



Supplemental “Dual Xmit” Test Report

REPORT NO.: RF960507H01-01

MODEL NO.: IP250

RECEIVED: May 07, 2007

TESTED: May 14 to June 13, 2007

ISSUED: June 14, 2007

APPLICANT: Accton Technology Corporation

ADDRESS: No.1, Creation Rd. III, Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

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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No. 2177-01



Table of Contents

1.	CERTIFICATION.....	3
2.	DUAL XMIT, CONDUCTED EMISSION MEASUREMENT	4
2.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	4
2.2	TEST INSTRUMENTS.....	5
2.3	TEST PROCEDURES.....	5
2.4	DEVIATION FROM TEST STANDARD	5
2.5	TEST SETUP	6
2.5	EUT OPERATING CONDITIONS.....	7
2.6	TEST RESULTS (For 15.247)-With adapter	8
2.7	TEST RESULTS (For 15.247)-With POE	10
2.8	TEST RESULTS (For 15.407)-With Adapter	12
2.9	TEST RESULTS (For 15.407)-With POE	14
3.	DUAL XMIT, RADIATED EMISSION MEASUREMENT	16
3.1	LIMITS OF RADIATED EMISSION MEASUREMENT	16
3.2	TEST INSTRUMENTS	17
3.3	TEST PROCEDURES.....	18
3.4	DEVIATION FROM TEST STANDARD	18
3.5	TEST SETUP	19
3.6	EUT OPERATING CONDITIONS.....	20
3.7	TEST RESULTS (For 15.247).....	22
3.8	TEST RESULTS (For 15.407).....	24
4.	INFORMATION ON THE TESTING LABORATORIES.....	26



1. CERTIFICATION

PRODUCT : IronPoint 250 Access Point
BRAND NAME : Foundry Networks
MODEL NO. : IP250
TESTED: May 14 to June 13, 2007
APPLICANT : Accton Technology Corporation
TEST ITEM: R&D SAMPLE
STANDARDS : 47 CFR FCC Part 15, Subpart C
ANSI C63.4-2003

PREPARED BY :  , **DATE:** June 14, 2007
(Midoli Peng, Specialist)

TECHNICAL ACCEPTANCE :  , **DATE:** June 14, 2007
Responsible for RF (Hank Chung, Deputy Manager)

APPROVED BY :  , **DATE:** June 14, 2007
(May Chen, Deputy Manager)

Note:

Per a request of the FCC, the access point radio was tested for radiated emissions in restricted bands while transmitting on both 2.4 GHz and 5 GHz at simultaneously.



2. DUAL XMIT, CONDUCTED EMISSION MEASUREMENT

2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 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.



2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver	ESCS 30	847124/029	Mar. 28, 2008
Line-Impedance Stabilization Network(for EUT)	ENV-216	100071	Nov. 26, 2007
Line-Impedance Stabilization Network(for Peripheral)	ESH3-Z5	848773/004	Oct. 26, 2007
RF Cable (JETBAO)	RG233/U	Cable_CB_01	Dec. 09, 2007
Terminator	50	2	Oct. 30, 2007
Software	ADT_Cond_V7.3.2	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. B.
3. The VCCI Con B Registration No. is C-2193.

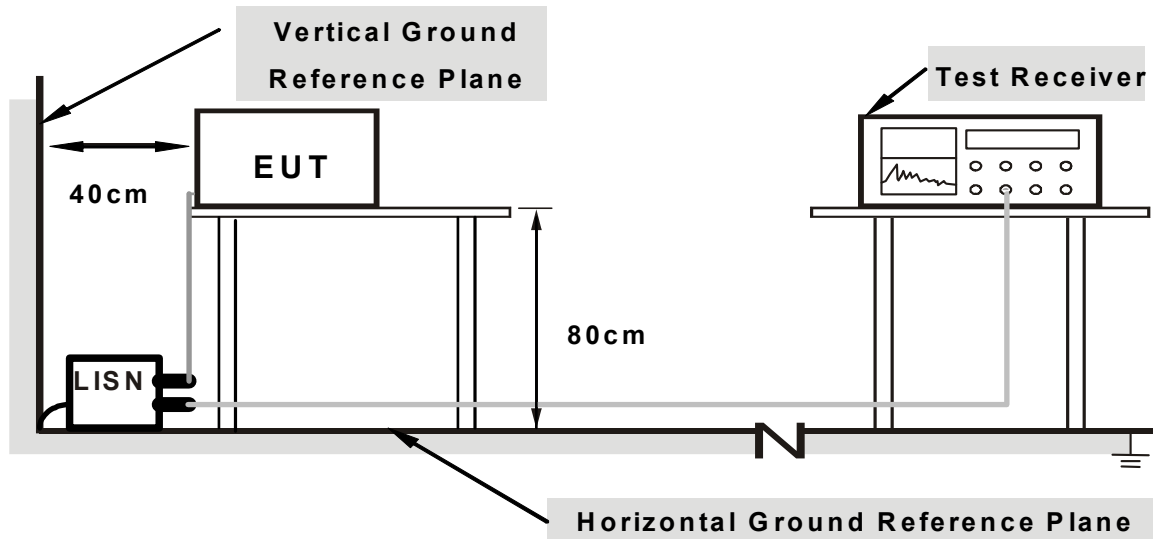
2.3 TEST PROCEDURES

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

2.4 DEVIATION FROM TEST STANDARD

No deviation

2.5 TEST SETUP



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

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

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



2.5 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems to act as a communication partner and placed them outside of testing area.
- c. The communication partner run test program “ART 48 Build 5” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable and wireless.

Note:

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

FCC 15.247

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g +	1 to 11	1	OFDM	BPSK	6
802.11a	1 to 5	5	OFDM	BPSK	6

FCC 15.407

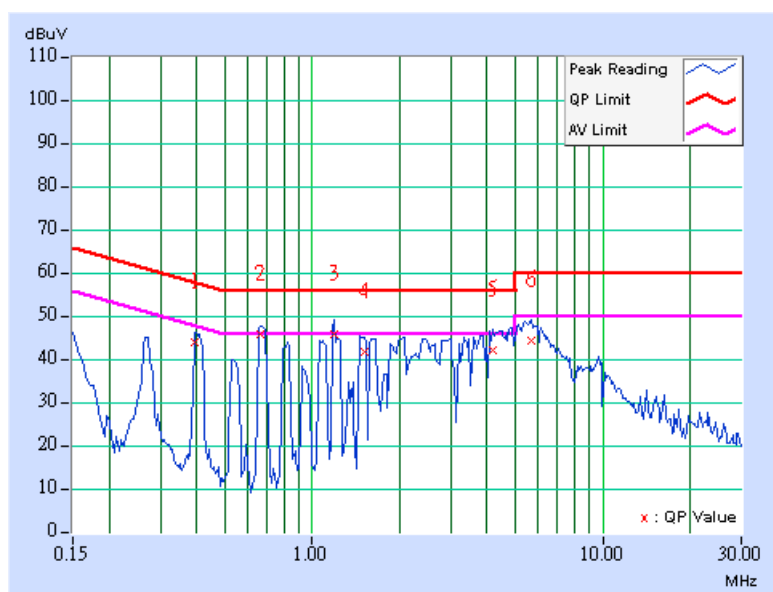
Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g +	1 to 11	1	OFDM	BPSK	6
802.11a	1 to 8	1	OFDM	BPSK	6

2.6 TEST RESULTS (For 15.247)-With adapter

TEST MODE	Dual transmission 11g, 2412MHz 11a, 5825MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%RH, 961hPa	TESTED BY	Sky Liao

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.396	0.40	43.25	-	43.65	-	57.93	47.93	-14.28	-
2	0.666	0.40	45.28	-	45.68	-	56.00	46.00	-10.32	-
3	1.185	0.42	45.18	-	45.60	-	56.00	46.00	-10.40	-
4	1.505	0.45	41.06	-	41.51	-	56.00	46.00	-14.49	-
5	4.191	0.61	41.42	-	42.03	-	56.00	46.00	-13.97	-
6	5.648	0.65	43.75	-	44.40	-	60.00	50.00	-15.60	-

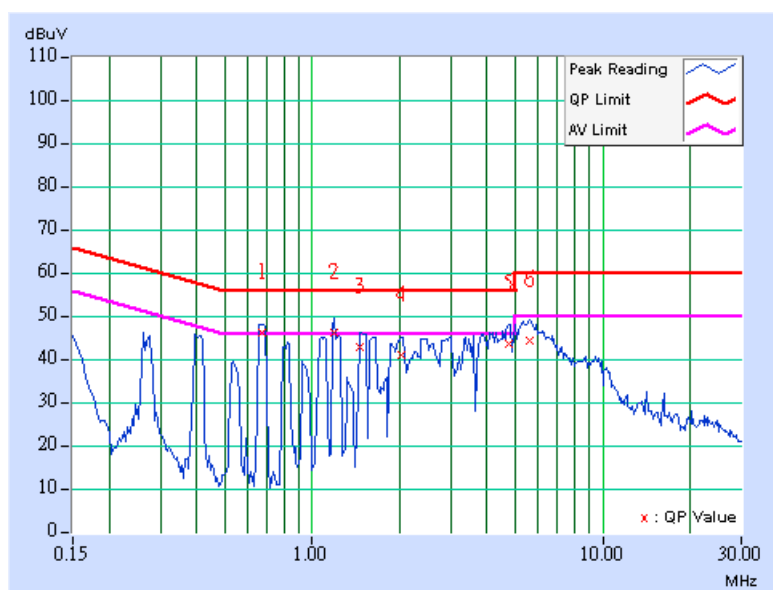
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



TEST MODE	Dual transmission 11g, 2412MHz 11a, 5825MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%RH, 961hPa	TESTED BY	Sky Liao

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.673	0.25	45.72	-	45.97	-	56.00	46.00	-10.03
2	1.185	0.32	45.52	-	45.84	-	56.00	46.00	-10.16	-
3	1.451	0.35	42.35	-	42.70	-	56.00	46.00	-13.30	-
4	2.037	0.40	40.43	-	40.83	-	56.00	46.00	-15.17	-
5	4.734	0.55	42.96	-	43.51	-	56.00	46.00	-12.49	-
6	5.629	0.61	43.90	-	44.51	-	60.00	50.00	-15.49	-

- 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.

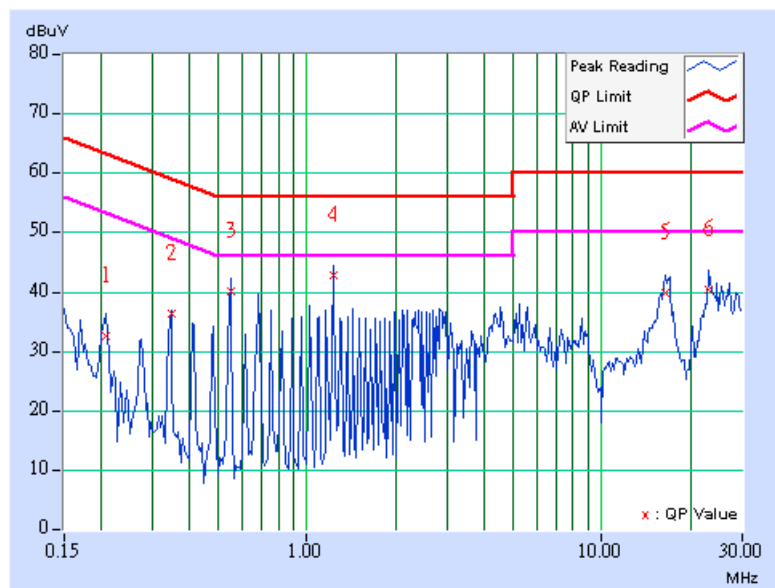


2.7 TEST RESULTS (For 15.247)-With POE

TEST MODE	Dual transmission 11g, 2412MHz 11a, 5825MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 961hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.209	0.40	31.63	-	32.03	-	63.26
2	0.345	0.40	35.39	-	35.79	-	59.07	49.07	-23.28	-
3	0.548	0.40	39.17	-	39.57	-	56.00	46.00	-16.43	-
4	1.228	0.42	41.90	-	42.32	-	56.00	46.00	-13.68	-
5	16.414	1.07	38.99	-	40.06	-	60.00	50.00	-19.94	-
6	23.131	1.00	39.31	-	40.31	-	60.00	50.00	-19.69	-

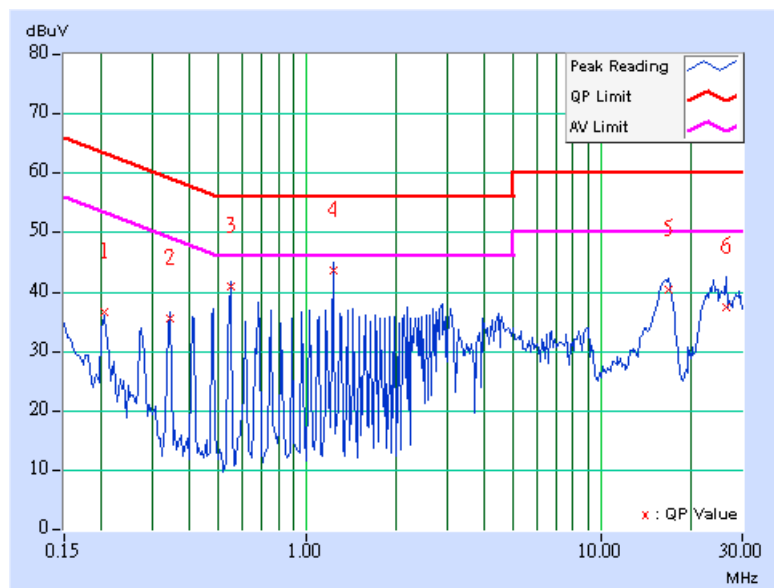
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



TEST MODE	Dual transmission 11g, 2412MHz 11a, 5825MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 961hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.205	0.20	35.30	-	35.50	-	63.42	53.42	-27.92
2	0.341	0.20	34.28	-	34.48	-	59.17	49.17	-24.69	-
3	0.548	0.22	39.42	-	39.64	-	56.00	46.00	-16.36	-
4	1.228	0.32	42.25	-	42.57	-	56.00	46.00	-13.43	-
5	16.758	1.24	39.07	-	40.31	-	60.00	50.00	-19.69	-
6	26.488	1.40	36.01	-	37.41	-	60.00	50.00	-22.59	-

- 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.

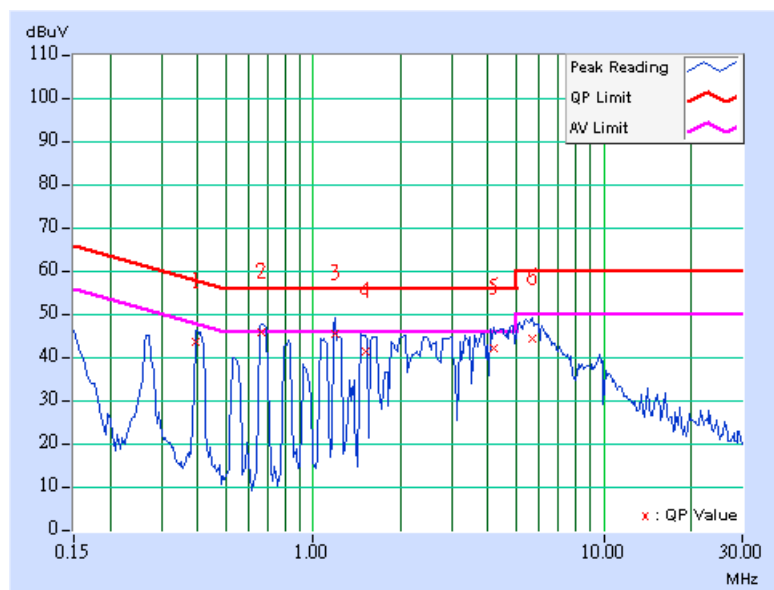


2.8 TEST RESULTS (For 15.407)-With Adapter

TEST MODE	Dual transmission 11g, 2412MHz 11a, 5180MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 63%RH, 961hPa	TESTED BY	Sky Liao

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.396	0.40	43.05	-	43.45	-	57.93	47.93	-14.48	-
2	0.666	0.40	45.18	-	45.58	-	56.00	46.00	-10.42	-
3	1.185	0.42	44.85	-	45.27	-	56.00	46.00	-10.73	-
4	1.505	0.45	41.01	-	41.46	-	56.00	46.00	-14.54	-
5	4.191	0.61	41.47	-	42.08	-	56.00	46.00	-13.92	-
6	5.648	0.65	43.71	-	44.36	-	60.00	50.00	-15.64	-

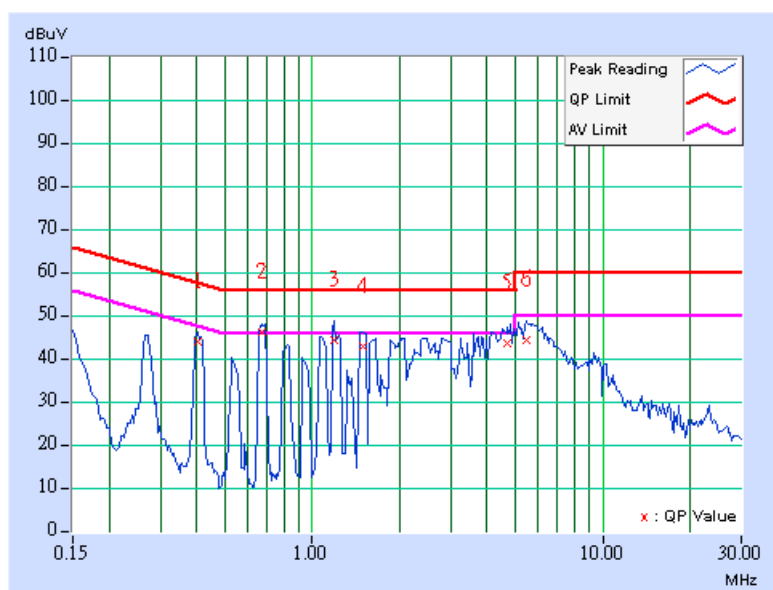
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



TEST MODE	Dual transmission 11g, 2412MHz 11a, 5180MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%RH, 961hPa	TESTED BY	Sky Liao

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.404	0.20	43.50	-	43.70	-	57.77	47.77	-14.07
2	0.670	0.24	45.68	-	45.92	-	56.00	46.00	-10.08	-
3	1.185	0.32	43.78	-	44.10	-	56.00	46.00	-11.90	-
4	1.490	0.35	42.34	-	42.69	-	56.00	46.00	-13.31	-
5	4.715	0.55	42.93	-	43.48	-	56.00	46.00	-12.52	-
6	5.473	0.60	43.67	-	44.27	-	60.00	50.00	-15.73	-

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

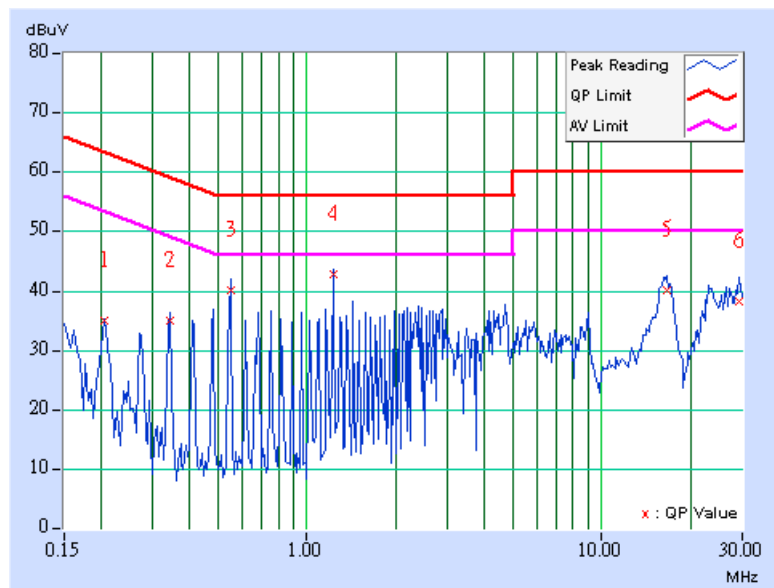


2.9 TEST RESULTS (For 15.407)-With POE

TEST MODE	Dual transmission 11g, 2412MHz 11a, 5180MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 961hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.205	0.40	33.95	-	34.35	-	63.42
2	0.341	0.40	33.98	-	34.38	-	59.17	49.17	-24.79	-
3	0.548	0.40	39.19	-	39.59	-	56.00	46.00	-16.41	-
4	1.228	0.42	41.86	-	42.28	-	56.00	46.00	-13.72	-
5	16.703	1.07	39.04	-	40.11	-	60.00	50.00	-19.89	-
6	29.230	1.00	37.24	-	38.24	-	60.00	50.00	-21.76	-

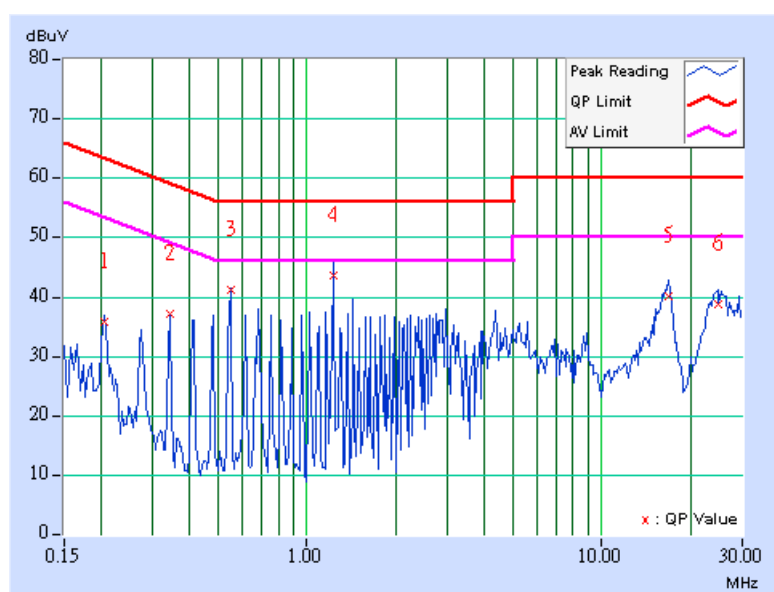
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



TEST MODE	Dual transmission 11g, 2412MHz 11a, 5180MHz	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 961hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.205	0.20	34.37	-	34.57	-	63.42
2	0.341	0.20	35.65	-	35.85	-	59.17	49.17	-23.32	-
3	0.548	0.22	39.84	-	40.06	-	56.00	46.00	-15.94	-
4	1.227	0.32	42.19	-	42.51	-	56.00	46.00	-13.49	-
5	16.766	1.24	38.74	-	39.98	-	60.00	50.00	-20.02	-
6	24.715	1.39	37.38	-	38.77	-	60.00	50.00	-21.23	-

- 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.





3. DUAL XMIT, RADIATED EMISSION MEASUREMENT

3.1 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.



3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ADVANTEST Spectrum Analyzer	R3271A	85060311	July 03, 2007
HP Pre_Amplifier	8449B	3008A01922	Sep. 18, 2007
ROHDE & SCHWARZ Test Receiver	ESCS30	100375	Sep. 20, 2007
CHASE Broadband Antenna	VULB 9168	138	July 17, 2007
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jan. 01, 2008
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 05, 2008
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 08, 2009
SCHWARZBECK Periodic Antenna	UPA6108	1148	Jun. 08, 2009
RF Switches (ARNITSU)	CS-201	1565157	NA
RF CABLE (Chaintek)	SF102	22054-2	Nov. 14. 2007
RF Cable(RICHTEC)	9913-30M N-N Cable	STCCAB-30M-1 GHz	Jul. 15, 2007
Software	ADT_Radiated_V 7.6.15.7	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 Biconical and Periodic Antenna) and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: R3271A) 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 4824A-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Radiated emissions (30MHz-1GHz)	3.89 dB
Radiated emissions (1GHz ~18GHz)	2.21 dB
Radiated emissions (18GHz ~40GHz)	1.88 dB



3.3 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.
- g. The emissions up to 40 GHz were examined. Those emission falling within a restricted band were evaluated against the “restricted band emission limit” (54 dB μ V / 74 dB μ V).

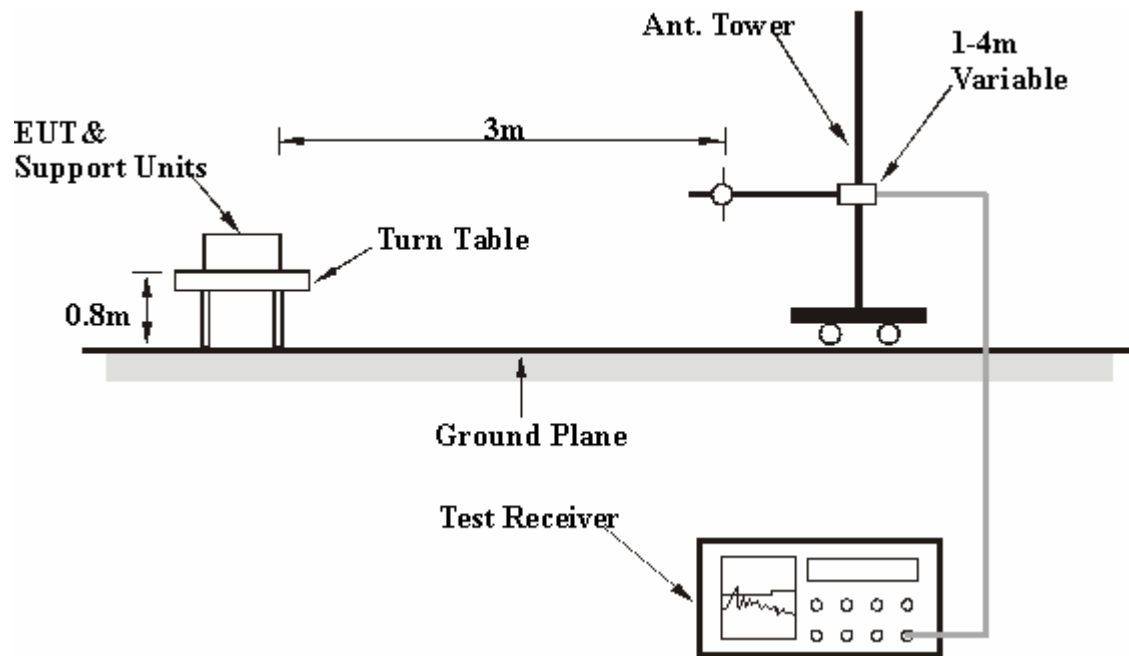
NOTE:

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.

3.4 DEVIATION FROM TEST STANDARD

No deviation

3.5 TEST SETUP



3.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems to act as a communication partner and placed them outside of testing area.
- c. The communication partner run test program “ART 48 Build 5” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable and wireless.

Note:

For 15.247:

The access point was tested for out of band radiated emissions with the unit transmitting on 802.11b, 2412 MHz and 802.11a on 5825 MHz. These frequencies and power levels were chosen because these frequencies produced the worst case radiated emissions during the radiated emissions in restricted bands test performed previously. The unit was set to transmit at the same power level as was used in the initial radiated emissions tests and was transmitting at the same data rate. (Please refer to RF960507H01 test report)

The harmonic of the fundamental signals were recorded in this report.

The antennas tested in this product are as following:

For 2.4GHz						
No.	Model No.	Gain (dBi)	Cable lose (dB)	Net Gain (dBi)	Antenna Type	Connector
2	MP24013XFPT	13	0	13	Directional Panel	N, female
For 5GHz						
No.	Model No.	Gain (dBi)	Cable lose (dB)	Net Gain (dBi)	Antenna Type	Connector
A	MMO24580608	8	2	6	Omni Directional	N, female



For 15.407:

The access point was tested for out of band radiated emissions with the unit transmitting on 802.11b, 2412 MHz and 802.11a on 5180 MHz. These frequencies and power levels were chosen because these frequencies produced the worst case radiated emissions during the radiated emissions in restricted bands test performed previously. The unit was set to transmit at the same power level as was used in the initial radiated emissions tests and was transmitting at the same data rate. (Please refer to RF950701H05 test report)

The harmonic of the fundamental signals were recorded in this report.

The antennas tested in this product are as following:

For 2.4GHz						
No.	Model No.	Gain (dBi)	Cable lose (dB)	Net Gain (dBi)	Antenna Type	Connector
2	MP24013XFPT	13	0	13	Directional Panel	N, female
For 5GHz						
No.	Model No.	Gain (dBi)	Cable lose (dB)	Net Gain (dBi)	Antenna Type	Connector
A	MMO24580608	8	2	6	Omni Directional	N, female



3.7 TEST RESULTS (For 15.247)

TEST MODE	Dual transmission 11b, 2412MHz 11a, 5825MHz	FREQUENCY RANGE	30MHz~1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH, 973 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	110.46	33.50 QP	43.50	-10.00	1.17 H	294	22.78	10.72
2	200.02	29.70 QP	43.50	-13.80	1.11 H	306	18.10	11.60
3	300.01	30.30 QP	46.00	-15.70	1.00 H	221	13.47	16.83
4	499.96	37.64 QP	46.00	-8.36	1.48 H	351	15.88	21.76
5	600.02	29.98 QP	46.00	-16.02	1.23 H	284	5.50	24.48
6	799.00	38.67 QP	46.00	-7.33	1.10 H	284	11.11	27.56
7	900.00	36.60 QP	46.00	-9.40	1.27 H	323	7.75	28.85

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	40.12	33.60 QP	40.00	-6.40	1.00 V	312	19.29	14.31
2	108.66	35.10 QP	43.50	-8.40	1.00 V	127	24.58	10.52
3	200.02	27.30 QP	43.50	-16.20	1.00 V	271	15.70	11.60
4	360.03	34.80 QP	46.00	-11.20	1.00 V	194	17.09	17.71
5	500.01	37.40 QP	46.00	-8.60	1.00 V	325	15.64	21.76
6	599.97	31.20 QP	46.00	-14.80	1.36 V	284	6.72	24.48
7	800.00	39.20 QP	46.00	-6.80	1.41 V	283	11.64	27.56
8	899.98	36.70 QP	46.00	-9.30	1.29 V	308	7.85	28.85

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.



TEST MODE	Dual transmission 11b, 2412MHz 11a, 5825MHz	FREQUENCY RANGE	1000MHz~40000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	29deg. C, 65%RH, 973 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	2688.00	44.42 PK	74.00	-29.58	1.00 H	352	13.11	31.31
2	2688.00	30.70 AV	54.00	-23.30	1.00 H	352	-0.61	31.31
3	4874.00	50.40 PK	74.00	-23.60	1.16 H	202	14.60	35.80
4	4874.00	44.20 AV	54.00	-9.80	1.16 H	202	8.40	35.80
5	7311.00	54.30 PK	74.00	-19.70	1.11 H	318	11.78	42.52
6	7311.00	39.70 AV	54.00	-14.30	1.11 H	318	-2.82	42.52
7	11490.00	64.20 PK	74.00	-9.80	1.67 H	314	17.18	47.02
8	11490.00	50.60 AV	54.00	-3.40	1.67 H	134	3.58	47.02

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	2688.00	45.90 PK	74.00	-28.10	1.25 V	181	14.59	31.31
2	2688.00	37.60 AV	54.00	-16.40	1.25 V	181	6.29	31.31
3	4874.00	55.70 PK	74.00	-18.30	1.08 V	166	19.90	35.80
4	4874.00	52.70 AV	54.00	-1.30	1.08 V	166	16.90	35.80
5	7311.00	54.10 PK	74.00	-19.90	1.31 V	225	11.58	42.52
6	7311.00	39.50 AV	54.00	-14.50	1.31 V	225	-3.02	42.52
7	11490.00	64.47 PK	74.00	-9.53	1.29 V	267	17.45	47.02
8	11490.00	51.14 AV	54.00	-2.86	1.40 V	96	4.12	47.02

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.



3.8 TEST RESULTS (For 15.407)

TEST MODE	Dual transmission 11b, 2412MHz 11a, 5180MHz	FREQUENCY RANGE	30MHz~1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH, 973 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	110.88	33.60 QP	43.50	-9.90	1.08 H	342	22.83	10.77
2	200.02	28.20 QP	43.50	-15.30	1.08 H	255	16.60	11.60
3	300.00	30.75 QP	46.00	-15.25	1.02 H	128	13.92	16.83
4	500.00	37.33 QP	46.00	-8.67	1.60 H	211	15.57	21.76
5	600.01	30.62 QP	46.00	-15.38	1.18 H	302	6.14	24.48
6	800.01	39.12 QP	46.00	-6.88	1.00 H	217	11.56	27.56
7	900.01	36.26 QP	46.00	-9.74	1.00 H	260	7.41	28.85

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	39.66	34.30 QP	40.00	-5.70	1.00 V	282	20.12	14.18
2	108.83	35.50 QP	43.50	-8.00	1.00 V	62	24.96	10.54
3	200.00	26.30 QP	43.50	-17.20	1.00 V	285	14.70	11.60
4	359.90	34.80 QP	46.00	-11.20	1.00 V	158	17.10	17.70
5	500.01	36.70 QP	46.00	-9.30	1.11 V	206	14.94	21.76
6	599.99	30.10 QP	46.00	-15.90	1.28 V	207	5.62	24.48
7	800.00	39.40 QP	46.00	-6.60	1.32 V	266	11.84	27.56
8	899.99	36.30 QP	46.00	-9.70	1.35 V	343	7.45	28.85

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.



TEST MODE	Dual transmission 11b, 2412MHz 11a, 5180MHz	FREQUENCY RANGE	1000MHz~40000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	29deg. C, 65%RH, 973 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	2688.00	44.33 PK	88.30	-43.97	1.00 H	348	13.02	31.31
2	2688.00	30.50 AV	68.30	-37.80	1.00 H	348	-0.81	31.31
3	4874.00	50.70 PK	74.00	-23.30	1.14 H	193	14.90	35.80
4	4874.00	44.60 AV	54.00	-9.40	1.14 H	193	8.80	35.80
5	7311.00	54.00 PK	74.00	-20.00	1.06 H	329	11.48	42.52
6	7311.00	39.60 AV	54.00	-14.40	1.06 H	329	-2.92	42.52
7	10480.00	57.60 PK	88.30	-30.70	1.34 H	287	11.49	46.11
8	10480.00	44.90 AV	68.30	-23.40	1.34 H	287	-1.21	46.11

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	2688.00	46.10 PK	88.30	-42.20	1.27 V	176	14.79	31.31
2	2688.00	37.70 AV	68.30	-30.60	1.27 V	176	6.39	31.31
3	4874.00	55.40 PK	74.00	-18.60	1.09 V	164	19.60	35.80
4	4874.00	52.60 AV	54.00	-1.40	1.09 V	164	16.80	35.80
5	7311.00	54.30 PK	74.00	-19.70	1.26 V	197	11.78	42.52
6	7311.00	39.80 AV	54.00	-14.20	1.26 V	197	-2.72	42.52
7	10480.00	57.96 PK	88.30	-30.34	1.43 V	286	11.85	46.11
8	10480.00	44.90 AV	68.30	-23.40	1.43 V	286	-1.21	46.11

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.



4. 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, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, NCC
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:

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Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

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