

FCC TEST REPORT (15.407)

REPORT NO.: RF941117L08

MODEL NO.: G610

(Refer to page 6 for more details)

RECEIVED: Nov. 17, 2005

TESTED: Nov. 29 ~ Dec. 02, 2005

ISSUED: Dec. 06, 2005

APPLICANT: ELITEGROUP COMPUTER SYSTEMS CO.,

LTD.

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Report No.: RF941117L08 1 Report Format Version 2.0.4



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1. CERTIFICATION

PRODUCT: Notebook

MODEL NO.: G610

(Refer to page 6 for more details)

APPLICANT: ECS

BRAND NAME: ELITEGROUP COMPUTER SYSTEMS CO., LTD.

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Nov. 29 ~ Dec. 02, 2005

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

ANSI C63.4-2003

The above equipment 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 , DATE: Dec. 06, 2005

Rennie Wang

TECHNICAL

ACCEPTANCE : Gay Clary , DATE: Dec. 06, 2005

Responsible for RF Gary Chang

APPROVED BY : _______, DATE: ________ Dec. 06, 2005

Cody Chang / Deputy Manager



2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)						
Standard Section	Test Type	Result	Remark			
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –3.04dB at 0.712MHz			
15.407(b/1/2/3) (b)(5)	· 'IODUIIOUS LIIIISSIOIIS.		Meet the requirement of limit. Minimum passing margin is –2.19dB at 5350.00MHz			
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.			

2.1 MEASUREMENT UNCERTAINTY

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

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz~30MHz	2.44 dB
	30MHz ~ 200MHz	3.73 dB
Radiated emissions	200MHz ~1000MHz	3.74 dB
Radiated emissions	1GHz ~ 18GHz	2.20 dB
	18GHz ~ 40GHz	1.88 dB

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



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Notebook
MODEL NO.	G610
	(Refer to NOTE 1 as below)
POWER SUPPLY	19Vdc from AC adapter
MODULATION TYPE	CCK, QPSK, BPSK for DSSS
	64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps
	802.11g: 54/48/36/24/18/12/9/6Mbps
	802.11a: 54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	802.11b & 802.11g: 2.412 ~ 2.462GHz
	802.11a: 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz
NUMBER OF CHANNEL	802.11b & 802.11g: 11
	802.11a: 13
CHANNEL SPACING	802.11b & 802.11g: 5MHz
	802.11a: 20MHz
OUTPUT POWER	81.283mW for 802.11b
	51.050mW for 802.11g
	40.644mW for 5.150 ~ 5.350GHz
	64.269mW for 5.725 ~ 5.850GHz
ANTENNA TYPE	PIFA antenna with –3.37dBi gain (for 2.4GHz)
	PIFA antenna with –4.39dBi gain (for 5.0GHz)
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

1. The models as below are identical to each other expect for their model designation due to OEM model.

Model	Description	
G610	Original model	
G610V	OEM model	
G610P	OEM model	
G610G	OEM model	



2. The EUT is powered by the following adapter.

Brand	LI SHIN INTERNATIONAL ENTERPRISE CORP.		
Model	LSE0202C1990		
Input Power	100-240Vac, 50-60Hz, 1.5A		
Output Power	19Vdc, 4.74A		
Power Cord	DC 1.6 m non-shielded cable with one core		

- 3. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.
- 4. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
- 5. 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.

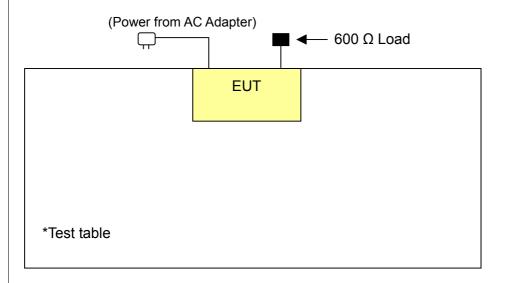
3.2 DESCRIPTION OF TEST MODES

Operated in 5150 ~ 5250MHz, 5250MHz ~ 5350MHz bands:

Eight channels are provided to this EUT.

Channel	Frequency
1	5180 MHz
2	5200 MHz
3	5220 MHz
4	5240 MHz
5	5260 MHz
6	5280 MHz
7	5300 MHz
8	5320 MHz

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure		Applicable to			Description
mode	PLC	RE<1G	RE≥1G	APCM	Bosonphon
-	V	√	V	√	-

Where PLC: Power Line Conducted Emission RE≥1G: Radiated Emission above 1GHz

RE<1G RE: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Power Line Conducted Emission Test:

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

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

Mode	Available Channel		Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 8	5	OFDM	BPSK	6

Radiated Emission Test (Below 1 GHz):

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.

Mode	Available Channel		Modulation Technology		Data Rate (Mbps)
802.11a	1 to 8	5	OFDM	BPSK	6

Radiated Emission Test (Above 1 GHz):

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.

Mode	Available Channel	Tested		Modulation	
802.11a	1 to 8	1. 4. 5. 8	OFDM	BPSK	6



Bandedge Measurement:

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

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

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

Antenna Port Conducted Measurement:

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

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

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 8	1, 4, 5, 8	OFDM	BPSK	6



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407) ANSI C63.4-2003

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

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

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	600 Ω LOAD	NA	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

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



4. TEST TYPES AND RESULTS (5150 ~ 5350MHz Band)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 11, 2006
RF signal cable Woken	5D-FB	Cable-HYC01-01	Jan. 09, 2006
LISN SCHWARZBECK	NNBL 8226-2	8226-142	May. 02, 2006
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Feb. 15, 2006
Software ADT	ADT_Cond_V3	NA	NA

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

- 2. The test was performed in HwaYa Shielded Room 1.
- 3. The VCCI Site Registration No. is C-2040.



4.1.3 TEST PROCEDURES

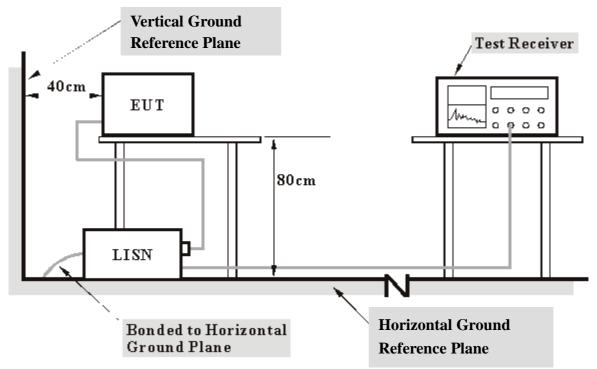
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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 (AMIN) 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 a testing table.
- b. The EUT ran a test program (provided by manufacturer) to enable all functions under transmission/receiving condition continuously at specific channel frequency.
- c. The notebook system sent "H" messages to its screen.
- d. Step c was repeated.



4.1.7 TEST RESULTS

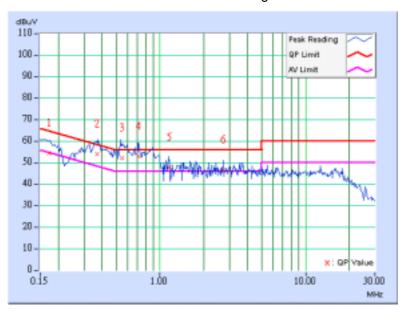
Conducted Worst-Case Data

EUT	Notebook	MEASUREMENT DETAIL		
MODEL	G610	PHASE	Line 1	
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz	
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz	
TESTED BY	Jay Hsu			

	Freq.	Corr.	Readin	g Value	Emis Le	sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.11	54.31	-	54.42	-	64.79	54.79	-10.38	-
2	0.371	0.11	53.65	40.40	53.76	40.51	58.47	48.47	-4.71	-7.96
3	0.546	0.14	51.94	40.04	52.08	40.18	56.00	46.00	-3.92	-5.82
4	0.712	0.18	52.78	38.73	52.96	38.91	56.00	46.00	-3.04	-7.09
5	1.154	0.24	47.39	38.39	47.63	38.63	56.00	46.00	-8.37	-7.37
6	2.733	0.31	46.36	38.39	46.67	38.70	56.00	46.00	-9.33	-7.30

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.



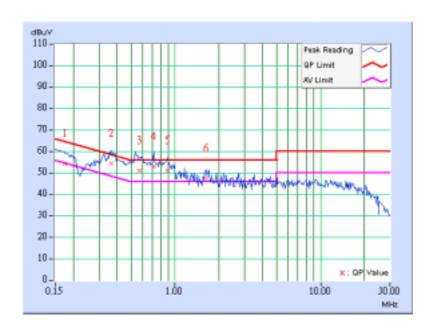


EUT	Notebook	MEASUREMENT DETAIL		
MODEL	G610	PHASE	Line 2	
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz	
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz	
TESTED BY	Jay Hsu			

	Freq.	Corr.	Readin	g Value		ssion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	В)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.175	0.11	54.05	-	54.16	-	64.72	54.72	-10.57	-
2	0.365	0.11	54.03	41.29	54.14	41.40	58.62	48.62	-4.48	-7.22
3	0.572	0.15	50.79	38.57	50.94	38.72	56.00	46.00	-5.06	-7.28
4	0.716	0.18	52.54	38.84	52.72	39.02	56.00	46.00	-3.28	-6.98
5	0.893	0.22	50.92	40.55	51.14	40.77	56.00	46.00	-4.86	-5.23
6	1.629	0.25	47.23	39.57	47.48	39.82	56.00	46.00	-8.52	-6.18

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.

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





4.2 RADIATED EMISSION MEASUREMENT

4.2.1 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.



4.2.2 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
5725~5625	-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

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



4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL	
Test Receiver	ESIB7	100188	Dec. 19, 2005	
ROHDE & SCHWARZ	20151	100100	200. 10, 2000	
Spectrum Analyzer	FSP40	100039	Nov. 27, 2006	
ROHDE & SCHWARZ				
BILOG Antenna	VULB9168	9168-157	Jan. 22, 2006	
SCHWARZBECK	VOLDOTOO	3100-107	5an. 22, 2000	
HORN Antenna	BBHA 9120 D	9120D-407	Jan. 16, 2006	
SCHWARZBECK	BBI IA 9120 D	91200-407	Jan. 10, 2000	
HORN Antenna	BBHA 9170	BBHA 9170241	Fab 22 2006	
SCHWARZBECK	вына этти	ББПА 9170241	Feb. 23, 2006	
Preamplifier	8449B	3008A01961	Oct. 23, 2006	
Agilent	04490	3000A01901	Oct. 23, 2006	
Preamplifier	8447D	2944A10629	Oct. 27, 2006	
Agilent	04470	2944A10029	Oct. 21, 2000	
RF signal cable	SUCOFLEX 104	218182/4	Feb. 17, 2006	
HUBER+SUHNER	SUCUPLEX 104	210102/4	Feb. 17, 2000	
RF signal cable	SUCOFLEX 104	218194/4	Feb. 17, 2006	
HUBER+SUHNER	SUCUPLEX 104	210194/4	Feb. 17, 2000	
Software	ADT_Radiated_V5.14	NA	NA	
ADT.	AD1_Nadiated_v3.14	IVA	IVA	
Antenna Tower	AT100	AT93021702	NA	
ADT.	AT 100	A193021702	INA	
Turn Table	TT100.	TT93021702	NA	
ADT.	11100.	1183021702	INA	
Controller	SC100.	SC93021702	NΛ	
ADT.	30100.	3033021702	NA	

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

- 2. The test was performed in HwaYa Chamber 1.
- 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 4. The IC Site Registration No. is IC4924-2.



4.2.4 TEST PROCEDURES

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

NOTE:

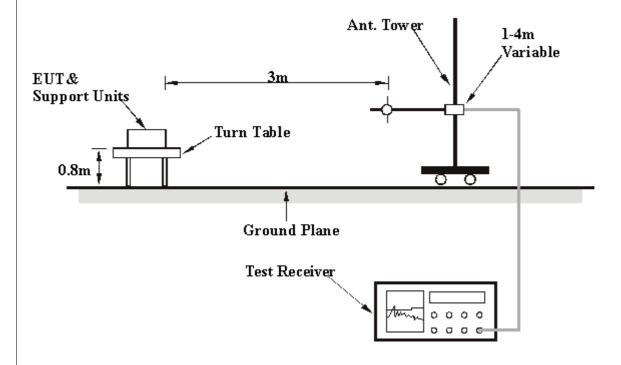
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above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

4.2.5 DEVIATION FROM TEST STANDARD

No deviation



4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



4.2.8 TEST RESULTS

Below 1GHz Worst-Case Data

EUT	Notebook	MEASUREMENT DETAIL				
MODEL	G610	FREQUENCY RANGE	Below 1000MHz			
CHANNEL	Channel 5	DETECTOR FUNCTION	Quasi-Peak			
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa			
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz			
TESTED BY	Jay Hsu					

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
	Freg.	Emission	Limit	Margin	Antenna	Table	Raw	Correction	
No.	•	Level	(dBuV/m)		Height	Angle	Value	Factor	
(MHz)	(dBuV/m)	(ubu v/III)	(dB)	(m)	(Degree)	(dBuV)	(dB/m)		
1	249.66	34.32 QP	46.00	-11.68	1.50 H	142	21.71	12.61	
2	276.87	32.38 QP	46.00	-13.62	1.00 H	103	17.74	14.64	
3	432.38	31.22 QP	46.00	-14.78	2.00 H	115	12.52	18.70	
4	527.64	31.29 QP	46.00	-14.71	2.50 H	214	10.52	20.77	
5	638.44	33.28 QP	46.00	-12.72	1.00 H	307	10.12	23.16	
6	663.71	36.52 QP	46.00	-9.48	1.50 H	151	13.12	23.41	
7	712.30	32.75 QP	46.00	-13.25	1.50 H	142	8.38	24.37	
8	803.67	40.87 QP	46.00	-5.13	2.50 H	67	14.56	26.31	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction		
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor		
(IVII-12)	(dBuV/m)	(ubuv/iii)	(UD)	(m)	(Degree)	(dBuV)	(dB/m)			
1	187.45	29.81 QP	43.50	-13.69	1.00 V	4	17.97	11.83		
2	432.38	33.62 QP	46.00	-12.38	1.00 V	178	14.92	18.70		
3	527.64	38.91 QP	46.00	-7.09	1.00 V	238	18.14	20.77		
4	564.57	33.29 QP	46.00	-12.71	1.00 V	178	11.63	21.67		
5	638.44	36.07 QP	46.00	-9.93	2.00 V	271	12.91	23.16		
6	663.71	40.31 QP	46.00	-5.69	1.00 V	178	16.90	23.41		
7	712.30	34.65 QP	46.00	-11.35	1.00 V	16	10.28	24.37		
8	737.58	33.22 QP	46.00	-12.78	1.50 V	256	7.83	25.40		
9	797.84	43.34 QP	46.00	-2.66	2.00 V	271	17.08	26.26		
10	817.27	32.36 QP	46.00	-13.64	1.00 V	238	5.93	26.44		

REMARKS:

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



802.11a OFDM modulation

EUT	Notebook	MEASUREMENT DETAIL			
MODEL	G610	FREQUENCY RANGE	1 ~ 40 GHz		
CHANNEL	Channel 1	DETECTOR FUNCTION	Peak(PK) Average (AV)		
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa		
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz		
TESTED BY	Match Tsui				

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No. Freq. (MHz)	Emission Level	Limit	Margin	Antenna Height	Table Angle	Raw Value	Correction Factor		
	(dBuV/m)	(dBuV/m)	(dB)	(m)	(Degree)	(dBuV)	(dB/m)		
1	#5150.00	57.77 PK	74.00	-16.23	1.33 H	151	18.85	38.92	
1	#5150.00	48.36 AV	54.00	-5.64	1.33 H	151	9.44	38.92	
2	*5180.00	102.82 PK			1.33 H	151	63.85	38.97	
2	*5180.00	94.41 AV			1.33 H	151	55.44	38.97	
3	10360.00	62.76 PK	68.30	-5.54	1.33 H	1	13.70	49.06	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
	Freg.	Emission	Limit	Margin	Antenna	Table	Raw	Correction	
No.	(MHz)	Level	(dBuV/m)	_	Height	Angle	Value	Factor	
(MHZ)	(dBuV/m)	(dBuV/III)	(dB)	(m)	(Degree)	(dBuV)	(dB/m)		
1	#5150.00	60.31 PK	74.00	-13.69	1.35 V	147	21.39	38.92	
1	#5150.00	51.30 AV	54.00	-2.70	1.35 V	147	12.38	38.92	
2	*5180.00	105.68 PK			1.35 V	147	66.71	38.97	
2	*5180.00	96.35 AV			1.35 V	147	57.38	38.97	
3	10360.00	63.42 PK	68.30	-4.88	1.14 V	211	14.36	49.06	

- NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

 - 3. The other emission levels were very low against the limit.
 - 4. Margin value = Emission level Limit value
 - 5. "*": Fundamental frequency
 - 6. "#"The radiated frequency falling in the restricted band.





EUT	Notebook	MEASUREMENT DETAIL			
MODEL	G610	FREQUENCY RANGE	1 ~ 40 GHz		
CHANNEL	Channel 4	DETECTOR FUNCTION	Peak(PK) Average (AV)		
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa		
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz		
TESTED BY	Match Tsui				

	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	*5240.00	103.30 PK			1.32 H	149	64.18	39.12	
1	*5240.00	94.38 AV			1.32 H	149	55.26	39.12	
2	10480.00	62.73 PK	68.30	-5.57	1.11 H	1	13.47	49.26	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
	Freg.	Emission	Limit	Margin	Antenna	Table	Raw	Correction	
No.		Level			Height	Angle	Value	Factor	
	(MHz)	(dBuV/m)	(dBuV/m)	(dB)	(m)	(Degree)	(dBuV)	(dB/m)	
1	*5240.00	105.51 PK			1.44 V	150	66.39	39.12	
1	*5240.00	96.10 AV			1.44 V	150	56.98	39.12	
2	10480.00	62.22 PK	68.30	-6.08	1.07 V	355	12.96	49.26	

NOTE:

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





EUT	Notebook	MEASUREMENT DETAIL			
MODEL	G610	FREQUENCY RANGE	1 ~ 40 GHz		
CHANNEL	Channel 5	DETECTOR FUNCTION	Peak(PK) Average (AV)		
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa		
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz		
TESTED BY	Match Tsui				

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction	
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor	
	(IVITZ)	(dBuV/m)	(dbd v/III)	(db)	(m)	(Degree)	(dBuV)	(dB/m)	
1	*5260.00	103.01 PK			1.08 H	149	63.84	39.17	
1	*5260.00	93.55 AV			1.08 H	149	54.38	39.17	
2	10520.00	62.67 PK	68.30	-5.63	1.07 H	360	13.32	49.35	

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	105.48 PK			1.34 V	150	66.31	39.17
1	*5260.00	96.23 AV			1.34 V	150	57.06	39.17
2	10520.00	62.05 PK	68.30	-6.25	1.34 V	360	12.70	49.35

- NOTE: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m) 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) 3. The other emission levels were very low against the limit.

 - 4. Margin value = Emission level Limit value
 - 5. "*": Fundamental frequency
 - 6. "#"The radiated frequency falling in the restricted band.





EUT	Notebook	MEASUREMENT DETAIL		
MODEL	G610	FREQUENCY RANGE	1 ~ 40 GHz	
CHANNEL	Channel 8	DETECTOR FUNCTION	Peak(PK) Average (AV)	
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa	
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz	
TESTED BY	Match Tsui			

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
	Freg.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.		Level	(dBuV/m)	_	Height	Angle	Value	Factor
	(MHz)	(dBuV/m)	(ubuv/III)	V/m) (dB)	(m)	(Degree)	(dBuV)	(dB/m)
1	*5320.00	103.03 PK			1.18 H	150	63.72	39.31
1	*5320.00	93.56 AV			1.18 H	150	54.25	39.31
2	#5350.00	58.67 PK	74.00	-15.33	1.18 H	150	19.33	39.34
2	#5350.00	49.20 AV	54.00	-4.80	1.18 H	150	9.86	39.34
3	#10640.00	61.66 PK	74.00	-12.34	1.38 H	1	12.00	49.66
3	#10640.00	44.86 AV	54.00	-9.14	1.38 H	1	-4.80	49.66

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.	(MHz)	Level	(dBuV/m)	_	Height	Angle	Value	Factor
	(1711 12)	(dBuV/m)	(ubuv/iii)	(dBuV/m) (dB)	(m)	(Degree)	(dBuV)	(dB/m)
1	*5320.00	105.01 PK			1.22 V	151	65.70	39.31
1	*5320.00	95.98 AV			1.22 V	151	56.67	39.31
2	#5350.00	60.65 PK	74.00	-13.35	1.22 V	151	21.31	39.34
2	#5350.00	51.81 AV	54.00	-2.19	1.22 V	151	12.47	39.34
3	#10360.00	63.42 PK	74.00	-10.58	1.14 V	211	14.36	49.06
3	#10360.00	45.16 AV	54.00	-8.84	1.14 V	211	-3.90	49.06

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

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

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

NOTE: 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

- 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 3MHz.
- 4. Using the spectrum analyzer's channel power measurement function to measure the output power.

NOTE:

The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

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 specific channel frequencies individually.



4.3.7 TEST RESULTS

802.11a OFDM modulation

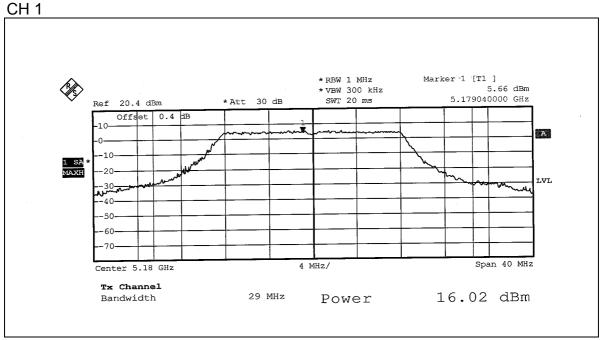
EUT	Notebook	MODEL	G610
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 58%RH, 991hPa
TESTED BY	Match Tsui		

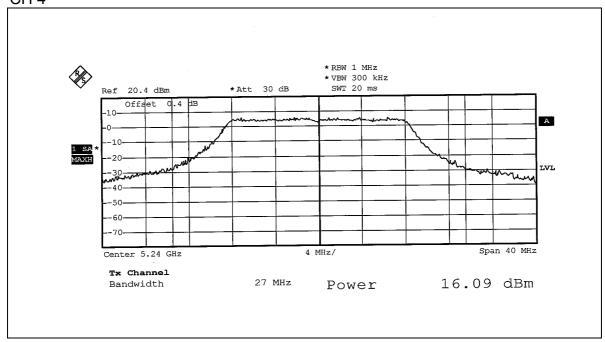
CHANNEL	CHANNEL FREQUEN CY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	39.994	16.02	17.00	28.16	PASS
4	5240	40.644	16.09	17.00	26.16	PASS
5	5260	40.179	16.04	24.00	26.80	PASS
8	5320	40.272	16.05	24.00	31.92	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

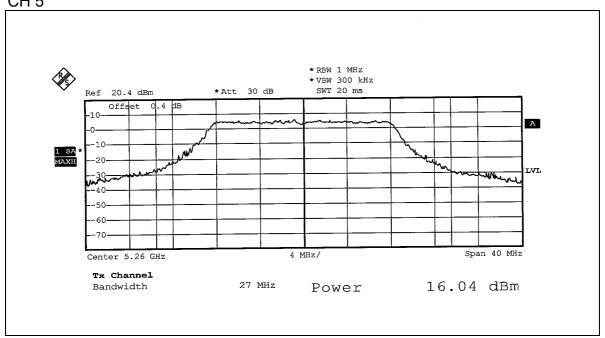


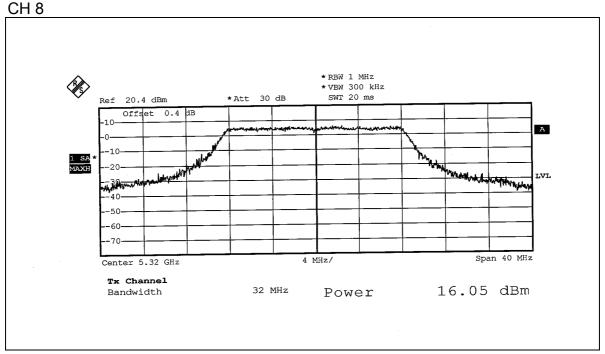
Peak Power Output:





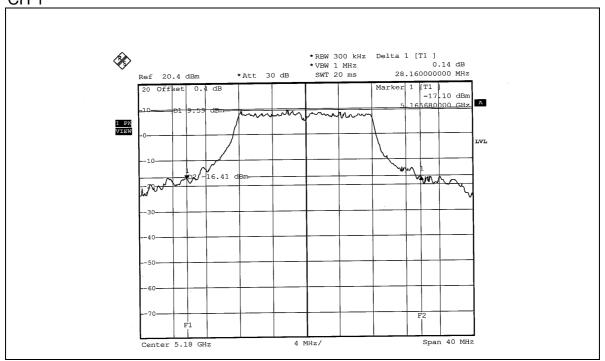




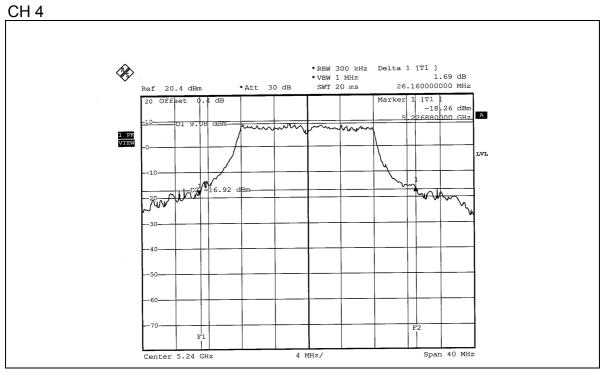




26dB Occupied Bandwidth:

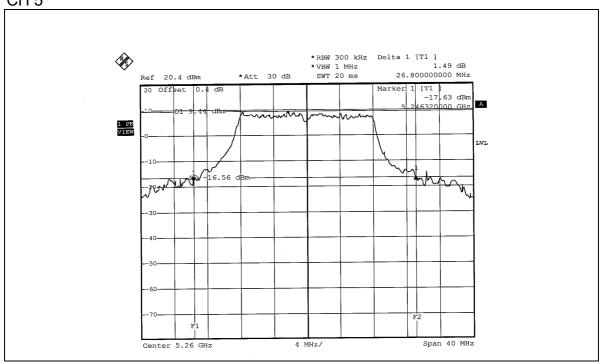


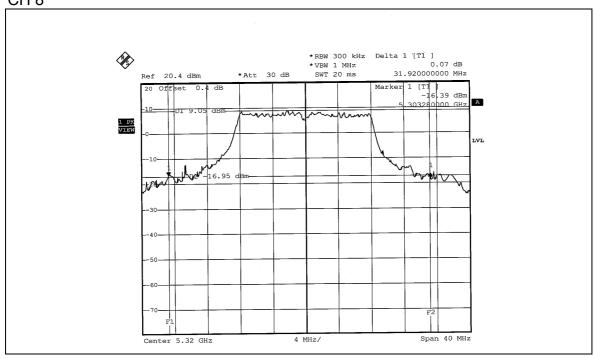






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4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 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

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

NOTE: 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 PROCEDURE

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. Set the spectrum bandwidth span to view the entire spectrum.
- 3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
- 4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP

EUT	SPECTRUM

4.4.6 EUT OPERATING CONDITIONS

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



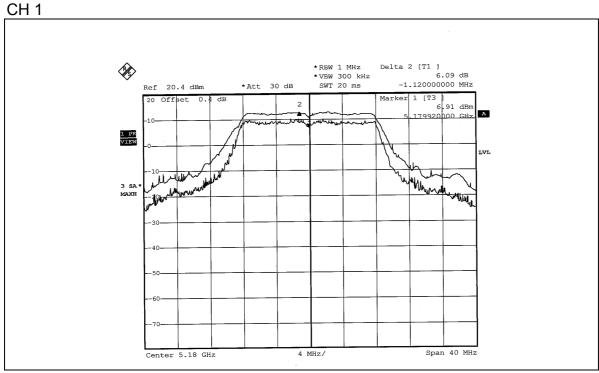
4.4.7 TEST RESULTS

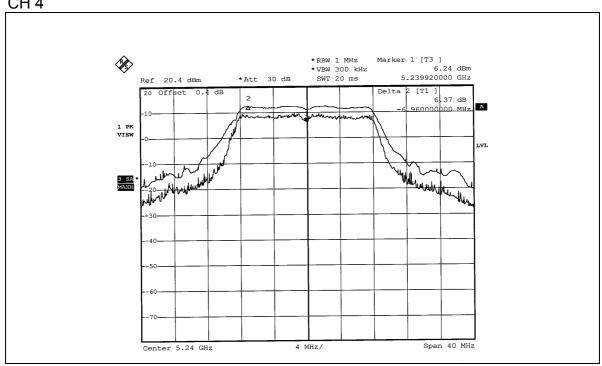
802.11a OFDM modulation

EUT	Notebook	MODEL	G610
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 58%RH, 991hPa
TESTED BY	Match Tsui		

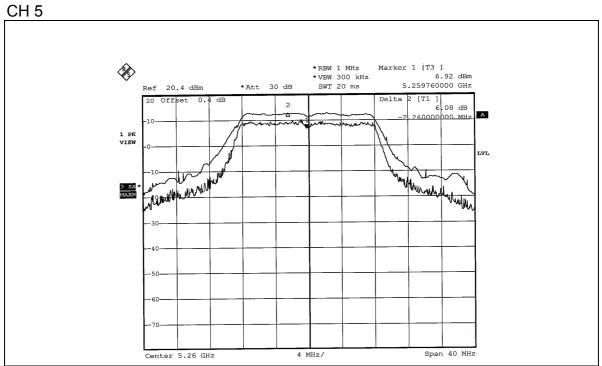
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	6.09	13	PASS
4	5240	6.37	13	PASS
5	5260	6.08	13	PASS
8	5320	6.29	13	PASS

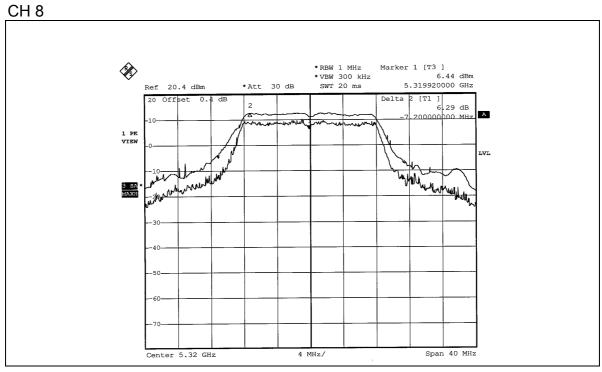














4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

NOTE: 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 PROCEDURES

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP

EUT SPECTRUM ANALYZER

4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6



4.5.7 TEST RESULTS

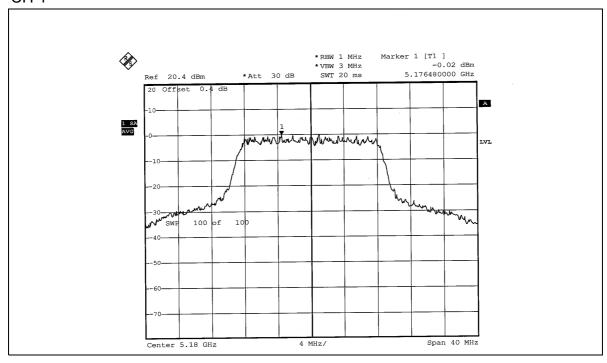
802.11a OFDM modulation

EUT	Notebook	MODEL	G610
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 58%RH, 991hPa
TESTED BY	Match Tsui		

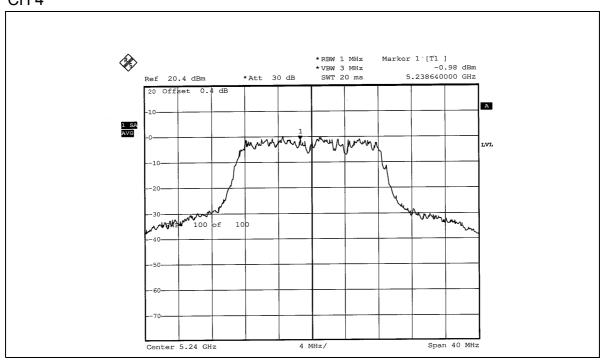
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-0.02	4	PASS
4	5240	-0.98	4	PASS
5	5260	-0.25	11	PASS
8	5320	-0.22	11	PASS



CH₁

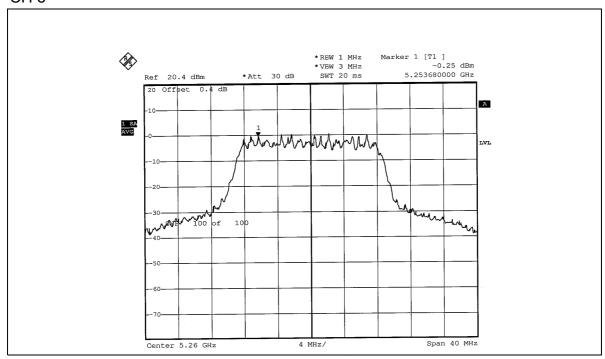


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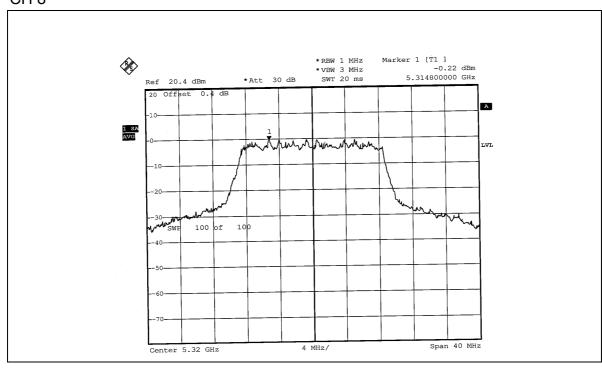




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4.6 FREQUENCY STABILITY

4.6.1 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.

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Aug. 14, 2006
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jul. 18, 2006

NOTE: 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

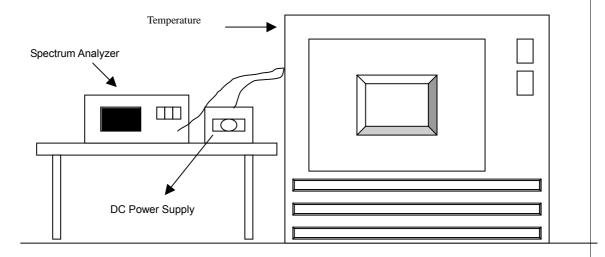
- 1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- 2. Turn the EUT on and couple its output to a spectrum analyzer.
- 3. Turn the EUT off and set the chamber to the highest temperature specified.
- 4. Allow sufficient time (approximately 30 min) for the 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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation



4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6



4.6.7 TEST RESULTS

Operating frequency: 5320MHz					Limit : ± 0.015%				
Temp.	Power	0 mi	nute	2 minute		5 minute		10 minute	
()	supply (Vac)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
	126.5	5319.9764	-0.0004431	5319.9766	-0.0004391	5319.9765	-0.0004420	5319.9760	-0.0004511
50	110.0	5319.9768	-0.0004355	5319.9768	-0.0004364	5319.9748	-0.0004731	5319.9761	-0.0004490
	93.5	5319.9770	-0.0004333	5319.9769	-0.0004346	5319.9770	-0.0004333	5319.9763	-0.0004457
	126.5	5319.9789	-0.0003970	5319.9806	-0.0003650	5319.9805	-0.0003670	5319.9807	-0.0003630
40	110.0	5319.9811	-0.0003562	5319.9811	-0.0003553	5319.9815	-0.0003476	5319.9813	-0.0003518
	93.5	5319.9811	-0.0003555	5319.9815	-0.0003482	5319.9817	-0.0003449	5319.9815	-0.0003481
	126.5	5319.9821	-0.0003373	5319.9860	-0.0002638	5319.9860	-0.0002627	5319.9866	-0.0002527
30	110.0	5319.9850	-0.0002813	5319.9861	- 0.0002G61	5319.9865	-0.0002541	5319.9866	-0.0002514
	93.5	5319.9868	-0.0002473	5319.9869	-0.0002467	5319.9875	-0.0002346	5319.9871	-0.0002433
	126.5	5319.9921	-0.0001486	5319.9918	-0.0001550	5319.9921	-0.0001486	5319.9924	-0.0001424
20	110.0	5319.9936	-0.0001211	5319.9936	-0.0001205	5319.9941	-0.0001107	5319.9942	-0.0001098
	93.5	5319.9939	-0.0001156	5319.9940	-0.0001130	5319.9950	-0.0000941	5319.9950	-0.0000935
	126.5	5319.9985	-0.0000280	5319.9986	-0.0000272	5319.9987	-0.0000246	5319.9987	-0.0000240
10	110.0	5319.9975	-0.0000473	5319.9975	-0.0000462	5319.9978	-0.0000423	5319.9977	-0.0000430
	93.5	5319.9978	-0.0000409	5319.9974	-0.0000497	5319.9977	-0.0000423	5319.9979	-0.0000394
	126.5	5320.0124	0.0002328	5320.0125	0.0002354	5320.0130	0.0002434	5320.0123	0.0002310
0	110.0	5320.0111	0.0002084	5320.0111	0.0002089	5320.0111	0.0002083	5320.0113	0.0002121
	93.5	5320.0119	0.0002230	5320.0120	0.0002253	5320.0120	0.0002248	5320.0117	0.0002208
	126.5	5320.0139	0.0002G61 0	5320.0147	0.0002765	5320.0139	0.0002620	5320.0144	0.0002700
-10	110.0	5320.0169	0.0003175	5320.0170	0.0003194	5320.0167	0.0003135	5320.0165	0.0003105
	93.5	5320.0149	0.0002796	5320.0150	0.0002812	5320.0147	0.0002761	5320.0156	0.0002929
	126.5	5320.0208	0.0003917	5320.0209	0.0003920	5320.0208	0.0003914	5320.0196	0.0003680
-20	110.0	5320.0225	0.0004233	5320.0226	0.0004252	5320.0226	0.0004240	5320.0230	0.0004320
	93.5	5320.0227	0.0004266	5320.0227	0.0004272	5320.0229	0.0004300	5320.0228	0.0004287
	126.5	5320.0248	0.0004657	5320.0259	0.0004865	5320.0249	0.0004686	5320.0246	0.0004621
-30	110.0	5320.0268	0.0005046	5320.0271	0.0005103	5320.0267	0.0005010	5320.0267	0.0005013
	93.5	5320.0288	0.0005404	5320.0288	0.0005413	5320.0289	0.0005429	5320.0289	0.0005435



4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

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

4.7.2 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 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

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

4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz 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 (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=1kHz) are attached on the following pages.



802.11a OFDM modulation

Channel 1 (5180MHz)

The band edge emission plot on page 48 shows 40.46dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 105.68dBuV/m (Peak), so the maximum field strength in restrict band is 105.68-40.46=65.22dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 48 shows 49.50dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 96.35dBuV/m (Average), so the maximum field strength in restrict band is 96.35-49.50=46.85dBuV/m which is under 54dBuV/m limit.

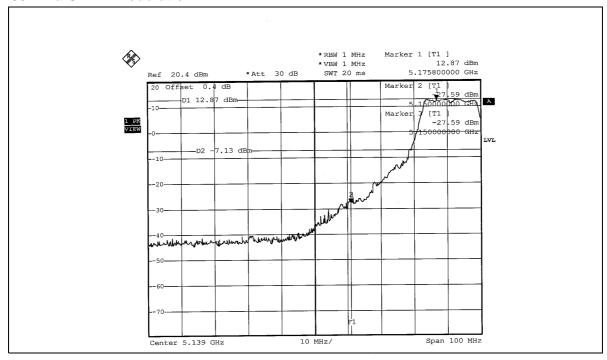
Channel 8 (5320MHz)

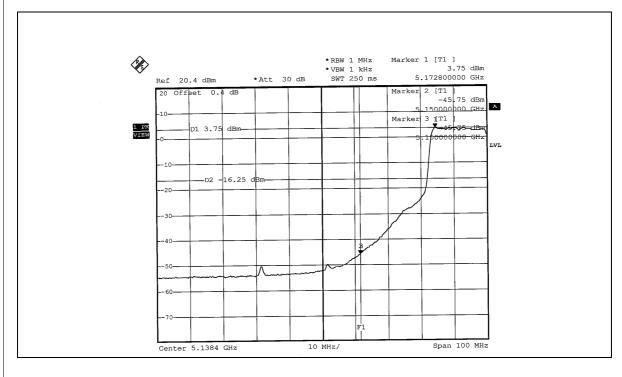
The band edge emission plot on page 49 shows 39.51dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 105.01dBuV/m (Peak), so the maximum field strength in restrict band is 105.01-39.51=65.50dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on page 50 shows 47.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 95.98dBuV/m (Average), so the maximum field strength in restrict band is 95.98-47.34=48.64dBuV/m which is under 54dBuV/m limit.

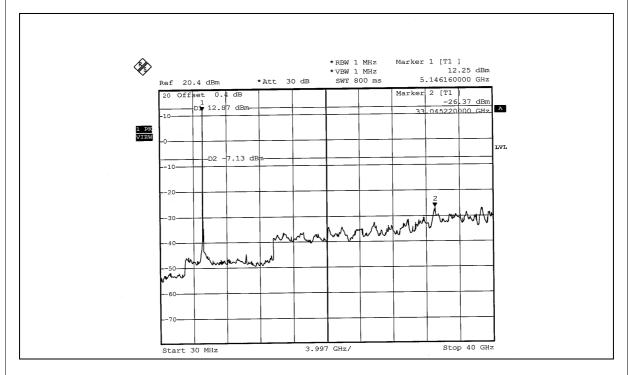


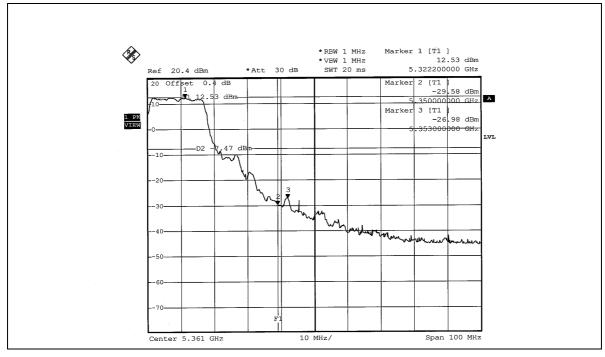
802.11a OFDM modulation



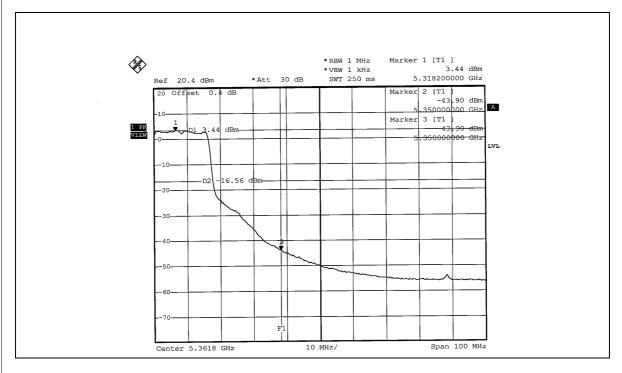


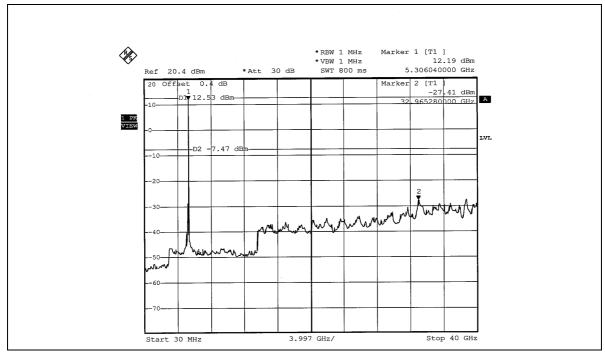














4.8 ANTENNA REQUIREMENT

4.8.1 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is PIFA antenna with UFL connector. The maximum Gain of the antenna is –4.39dBi.



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

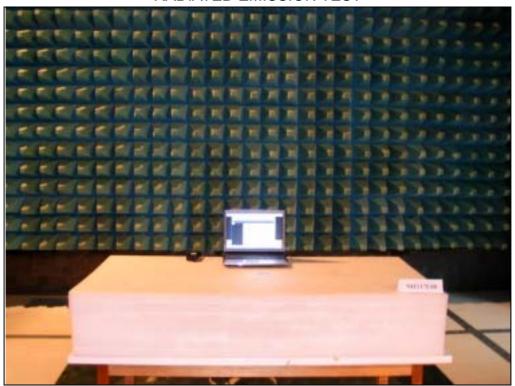
CONDUCTED EMISSION TEST

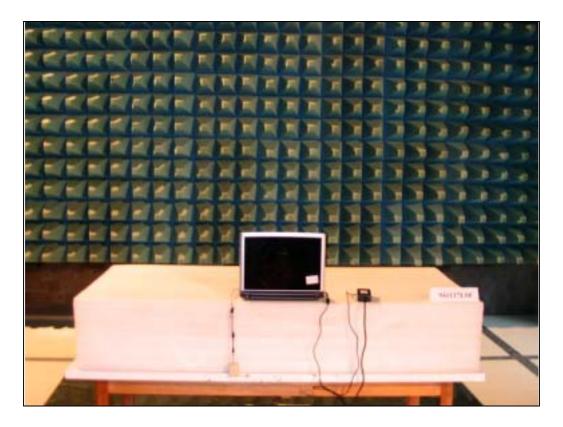






RADIATED EMISSION TEST







6.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:

<u>www.adt.com.tw/index.5/phtml</u>. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:Hsin Chu EMC/RF Lab:Tel: 886-2-26052180Tel: 886-3-5935343Fax: 886-2-26052943Fax: 886-3-5935342

 Hwa Ya EMC/RF/Safety Telecom Lab:
 Linko RF Lab.

 Tel: 886-3-3183232
 Tel: 886-3-3270910

 Fax: 886-3-3185050
 Fax: 886-3-3270892

Web Site: www.adt.com.tw

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



APPENDIX-A

MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.