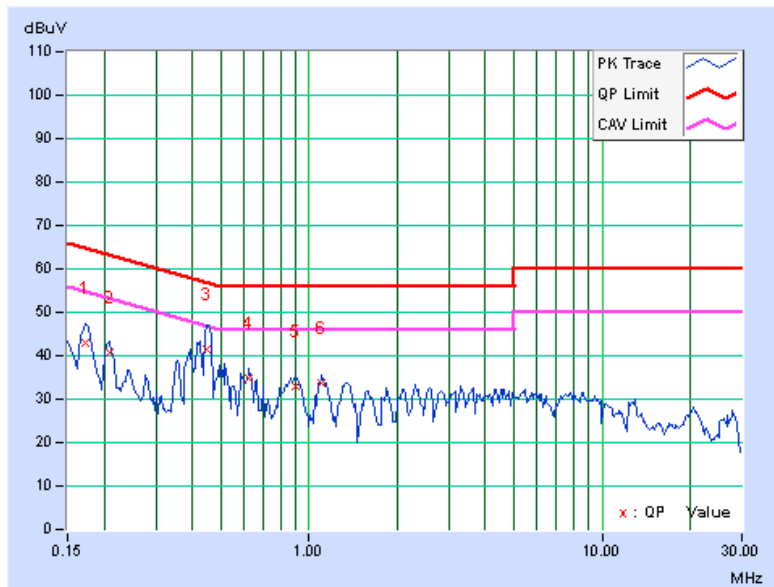


A D T

<b>CHANNEL</b>	Channel 157	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.13	42.67	-	42.80	-	64.79	54.79	-21.99	-
2	0.20859	0.14	40.49	-	40.63	-	63.26	53.26	-22.63	-
3	0.44688	0.15	41.43	-	41.58	-	56.93	46.93	-15.35	-
4	0.62266	0.17	34.58	-	34.75	-	56.00	46.00	-21.25	-
5	0.89609	0.20	32.77	-	32.97	-	56.00	46.00	-23.03	-
6	1.10938	0.21	33.47	-	33.68	-	56.00	46.00	-22.32	-

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



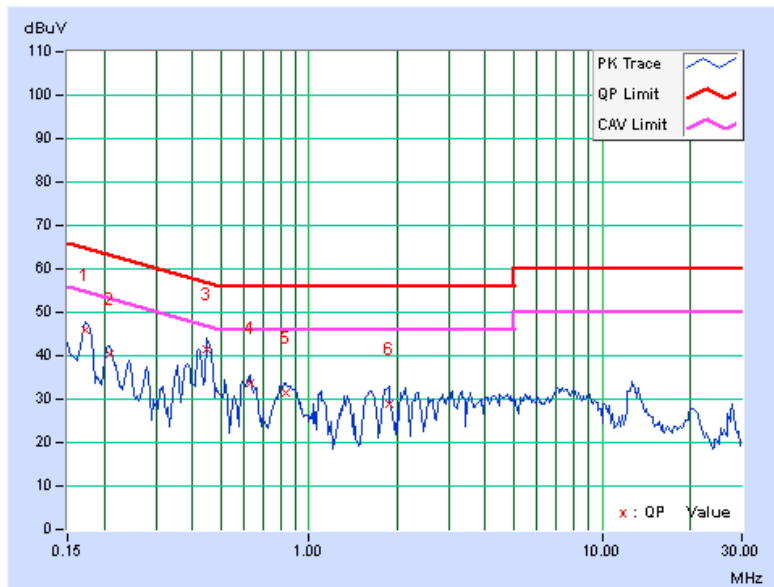


A D T

<b>CHANNEL</b>	Channel 165	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.12	45.83	-	45.95	-	64.79	54.79	-18.84	-
2	0.20859	0.13	40.37	-	40.50	-	63.26	53.26	-22.76	-
3	0.44688	0.13	41.37	-	41.50	-	56.93	46.93	-15.43	-
4	0.62656	0.15	33.58	-	33.73	-	56.00	46.00	-22.27	-
5	0.83750	0.17	31.37	-	31.54	-	56.00	46.00	-24.46	-
6	1.87891	0.22	28.67	-	28.89	-	56.00	46.00	-27.11	-

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





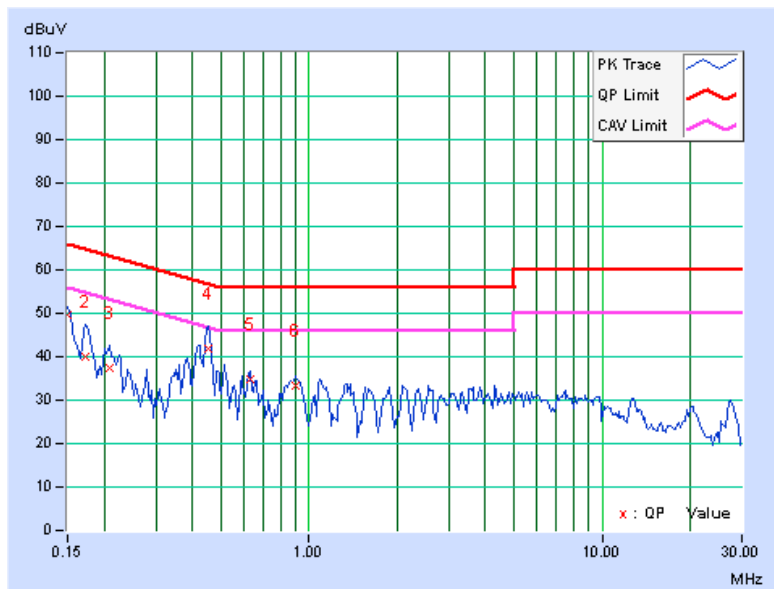


A D T

<b>CHANNEL</b>	Channel 165	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.15000	0.12	49.56	-	49.68	-	66.00	56.00	-16.32	-
2	0.17344	0.13	39.79	-	39.92	-	64.79	54.79	-24.87	-
3	0.20859	0.14	37.31	-	37.45	-	63.26	53.26	-25.81	-
4	0.45078	0.16	41.83	-	41.99	-	56.86	46.86	-14.88	-
5	0.62656	0.17	34.60	-	34.77	-	56.00	46.00	-21.23	-
6	0.90391	0.20	33.27	-	33.47	-	56.00	46.00	-22.53	-

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





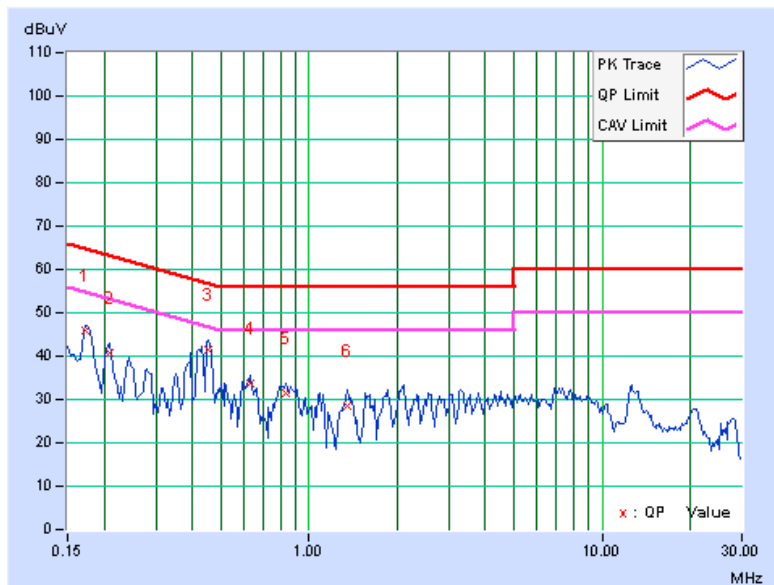
A D T

802.11n (40MHz)

<b>CHANNEL</b>	Channel 151	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB B

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	0.12	45.97	-	46.09	-	64.79	54.79	-18.70	-
2	0.20859	0.13	40.47	-	40.60	-	63.26	53.26	-22.66	-
3	0.45078	0.14	41.17	-	41.31	-	56.86	46.86	-15.56	-
4	0.62656	0.15	33.60	-	33.75	-	56.00	46.00	-22.25	-
5	0.83750	0.17	31.45	-	31.62	-	56.00	46.00	-24.38	-
6	1.34375	0.20	28.43	-	28.63	-	56.00	46.00	-27.37	-

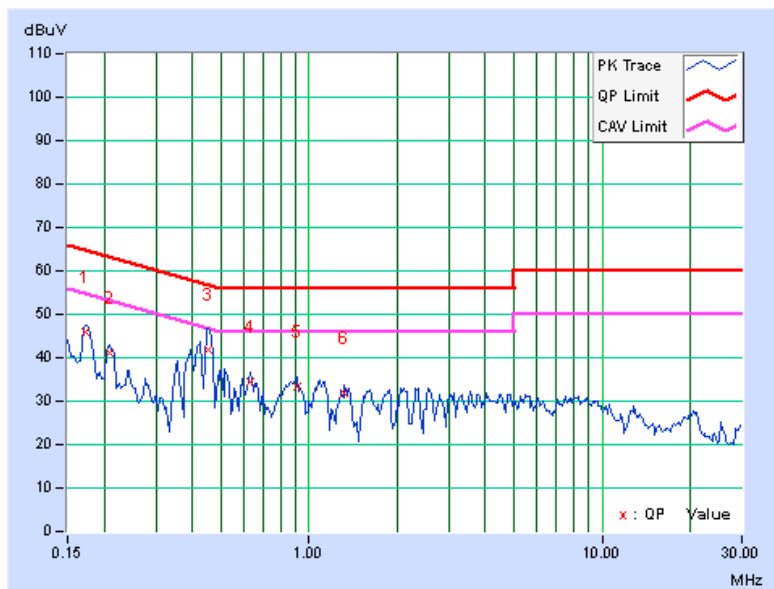
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



<b>CHANNEL</b>	Channel 151	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.17344	0.13	45.93	-	46.06	-	64.79	54.79	-18.73	-
2	0.20859	0.14	40.83	-	40.97	-	63.26	53.26	-22.29	-
3	0.45078	0.16	41.75	-	41.91	-	56.86	46.86	-14.96	-
4	0.63047	0.17	34.15	-	34.32	-	56.00	46.00	-21.68	-
5	0.90781	0.20	32.95	-	33.15	-	56.00	46.00	-22.85	-
6	1.32031	0.22	31.45	-	31.67	-	56.00	46.00	-24.33	-

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



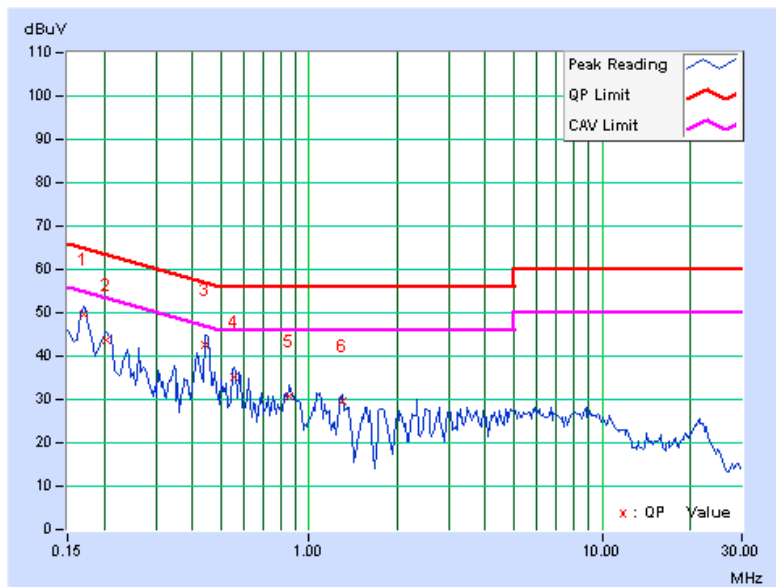


A D T

<b>CHANNEL</b>	Channel 159	<b>PHASE</b>	Line 1
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.16953	0.12	49.60	-	49.72	-	64.98	54.98	-15.27	-
2	0.20469	0.12	43.73	-	43.85	-	63.42	53.42	-19.57	-
<b>3</b>	<b>0.43906</b>	<b>0.12</b>	<b>42.49</b>	-	<b>42.61</b>	-	<b>57.08</b>	<b>47.08</b>	<b>-14.47</b>	-
4	0.55234	0.13	34.92	-	35.05	-	56.00	46.00	-20.95	-
5	0.85313	0.15	30.62	-	30.77	-	56.00	46.00	-25.23	-
6	1.30859	0.17	29.37	-	29.54	-	56.00	46.00	-26.46	-

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



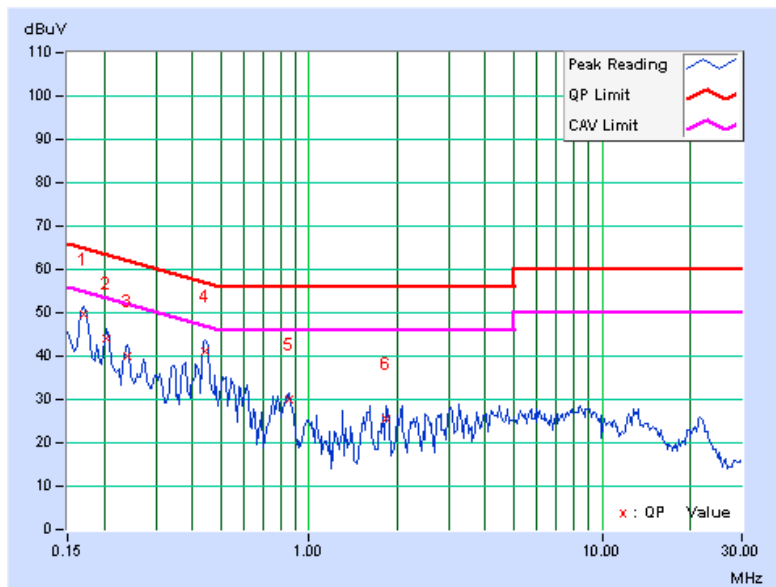


A D T

<b>CHANNEL</b>	Channel 151	<b>PHASE</b>	Line 2
<b>6dB BANDWIDTH</b>	9kHz	<b>TEST MODE</b>	Adapter model: EADP-13BB 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	0.16953	0.13	49.44	-	49.57	-	64.98	54.98	-15.42	-
2	0.20469	0.13	44.01	-	44.14	-	63.42	53.42	-19.28	-
3	0.23984	0.13	39.91	-	40.04	-	62.10	52.10	-22.06	-
4	0.43906	0.14	40.82	-	40.96	-	57.08	47.08	-16.12	-
5	0.85313	0.17	30.00	-	30.17	-	56.00	46.00	-25.83	-
6	1.82813	0.20	25.29	-	25.49	-	56.00	46.00	-30.51	-

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

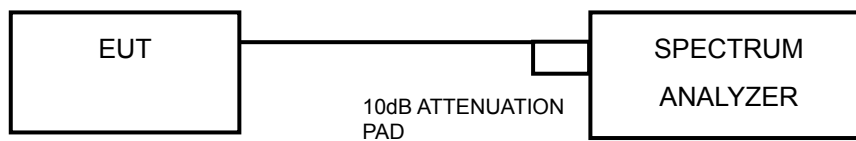


### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST SETUP



#### 4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
2. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. 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

#### 4.3.5 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 lowest, middle and highest channel frequencies individually.



### 4.3.7 TEST RESULTS

#### 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)				MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3		
149	5745	16.61	16.61	16.63	16.65	0.5	PASS
157	5785	16.64	16.63	16.67	16.66	0.5	PASS
165	5825	16.63	16.65	16.69	16.69	0.5	PASS

#### 802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)				MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3		
149	5745	17.82	17.80	17.80	17.86	0.5	PASS
157	5785	17.80	17.80	17.84	17.83	0.5	PASS
165	5825	17.82	17.84	17.87	17.85	0.5	PASS

#### 802.11n (40MHz)

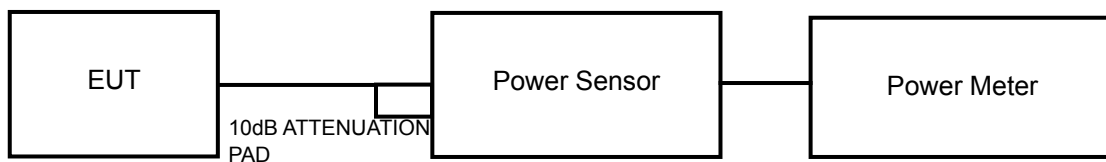
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)				MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3		
151	5755	36.48	36.68	36.39	36.46	0.5	PASS
159	5795	36.60	36.66	36.58	36.63	0.5	PASS

## 4.4 CONDUCTED OUTPUT POWER

### 4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz bands: 1 Watt (30dBm)

### 4.4.2 TEST SETUP



### 4.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.4.4 TEST PROCEDURES

Using test tool to control EUT to transmit test signal continuously with maximum output power and the duty cycle is > 98 %. An peak sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

### 4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.





#### 4.4.7 TEST RESULTS

##### 802.11a

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)				TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3				
149	5745	17.4	17.2	19.4	17.9	256.2	24.1	30	PASS
157	5785	17.7	17.0	19.1	17.4	245.2	23.9	30	PASS
165	5825	18.2	17.3	18.8	16.9	244.6	23.9	30	PASS

##### 802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)				TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3				
149	5745	18.2	18.7	20.6	19.4	342.1	25.3	30	PASS
157	5785	19.1	18.4	20.4	18.8	336.0	25.3	30	PASS
165	5825	19.3	18.3	19.7	18.2	312.1	24.9	30	PASS

##### 802.11n (40MHz)

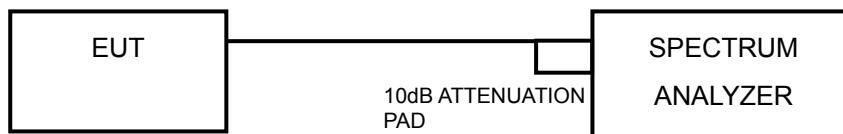
CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)				TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3				
151	5755	17.3	17.1	19	17.6	242.0	23.8	30	PASS
159	5795	20.1	20.3	22	20.3	475.1	26.8	30	PASS

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST SETUP



### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 TEST PROCEDURE

1. Set the RBW = 100 kHz, VBW =300 kHz, Detector = rms.
2. Sweep time =26 second
3. Perform the measurement over a single sweep.
3. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(3 \text{ kHz}/100\text{kHz})$

### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6.



## 4.5.7 TEST RESULTS

### 802.11a

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=4) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-1.45	-16.68	6.02	-10.66	8	PASS
	157	5785	-1.35	-16.58	6.02	-10.56	8	PASS
	165	5825	0.44	-14.79	6.02	-8.77	8	PASS
1	149	5745	-2.42	-17.65	6.02	-11.63	8	PASS
	157	5785	-2.41	-17.64	6.02	-11.62	8	PASS
	165	5825	-2.31	-17.54	6.02	-11.52	8	PASS
2	149	5745	-1.81	-17.04	6.02	-11.02	8	PASS
	157	5785	-2.10	-17.33	6.02	-11.31	8	PASS
	165	5825	-2.54	-17.77	6.02	-11.75	8	PASS
3	149	5745	-0.78	-16.01	6.02	-9.99	8	PASS
	157	5785	-1.43	-16.66	6.02	-10.64	8	PASS
	165	5825	-1.68	-16.91	6.02	-10.89	8	PASS

### 802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=4) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-1.50	-16.73	6.02	-10.71	8	PASS
	157	5785	-0.37	-15.6	6.02	-9.58	8	PASS
	165	5825	-0.33	-15.56	6.02	-9.54	8	PASS
1	149	5745	-0.68	-15.91	6.02	-9.89	8	PASS
	157	5785	-0.87	-16.10	6.02	-10.08	8	PASS
	165	5825	-1.03	-16.26	6.02	-10.24	8	PASS
2	149	5745	0.63	-14.60	6.02	-8.58	8	PASS
	157	5785	0.35	-14.88	6.02	-8.86	8	PASS
	165	5825	0.34	-14.89	6.02	-8.87	8	PASS
3	149	5745	-0.47	-15.70	6.02	-9.68	8	PASS
	157	5785	-1.05	-16.28	6.02	-10.26	8	PASS
	165	5825	-1.59	-16.82	6.02	-10.8	8	PASS



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### 802.11n (40MHz)

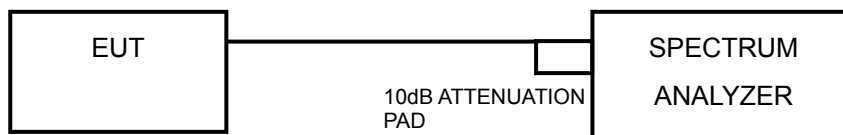
TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=4) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-4.81	-20.04	6.02	-14.02	8	PASS
	159	5795	-1.83	-17.06	6.02	-11.04	8	PASS
1	151	5755	-4.29	-19.52	6.02	-13.5	8	PASS
	159	5795	-1.15	-16.38	6.02	-10.36	8	PASS
2	151	5755	-3.33	-18.56	6.02	-12.54	8	PASS
	159	5795	-0.54	-15.77	6.02	-9.75	8	PASS
3	151	5755	-4.34	-19.57	6.02	-13.55	8	PASS
	159	5795	-1.70	-16.93	6.02	-10.91	8	PASS

## 4.6 CONDUCTED EMISSION MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.6.2 TEST SETUP



### 4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 TEST PROCEDURE

#### MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW  $\geq$  300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.



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## MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  300 kHz.
3. Set span to encompass the spectrum to be examined.
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

### 4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

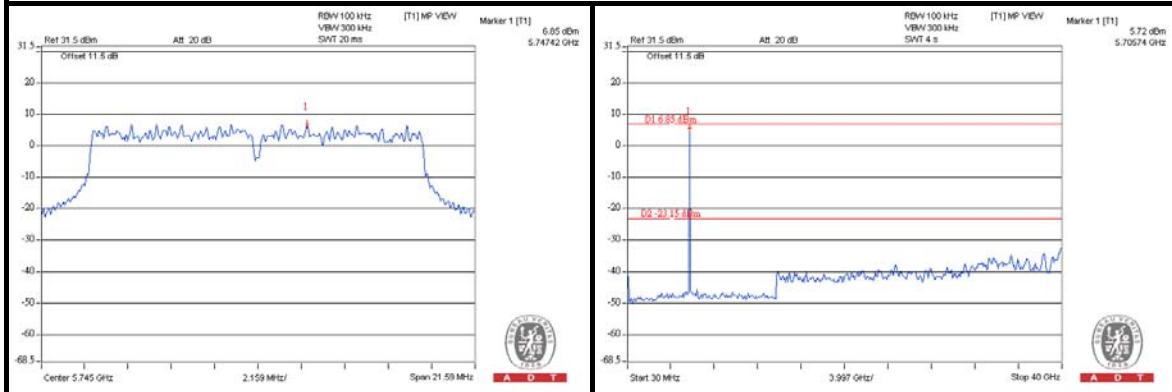
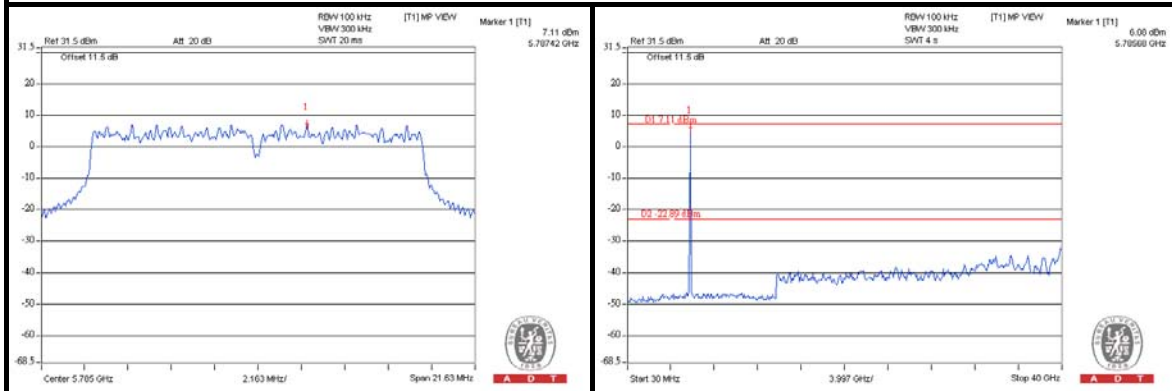
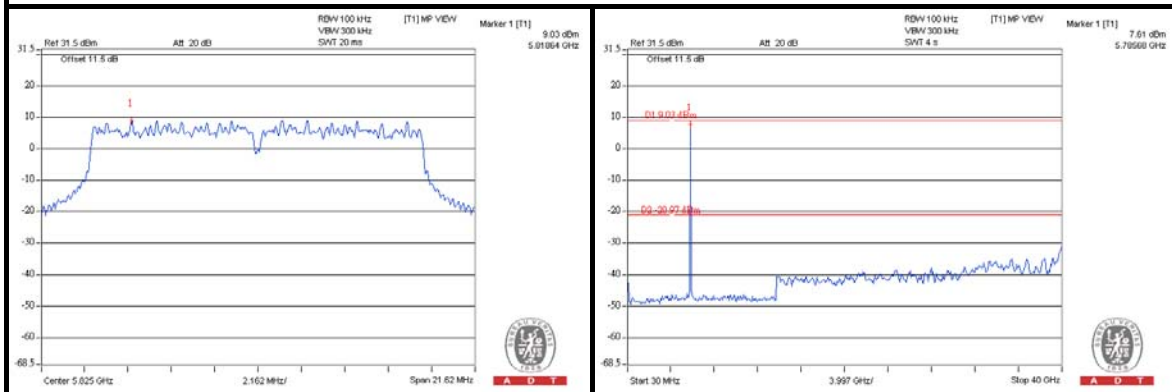
### 4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

### 4.6.7 TEST RESULTS

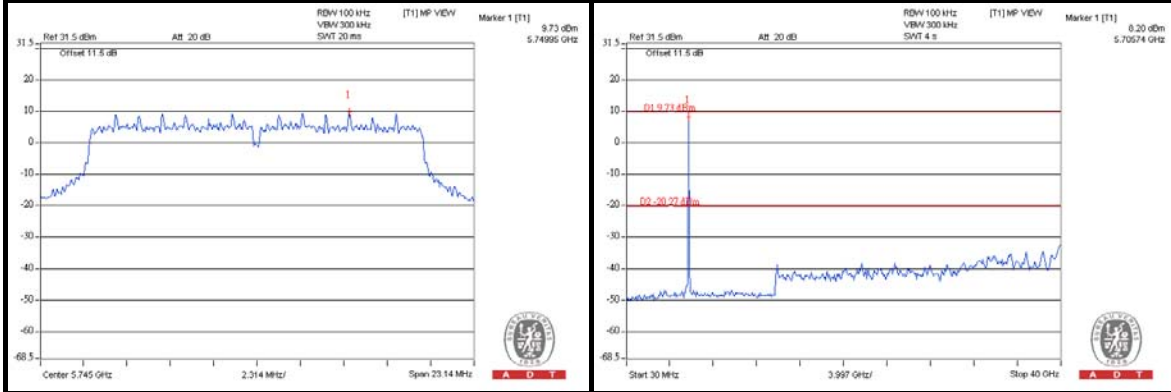
The conducted emission test is performed on each TX port of operating mode without summing or adding  $10\log(N)$  since the limit is relative emission limit. Only worst data of each operating mode is presented.

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement in part 15.247(d).

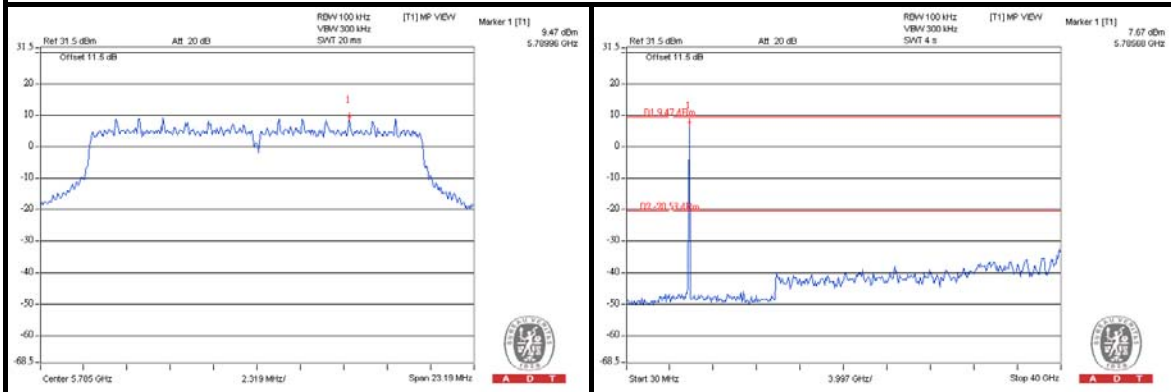
**802.11a****CH 149****CH 157****CH 165**

### 802.11n (20MHz)

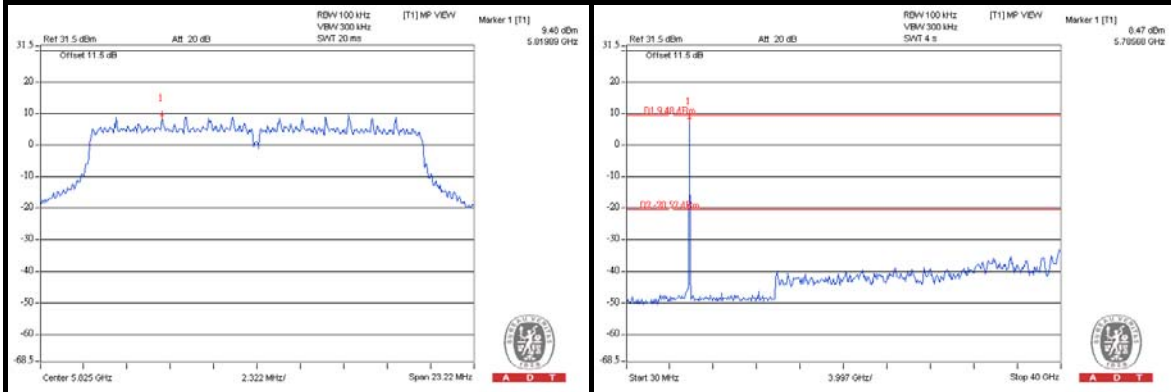
#### CH 149



#### CH 157



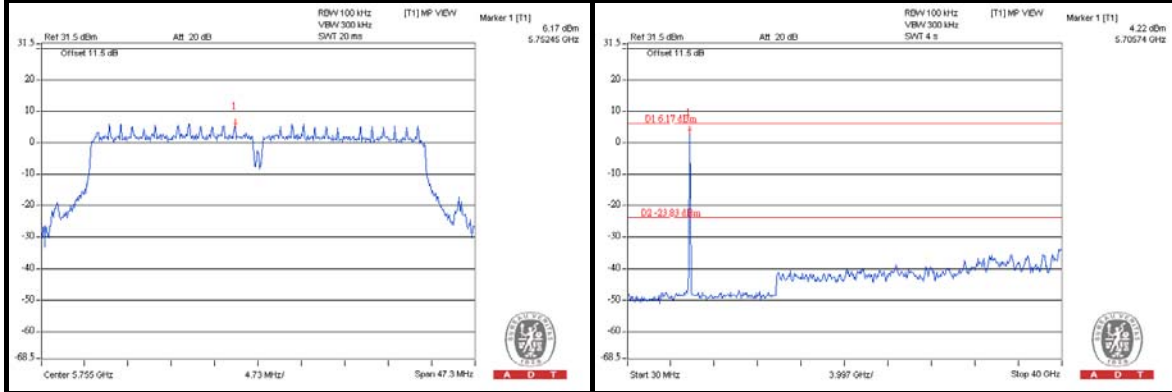
#### CH 165



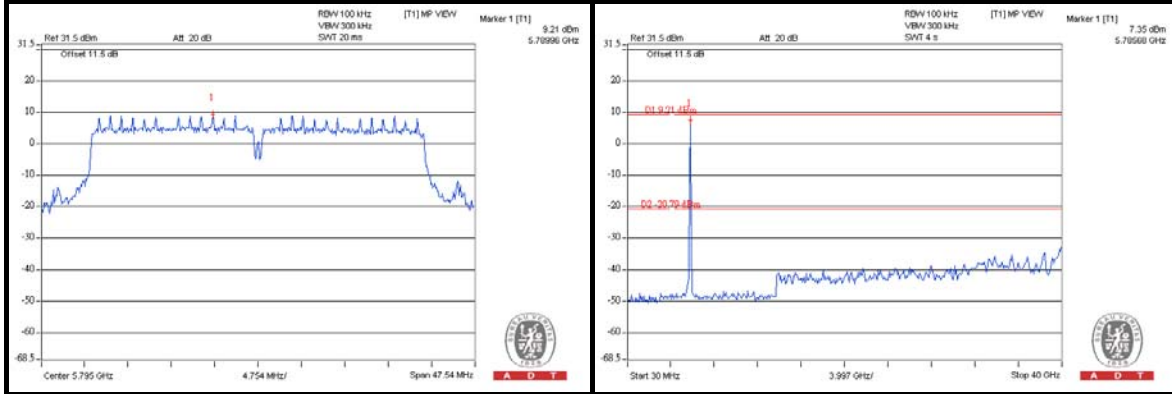


### 802.11n (40MHz)

#### CH 151



#### CH 159





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## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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## 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.

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5.phtml](http://www.adt.com.tw/index.5.phtml).

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

**Linko EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF Lab**

Tel: 886-3-5935343

Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab**

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**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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.

**---END---**