FCC TEST REPORT

REPORT NO.:	RF931228H01
MODEL NO.:	WAP-D26, DWL-AG700AP
RECEIVED:	Dec. 28, 2004
TESTED:	Dec. 20, 2004 to Jan. 05, 2005
ISSUED:	Jan. 12, 2005

APPLICANT:	D-LINK Corporation
ADDRESS:	No.8, Li-shing Road VII, Science-based Industrial Park, Hsinchu, Taiwan.

ISSUED BY:	Advance Data Technology Corporation
LAB LOCATION:	No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan, R.O.C.

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0536 No. 2177-01

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1. CERTIFICATION

PRODUCT :	802.11a/b/g Dual Band Wireless Access Point
BRAND NAME :	D-Link, Non-brand
MODEL NO. :	WAP-D26, DWL-AG700AP
TESTED:	Dec. 20, 2004 to Jan. 05, 2005
APPLICANT :	D-LINK Corporation
TEST ITEM:	ENGINEERING SAMPLE
STANDARDS :	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.4-2003

The above equipment (Model: DWL-AG700AP) has been tested by **Advance Data Technology Corporation**, 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 : Carol Liao , **DATE:** Jan. 12, 2005
(Carol Liao)

TECHNICAL ACCEPTANCE : Hank Chung , **DATE:** Jan. 12, 2005
Responsible for RF
(Hank Chung)

APPROVED BY : , **DATE:** Jan. 12, 2005
(Eric Lin, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –14.75dB at 0.171MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Transmitter Radiated Emissions FCC Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –0.7dB at 2390.0MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

for freq. 5.15~5.35GHz：

APPLIED STANDARD: 47 CFR Part 15, Subpart E			
Standard Section	**Test Type**	**Result**	**REMARK**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –13.96dB at 0.170MHz
15.407(b/1/2/3) (b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit Minimum passing margin is –1.00dB at 15540.00MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit

for freq. 5.725~5.850GHz：

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –13.96dB at 0.170MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Transmitter Radiated Emissions FCC Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –1.50dB at 770.00MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11a/b/g Dual Band Wireless Access Point
MODEL NO.	WAP-D26, DWL-AG700AP
POWER SUPPLY	DC 5V from power adapter
MODULATION	DSSS, OFDM
TRANSFER RATE	802.11b and draft 802.11g: 1/2/5.5/6/9/11/12/18/24/36/48/54Mbps 802.11a:6 to 54Mbps
FREQUENCY RANGE	802.11b and draft 802.11g: 2400MHz ~ 2483.5MHz 802.11a: 5.15~5.35GHz and 5.725~5.850GHz
NUMBER OF CHANNEL	802.11b and draft 802.11g: 11 802.11a: 13 for Normal mode
CHANNEL SPACING	802.11b and draft 802.11g: 5MHz 802.11a: 20MHz for Normal mode
Max. OUTPUT POWER	802.11b: 20.41dBm / draft 802.11g: 18.33dBm 802.11a: 15.72dBm
DATA CABLE	NA
ANTENNA TYPE	Dipole Antenna with 2dBi antenna gain, Printed Antenna (Rx function only) for 2.4G: -0.98dBi antenna gain for 5G: 2.19dBi antenna gain
I/O PORTS	LAN port x 1
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT is an 802.11a/b/g Dual Band Wireless Access Point, which contains two radios capable of simultaneous 802.11b/g (2.4GHz) and 802.11a (5GHz) operations.

2. The EUT was powered by the following power adapter:

Brand:	D-Link
Model No.:	JTA0302A
Input power :	AC 100-120V~0.5A, 50-60Hz
Output power :	DC 5.0V; 2.5A 1.8m

3. The EUT has two model names which are identical to each other in all aspects except for the followings:

Brand	Model Name	Description
Non-brand	WAP-D26	Only brand name and model name are different
D-Link	DWL-AG700AP	

From the above models, model: **DWL-AG700AP** was selected as representative model for the test and its data were recorded in this report.

4. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

For 802.11b and draft 802.11g : Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

NOTE:

1. Below 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.
3. Transfer rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.

For 802.11a: Thirteen Channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	8	5320 MHz
2	5200 MHz	9	5745MHz
3	5220 MHz	10	5765MHz
4	5240 MHz	11	5785MHz
5	5260 MHz	12	5805MHz
6	5280 MHz	13	5825MHz
7	5300 MHz		

NOTE:

1..The EUT was tested in normal mode (channel bandwidth of approximately 20MHz).
2. “Normal Mode” allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. Channel 1, 4, 5, 8, 9, 11 and 13 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11a/b/g Dual Band Wireless Access Point. According to the specifications of the manufacturer; it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

FCC Part 15, Subpart E (15.407)

ANSI C63.4-2003

All tests 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 47CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

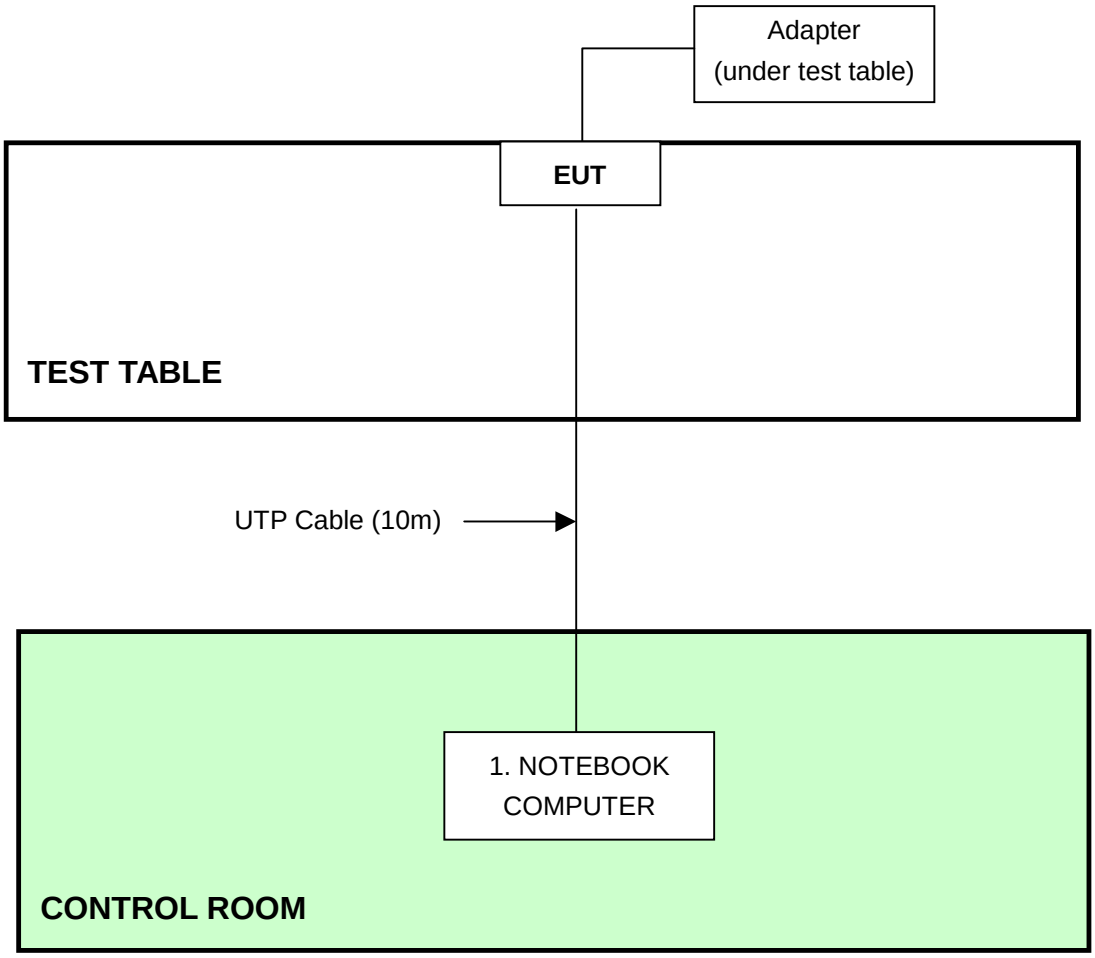
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	C600	6DRV601	FCC DoC

No.	Signal cable description
1	NA

Note: 1. All power cords of the above support units are unshielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Support unit 1 was kept in the control room during the test.
2. Please refer to the photos of test configuration in Item 6 also.

4. TEST TYPES AND RESULTS (FOR PART 802.11g)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTES: (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 0.50 MHz.

(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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Dec. 07, 2005
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 08, 2005
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2005
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 02, 2005
Terminator(for KYORITSU)	50	3	May 10, 2005
Software	Cond-V2e	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 ADT Shielded Room No. A.
3 The VCCI Con A Registration No. is C-817.
4 The measurement uncertainty is 2.53 dB, which is calculated as per the document CISPR 16-4

4.1.3 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.

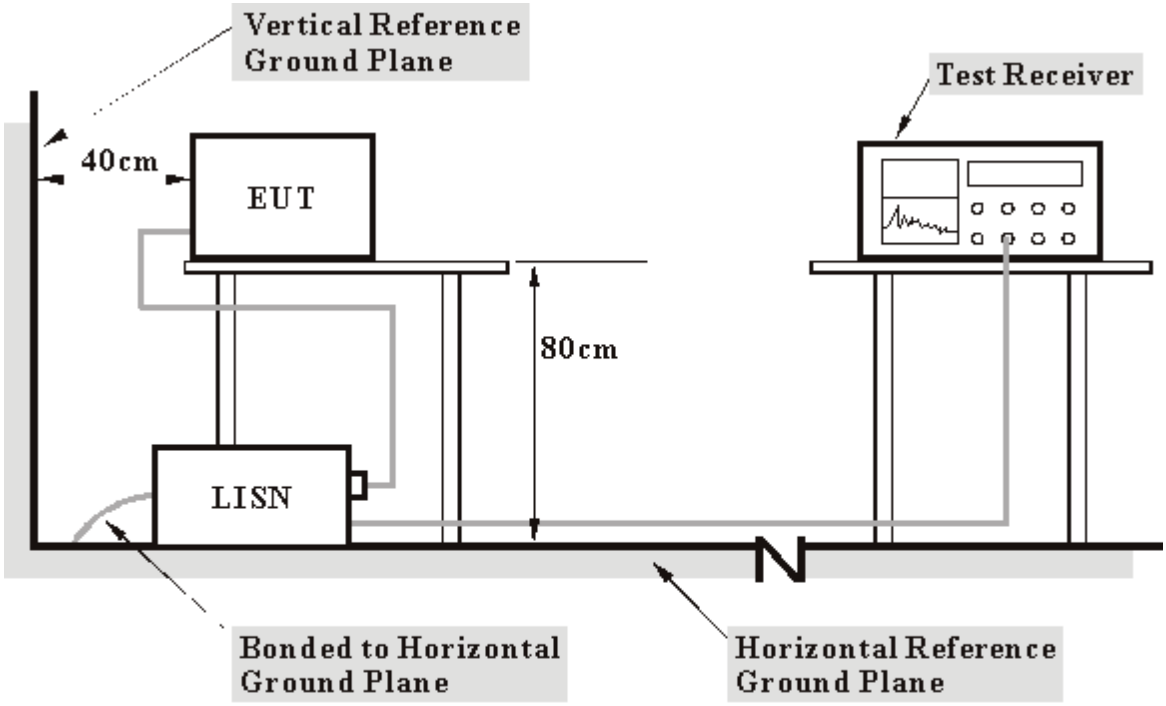
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

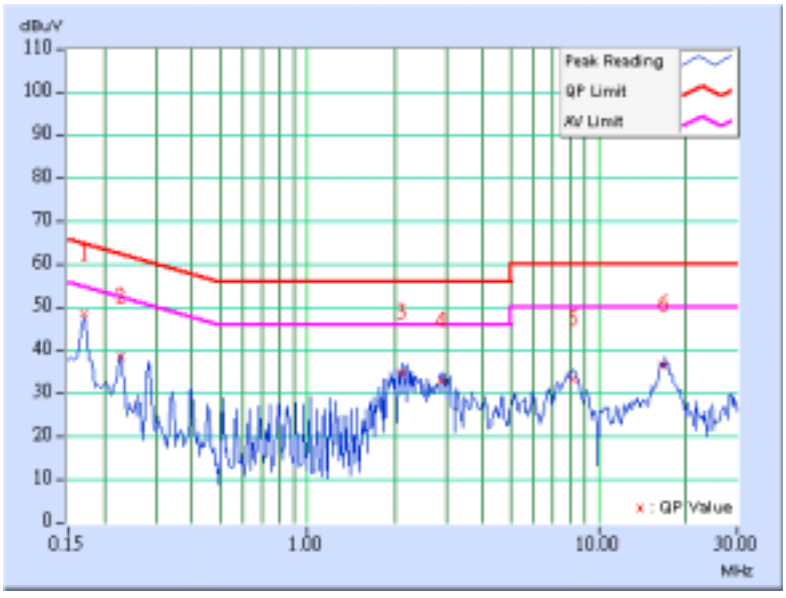
a. Placed the EUT on the testing table.
b. Prepared another computer system to act as a communication partner and placed it outside of testing area.
c. The communication partner run test program “FileZilla server with ART485” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable.

4.1.7 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP		
TEST MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 64%RH, 979 hPa	**TESTED BY**	Wen Yu

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.171	0.31	46.88	-	47.19	-	64.93	54.93	-17.75	-
2	0.228	0.31	36.89	-	37.20	-	62.52	52.52	-25.32	-
3	2.107	0.55	33.07	-	33.62	-	56.00	46.00	-22.38	-
4	2.904	0.69	31.30	-	31.99	-	56.00	46.00	-24.01	-
5	8.208	1.16	31.85	-	33.01	-	60.00	50.00	-26.99	-
6	16.823	1.63	35.03	-	36.66	-	60.00	50.00	-23.34	-

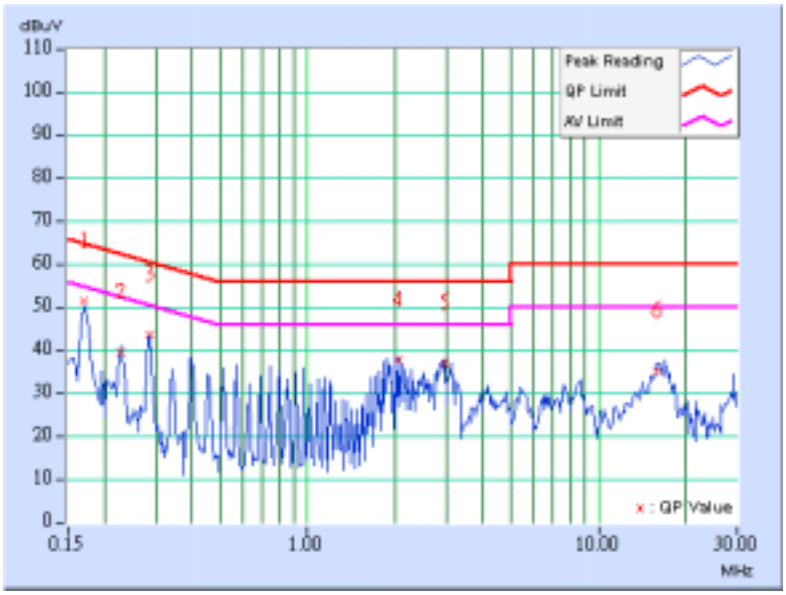
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP		
TEST MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 64%RH, 979 hPa	**TESTED BY**	Wen Yu

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.171**	**0.31**	**49.86**	**-**	**50.17**	**-**	**64.92**	**54.92**	**-14.75**	**-**
2	0.228	0.31	38.19	-	38.50	-	62.52	52.52	-24.02	-
3	0.287	0.32	42.33	-	42.65	-	60.62	50.62	-17.97	-
4	2.056	0.54	36.44	-	36.98	-	56.00	46.00	-19.02	-
5	2.973	0.71	35.52	-	36.23	-	56.00	46.00	-19.77	-
6	15.954	1.47	33.58	-	35.05	-	60.00	50.00	-24.95	-

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.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Field strength limits are at the distance of 3 meters, 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8594E	3710A04861	Sep. 23, 2005
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 29, 2005
CHASE RF Pre_Amplifier	CPA9232	1057	Aug 06, 2005
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	May 22, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jun. 16, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170192	Feb. 16, 2005
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
RF Switches (ARNITSU)	CS-201	1565157	Jul. 15, 2005
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Feb. 10. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Jul. 15, 2005
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Dipole Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4.

Measurement	Value
Radiated emissions (30MHz-1GHz)	2.98 dB
Radiated emissions (1GHz ~18GHz)	2.21 dB
Radiated emissions (18GHz ~20GHz)	1.88 dB

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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 10 dB 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 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

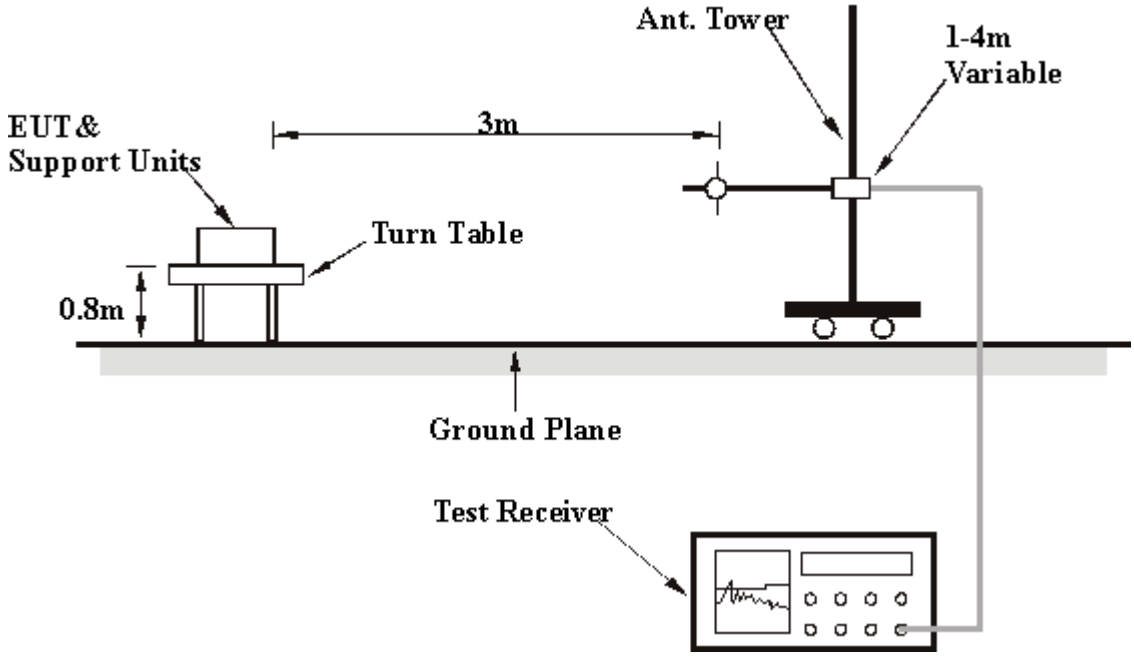
NOTE:

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 and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
TEST MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 65%RH, 979 hPa	**TESTED BY**	Rex Huang

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	110.00	29.10 QP	43.50	-14.40	1.71 H	303	17.40	11.70
2	220.00	34.80 QP	46.00	-11.20	1.42 H	313	24.60	10.30
3	250.01	36.00 QP	46.00	-10.00	1.25 H	303	22.00	14.00
4	330.00	34.20 QP	46.00	-11.80	1.00 H	352	18.10	16.10
5	375.03	38.20 QP	46.00	-7.80	1.62 H	21	20.60	17.60
6	500.04	40.60 QP	46.00	-5.40	1.53 H	30	19.90	20.70
7	549.99	38.70 QP	46.00	-7.30	1.18 H	2	15.90	22.80
8	769.99	38.80 QP	46.00	-7.20	2.08 H	309	12.90	25.90
9	879.99	42.00 QP	46.00	-4.00	1.39 H	348	14.60	27.40

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	80.00	37.10 QP	40.00	-2.90	1.47 V	74	29.10	8.00
2	110.00	38.20 QP	43.50	-5.30	1.18 V	318	26.50	11.70
3	250.02	38.80 QP	46.00	-7.20	1.00 V	335	24.80	14.00
4	330.00	36.20 QP	46.00	-9.80	1.47 V	58	20.00	16.10
5	375.02	36.60 QP	46.00	-9.40	1.07 V	57	19.10	17.60
6	549.99	43.40 QP	46.00	-2.60	1.00 V	97	20.70	22.80
7	770.00	44.70 QP	46.00	-1.30	1.44 V	259	18.80	25.90
8	879.99	41.50 QP	46.00	-4.50	1.21 V	256	14.20	27.40

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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.

4.2.8 TEST RESULTS - DSSS

EUT	802.11a/b/g Dual Band Wireless Access Point	**Model**	DWL-AG700AP
MODE	Channel 1	**FREQUENCY RANGE**	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	**TESTED BY**	Sky Liao

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	1344.00	47.10 PK	74.00	-26.90	1.56 H	257	20.20	27.00
1	1344.00	44.10 AV	54.00	-9.90	1.56 H	257	17.20	27.00
2	2016.00	54.40 PK	74.00	-19.60	1.49 H	251	25.60	28.80
2	2016.00	52.10 AV	54.00	-1.90	1.49 H	251	23.30	28.80
3	2390.00	56.30 PK	74.00	-17.70	1.10 H	314	22.50	33.80
3	2390.00	48.80 AV	54.00	-5.20	1.10 H	314	15.00	33.80
4	*2412.00	110.10 PK			1.10 H	314	80.20	29.90
4	*2412.00	102.40 AV			1.10 H	314	72.50	29.90
5	2688.00	45.00 PK	74.00	-29.00	1.54 H	266	14.10	30.90
5	2688.00	42.50 AV	54.00	-11.50	1.54 H	266	11.60	30.90
6	4824.00	54.90 PK	74.00	-19.10	1.27 H	263	18.70	36.20
6	4824.00	41.80 AV	54.00	-12.20	1.27 H	263	5.60	36.20
7	7236.00	56.10 PK	74.00	-17.90	1.00 H	265	14.50	41.70
7	7236.00	47.70 AV	54.00	-6.30	1.00 H	265	6.10	41.70

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	1344.00	41.10 PK	74.00	-32.90	1.00 V	187	14.20	27.00
1	1344.00	36.80 AV	54.00	-17.20	1.00 V	187	9.80	27.00
2	2016.00	51.50 PK	74.00	-22.50	1.00 V	11	22.70	28.80
2	2016.00	49.60 AV	54.00	-4.40	1.00 V	11	20.80	28.80
3	2390.00	60.50 PK	74.00	-13.50	1.09 V	16	26.60	33.80
3	2390.00	53.00 AV	54.00	-1.00	1.09 V	16	19.10	33.80
4	*2412.00	114.30 PK			1.09 V	16	84.40	29.90
4	*2412.00	106.80 AV			1.09 V	16	76.90	29.90
5	2688.00	49.40 PK	74.00	-24.60	1.00 V	342	18.50	30.90
5	2688.00	47.20 AV	54.00	-6.80	1.00 V	342	16.30	30.90
6	4824.00	49.70 PK	74.00	-24.30	1.00 V	226	13.50	36.20
6	4824.00	46.40 AV	54.00	-7.60	1.00 V	226	10.20	36.20
7	7236.00	58.00 PK	74.00	-16.00	1.00 V	147	16.30	41.70
7	7236.00	48.90 AV	54.00	-5.10	1.00 V	147	7.20	41.70

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Channel 6	**FREQUENCY RANGE**	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	**TESTED BY**	Sky Liao

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	1344.00	47.20 PK	74.00	-26.80	1.57 H	254	20.20	27.00
1	1344.00	44.30 AV	54.00	-9.70	1.57 H	254	17.30	27.00
2	2016.00	54.20 PK	74.00	-19.80	1.51 H	253	25.40	28.80
2	2016.00	52.00 AV	54.00	-2.00	1.51 H	253	23.20	28.80
3	*2437.00	110.40 PK			1.14 H	308	80.40	30.00
3	*2437.00	103.10 AV			1.14 H	308	73.10	30.00
4	2688.00	45.30 PK	74.00	-28.70	1.57 H	265	14.40	30.90
4	2688.00	42.70 AV	54.00	-11.30	1.57 H	265	11.80	30.90
5	4874.00	55.10 PK	74.00	-18.90	1.28 H	267	18.60	36.50
5	4874.00	41.90 AV	54.00	-12.10	1.28 H	267	5.40	36.50
6	7311.00	56.40 PK	74.00	-17.60	1.01 H	263	14.60	41.80
6	7311.00	47.90 AV	54.00	-6.10	1.01 H	263	6.10	41.80

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	1344.00	41.30 PK	74.00	-32.70	1.00 V	194	14.40	27.00
1	1344.00	37.00 AV	54.00	-17.00	1.00 V	194	10.10	27.00
2	2016.00	52.30 PK	74.00	-21.70	1.00 V	9	23.50	28.80
2	2016.00	50.10 AV	54.00	-3.90	1.00 V	9	21.30	28.80
3	*2437.00	114.80 PK			1.06 V	11	84.80	30.00
3	*2437.00	107.70 AV			1.06 V	11	77.70	30.00
4	2688.00	49.40 PK	74.00	-24.60	1.00 V	335	18.50	30.90
4	2688.00	47.10 AV	54.00	-6.90	1.00 V	335	16.20	30.90
5	4874.00	57.80 PK	74.00	-16.20	1.00 V	254	21.30	36.50
5	4874.00	45.40 AV	54.00	-8.60	1.00 V	254	8.90	36.50
6	7311.00	57.90 PK	74.00	-16.10	1.00 V	159	16.10	41.80
6	7311.00	49.70 AV	54.00	-4.30	1.00 V	159	7.90	41.80

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Channel 11	**FREQUENCY RANGE**	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	**TESTED BY**	Sky Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1344.00	46.80 PK	74.00	-27.20	1.55 H	253	19.90	27.00
1	1344.00	43.90 AV	54.00	-10.10	1.55 H	253	17.00	27.00
2	2016.00	54.10 PK	74.00	-19.90	1.47 H	246	25.30	28.80
2	2016.00	52.00 AV	54.00	-2.00	1.47 H	246	23.20	28.80
3	*2462.00	110.10 PK			1.13 H	319	80.00	30.10
3	*2462.00	102.80 AV			1.13 H	319	72.70	30.10
4	2483.50	53.60 PK	74.00	-20.40	1.13 H	319	23.50	30.10
4	2483.50	46.30 AV	54.00	-7.70	1.13 H	319	16.20	30.10
5	2688.00	45.20 PK	74.00	-28.80	1.57 H	249	14.30	30.90
5	2688.00	42.60 AV	54.00	-11.40	1.57 H	249	11.70	30.90
6	4924.00	54.80 PK	74.00	-19.20	1.26 H	266	18.20	36.70
6	4924.00	41.60 AV	54.00	-12.40	1.26 H	266	4.90	36.70
7	7386.00	56.20 PK	74.00	-17.80	1.00 H	267	14.40	41.80
7	7386.00	47.80 AV	54.00	-6.20	1.00 H	267	6.00	41.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1344.00	40.80 PK	74.00	-33.20	1.00 V	182	13.90	27.00
1	1344.00	36.70 AV	54.00	-17.30	1.00 V	182	9.70	27.00
2	2016.00	51.90 PK	74.00	-22.10	1.00 V	8	23.10	28.80
2	2016.00	49.80 AV	54.00	-4.20	1.00 V	8	21.00	28.80
3	*2462.00	114.60 PK			1.22 V	7	84.50	30.10
3	*2462.00	107.40 AV			1.22 V	7	77.30	30.10
4	2483.50	58.10 PK	74.00	-15.90	1.22 V	7	28.00	30.10
4	2483.50	50.90 AV	54.00	-3.10	1.22 V	7	20.80	30.10
5	2688.00	49.20 PK	74.00	-24.80	1.00 V	339	18.40	30.90
5	2688.00	47.00 AV	54.00	-7.00	1.00 V	339	16.20	30.90
6	4924.00	56.00 PK	74.00	-18.00	1.00 V	119	19.30	36.70
6	4924.00	44.30 AV	54.00	-9.70	1.00 V	119	7.60	36.70
7	7386.00	58.20 PK	74.00	-15.80	1.00 V	166	16.40	41.80
7	7386.00	50.10 AV	54.00	-3.90	1.00 V	166	8.20	41.80

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.2.9 TEST RESULTS - OFDM

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Channel 1	**FREQUENCY RANGE**	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	**TESTED BY**	Sky Liao

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	1344.00	48.30 PK	74.00	-25.70	1.55 H	256	21.40	27.00
1	1344.00	45.20 AV	54.00	-8.80	1.55 H	256	18.30	27.00
2	2016.00	49.30 PK	74.00	-24.70	1.53 H	252	20.50	28.80
2	2016.00	46.80 AV	54.00	-7.20	1.53 H	252	18.00	28.80
3	2390.00	56.60 PK	74.00	-17.40	1.08 H	298	22.80	33.80
3	2390.00	46.80 AV	54.00	-7.20	1.08 H	298	13.00	33.80
4	*2412.00	102.80 PK			1.08 H	298	72.90	29.90
4	*2412.00	92.60 AV			1.08 H	298	62.70	29.90
5	2688.00	43.70 PK	74.00	-30.30	1.50 H	266	12.90	30.90
5	2688.00	39.70 AV	54.00	-14.30	1.50 H	266	8.80	30.90
6	4824.00	45.50 PK	74.00	-28.50	1.27 H	266	9.30	36.20
6	4824.00	31.90 AV	54.00	-22.10	1.27 H	266	-4.30	36.20
7	7236.00	51.60 PK	74.00	-22.40	1.01 H	264	10.00	41.70
7	7236.00	38.80 AV	54.00	-15.20	1.01 H	264	-2.80	41.70

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	1344.00	42.20 PK	74.00	-31.80	1.00 V	187	15.30	27.00
1	1344.00	38.40 AV	54.00	-15.60	1.00 V	187	11.50	27.00
2	2016.00	46.50 PK	74.00	-27.50	1.00 V	11	17.70	28.80
2	2016.00	44.30 AV	54.00	-9.70	1.00 V	11	15.50	28.80
3	2390.00	63.30 PK	74.00	-10.70	1.25 V	16	29.50	33.80
3	**2390.00**	**53.30 AV**	**54.00**	**-0.70**	**1.25 V**	**16**	**19.50**	**33.80**
4	*2412.00	109.50 PK			1.25 V	16	79.60	29.90
4	*2412.00	99.10 AV			1.25 V	16	69.20	29.90
5	2688.00	46.00 PK	74.00	-28.00	1.00 V	338	15.10	30.90
5	2688.00	42.50 AV	54.00	-11.50	1.00 V	338	11.60	30.90
6	4824.00	47.60 PK	74.00	-26.40	1.00 V	124	11.40	36.20
6	4824.00	34.10 AV	54.00	-19.90	1.00 V	124	-2.10	36.20
7	7236.00	52.70 PK	74.00	-21.30	1.00 V	172	11.00	41.70
7	7236.00	39.30 AV	54.00	-14.70	1.00 V	172	-2.40	41.70

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11a/b/g Dual Band Wireless Access Point	MODEL	DWL-AG700AP
MODE	Channel 6	FREQUENCY RANGE	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	TESTED BY	Sky Liao

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	1344.00	48.30 PK	74.00	-25.70	1.50 H	254	21.40	27.00
1	1344.00	45.20 AV	54.00	-8.80	1.50 H	254	18.30	27.00
2	2016.00	49.60 PK	74.00	-24.40	1.47 H	251	20.80	28.80
2	2016.00	47.00 AV	54.00	-7.00	1.47 H	251	18.20	28.80
3	*2437.00	105.40 PK			1.07 H	296	75.40	30.00
3	*2437.00	93.90 AV			1.07 H	296	63.90	30.00
4	2688.00	43.20 PK	74.00	-30.80	1.55 H	264	12.30	30.90
4	2688.00	39.20 AV	54.00	-14.80	1.55 H	264	8.30	30.90
5	4874.00	46.00 PK	74.00	-28.00	1.28 H	267	9.50	36.50
5	4874.00	32.30 AV	54.00	-21.70	1.28 H	267	-4.20	36.50
6	7311.00	52.00 PK	74.00	-22.00	1.00 H	263	10.20	41.80
6	7311.00	39.10 AV	54.00	-14.90	1.00 H	263	-2.70	41.80

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	1344.00	42.40 PK	74.00	-31.60	1.00 V	192	15.50	27.00
1	1344.00	38.60 AV	54.00	-15.40	1.00 V	192	11.70	27.00
2	2016.00	46.70 PK	74.00	-27.30	1.00 V	13	17.90	28.80
2	2016.00	44.80 AV	54.00	-9.20	1.00 V	13	16.00	28.80
3	*2437.00	111.60 PK			1.23 V	12	81.60	30.00
3	*2437.00	100.30 AV			1.23 V	12	70.30	30.00
4	2688.00	46.30 PK	74.00	-27.70	1.00 V	335	15.40	30.90
4	2688.00	42.70 AV	54.00	-11.30	1.00 V	335	11.80	30.90
5	4874.00	46.80 PK	74.00	-27.20	1.00 V	127	10.30	36.50
5	4874.00	33.40 AV	54.00	-20.60	1.00 V	127	-3.10	36.50
6	7311.00	52.40 PK	74.00	-21.60	1.00 V	172	10.60	41.80
6	7311.00	39.00 AV	54.00	-15.00	1.00 V	172	-2.80	41.80

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Channel 11	**FREQUENCY RANGE**	1000MHz~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH, 979 hPa	**TESTED BY**	Sky Liao

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1344.00	48.50 PK	74.00	-25.50	1.51 H	251	21.60	27.00
1	1344.00	45.30 AV	54.00	-8.70	1.51 H	251	18.40	27.00
2	2016.00	49.60 PK	74.00	-24.40	1.49 H	253	20.80	28.80
2	2016.00	47.10 AV	54.00	-6.90	1.49 H	253	18.30	28.80
3	*2462.00	103.40 PK			1.08 H	299	73.30	30.10
3	*2462.00	93.50 AV			1.08 H	299	63.50	30.10
4	2483.50	56.80 PK	74.00	-17.20	1.08 H	299	26.70	30.10
4	2483.50	46.90 AV	54.00	-7.10	1.08 H	299	16.80	30.10
5	2688.00	43.50 PK	74.00	-30.50	1.56 H	261	12.60	30.90
5	2688.00	39.40 AV	54.00	-14.60	1.56 H	261	8.50	30.90
6	4924.00	45.20 PK	74.00	-28.80	1.26 H	265	8.50	36.70
6	4924.00	32.40 AV	54.00	-21.60	1.26 H	265	-4.30	36.70
7	7386.00	52.30 PK	74.00	-21.70	1.00 H	266	10.50	41.80
7	7386.00	39.50 AV	54.00	-14.50	1.00 H	266	-2.30	41.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1344.00	42.00 PK	74.00	-32.00	1.00 V	192	15.10	27.00
1	1344.00	38.30 AV	54.00	-15.70	1.00 V	192	11.40	27.00
2	2016.00	44.80 PK	74.00	-29.20	1.01 V	9	16.00	28.80
2	2016.00	44.50 AV	54.00	-9.50	1.01 V	9	15.70	28.80
3	*2462.00	109.80 PK			1.21 V	8	79.70	30.10
3	*2462.00	99.60 AV			1.21 V	8	69.50	30.10
4	2483.50	63.00 PK	74.00	-11.00	1.21 V	8	32.90	30.10
4	2483.50	53.00 AV	54.00	-1.00	1.21 V	8	22.90	30.10
5	2688.00	45.70 PK	74.00	-28.30	1.00 V	341	14.80	30.90
5	2688.00	42.10 AV	54.00	-11.90	1.00 V	341	11.20	30.90
6	4924.00	47.20 PK	74.00	-26.80	1.00 V	119	10.50	36.70
6	4924.00	33.60 AV	54.00	-20.40	1.00 V	119	-3.10	36.70
7	7386.00	52.30 PK	74.00	-21.70	1.00 V	164	10.40	41.80
7	7386.00	39.10 AV	54.00	-14.90	1.00 V	164	-2.70	41.80

NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

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 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 226Hz,which is calculated as per the document ETSI TR 100 028.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

4.3.6 EUT OPERATING CONDITIONS

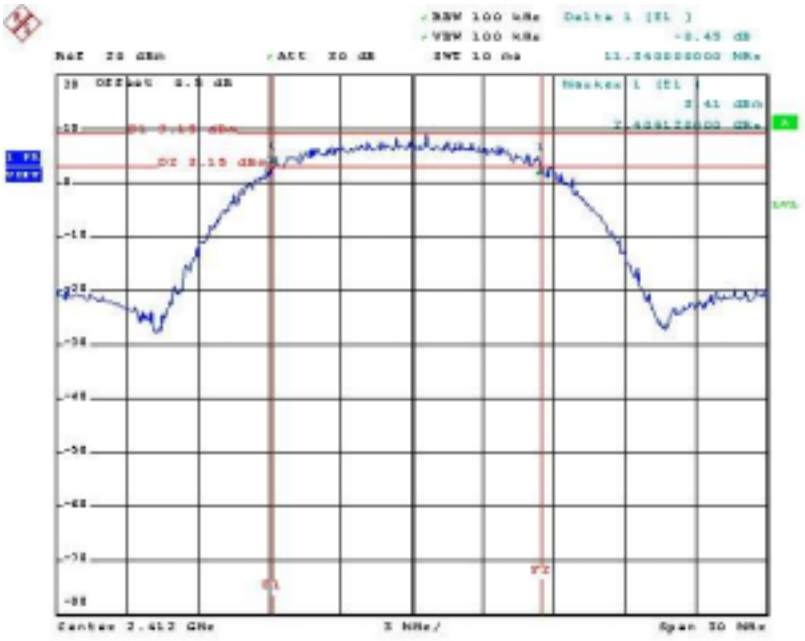
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS -DSSS

EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Sky Liao

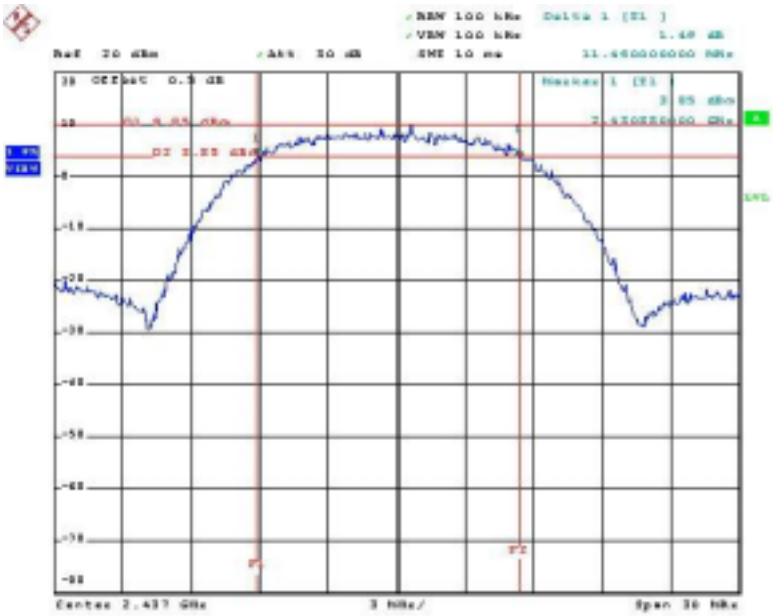
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	11.34	0.5	PASS
6	2437	11.46	0.5	PASS
11	2462	11.64	0.5	PASS

CH1



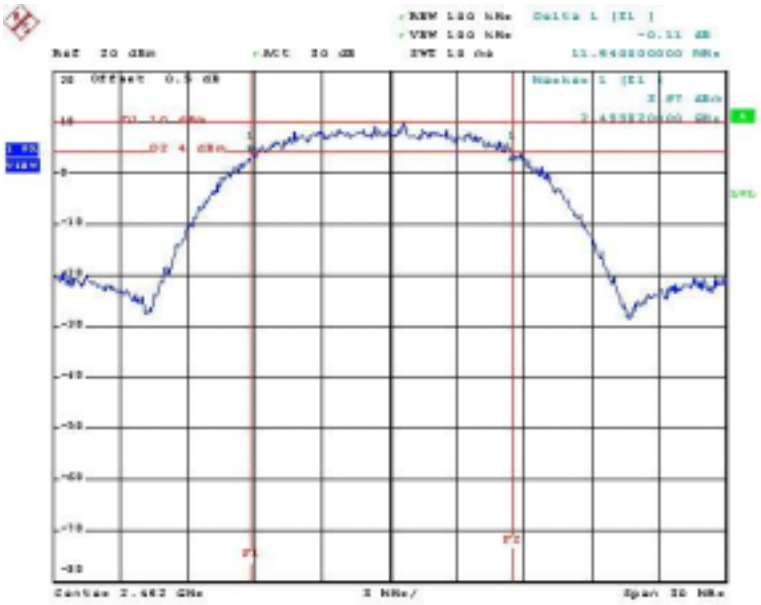
Date: 28.DEC.2004 12:02:33

CH6



Date: 28.DEC.2004 13:02:36

CH11



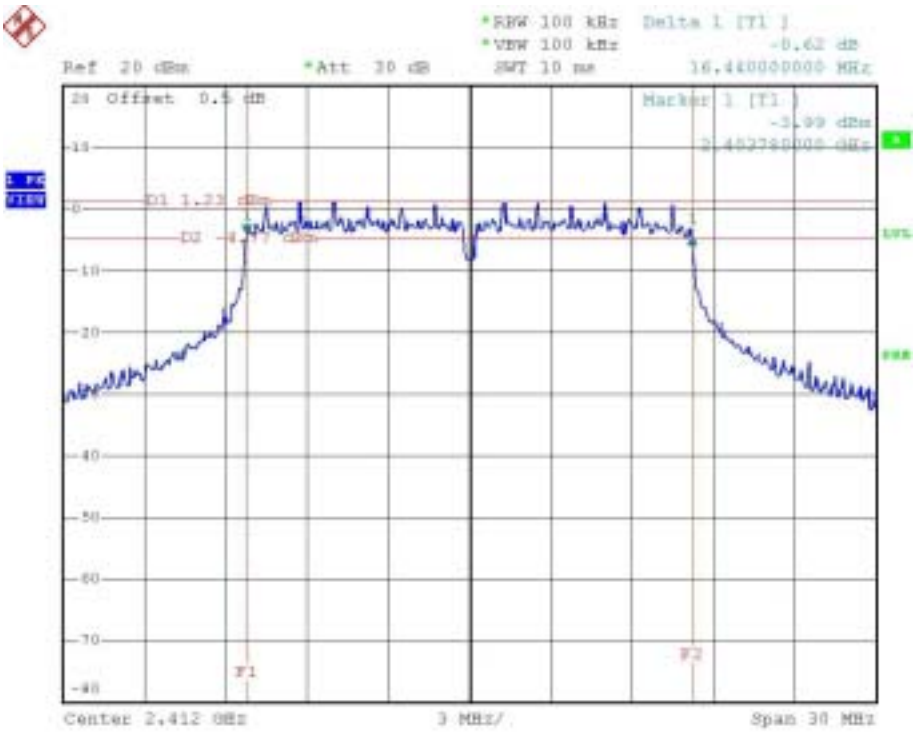
Date: 20.DEC.2004 13:05:05

4.3.8 TEST RESULTS -OFDM

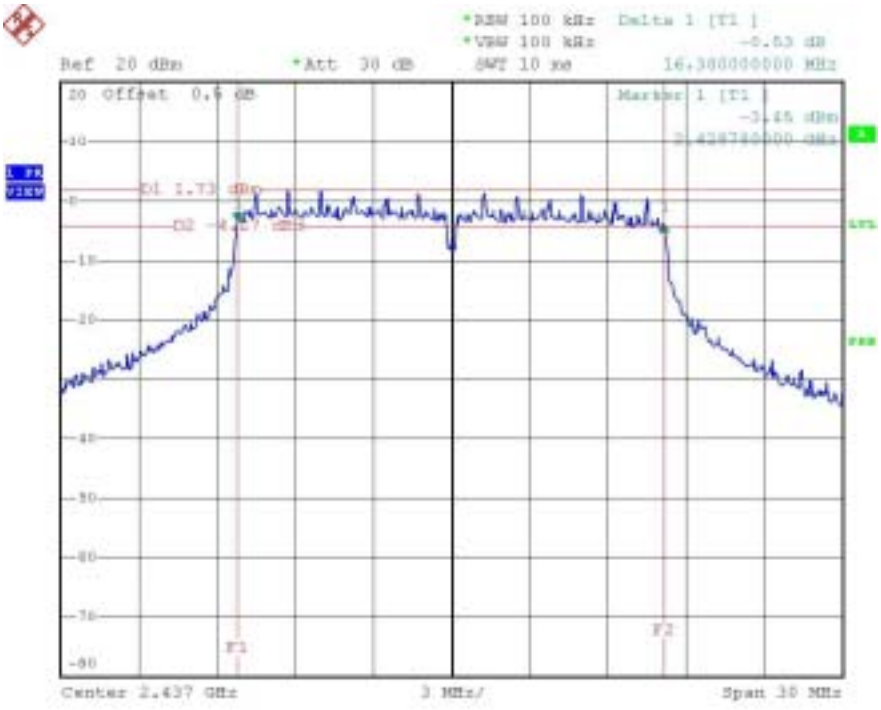
EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.44	0.5	PASS
6	2437	16.38	0.5	PASS
11	2462	16.38	0.5	PASS

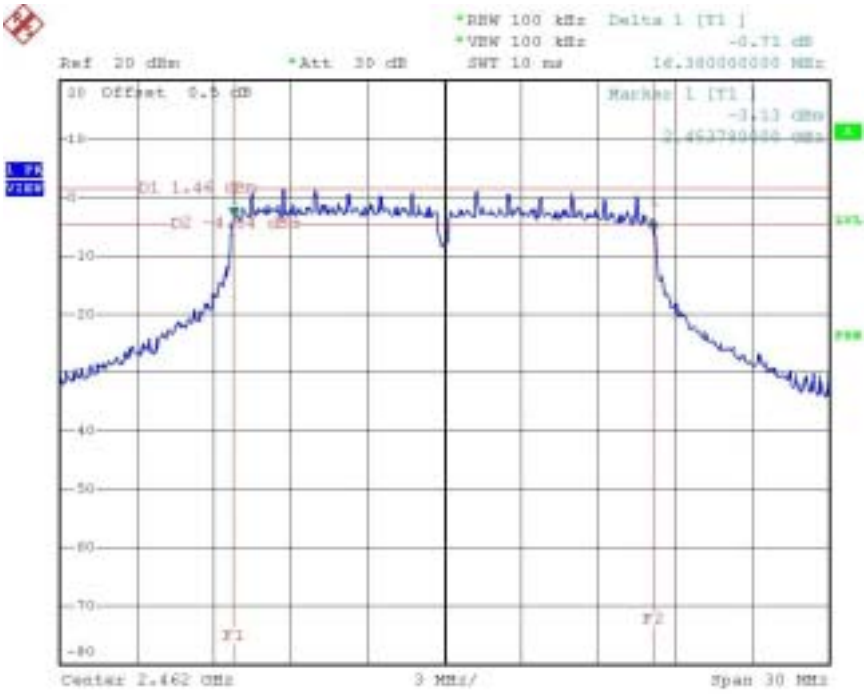
CH1


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 10 ms
Offset 0.5 dB
Marker 1 [T1]
-3.99 dBm
D1 1.23 dBm
D2 -4.77 dBm
F1
F2
Center 2.412 GHz
3 MHz/
Span 30 MHz

CH6


*RBW 100 kHz
*VBW 100 kHz
Ref 20 dBm
*Att 30 dB
SWT 10 ms
Offset 0.5 dB
Marker 1 [T1]
-3.45 dBm
D1 1.73 dBm
D2 -4.27 dBm
F1
F2
Center 2.437 GHz
3 MHz/
Span 30 MHz

CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Ref 20 dBm
*Att 30 dB
Offset 0.5 dB
Center 2.462 GHz
3 MHz/
Span 30 MHz

4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

Note:

1. If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

2. Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

4.4.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May 06, 2005
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2005
TEKTRONIX OSCILLOSCOPE	TDS 220	B027241	Jun. 29, 2005
NARDA DETECTOR	4503A	FSCM99899	NA

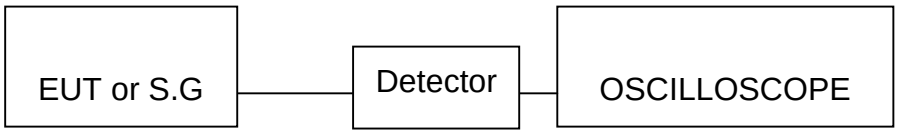
Note:

1. The measurement uncertainty is 1.25dB, which is calculated as per the document ETSI TR 100 028.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.6 TEST RESULTS -DSSS

EUT	802.11a/b/g Dual Band Wireless Access Point		
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODEL**	DWL-AG700AP
TESTED BY	Sky Liao	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	19.71	30	PASS
6	2437	20.41	30	PASS
11	2462	20.29	30	PASS

4.4.7 TEST RESULTS -OFDM

EUT	802.11a/b/g Dual Band Wireless Access Point		
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODEL**	DWL-AG700AP
TESTED BY	Sky Liao	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.29	30	PASS
6	2437	18.33	30	PASS
11	2462	18.26	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 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 1.02dB, which is calculated as per the document ETSI TR 100 028.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

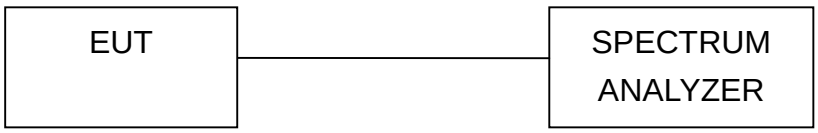
4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

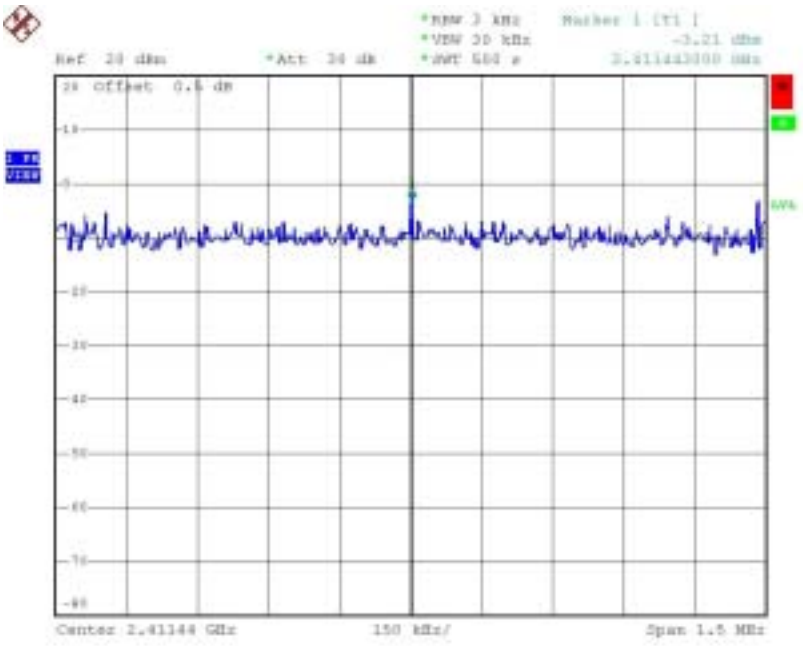
Same as Item 4.3.6

4.5.7 TEST RESULTS-DSSS

EUT	802.11a/b/g Dual Band Wireless Access Point		
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODEL**	DWL-AG700AP
TESTED BY	Sky Liao	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa

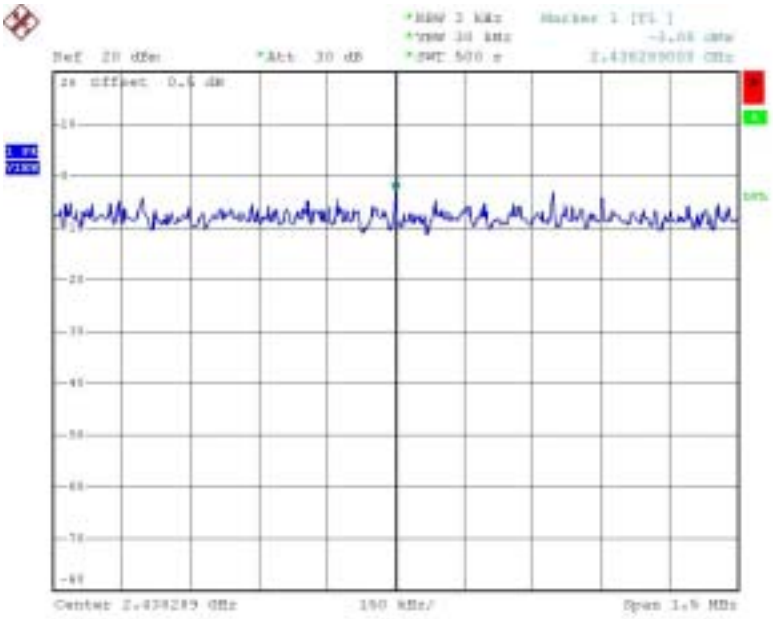
CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-3.21	8	PASS
6	2437	-3.08	8	PASS
11	2462	-2.94	8	PASS

CH1



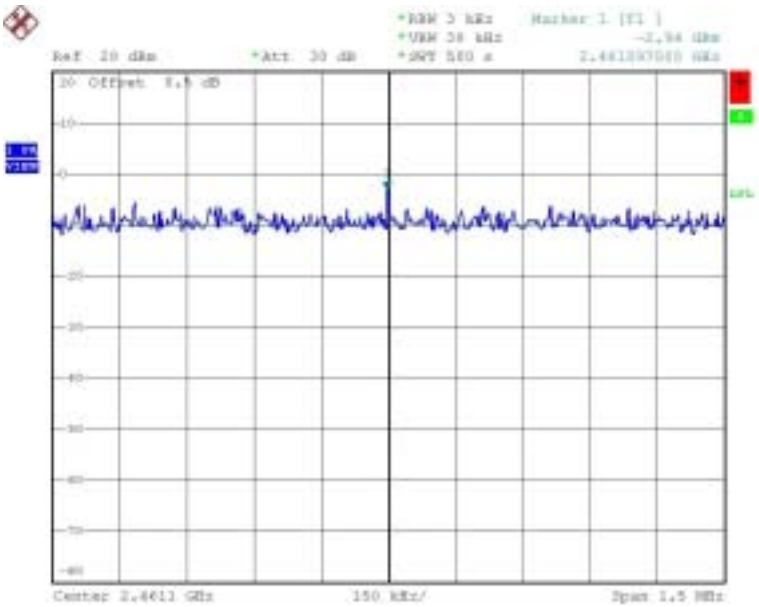
Date: 3.JAN.2005 04:09:32

CH6



Date: 3.JAN.2005 04:16:44

CH11

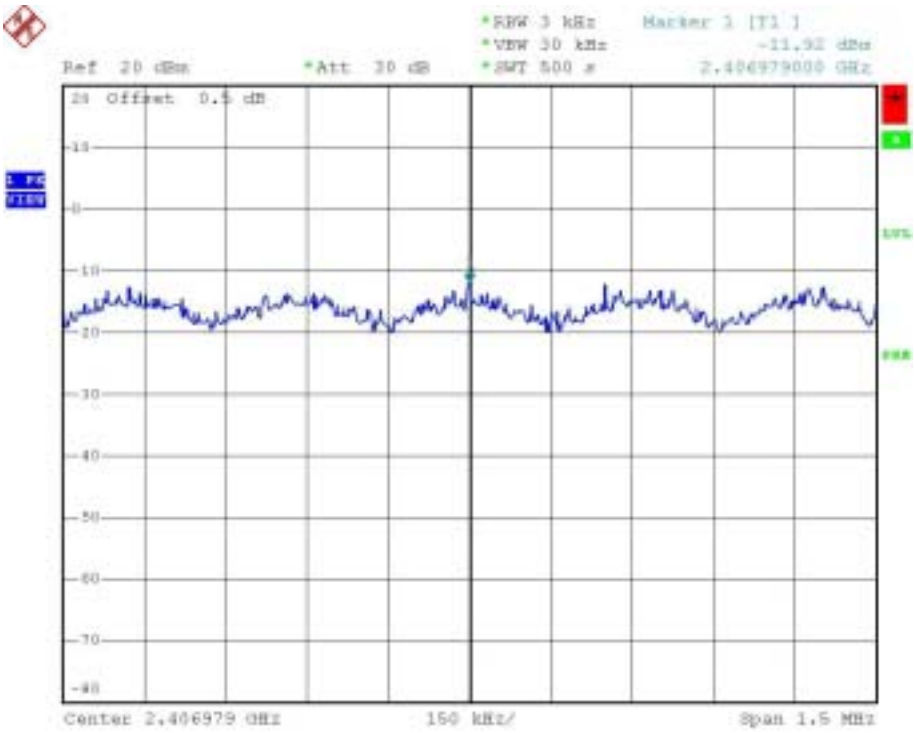

*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
*SWT 500 s
Ref 20 dBm
*Att 30 dB
Offset 8.5 dB
Center 2.4611 GHz
150 kHz/
Span 1.5 MHz
Date: 5.JAN.2005 04:32:30

4.5.8 TEST RESULTS-OFDM

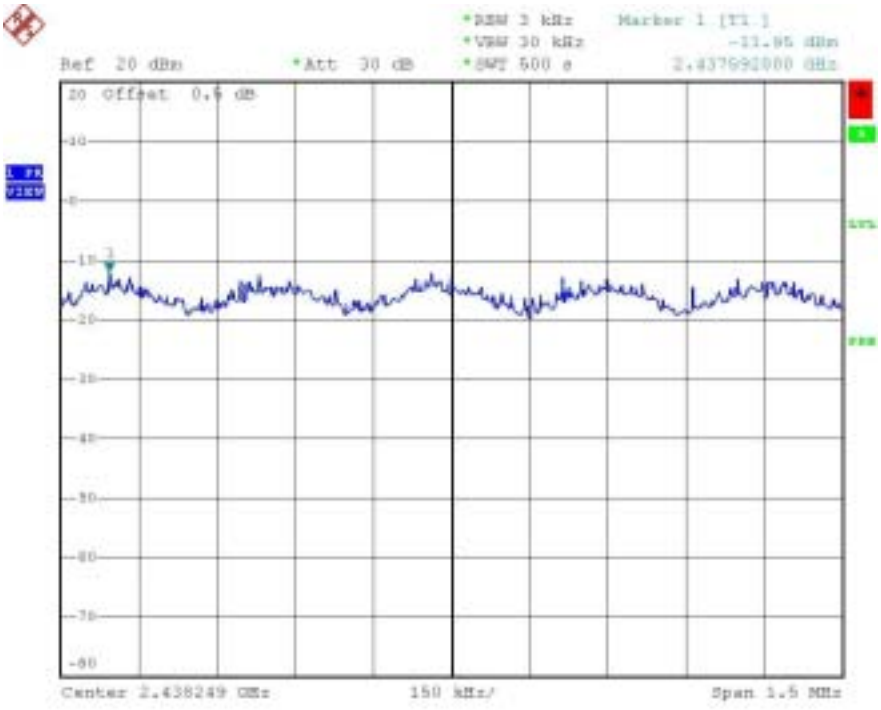
EUT	802.11a/b/g Dual Band Wireless Access Point		
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODEL**	DWL-AG700AP
TESTED BY	Sky Liao	**ENVIRONMENTAL CONDITIONS**	22deg. C, 62%RH, 979 hPa

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-11.92	8	PASS
6	2437	-11.95	8	PASS
11	2462	-11.93	8	PASS

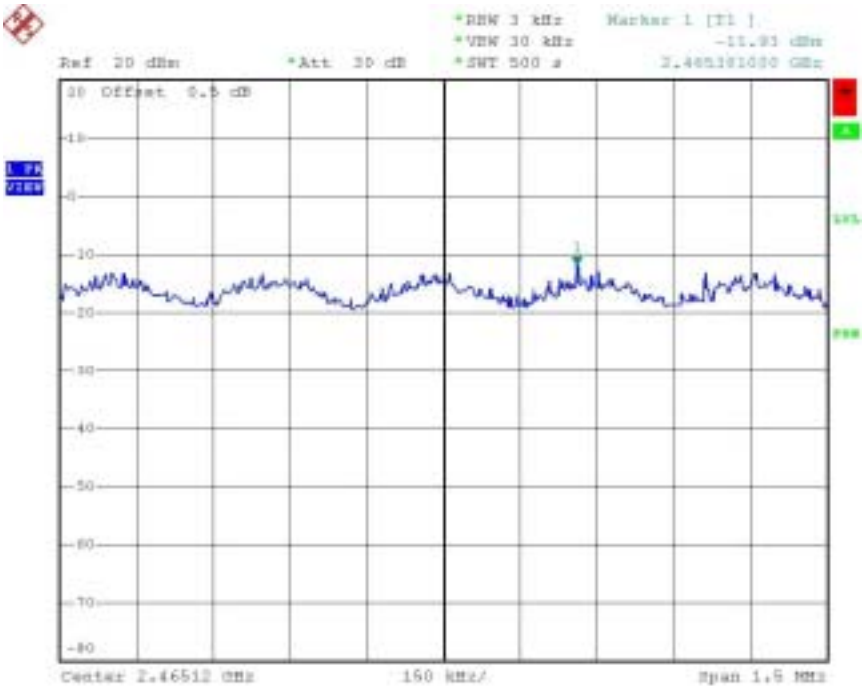
CH1


*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
-11.92 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.406979000 GHz
20 Offset 0.5 dB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.406979 GHz
150 kHz/
Span 1.5 MHz

CH6


*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
-11.95 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 s
2.437692000 GHz
20 Offset 0.5 dB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.438249 GHz
150 kHz/
Span 1.5 MHz

CH11


*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
-11.93 dBm
Ref 20 dBm
*Att 30 dB
*SWT 500 µ
2.4053101000 GHz
10 Offset 0.5 dB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.46512 GHz
160 kHz/
Span 1.5 MHz

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 1MHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.6 TEST RESULTS –DSSS

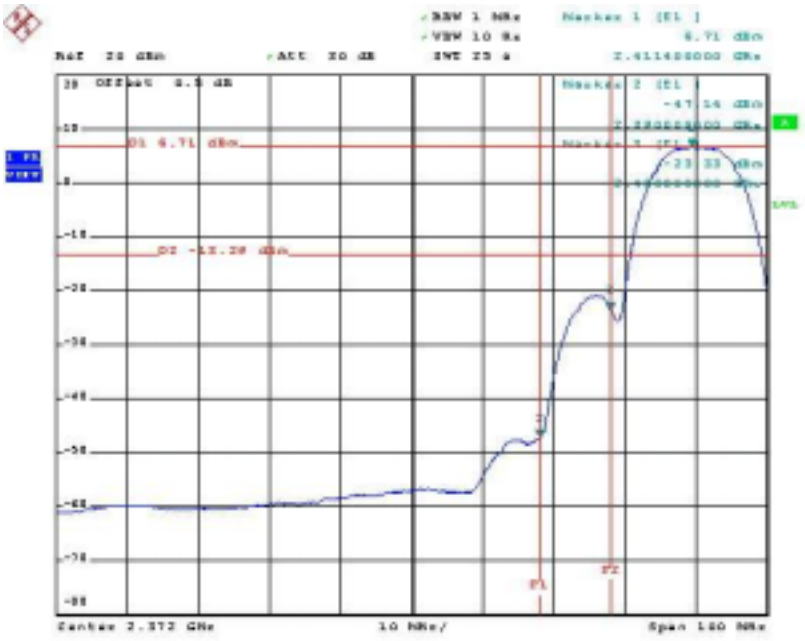
The spectrum plots are attached on the following page. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (1): The band edge emission plot on the following page shows 53.85dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 106.8dBuV/m, so the maximum field strength in restrict band is 106.8-53.85=52.95dBuV/m which is under 54 dBuV/m limit.

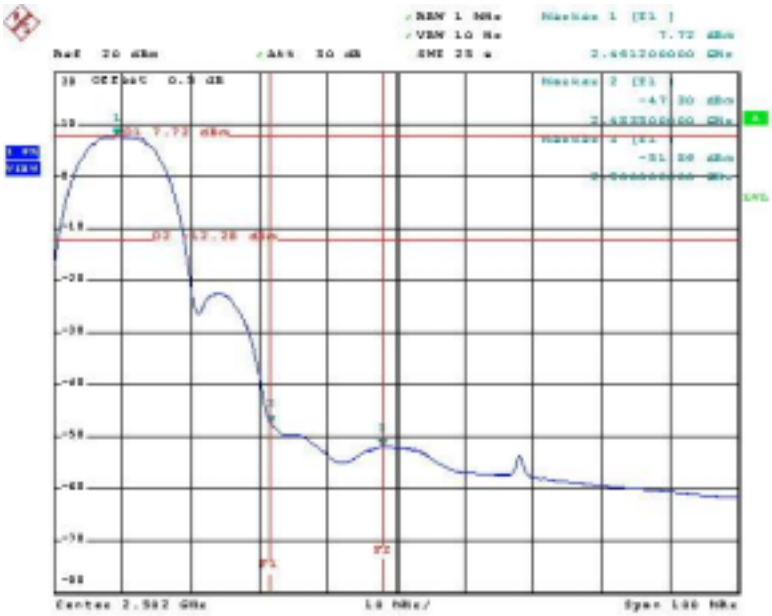
NOTE (2): The band edge emission plot on the following page shows 55.02 dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 107.4dBuV/m, so the maximum field strength in restrict band is 107.4-55.02=52.38dBuV/m which is under 54 dBuV/m limit.

CH1



Date: 28.DEC.2004 10:33:23

CH11



Date: 28.DEC.2004 10:43:09

4.6.7 TEST RESULTS –OFDM

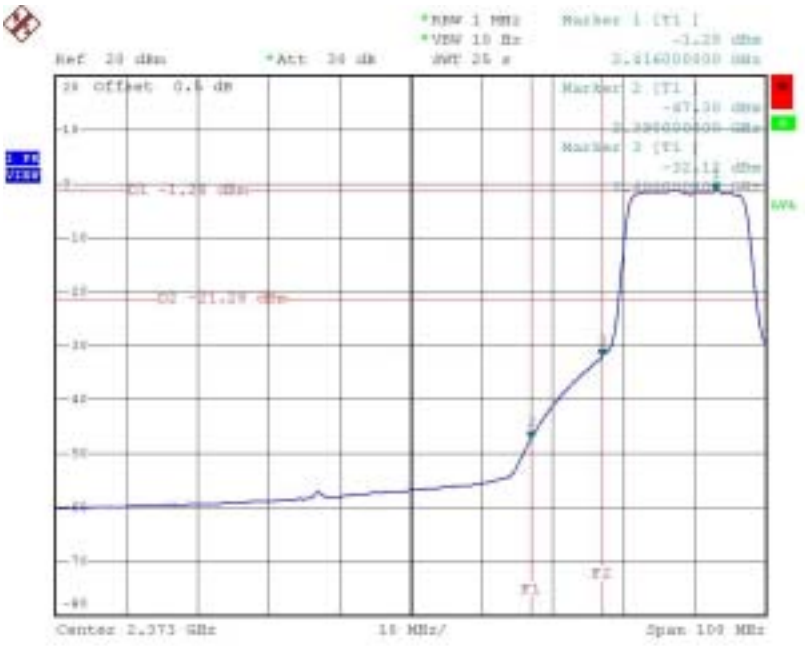
The spectrum plots are attached on the following page. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (1): The band edge emission plot on the following page shows 46.02dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 99.1dBuV/m, so the maximum field strength in restrict band is 99.1-46.02=53.08dBuV/m which is under 54 dBuV/m limit.

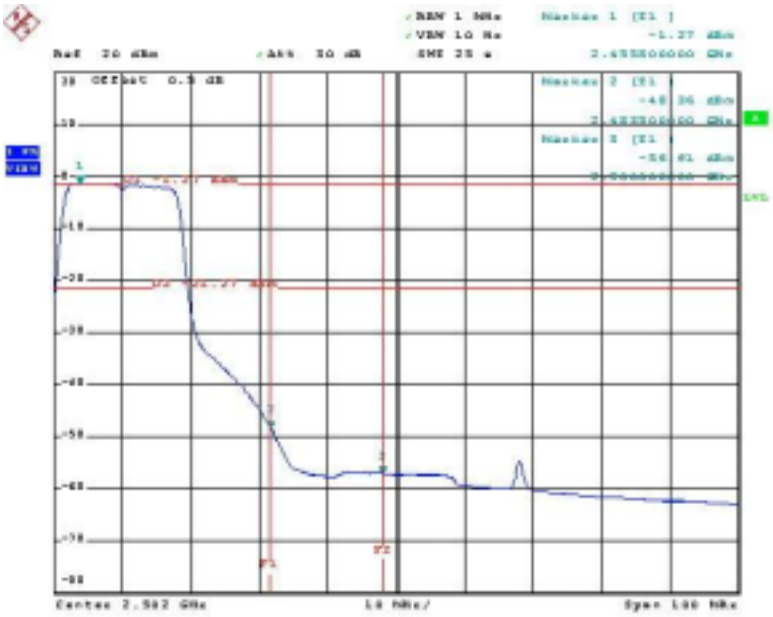
NOTE (2): The band edge emission plot on the following page shows 47.09 dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 99.6dBuV/m, so the maximum field strength in restrict band is 99.6-47.09=52.51 dBuV/m which is under 54 dBuV/m limit.

CH1



Date: 3.JAN.2005 04:02:09

CH11



Date: 28.DEC.2004 10:58:50

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product are Dipole antenna with R-SMA connector and Printed antenna without connector.

Dipole antenna: The maximum Gain of the antenna is 2.0dBi.
Printed antenna: The maximum Gain of the antenna is –0.98dBi.

5. TEST TYPES AND RESULTS (FOR PART 802.11a)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 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 0.50 MHz.
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.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Dec. 07, 2005
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 08, 2005
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2005
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 02, 2005
Terminator(for KYORITSU)	50	3	May 10, 2005
Software	Cond-V2e	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 ADT Shielded Room No. A.
3 The VCCI Con A Registration No. is C-817.
4 The measurement uncertainty is 2.53 dB, which is calculated as per the document CISPR 16-4

5.1.3 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.

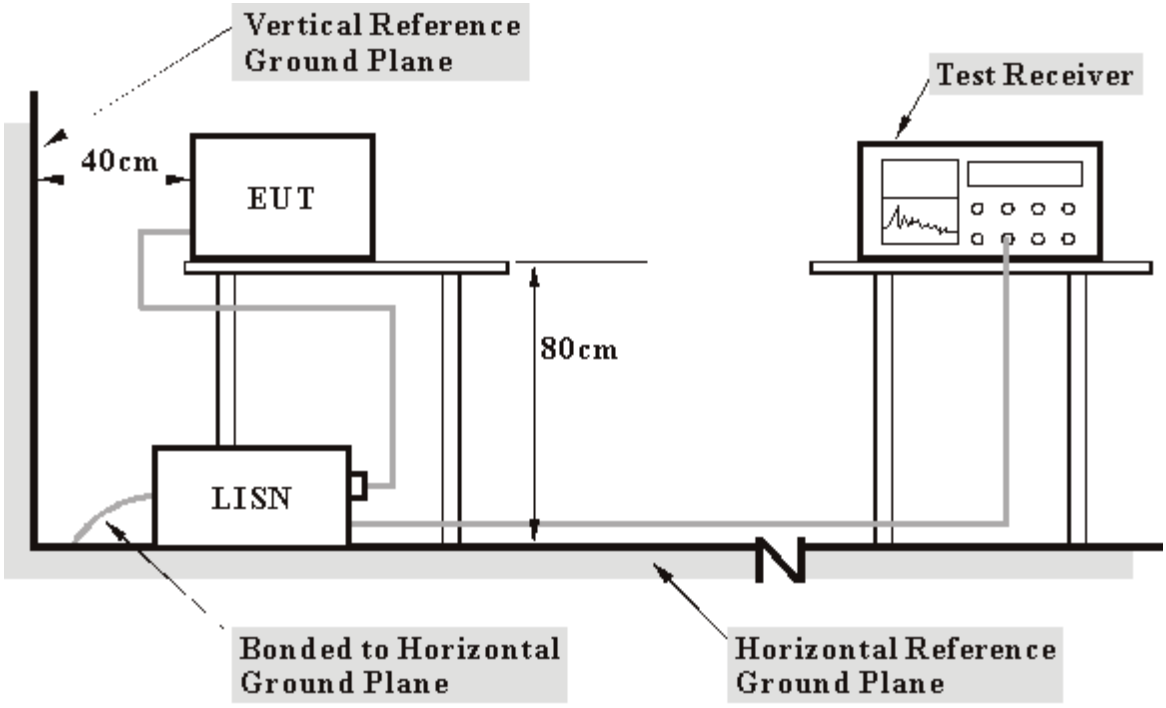
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.1.6 EUT OPERATING CONDITIONS

a. Placed the EUT on the testing table.

b. Prepared another computer system to act as a communication partner and placed it outside of testing area.

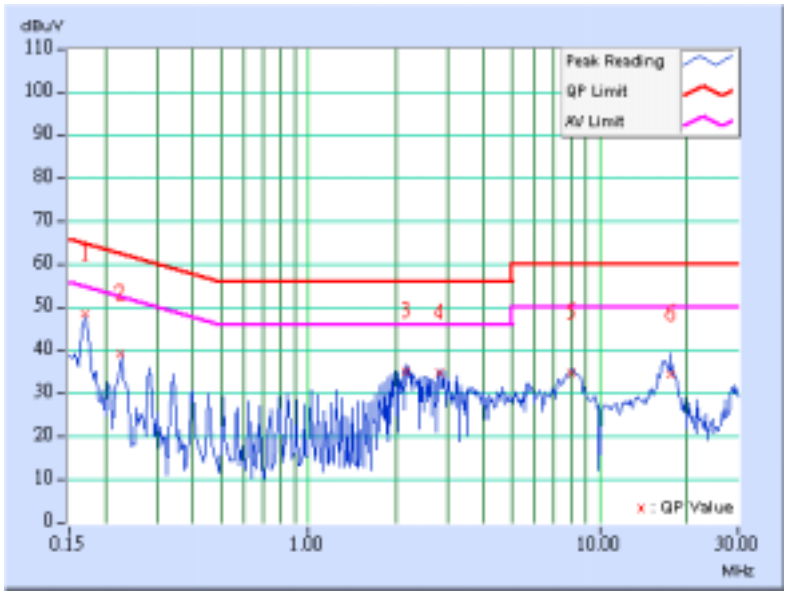
c. The communication partner run test program “FileZilla server with ART485” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable.

5.1.7 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 64%RH, 979 hPa	**TESTED BY**	Wen Yu
TEST MODE	802.11a		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.31	46.98	-	47.29	-	64.98	54.98	-17.70	-
2	0.226	0.31	37.41	-	37.72	-	62.60	52.60	-24.87	-
3	2.157	0.56	33.54	-	34.10	-	56.00	46.00	-21.90	-
4	2.840	0.68	33.03	-	33.71	-	56.00	46.00	-22.29	-
5	8.012	1.14	33.22	-	34.36	-	60.00	50.00	-25.64	-
6	17.695	1.67	32.62	-	34.29	-	60.00	50.00	-25.71	-

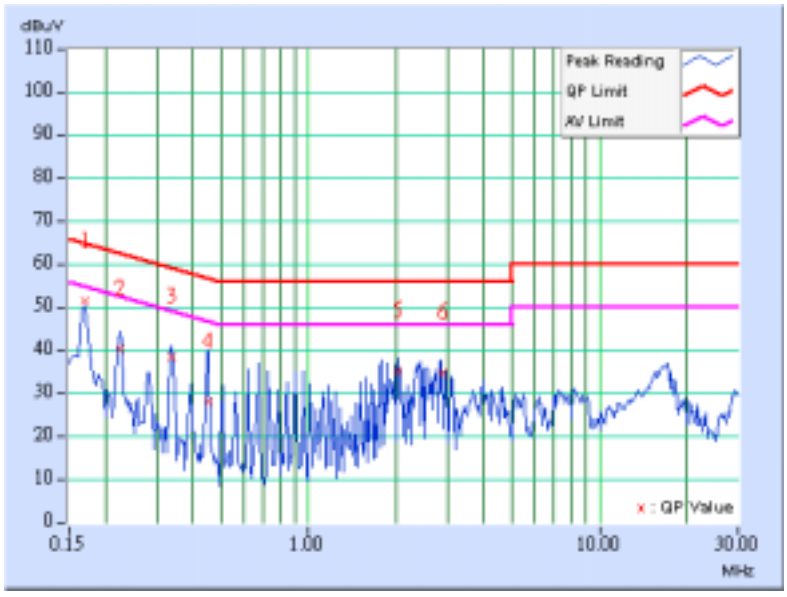
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 64%RH, 979 hPa	**TESTED BY**	Wen Yu
TEST MODE	802.11a		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.170**	**0.31**	**50.72**	**-**	**51.03**	**-**	**64.98**	**54.98**	**-13.96**	**-**
2	0.225	0.31	39.85	-	40.16	-	62.61	52.61	-22.45	-
3	0.338	0.32	37.85	-	38.17	-	59.26	49.26	-21.09	-
4	0.451	0.34	27.35	-	27.69	-	56.86	46.86	-29.17	-
5	2.036	0.54	34.40	-	34.94	-	56.00	46.00	-21.06	-
6	2.887	0.69	34.09	-	34.78	-	56.00	46.00	-21.22	-

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.



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 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.

5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	**EIRP Limit (dBm)**	**Equivalent Field Strength at 3m (dBμV/m)** *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

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

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8594E	3710A04861	Sep. 23, 2005
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 29, 2005
CHASE RF Pre_Amplifier	CPA9232	1057	Aug 06, 2005
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	May 22, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jun. 16, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170192	Feb. 16, 2005
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
RF Switches (ARNITSU)	CS-201	1565157	Jul. 15, 2005
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Feb. 10. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Jul. 15, 2005
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Dipole Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4.

Measurement	Value
Radiated emissions (30MHz-1GHz)	2.98 dB
Radiated emissions (1GHz ~18GHz)	2.21 dB
Radiated emissions (18GHz ~20GHz)	1.88 dB

5.2.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

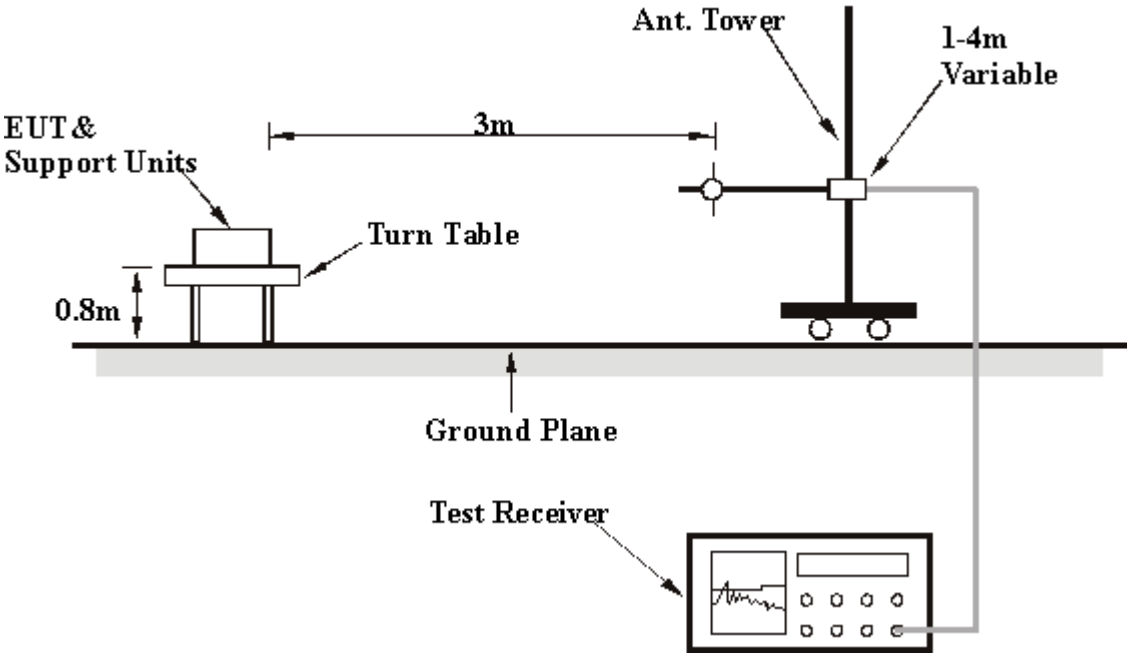
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.2.7 EUT OPERATING CONDITIONS

Same as 5.1.6.

5.2.8 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point		
MODEL	DWL-AG700AP	**DETECTOR FUNCTION**	Quasi-Peak
FREQUENCY RANGE	30 - 1000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 65%RH, 979 hPa	**TESTED BY**	Wen Yu

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	110.00	30.80 QP	43.50	-12.70	1.69 H	296	19.10	11.70
2	220.00	36.10 QP	46.00	-9.90	1.34 H	305	25.80	10.30
3	250.01	36.10 QP	46.00	-9.90	1.21 H	296	22.10	14.00
4	330.00	35.40 QP	46.00	-10.60	1.02 H	1	19.30	16.10
5	375.03	38.60 QP	46.00	-7.40	1.63 H	16	21.00	17.60
6	500.00	40.90 QP	46.00	-5.10	1.50 H	42	20.20	20.70
7	549.99	38.80 QP	46.00	-7.20	1.24 H	357	16.00	22.80
8	769.99	39.50 QP	46.00	-6.50	2.14 H	305	13.60	25.90
9	880.00	42.40 QP	46.00	-3.60	1.32 H	350	15.00	27.40

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	80.00	37.00 QP	40.00	-3.00	1.45 V	70	29.00	8.00
2	110.00	38.80 QP	43.50	-4.70	1.09 V	337	27.10	11.70
3	250.02	39.90 QP	46.00	-6.10	1.01 V	346	25.90	14.00
4	330.00	37.60 QP	46.00	-8.40	1.46 V	342	21.50	16.10
5	375.02	37.80 QP	46.00	-8.20	1.14 V	48	20.20	17.60
6	549.99	43.90 QP	46.00	-2.10	1.06 V	109	21.10	22.80
7	770.00	44.50 QP	46.00	-1.50	1.48 V	268	18.60	25.90
8	880.00	41.70 QP	46.00	-4.30	1.34 V	261	14.30	27.40

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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.

STANDARD SECTION 15.407

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	1
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	3453.30	42.40 PK	68.30	-25.90	1.27 H	60	9.50	32.90
2	#5150.00	49.30 PK	74.00	-24.70	1.22 H	272	12.30	37.00
2	#5150.00	41.50 AV	54.00	-12.50	1.22 H	272	4.40	37.00
3	*5180.00	98.00 PK			1.22 H	272	61.00	37.00
3	*5180.00	89.40 AV			1.22 H	272	52.40	37.00
4	10360.00	62.40 PK	68.30	-5.90	1.33 H	96	17.70	44.70
5	#15540.00	59.50 PK	74.00	-14.50	1.40 H	88	10.90	48.60
5	#15540.00	48.00 AV	54.00	-6.00	1.40 H	88	-0.60	48.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT3 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	3453.30	45.70 PK	68.30	-22.60	1.31 V	13	12.80	32.90
2	#5150.00	54.30 PK	74.00	-19.70	1.01 V	257	17.30	37.00
2	#5150.00	46.00 AV	54.00	-8.00	1.01 V	257	9.00	37.00
3	*5180.00	102.50 PK			1.01 V	257	65.50	37.00
3	*5180.00	93.90 AV			1.01 V	257	56.90	37.00
4	10360.00	64.60 PK	68.30	-3.70	1.74 V	351	19.90	44.70
5	#15540.00	66.50 PK	74.00	-7.50	1.00 V	353	17.90	48.60
5	#15540.00	53.00 AV	54.00	-1.00	1.00 V	353	4.40	48.60

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	4
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	3493.30	43.70 PK	68.30	-24.60	1.05 H	65	10.60	33.00
2	*5240.00	98.90 PK			1.18 H	268	61.90	37.00
2	*5240.00	89.90 AV			1.18 H	268	52.90	37.00
3	10480.00	63.90 PK	68.30	-4.40	1.38 H	15	18.90	45.00
4	#15720.00	59.40 PK	74.00	-14.60	1.33 H	89	11.30	48.00
4	#15720.00	47.90 AV	54.00	-6.10	1.33 H	89	-0.20	48.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT3 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	3493.30	44.90 PK	68.30	-23.40	1.31 V	23	11.90	33.00
2	*5240.00	102.60 PK			1.49 V	352	65.60	37.00
2	*5240.00	94.10 AV			1.49 V	352	57.00	37.00
3	10480.00	66.00 PK	68.30	-2.30	1.09 V	351	21.10	45.00
4	#15720.00	65.10 PK	74.00	-8.90	1.18 V	180	17.10	48.00
4	#15720.00	52.90 AV	54.00	-1.10	1.18 V	180	4.90	48.00

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	5
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	3506.60	44.00 PK	68.30	-24.30	1.06 H	63	10.90	33.10
2	*5260.00	98.50 PK			1.07 H	269	61.50	37.00
2	*5260.00	90.00 AV			1.07 H	269	53.00	37.00
3	10520.00	61.90 PK	68.30	-6.40	1.56 H	35	16.70	45.20
4	#15780.00	59.50 PK	74.00	-14.50	1.38 H	112	11.60	47.90
4	#15780.00	47.70 AV	54.00	-6.30	1.38 H	112	-0.20	47.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT3 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	3506.60	45.20 PK	68.30	-23.10	1.29 V	26	12.10	33.10
2	*5260.00	103.30 PK			1.50 V	353	66.30	37.00
2	*5260.00	95.10 AV			1.50 V	353	58.10	37.00
3	10520.00	66.90 PK	68.30	-1.40	1.14 V	356	21.70	45.20
4	#15780.00	64.70 PK	74.00	-9.30	1.18 V	15	16.90	47.90
4	#15780.00	52.40 AV	54.00	-1.60	1.18 V	15	4.50	47.90

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.407

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	8
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	3546.60	42.20 PK	68.30	-26.10	1.08 H	60	9.00	33.10
2	*5320.00	99.10 PK			1.05 H	271	62.00	37.00
2	*5320.00	90.40 AV			1.05 H	271	53.40	37.00
3	#5350.00	55.60 PK	74.00	-18.40	1.05 H	271	18.60	37.00
3	#5350.00	46.60 AV	54.00	-7.40	1.05 H	271	9.60	37.00
4	#10640.00	64.00 PK	74.00	-10.00	1.40 H	13	17.70	46.30
4	#10640.00	49.90 AV	54.00	-4.10	1.40 H	13	3.60	46.30
5	#15960.00	60.90 PK	74.00	-13.10	1.35 H	89	13.60	47.30
5	#15960.00	48.60 AV	54.00	-5.40	1.35 H	89	1.30	47.30

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	3456.60	44.60 PK	68.30	-23.70	1.28 V	20	11.60	32.90
2	*5320.00	103.40 PK			2.18 V	348	66.40	37.00
2	*5320.00	94.20 AV			2.18 V	348	57.20	37.00
3	#5350.00	59.60 PK	74.00	-14.40	2.18 V	348	22.60	37.00
3	#5350.00	50.40 AV	54.00	-3.60	2.18 V	348	13.40	37.00
4	#10640.00	65.10 PK	74.00	-8.90	2.18 V	8	18.80	46.30
4	#10640.00	52.00 AV	54.00	-2.00	2.18 V	8	5.70	46.30
5	#15960.00	64.20 PK	74.00	-9.80	1.84 V	269	16.90	47.30
5	#15960.00	51.60 AV	54.00	-2.40	1.84 V	269	4.30	47.30

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

STANDARD SECTION 15.247

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	9
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 77%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	#3830.00	45.30 PK	74.00	-28.70	1.10 H	73	11.70	33.60
1	#3830.00	40.80 AV	54.00	-13.20	1.10 H	73	7.20	33.60
2	*5745.00	96.00 PK			1.19 H	222	58.50	37.60
2	*5745.00	88.00 AV			1.19 H	222	50.50	37.60
3	#11490.00	59.00 PK	74.00	-15.00	1.01 H	21	7.70	51.30
3	#11490.00	47.60 AV	54.00	-6.40	1.01 H	21	-3.70	51.30
4	17235.00	60.20 PK	68.30	-8.10	1.14 H	38	8.50	51.70

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	#3830.00	45.60 PK	74.00	-28.40	1.30 V	22	12.00	33.60
1	#3830.00	40.00 AV	54.00	-14.00	1.30 V	22	6.50	33.60
2	*5745.00	103.90 PK			1.45 V	3	66.40	37.60
2	*5745.00	95.60 AV			1.45 V	3	58.00	37.60
3	#11490.00	61.20 PK	74.00	-12.80	1.74 V	65	9.90	51.30
3	#11490.00	50.40 AV	54.00	-3.60	1.74 V	65	-0.90	51.30
4	17235.00	61.40 PK	68.30	-6.90	1.04 V	1	9.70	51.70

NOTE:

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

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STANDARD SECTION 15.247

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	11
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	24 deg. C, 54%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	#3856.60	45.20 PK	74.00	-28.80	1.11 H	72	11.60	33.60
1	#3856.60	40.20 AV	54.00	-13.80	1.11 H	72	6.60	33.60
2	*5785.00	96.00 PK			1.16 H	266	58.40	37.60
2	*5785.00	88.00 AV			1.16 H	266	50.40	37.60
3	#11570.00	57.80 PK	74.00	-16.20	1.66 H	101	6.60	51.10
3	#11570.00	45.70 AV	54.00	-8.30	1.66 H	101	-5.40	51.10
4	17355.00	59.00 PK	68.30	-9.30	1.37 H	295	6.00	52.90

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	#3856.60	45.60 PK	74.00	-28.40	1.32 V	16	12.00	33.60
1	#3856.60	41.70 AV	54.00	-12.30	1.32 V	16	8.10	33.60
2	*5785.00	104.20 PK			1.66 V	4	66.60	37.60
2	*5785.00	95.80 AV			1.66 V	4	58.20	37.60
3	#11570.00	59.20 PK	74.00	-14.80	1.88 V	14	8.10	51.10
3	#11570.00	45.90 AV	54.00	-8.10	1.88 V	14	-5.20	51.10
4	17355.00	58.20 PK	68.30	-10.10	1.15 V	21	5.30	52.90

NOTE:

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

.STANDARD SECTION 15.247

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal Mode	**CHANNEL**	13
FREQUENCY RANGE	1000MHz~40000MHz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 77%RH, 979 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Sky Liao		

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	#3883.30	44.60 PK	74.00	-29.40	1.12 H	70	10.90	33.70
1	#3883.30	39.10 AV	54.00	-14.90	1.12 H	70	5.40	33.70
2	*5825.00	96.80 PK			1.02 H	264	59.10	37.70
2	*5825.00	87.90 AV			1.02 H	264	50.20	37.70
3	#11650.00	62.50 PK	74.00	-11.50	1.37 H	6	11.70	50.80
3	#11650.00	50.00 AV	54.00	-4.00	1.37 H	6	-0.80	50.80
4	17475.00	61.40 PK	68.30	-6.90	1.58 H	337	7.20	54.20

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	#3883.30	47.80 PK	74.00	-26.20	1.30 V	16	14.10	33.70
1	#3883.30	42.70 AV	54.00	-11.30	1.30 V	16	9.00	33.70
2	*5825.00	103.60 PK			1.34 V	3	65.80	37.70
2	*5825.00	94.80 AV			1.34 V	3	57.10	37.70
3	#11650.00	63.70 PK	74.00	-10.30	1.67 V	171	12.90	50.80
3	#11650.00	52.30 AV	54.00	-1.70	1.67 V	171	1.50	50.80
4	17475.00	61.10 PK	68.30	-7.20	1.67 V	70	6.90	54.20

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "# " : The radiated frequency falling in the restricted band.

FOR FREQUENCY 5.15~5.35GHZ

5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

Note:

1. Where B is the 26dB emission bandwidth in MHz.
2. Limit follows whichever is lower.
3. 5.15-5.25GHz: In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
4. 5.25-5.35GHz: In addition, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

5.3.4 TEST SETUP

5.3.5 EUT OPERATING CONDITIONS

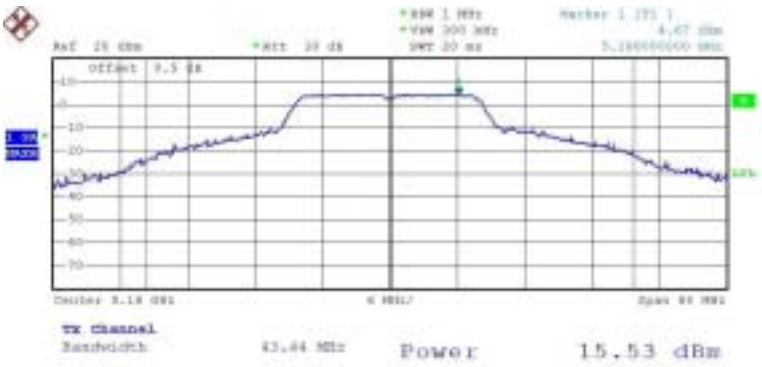
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.3.6 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22 deg. C, 62%RH, 979 hPa	**TESTED BY**	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.53	17.00	43.44	PASS
4	5240	15.63	17.00	44.52	PASS
5	5260	15.65	24.00	44.28	PASS
8	5320	15.72	24.00	43.32	PASS

CHANNEL 1



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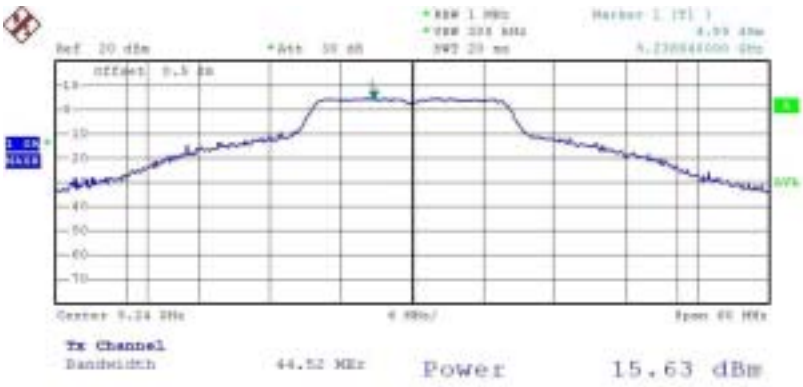
CHANNEL 4



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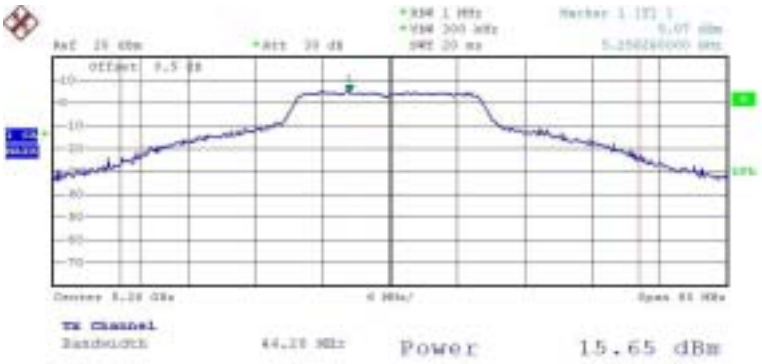
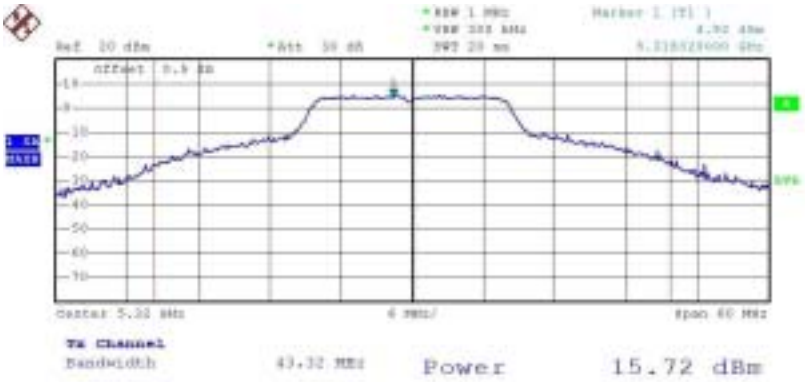
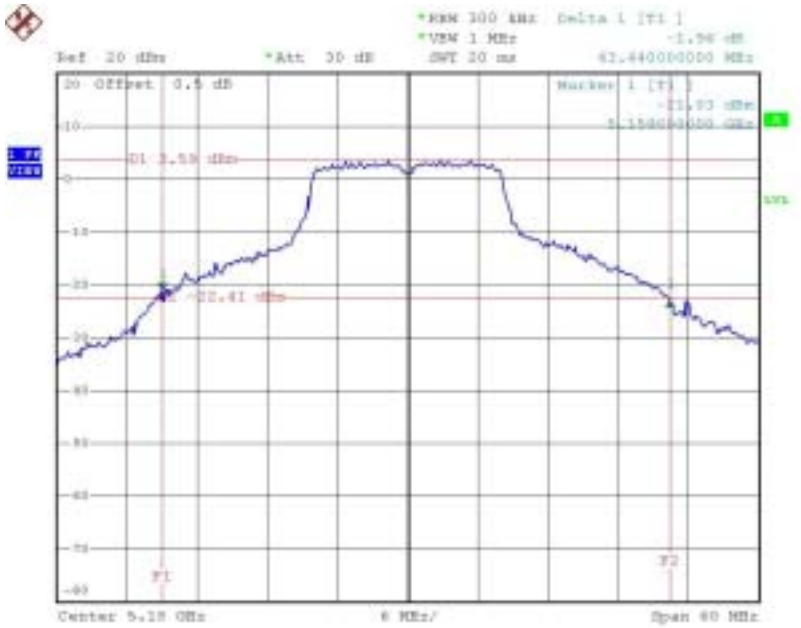
CHANNEL 5



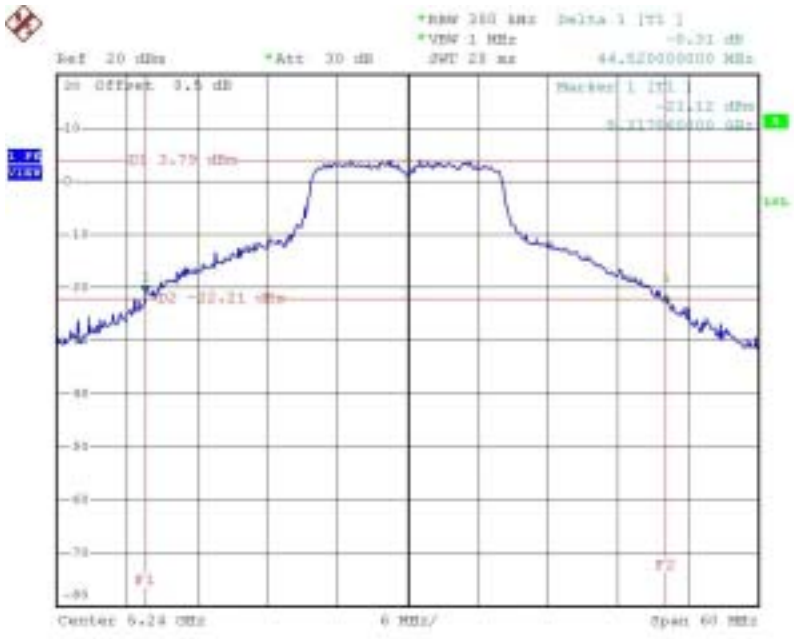
CHANNEL 8



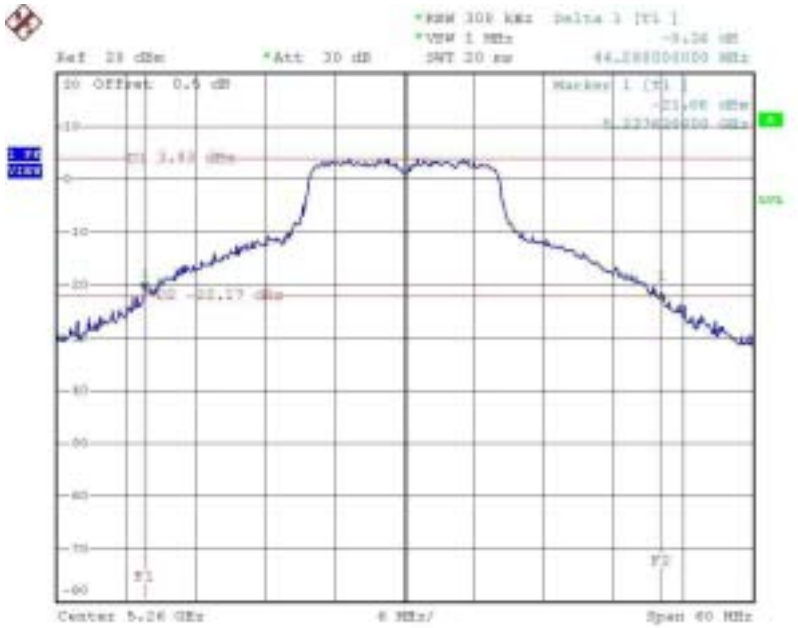
CHANNEL 1



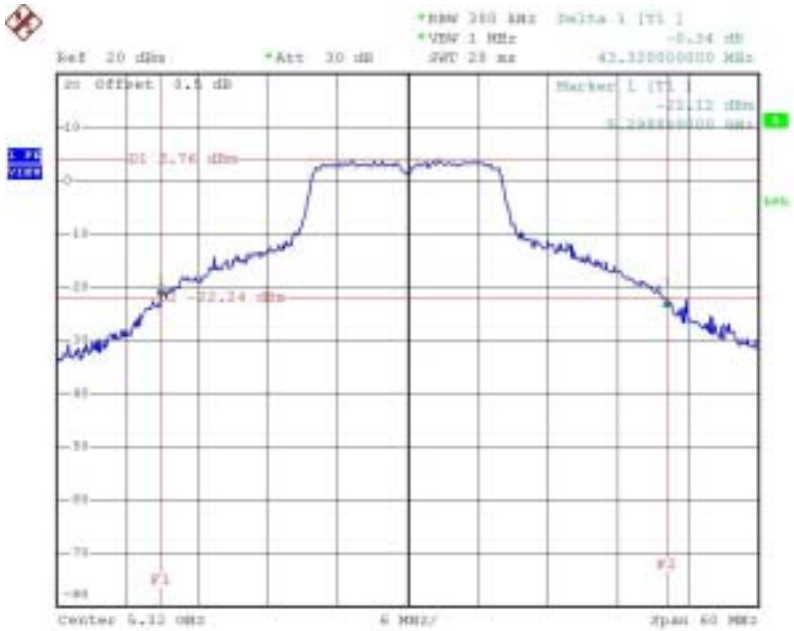
CHANNEL 4



CHANNEL 5



CHANNEL 8



5.4 PEAK POWER EXCURSION MEASUREMENT

5.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.725 – 5.825 GHz	13dB

5.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set spectrum analyzer to following condition:

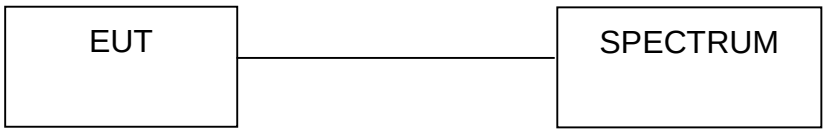
	RBW	VBW	Detector
Trace 1	1MHz	3MHz	Peak Mode
Trace 2	1MHz	300KHz	Sample Mode

4. Using the spectrum analyzer's channel power measurement function to measure the output power.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

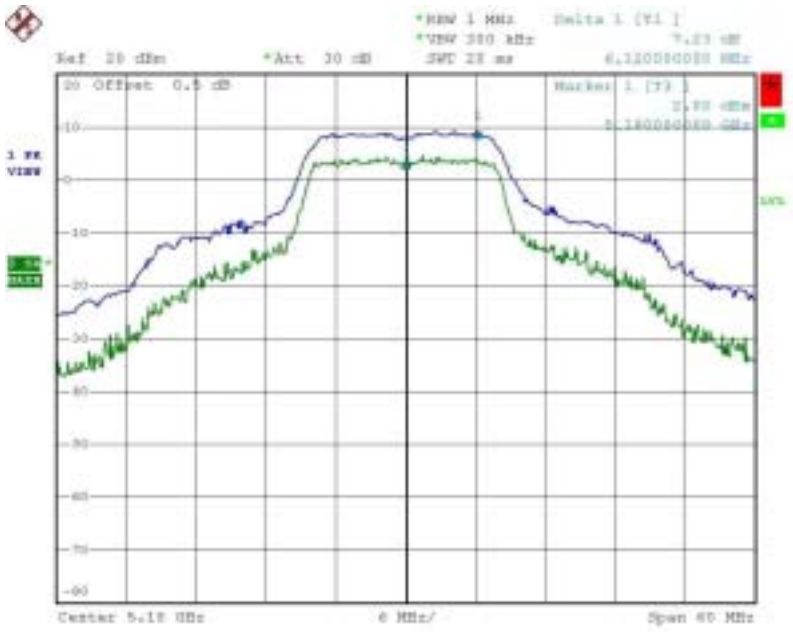
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.4.7 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22 deg. C, 62%RH, 979 hPa	**TESTED BY**	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	7.23	13	PASS
4	5240	7.23	13	PASS
5	5260	6.39	13	PASS
8	5320	6.83	13	PASS

CHANNEL 1



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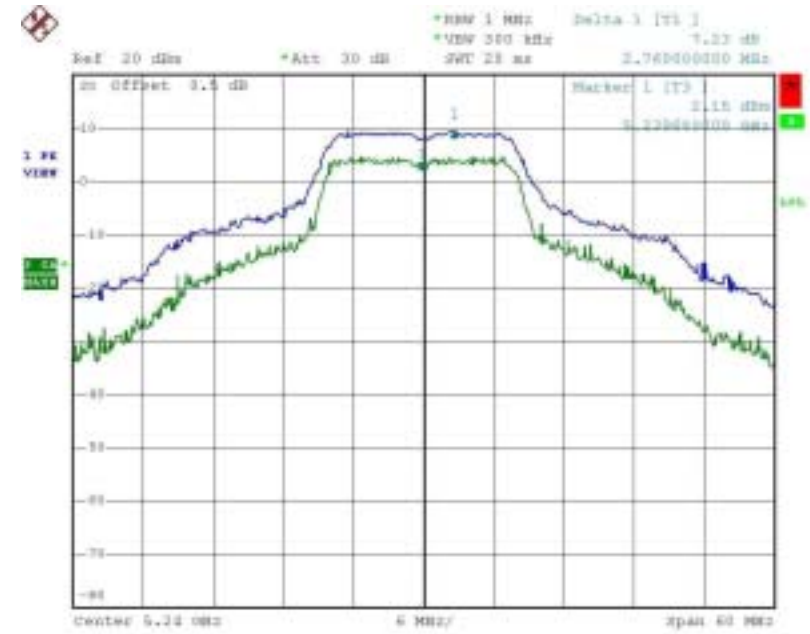
CHANNEL 4



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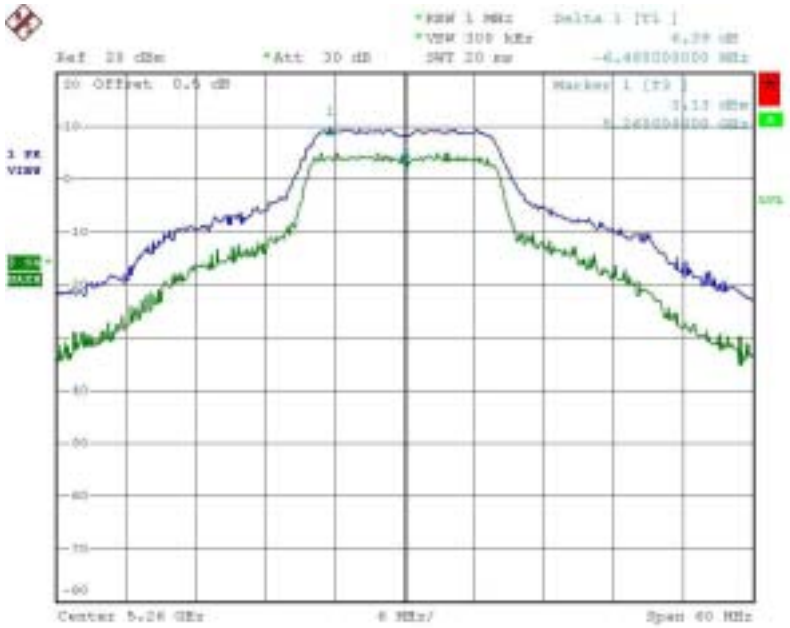
CHANNEL 5



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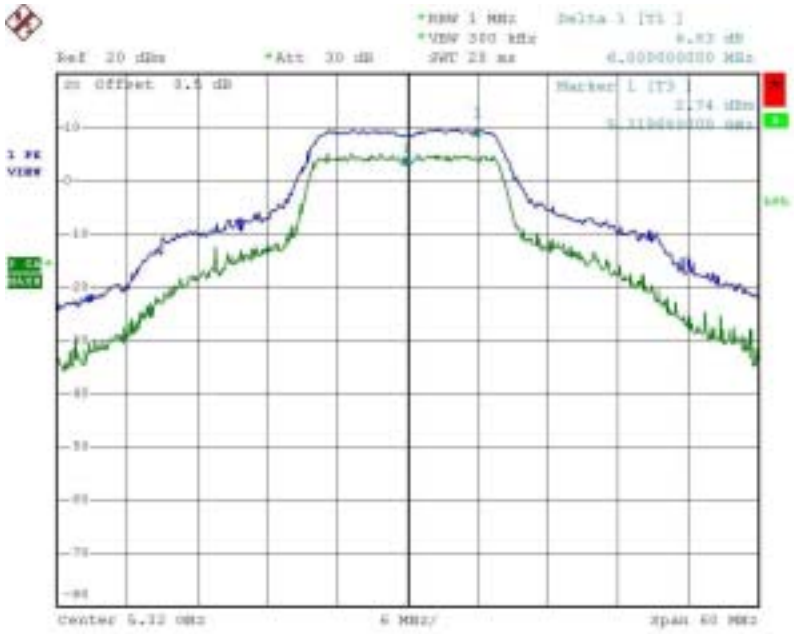
CHANNEL 8



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5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	4dBm
5.25 – 5.35 GHz	11dBm
5.725 – 5.825 GHz	17dBm

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.5.3 TEST PROCEDURES

The transmitter output was connected to the spectrum analyzer.
Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP

5.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6

5.5.7 TEST RESULTS

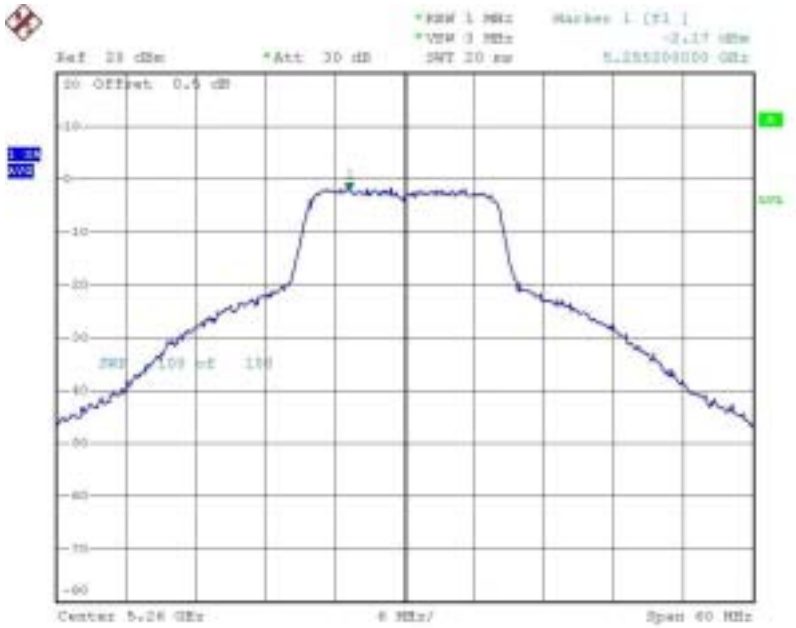
EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22 deg. C, 62%RH, 979 hPa	**TESTED BY**	Sky Liao

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-2.08	4	PASS
4	5240	-2.38	4	PASS
5	5260	-2.17	11	PASS
8	5320	-1.92	11	PASS

CHANNEL 1

CHANNEL 4

CHANNEL 5



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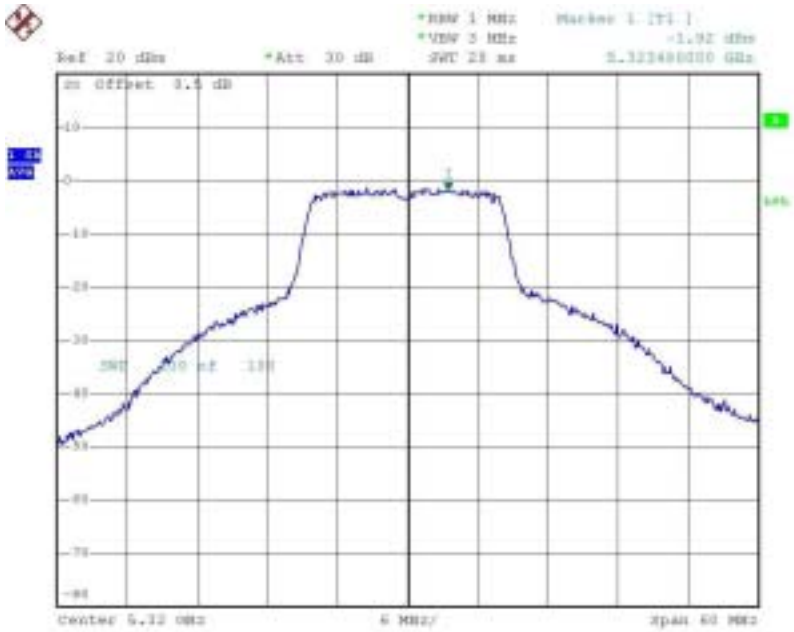
CHANNEL 8



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5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

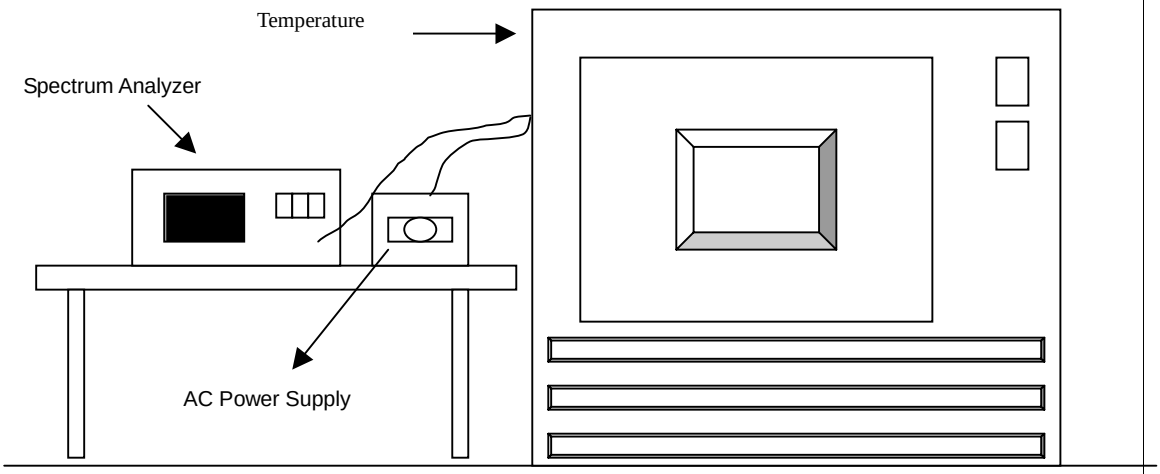
5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. 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.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. 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.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 5.1.6

5.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.02%			
Temp. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5319.9765	0.000442	5319.9772	0.000429	5319.9783	0.000408
	110	5319.9772	0.000429	5319.977	0.000432	5319.9778	0.000417
	93.5	5319.9768	0.000436	5319.9777	0.000419	5319.9778	0.000417
40	126.5	5319.9485	0.000968	5319.9498	0.000944	5319.9495	0.000949
	110	5319.9482	0.000974	5319.9487	0.000964	5319.9490	0.000959
	93.5	5319.9488	0.000962	5319.9495	0.000949	5319.9491	0.000957
30	126.5	5319.95	0.000940	5319.9487	0.000964	5319.9480	0.000977
	110	5319.9473	0.000991	5319.9485	0.000968	5319.9477	0.000983
	93.5	5319.9497	0.000945	5319.9485	0.000968	5319.9477	0.000983
20	126.5	5319.9503	0.000934	5319.9495	0.000949	5319.9490	0.000959
	110	5319.9507	0.000927	5319.9497	0.000945	5319.9490	0.000959
	93.5	5319.95	0.000940	5319.9493	0.000953	5319.9488	0.000962
10	126.5	5319.9655	0.000648	5319.9638	0.000680	5319.9627	0.000701
	110	5319.965	0.000658	5319.9643	0.000671	5319.9630	0.000695
	93.5	5319.9647	0.000664	5319.9633	0.000690	5319.9623	0.000709
0	126.5	5319.9745	0.000479	5319.9737	0.000494	5319.9723	0.000521
	110	5319.9747	0.000476	5319.974	0.000489	5319.9728	0.000511
	93.5	5319.9742	0.000485	5319.9735	0.000498	5319.9730	0.000508
-10	126.5	5319.975	0.000470	5319.9753	0.000464	5319.9755	0.000461
	110	5319.9748	0.000474	5319.9752	0.000466	5319.9753	0.000464
	93.5	5319.9747	0.000476	5319.9752	0.000466	5319.9755	0.000461
-20	126.5	5319.96	0.000752	5319.9962	0.000071	5319.9963	0.000070
	110	5319.958	0.000789	5319.9962	0.000071	5319.9963	0.000070
	93.5	5319.96	0.000752	5319.9963	0.000070	5319.9965	0.000066
-30	126.5	5320	0.000000	5320.02	0.000376	5320.0230	0.000432
	110	5320	0.000000	5320.017	0.000320	5320.0180	0.000338
	93.5	5320.015	0.000282	5320.018	0.000338	5320.0250	0.000470

5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW of spectrum analyzer to 1MHz and VBW of spectrum analyzer to 10Hz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.7.3 EUT OPERATING CONDITION

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

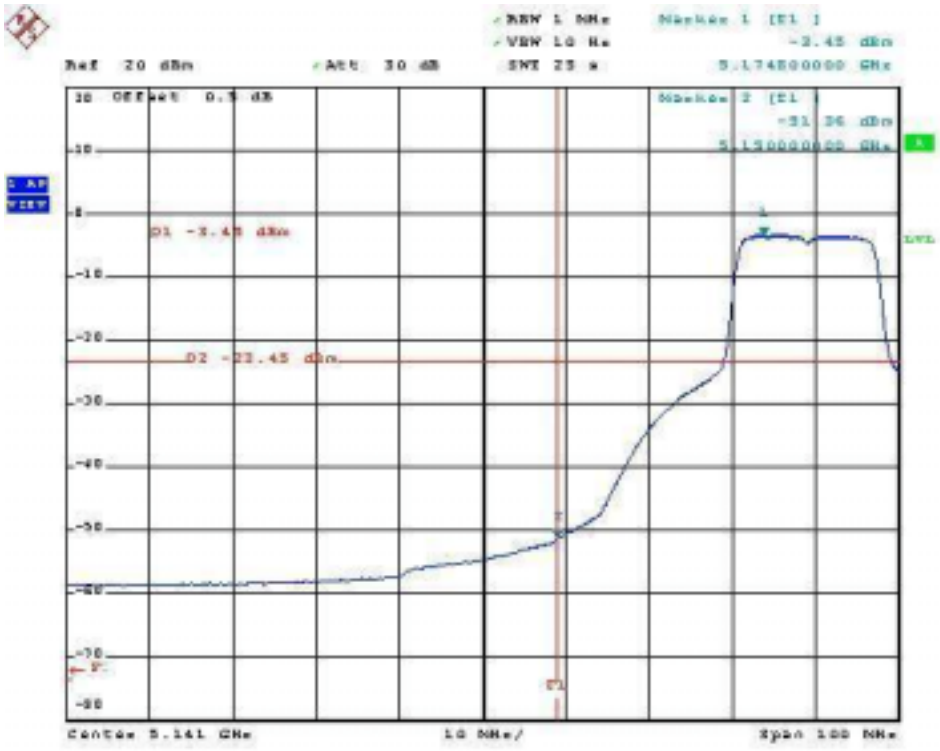
5.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Average RBW=1MHz, VBW=100Hz) are attached on the following 2 pages.

Normal Mode: Channel 1 (5180 MHz)

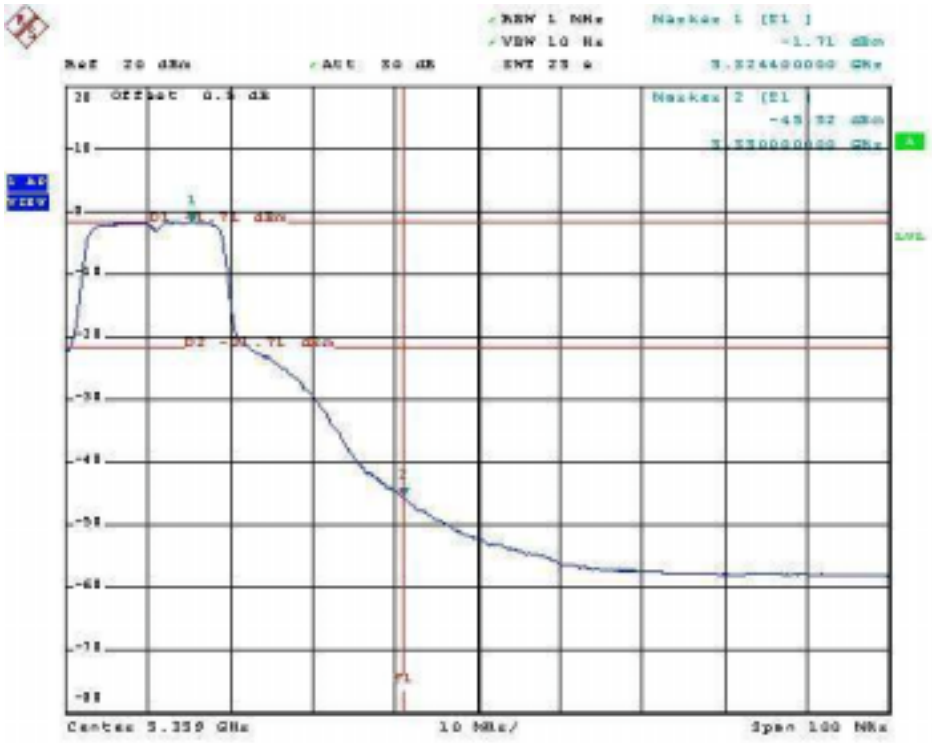
The band edge emission plot on the following page shows 47.91dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 93.9dBuV/m, so the maximum field strength in restrict band is 93.9-47.91=45.99dBuV/m which is under 54dBuV/m limit.



Date: 28.DEC.2004 11:04:46

Normal Mode: Channel 8 (5320 MHz)

The band edge emission plot on the following page shows 43.81dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 94.2dBuV/m, so the maximum field strength in restrict band is 94.2-43.81=50.39dBuV/m which is under 54dBuV/m limit.



Date: 28.DEC.2004 11:12:13

FOR FREQUENCY 5.725~5.850GHZ

5.8 6DB BANDWIDTH MEASUREMENT

5.8.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.8.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.8.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

5.8.4 DEVIATION FROM TEST STANDARD

No deviation

5.8.5 TEST SETUP

5.8.6 EUT OPERATING CONDITIONS

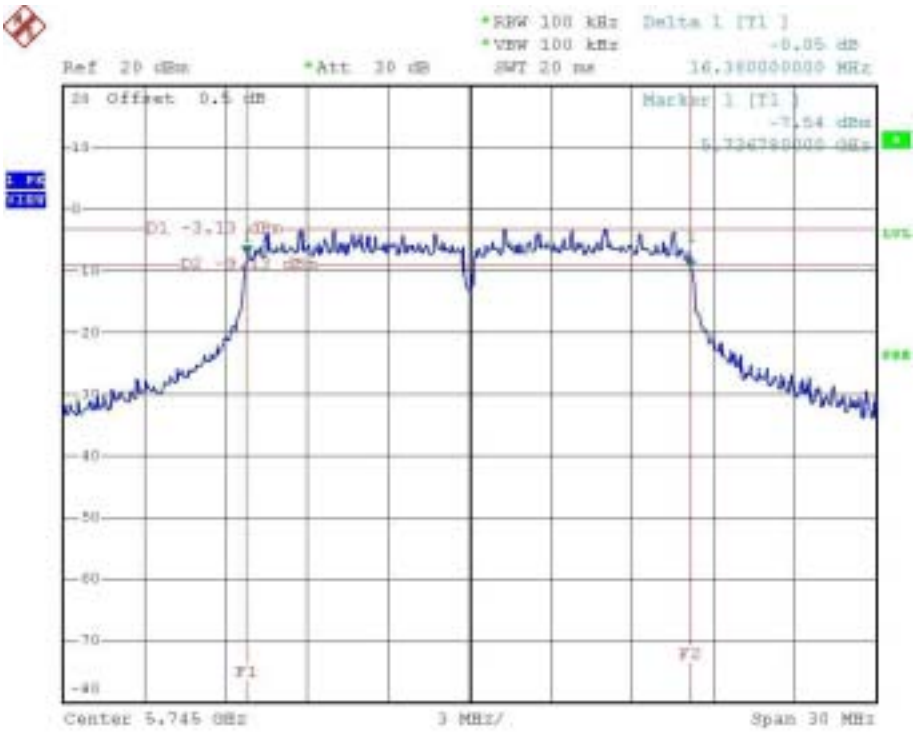
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.8.7 TEST RESULTS

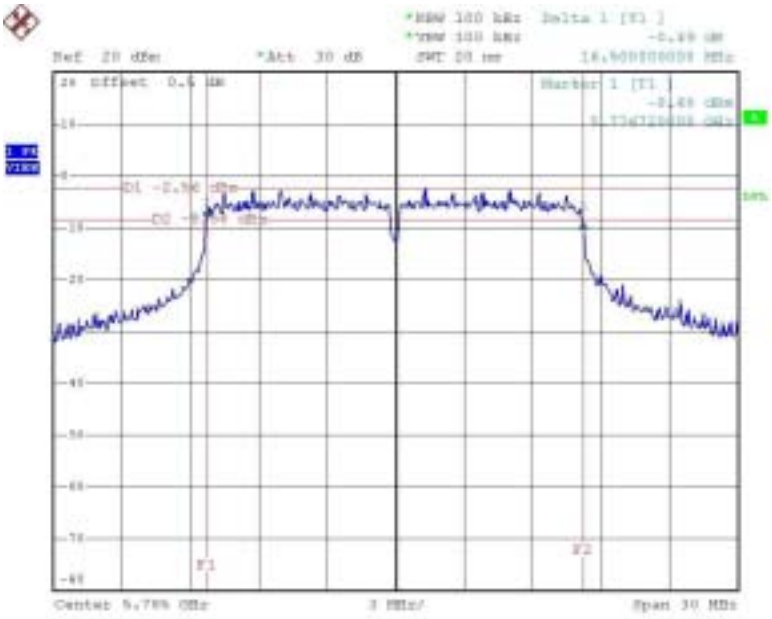
EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 62%RH, 979 hPa
TEST MODE	Normal	**TEST BY**	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
9	5745	16.38	0.5	PASS
11	5785	16.50	0.5	PASS
13	5825	16.50	0.5	PASS

CH9

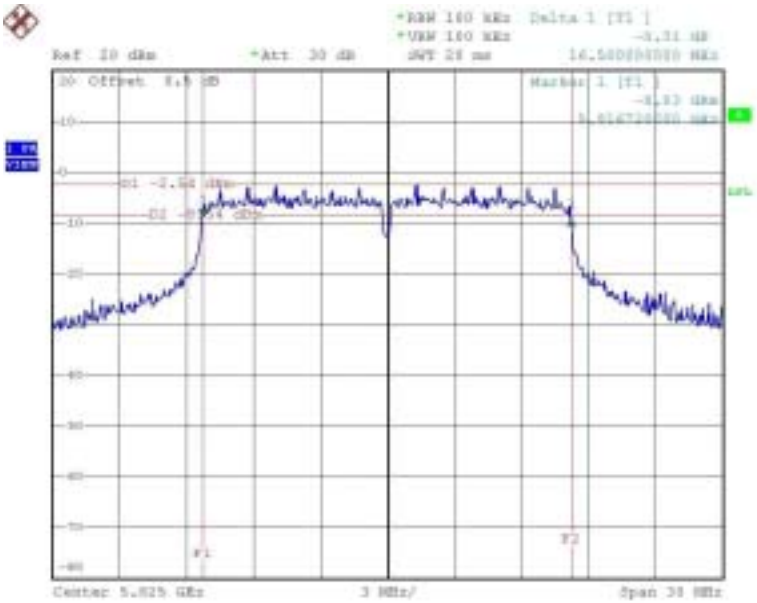


CH11



Date: 5.JAN.2005 02:48:05

CH13



Date: 5.JAN.2005 02:52:12

5.9 MAXIMUM PEAK OUTPUT POWER

5.9.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

Note:

1. Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

5.9.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

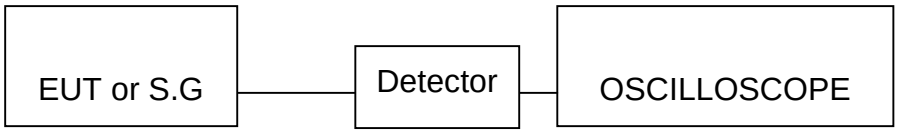
Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.9.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer.
Set the spectrum bandwidth span to view the entire spectrum.
Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=30KHz).
The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

5.9.4 TEST SETUP



5.9.5 EUT OPERATING CONDITIONS

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

5.9.6 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 62%RH, 979 hPa
TEST MODE	Normal	**TEST BY**	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	13.17	30	PASS
11	5785	13.05	30	PASS
13	5825	12.98	30	PASS

5.10 POWER SPECTRAL DENSITY MEASUREMENT

5.10.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.10.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.10.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

5.10.4 DEVIATION FROM TEST STANDARD

No deviation

5.10.5 TEST SETUP

5.10.6 EUT OPERATING CONDITION

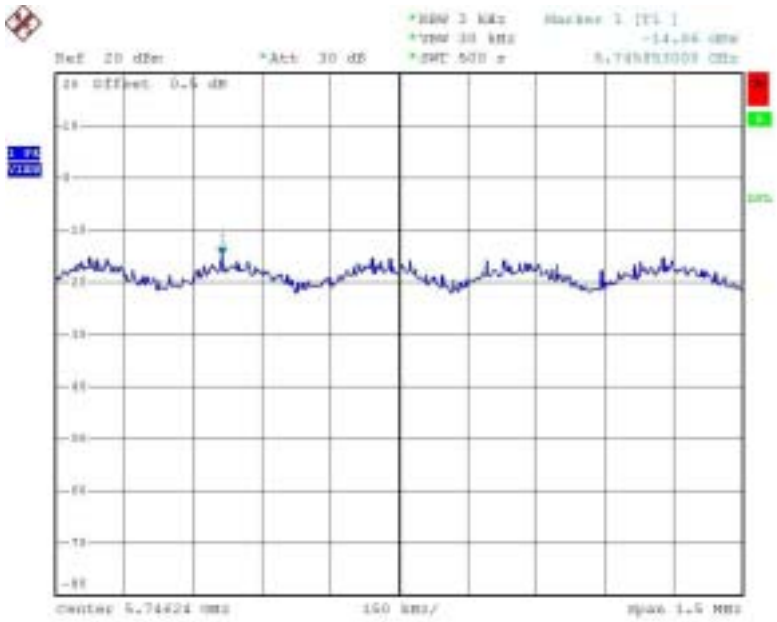
Same as Item 4.3.6

5.10.7 TEST RESULTS

EUT	802.11a/b/g Dual Band Wireless Access Point	**MODEL**	DWL-AG700AP
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	22 deg. C, 62%RH, 979 hPa
TEST MODE	Normal	**TEST BY**	Sky Liao

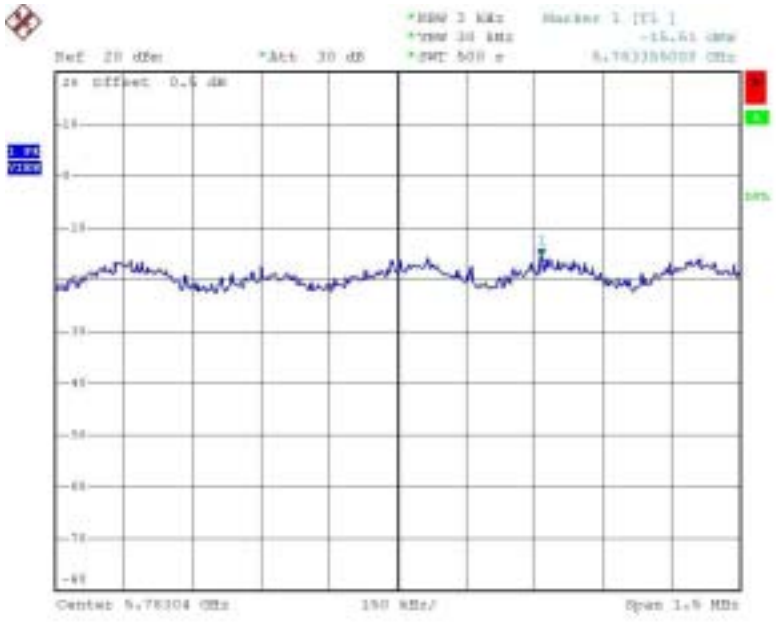
CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
9	5745	-14.86	8	PASS
11	5785	-15.51	8	PASS
13	5825	-15.73	8	PASS

CH9



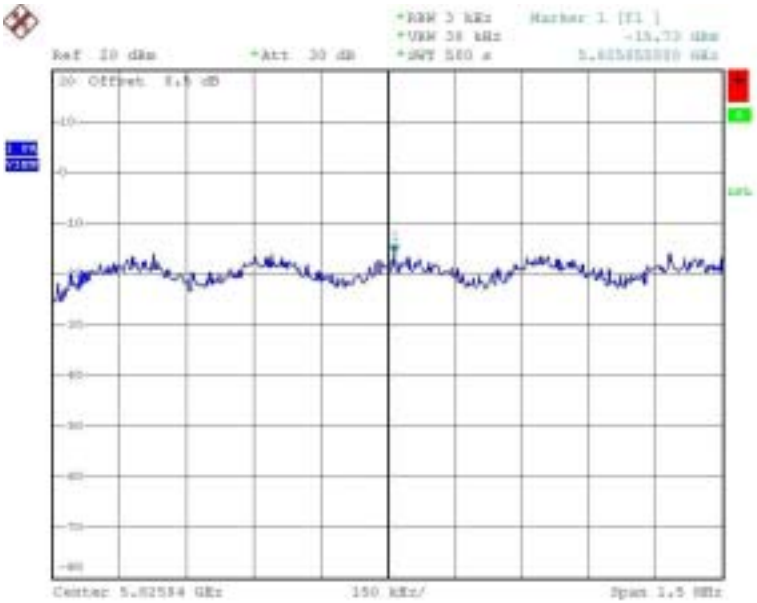
Date: 5.JAN.2005 03:06:58

CH11



Date: 5.JAN.2005 03:03:44

CH13



Date: 5.JAN.2005 02:54:57

5.11 BAND EDGES MEASUREMENT

5.11.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

5.11.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100037	May. 06, 2005

Note:

1. The measurement uncertainty is 2.79dB, which is calculated as per the document ETSI TR 100 028
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.11.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 kHz bandwidth from band edge. The band edges was measured and recorded.

5.11.4 DEVIATION FROM TEST STANDARD

No deviation

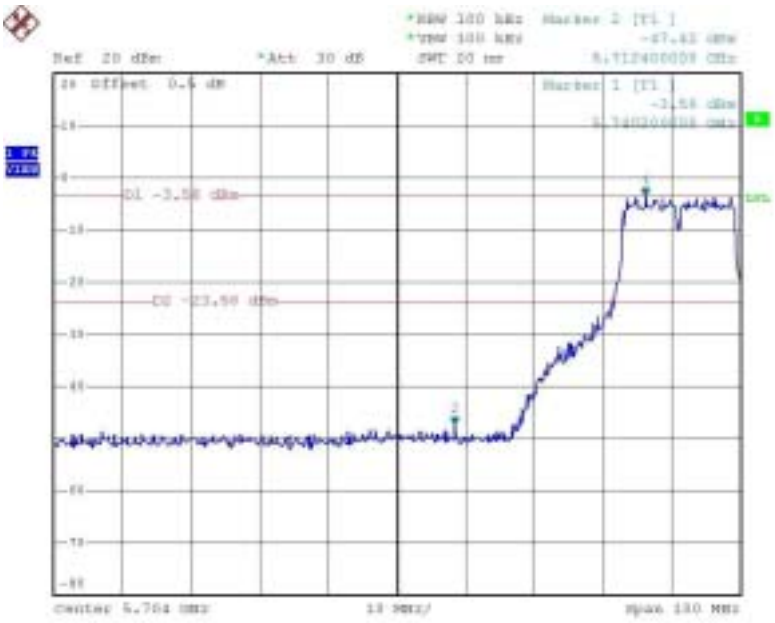
5.11.5 EUT OPERATING CONDITION

Same as Item 4.3.6

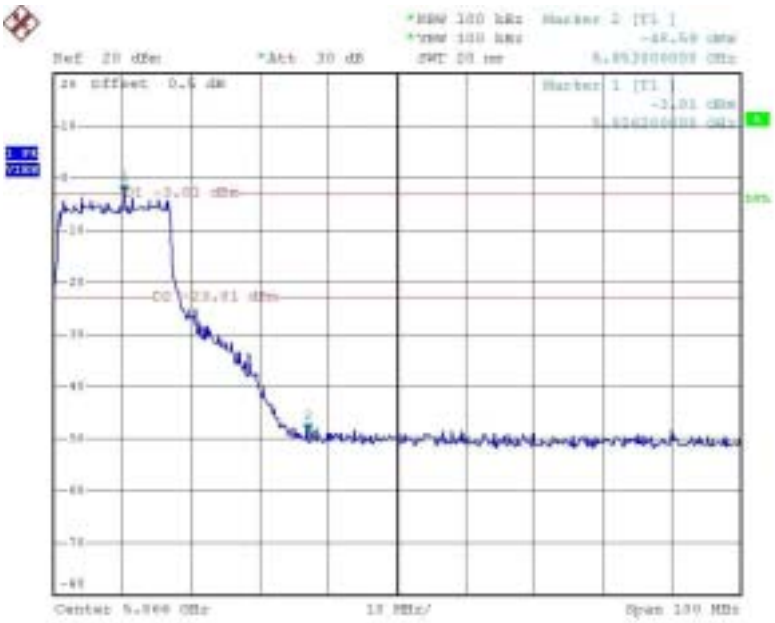
5.11.6 TEST RESULTS

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Normal Mode



Date: 7.JAN.2005 15:25:20



Date: 7.JAN.2005 15:29:37

5.12 ANTENNA REQUIREMENT

5.12.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.12.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product are Dipole antenna with R-SMA connector and Printed antenna without connector.

Dipole antenna: The maximum Gain of the antenna is 2.0dBi.
Printed antenna: The maximum Gain of the antenna is 2.19dBi.

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST

7. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA	FCC, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB, GOST-ASIA (MOU)
Russia	CERTIS (MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: 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: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service@adt.com.tw
Web Site: www.adt.com.tw

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