FCC TEST REPORT

REPORT NO.: RF920725A01

MODEL NO.: HC02U (with SyChip 802.11b Wireless LAN Module)

RECEIVED: July 25, 2003

TESTED: July 25 ~ 29, 2003

APPLICANT: Wistron Corporation

ADDRESS: 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan, R.O.C.

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ILAC MRA

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT:	Personal Digital Assistant
BRAND NAME:	DELL
MODEL NO:	HC02U (with SyChip 802.11b Wireless LAN Module)
TEST ITEM:	ENGINEERING SAMPLE
APPLICANT:	Wistron Corporation
STANDARDS:	47 CFR Part 15, Subpart C (Section 15.247) ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from July 25 ~ 29, 2003. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

PREPARED BY: _____ , **DATE:** Aug. 7, 2003
(Yemmy Soong)

APPROVED BY: _____ , **DATE:** Aug. 7, 2003
(Dr. Alan Lane, JVP)

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 –14.60dBuV at 0.349MHz
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 Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –2.4dBuV/m at 4924.00MHz
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

Note: The information of measurement uncertainty is available upon the customer's request.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Personal Digital Assistant
MODEL NO.	HC02U (with SyChip 802.11b Wireless LAN Module)
POWER SUPPLY	5.4Vdc from power adapter
MODULATION TYPE	DBPSK, DQPSK and CCK
TRANSFER RATE	1/2/5.5/11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	14.20dBm
ANTENNA TYPE	Inverted-F with antenna gain 2.93dBi
TEMPERATURE RANGE	-30℃ ~ +70℃
DATA CABLE	NA
I/O PORTS	Earphone port
ASSOCIATED DEVICES	Charging adapter

NOTE:

1. The EUT is a PDA with a WLAN Module installed. The WLAN module is SyChip, model: DELL TM1200.

2. The EUT has two types of power adapters with the following specification:

Brand: Dell Model: PA-14 Family (Delta, model: ADP-13CB A)	Input rating: 100-240V, 0.4A 50/60Hz; Output rating: 5.4Vdc, 2.41A.
Brand: Dell Model: PA-14 Family (Lite-On, model: PA-1130-01WD)	Input rating: 100-240V, 0.4A 50/60Hz; Output rating: 5.4Vdc, 2.41A.

3. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

The EUT was pre-tested with the following condition:

1. Two types of power adapters were pre-tested. For **Conducted test**, both power adapters were tested and the test data was recorded separately in this report.
   Test result A – the EUT was tested with Dell, model: PA-14 Family (Delta, model: ADP-13CB A)
   Test result B - the EUT was tested with Dell, model: PA-14 Family (Lite-On, model: PA-1130-01WD)
   The worst configuration between the two modes was used as the final test for all other test items. The worst configuration was found when the EUT was tested with Dell, model: PA-14 Family (Delta, model: ADP-13CB A)
2. Since the EUT is considered a portable unit, it was pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane. Therefore only the test data of this Z-plane was used for **Radiated test**.

Eleven channels were provided for the test:

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 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, the worst case, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. Data rate 11Mbps, the worst case, was chosen for final test.

3.3 DESCRIPTION OF TEST MODES

The EUT is a Personal Digital Assistant with a WLAN module installed, according to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4: 1992

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 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 its power adapter.

4 TEST TYPES AND RESULTS

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
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 20, 2004
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 18, 2003
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 29 2003
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29 2003
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May. 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Mar. 24, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Apr. 06, 2004

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. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

4.1.3 TEST PROCEDURE

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.

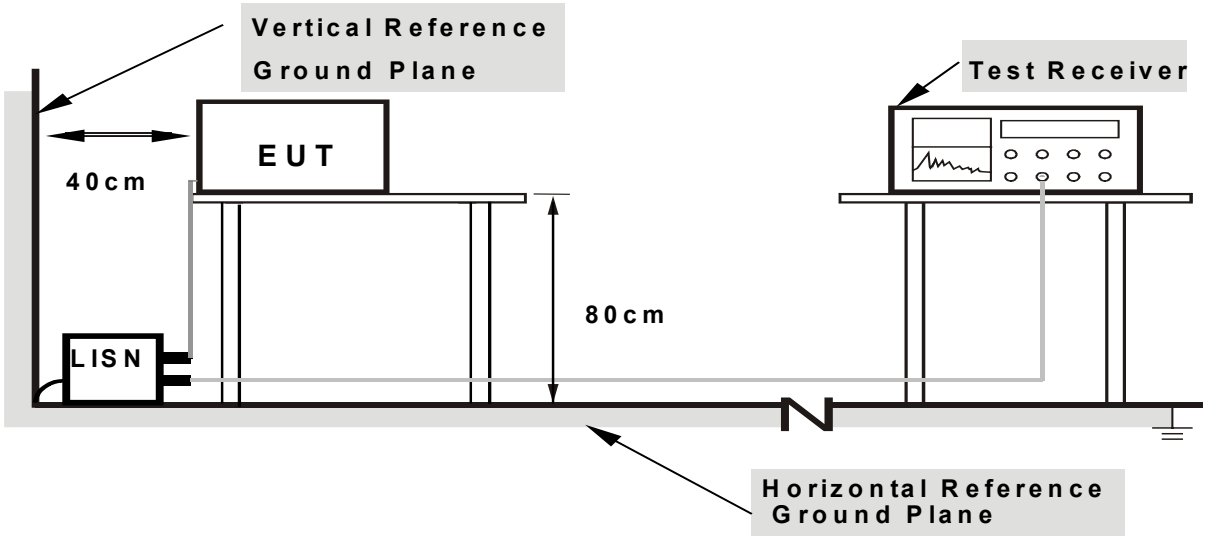
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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) 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.

4.1.6 EUT OPERATING CONDITIONS

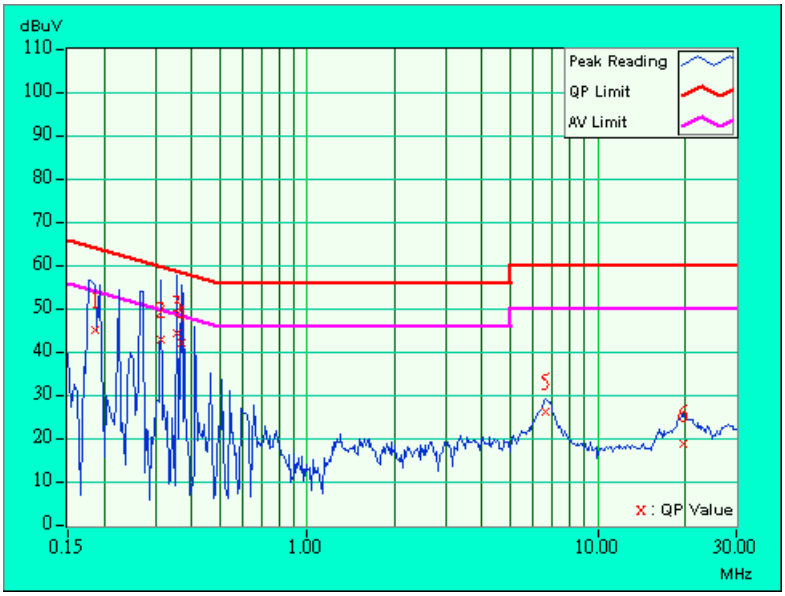
The EUT ran a test program to enable it to transmit/receive continuously at specific channel frequency.

4.1.7 TEST RESULTS (A)

EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 01	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.186	0.06	44.64	-	44.70	-	64.20	54.20	-19.50	-
2	0.314	0.06	42.40	-	42.46	-	59.86	49.86	-17.40	-
3	0.357	0.06	43.68	-	43.74	-	58.80	48.80	-15.06	-
4	0.369	0.06	41.43	-	41.49	-	58.53	48.53	-17.04	-
5	6.617	0.31	25.78	-	26.09	-	60.00	50.00	-33.91	-
6	19.609	0.63	18.31	-	18.94	-	60.00	50.00	-41.06	-

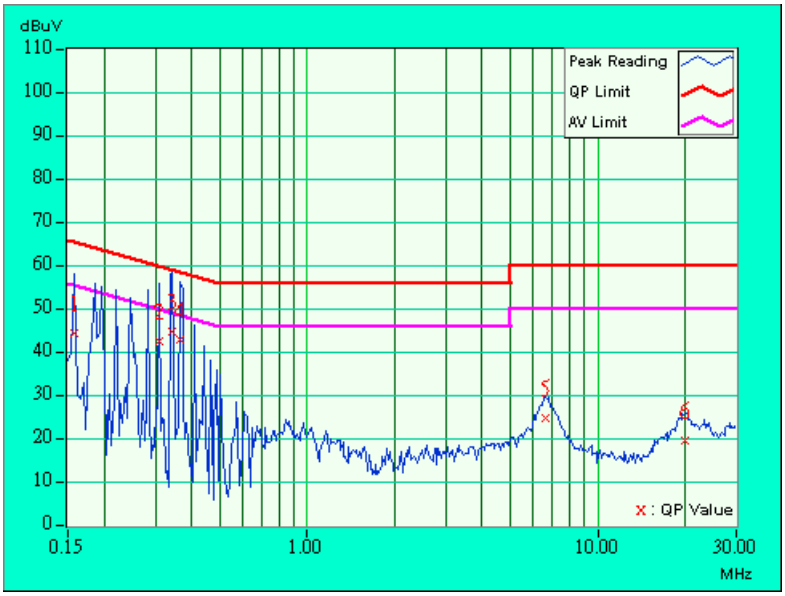
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 01	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.158	0.05	44.06	-	44.11	-	65.58	55.58	-21.47	-
2	0.310	0.05	41.94	-	41.99	-	59.97	49.97	-17.98	-
3	0.341	0.05	44.29	-	44.34	-	59.17	49.17	-14.83	-
4	0.365	0.05	42.28	-	42.33	-	58.62	48.62	-16.29	-
5	6.586	0.29	24.41	-	24.70	-	60.00	50.00	-35.30	-
6	20.082	0.51	19.24	-	19.75	-	60.00	50.00	-40.25	-

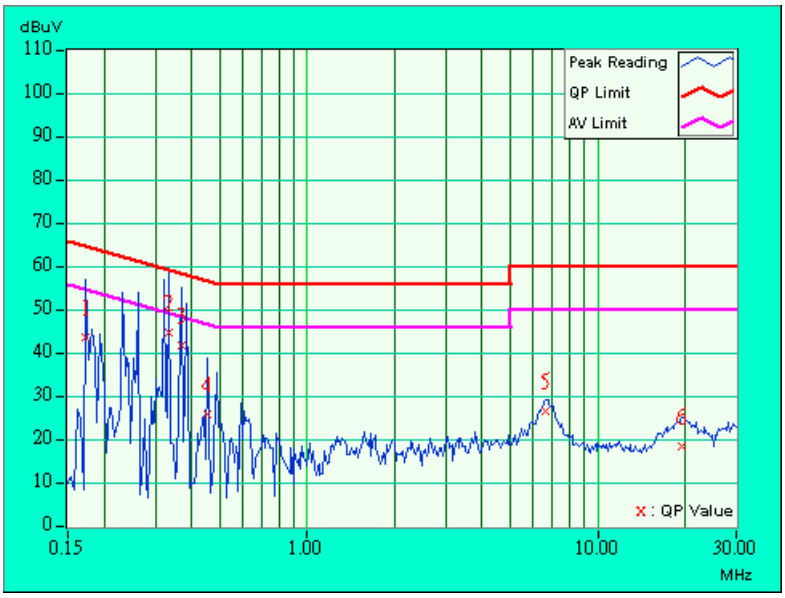
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 06	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.173	0.06	43.01	-	43.07	-	64.79	54.79	-21.73	-
2	0.334	0.06	44.30	-	44.36	-	59.36	49.36	-15.00	-
3	0.369	0.06	41.37	-	41.43	-	58.53	48.53	-17.10	-
4	0.455	0.07	25.41	-	25.48	-	56.79	46.79	-31.31	-
5	6.625	0.31	25.91	-	26.22	-	60.00	50.00	-33.78	-
6	19.516	0.63	17.79	-	18.42	-	60.00	50.00	-41.58	-

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	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 06	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.166	0.05	43.53	-	43.58	-	65.18	55.18	-21.60	-
2	0.298	0.05	41.26	-	41.31	-	60.29	50.29	-18.98	-
3	0.349	0.05	44.31	-	44.36	-	58.98	48.98	-14.62	-
4	0.447	0.06	26.15	-	26.21	-	56.93	46.93	-30.73	-
5	6.707	0.29	26.22	-	26.51	-	60.00	50.00	-33.49	-
6	19.496	0.51	18.42	-	18.93	-	60.00	50.00	-41.07	-

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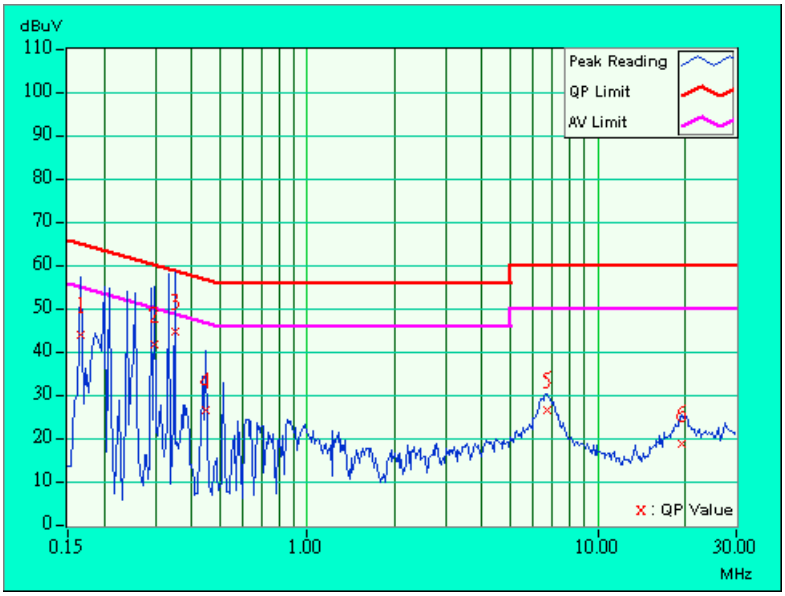
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.154	0.06	44.72	-	44.78	-	65.79	55.79	-21.01	-
2	0.338	0.06	44.57	-	44.63	-	59.26	49.26	-14.63	-
3	0.373	0.06	40.00	-	40.06	-	58.44	48.44	-18.38	-
4	0.474	0.07	23.00	-	23.07	-	56.44	46.44	-33.37	-
5	6.668	0.31	27.02	-	27.33	-	60.00	50.00	-32.67	-
6	19.621	0.63	17.92	-	18.55	-	60.00	50.00	-41.45	-

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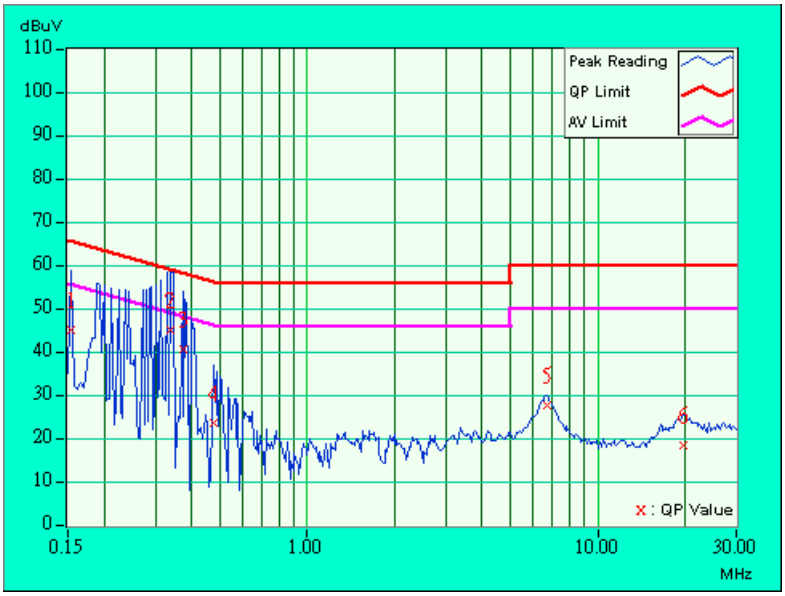
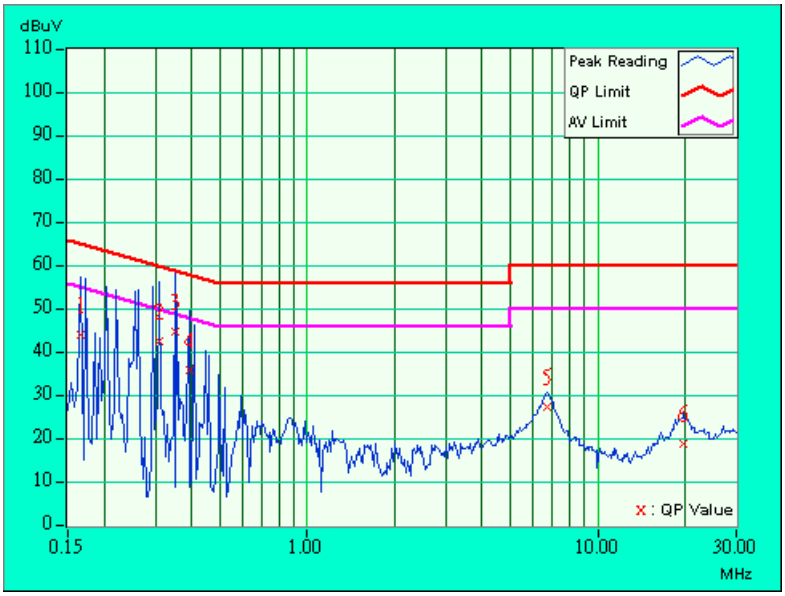
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.166	0.05	43.40	-	43.45	-	65.18	55.18	-21.73	-
2	0.310	0.05	42.24	-	42.29	-	59.97	49.97	-17.68	-
3	0.349	0.05	44.33	-	44.38	-	58.98	48.98	-14.60	-
4	0.392	0.05	35.31	-	35.36	-	58.02	48.02	-22.66	-
5	6.676	0.29	26.94	-	27.23	-	60.00	50.00	-32.77	-
6	19.758	0.51	18.28	-	18.79	-	60.00	50.00	-41.21	-

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.

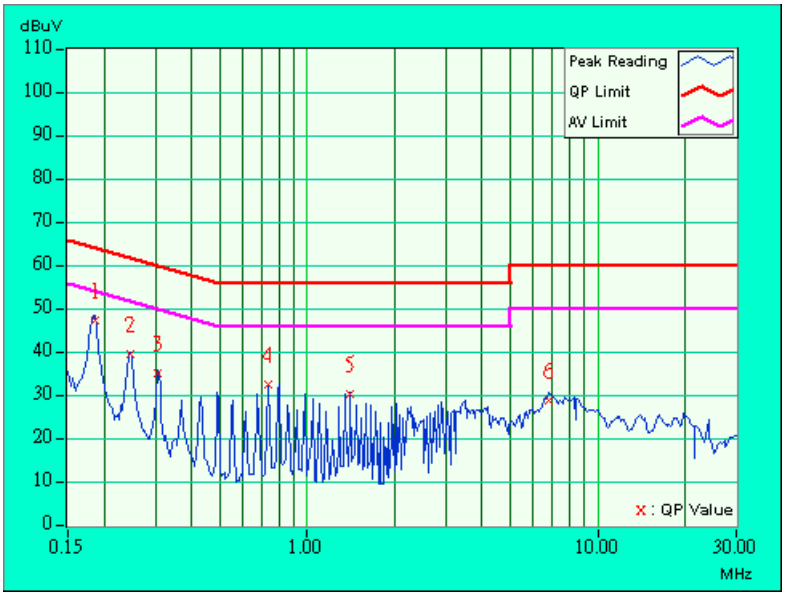


4.1.8 TEST RESULTS (B)

EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 01	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.186	0.06	47.15	-	47.21	-	64.21	54.21	-17.00	-
2	0.246	0.06	39.27	-	39.33	-	61.89	51.89	-22.56	-
3	0.306	0.06	35.02	-	35.08	-	60.08	50.08	-25.00	-
4	0.735	0.12	32.35	-	32.47	-	56.00	46.00	-23.53	-
5	1.411	0.17	30.21	-	30.38	-	56.00	46.00	-25.62	-
6	6.806	0.31	28.57	-	28.88	-	60.00	50.00	-31.12	-

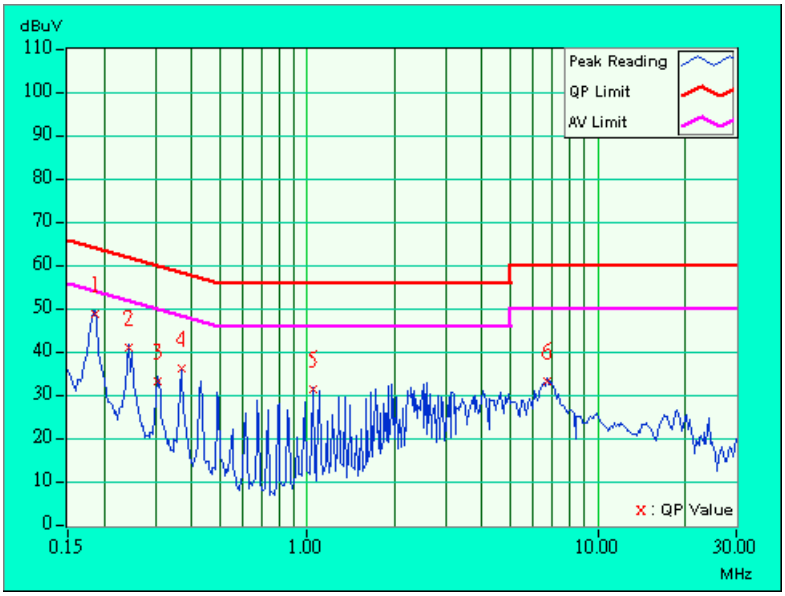
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 01	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.186	0.05	48.73	-	48.78	-	64.21	54.21	-15.43	-
2	0.243	0.05	40.98	-	41.03	-	61.99	51.99	-20.96	-
3	0.306	0.05	32.94	-	32.99	-	60.08	50.08	-27.09	-
4	0.369	0.05	35.86	-	35.91	-	58.52	48.52	-22.61	-
5	1.042	0.16	31.31	-	31.47	-	56.00	46.00	-24.53	-
6	6.683	0.29	32.98	-	33.27	-	60.00	50.00	-26.73	-

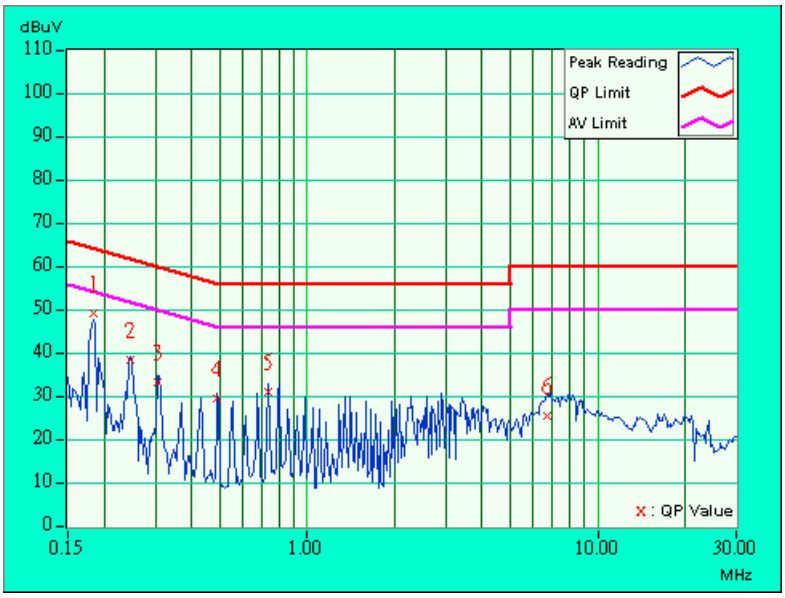
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 06	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.183	0.06	49.03	-	49.09	-	64.35	54.35	-15.26	-
2	0.246	0.06	38.35	-	38.41	-	61.89	51.89	-23.48	-
3	0.306	0.06	33.08	-	33.14	-	60.08	50.08	-26.94	-
4	0.492	0.08	29.33	-	29.41	-	56.13	46.13	-26.73	-
5	0.738	0.12	30.91	-	31.03	-	56.00	46.00	-24.97	-
6	6.686	0.31	25.20	-	25.51	-	60.00	50.00	-34.49	-

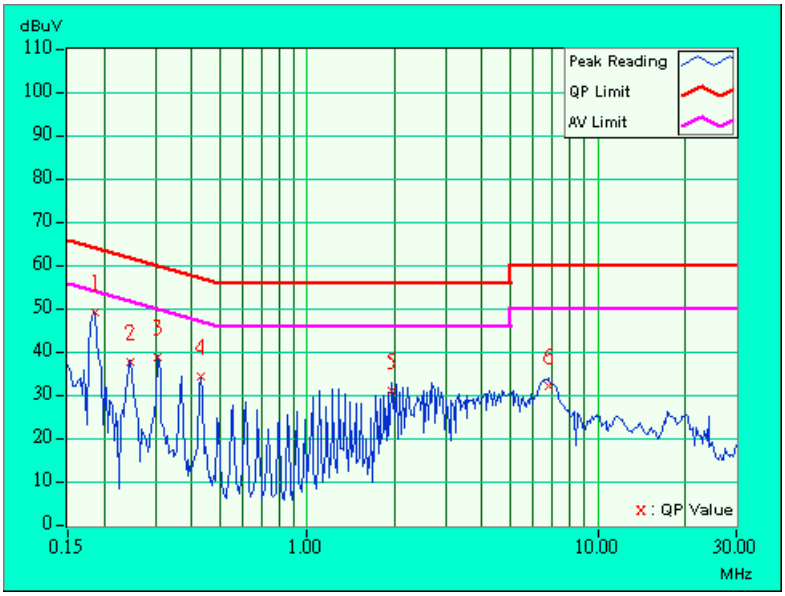
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 06	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.186	0.05	48.83	-	48.88	-	64.21	54.21	-15.33	-
2	0.246	0.05	37.57	-	37.62	-	61.89	51.89	-24.27	-
3	0.306	0.05	38.56	-	38.61	-	60.08	50.08	-21.47	-
4	0.429	0.05	34.21	-	34.26	-	57.27	47.27	-23.01	-
5	1.960	0.18	30.69	-	30.87	-	56.00	46.00	-25.13	-
6	6.743	0.29	31.98	-	32.27	-	60.00	50.00	-27.73	-

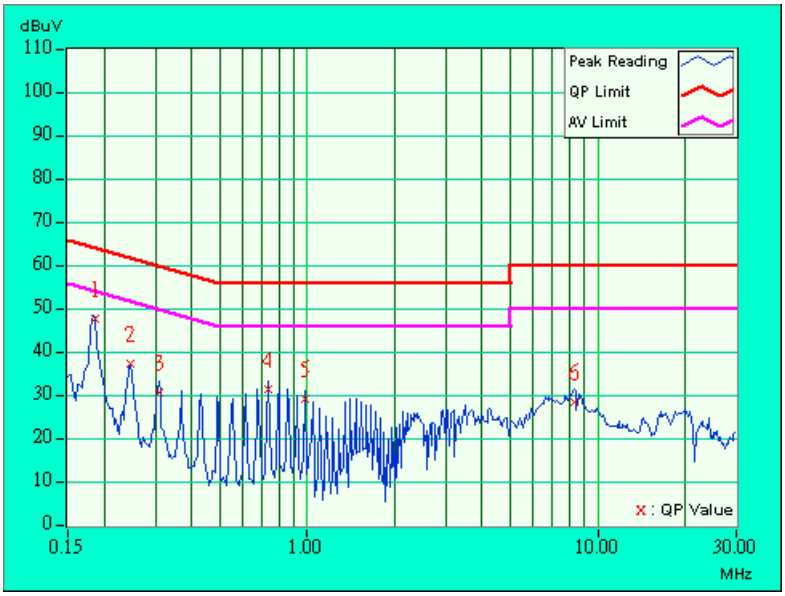
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	0.186	0.06	47.57	-	47.63	-	64.21	54.21	-16.58	-
2	0.246	0.06	36.99	-	37.05	-	61.89	51.89	-24.84	-
3	0.309	0.06	30.38	-	30.44	-	60.00	50.00	-29.56	-
4	0.735	0.12	31.03	-	31.15	-	56.00	46.00	-24.85	-
5	0.981	0.16	28.87	-	29.03	-	56.00	46.00	-26.97	-
6	8.279	0.36	28.18	-	28.54	-	60.00	50.00	-31.46	-

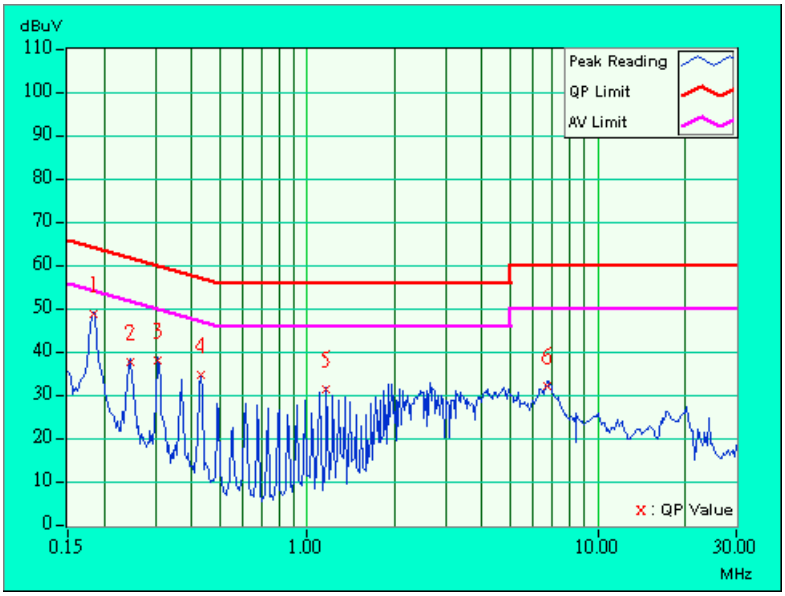
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Personal Digital Assistant	MODEL	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	6dB BANDWIDTH	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 65% RH, 1005 hPa	TESTED BY: Steven Lu	

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	0.183	0.05	48.73	-	48.78	-	64.35	54.35	-15.57	-
2	0.246	0.05	37.61	-	37.66	-	61.89	51.89	-24.23	-
3	0.306	0.05	38.02	-	38.07	-	60.08	50.08	-22.01	-
4	0.429	0.05	34.57	-	34.62	-	57.27	47.27	-22.65	-
5	1.165	0.16	31.23	-	31.39	-	56.00	46.00	-24.61	-
6	6.683	0.29	31.90	-	32.19	-	60.00	50.00	-27.81	-

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 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Preamplifier	8447D	2432A03504	Jun. 10, 2004
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01638	Oct. 25, 2003
SCHAFFNER Tunable Dipole Antenna SCHWARZBECK Tunable Dipole Antenna	VHBA 9123 UHA 9105	459 977	Nov. 22, 2003
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Feb. 13, 2004
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun. 30, 2004
* EMCO Horn Antenna	3115	9312-4192	Mar. 23 2004
ADT. Turn Table	TT100	0306	NA
ADT. Tower	AT100	0306	NA
Software	ADT_Radiated_V5.14	NA	NA
TIMES RF cable	LL142	CABLE-CH6-01	Apr. 30, 2004

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. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Chamber No. 6.

4.2.3 TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters 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 peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.

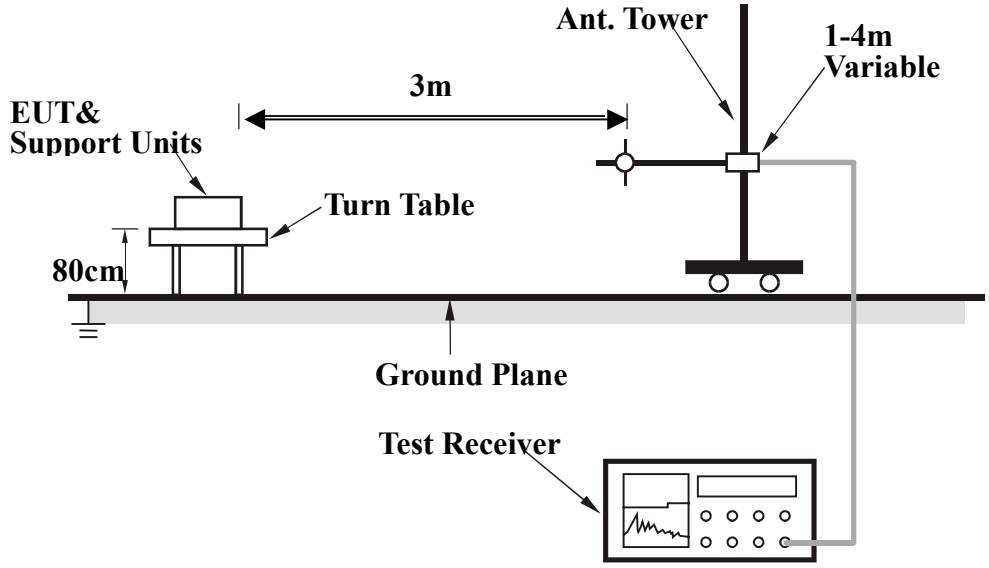
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.

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.

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.

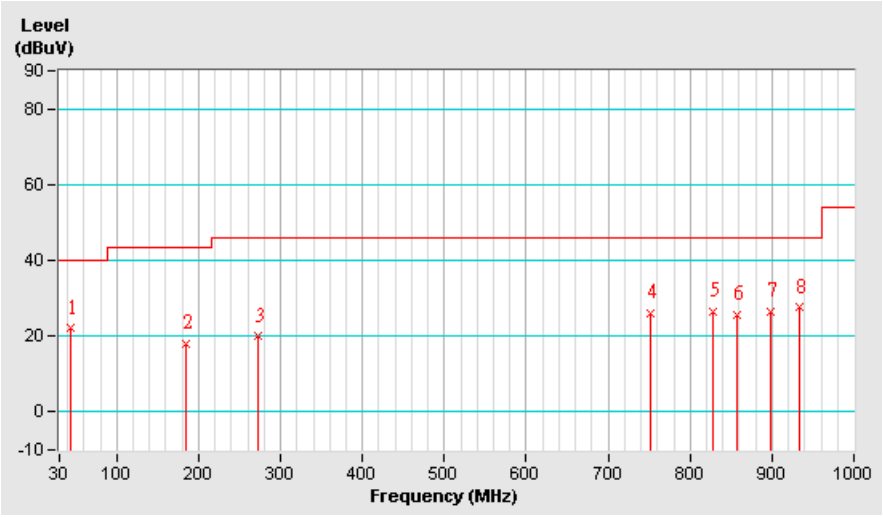
4.2.7 TEST RESULTS

EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	43.61	22.1 QP	40.00	-17.90	3.00 H	127	7.60	14.50
2	183.57	18.1 QP	43.50	-25.40	1.00 H	28	5.90	12.30
3	272.99	19.9 QP	46.00	-26.10	1.25 H	52	5.60	14.30
4	751.18	26.0 QP	46.00	-20.00	1.50 H	91	0.70	25.40
5	826.99	26.3 QP	46.00	-19.70	1.50 H	61	0.40	25.90
6	858.10	25.8 QP	46.00	-20.20	2.50 H	25	-0.60	26.30
7	898.92	26.4 QP	46.00	-19.60	1.50 H	58	-0.70	27.10
8	933.91	27.6 QP	46.00	-18.40	2.00 H	109	0.00	27.50

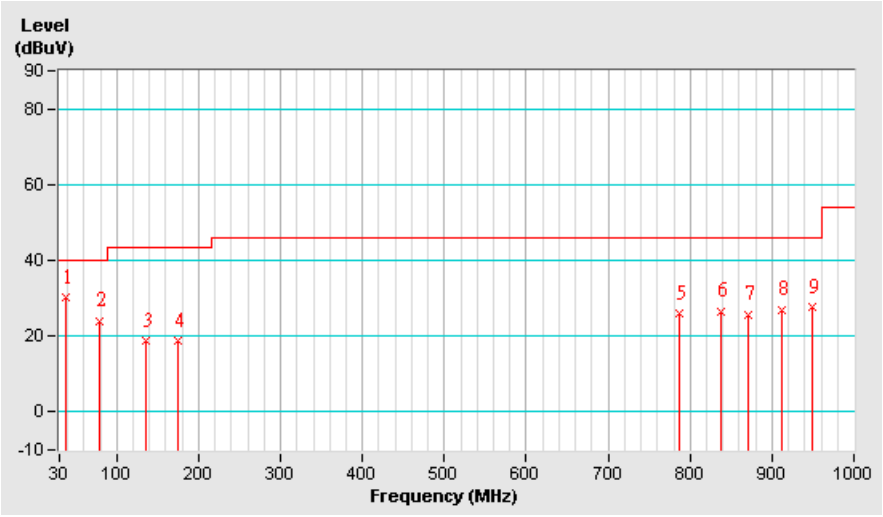
REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
MODE	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	37.78	30.1 QP	40.00	-9.90	1.00 V	319	16.10	14.00
2	78.60	24.0 QP	40.00	-16.00	1.50 V	310	14.40	9.60
3	134.97	18.7 QP	43.50	-24.80	1.25 V	169	5.30	13.40
4	173.85	18.6 QP	43.50	-24.90	1.00 V	304	5.60	13.00
5	786.17	25.8 QP	46.00	-20.20	1.25 V	127	0.30	25.50
6	836.71	26.4 QP	46.00	-19.60	3.00 V	82	0.40	26.00
7	871.70	25.5 QP	46.00	-20.50	1.25 V	178	-1.10	26.60
8	912.53	27.0 QP	46.00	-19.00	2.00 V	349	-0.30	27.30
9	949.46	27.5 QP	46.00	-18.50	4.00 V	214	-0.20	27.70

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

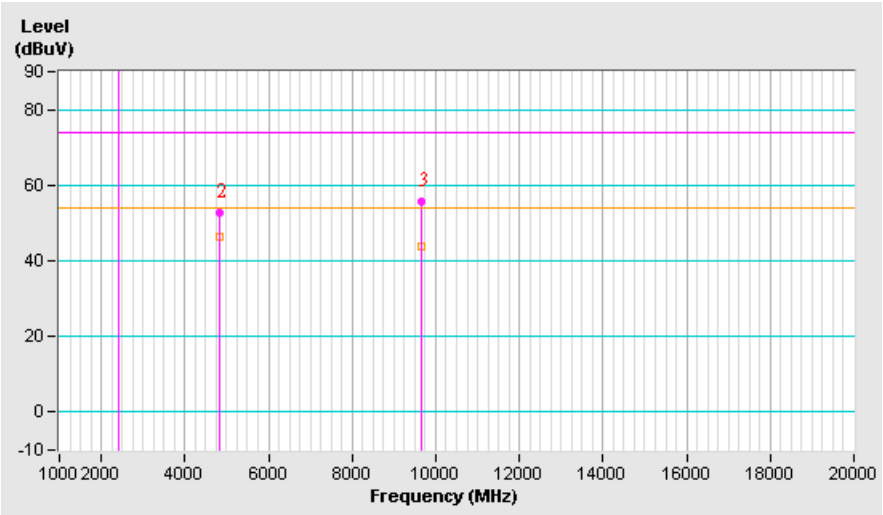


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 01	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2412.00	103.0 PK			1.26 H	222	71.50	31.50
1	*2412.00	94.8 AV			1.26 H	222	63.30	31.50
2	4824.00	52.6 PK	74.00	-21.40	1.12 H	38	14.80	37.90
2	4824.00	46.5 AV	54.00	-7.50	1.12 H	38	8.60	37.90
3	9648.00	55.7 PK	74.00	-18.30	1.22 H	50	11.20	44.50
3	9648.00	44.0 AV	54.00	-10.00	1.22 H	50	-0.40	44.50

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

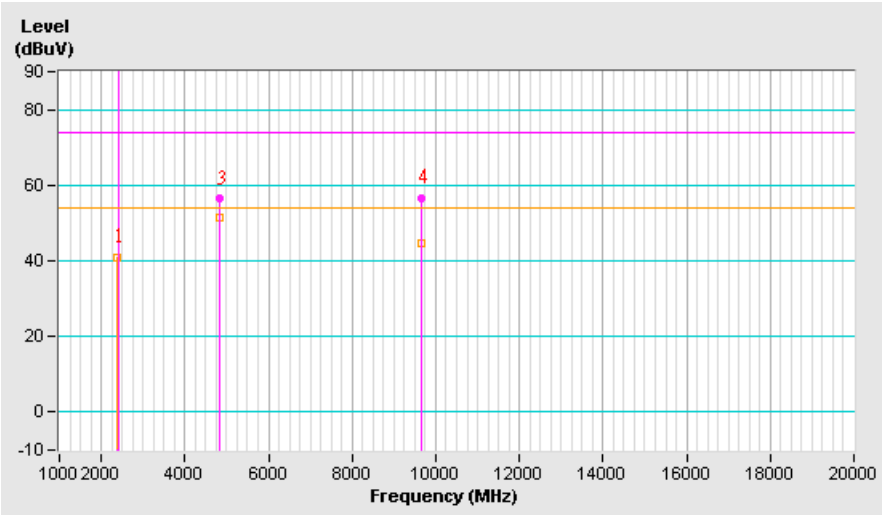


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 01	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2412.00	107.0 PK			1.45 V	289	75.50	31.50
1	*2412.00	98.9 AV			1.45 V	289	67.40	31.50
2	4824.00	56.3 PK	74.00	-17.70	1.00 V	360	18.50	37.90
2	4824.00	51.6 AV	54.00	-2.40	1.00 V	360	13.80	31.50
3	9648.00	56.7 PK	74.00	-17.30	1.44 V	111	12.20	44.50
3	9648.00	44.6 AV	54.00	-9.40	1.44 V	111	0.10	37.90

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

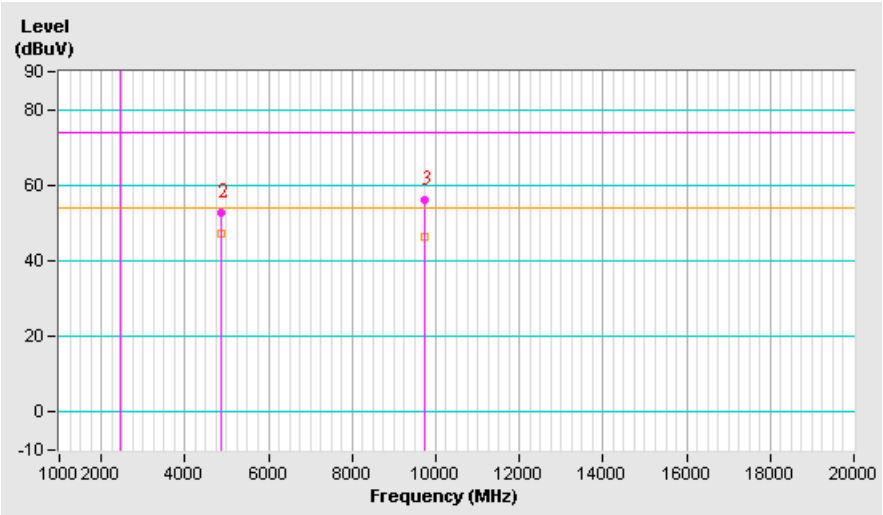


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 06	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2437.00	105.6 PK			1.11 H	333	74.10	31.50
1	*2437.00	98.1 AV			1.11 H	333	66.50	31.50
2	4874.00	52.9 PK	74.00	-21.10	1.33 H	255	14.90	37.90
2	4874.00	47.2 AV	54.00	-6.80	1.33 H	255	9.30	37.90
3	9748.00	56.0 PK	74.00	-18.00	1.33 H	298	11.20	44.80
3	9748.00	46.2 AV	54.00	-7.80	1.33 H	298	1.40	44.80

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

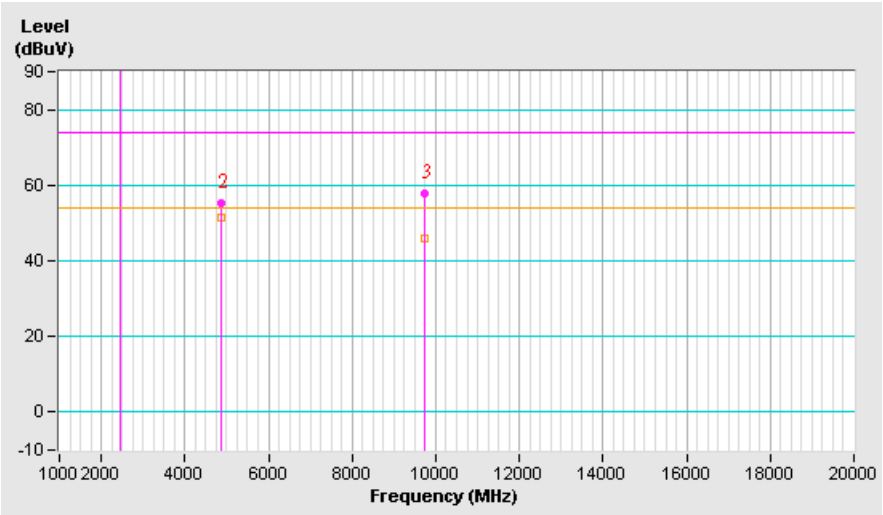


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 06	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2437.00	106.6 PK			1.14 V	298	75.00	31.50
1	*2437.00	98.8 AV			1.14 V	298	67.30	31.50
2	4874.00	55.3 PK	74.00	-18.70	1.15 V	212	17.40	37.90
2	4874.00	51.3 AV	54.00	-2.70	1.15 V	212	13.40	37.90
3	9748.00	57.7 PK	74.00	-16.30	1.20 V	325	12.90	44.80
3	9748.00	45.8 AV	54.00	-8.20	1.20 V	325	1.00	44.80

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

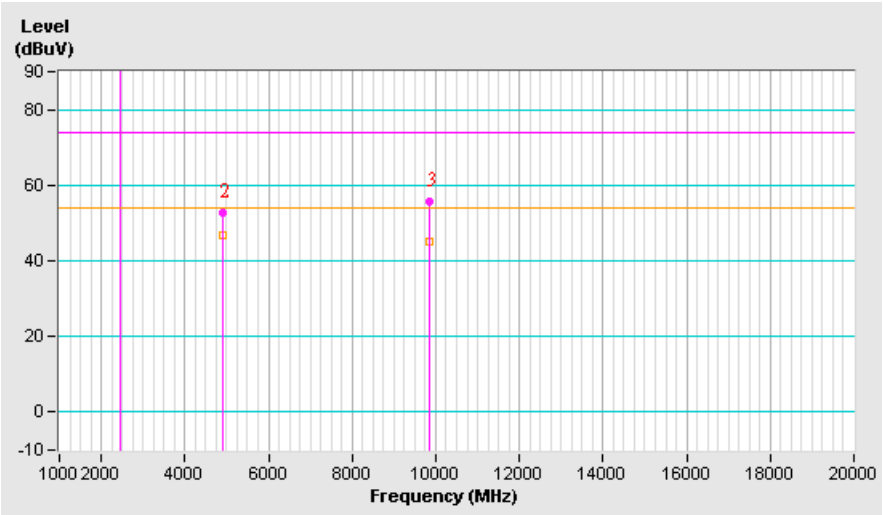


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 11	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2462.00	106.8 PK			1.27 H	4	75.20	31.60
1	*2462.00	98.8 AV			1.27 H	4	67.20	31.60
2	4924.00	52.8 PK	74.00	-21.20	1.32 H	225	14.80	38.00
2	4924.00	46.6 AV	54.00	-7.40	1.32 H	225	8.60	38.00
3	9848.00	55.8 PK	74.00	-18.20	1.32 H	324	10.80	45.00
3	9848.00	45.1 AV	54.00	-8.90	1.32 H	324	0.10	45.00

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

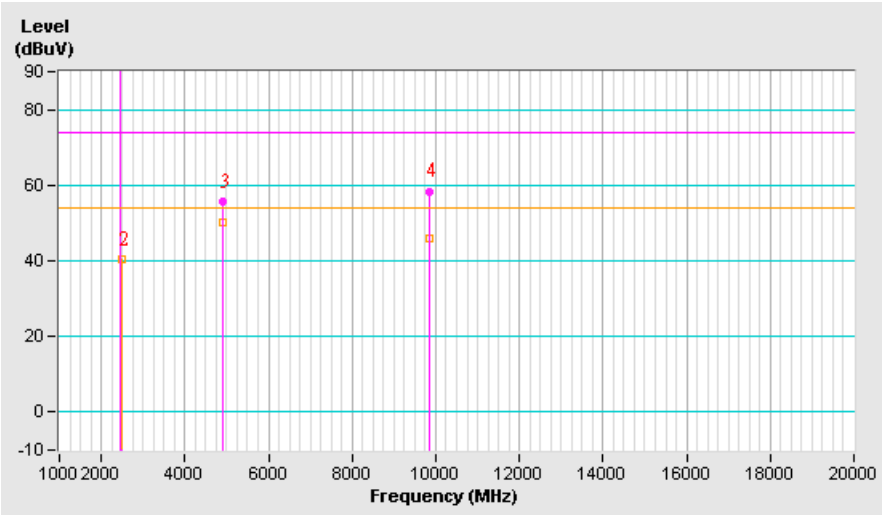


EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
CHANNEL	Channel 11	**FREQUENCY RANGE**	Above 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 53% RH, 1005 hPa	**TESTED BY**: Steven Lu	

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	*2462.00	108.4 PK			1.21 V	70	76.80	31.60
1	*2462.00	99.8 AV			1.21 V	70	68.20	31.60
2	4924.00	55.5 PK	74.00	-18.50	1.15 V	212	17.50	38.00
2	4924.00	50.1 AV	54.00	-3.90	1.15 V	212	12.00	31.60
3	9848.00	58.2 PK	74.00	-15.80	1.25 V	174	13.20	45.00
3	9848.00	45.8 AV	54.00	-8.20	1.25 V	174	0.80	38.00

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



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
SPECTRUM ANALYZER	FSP 40	100035	Apr. 14. 2004

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

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 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP

4.3.6 EUT OPERATING CONDITION

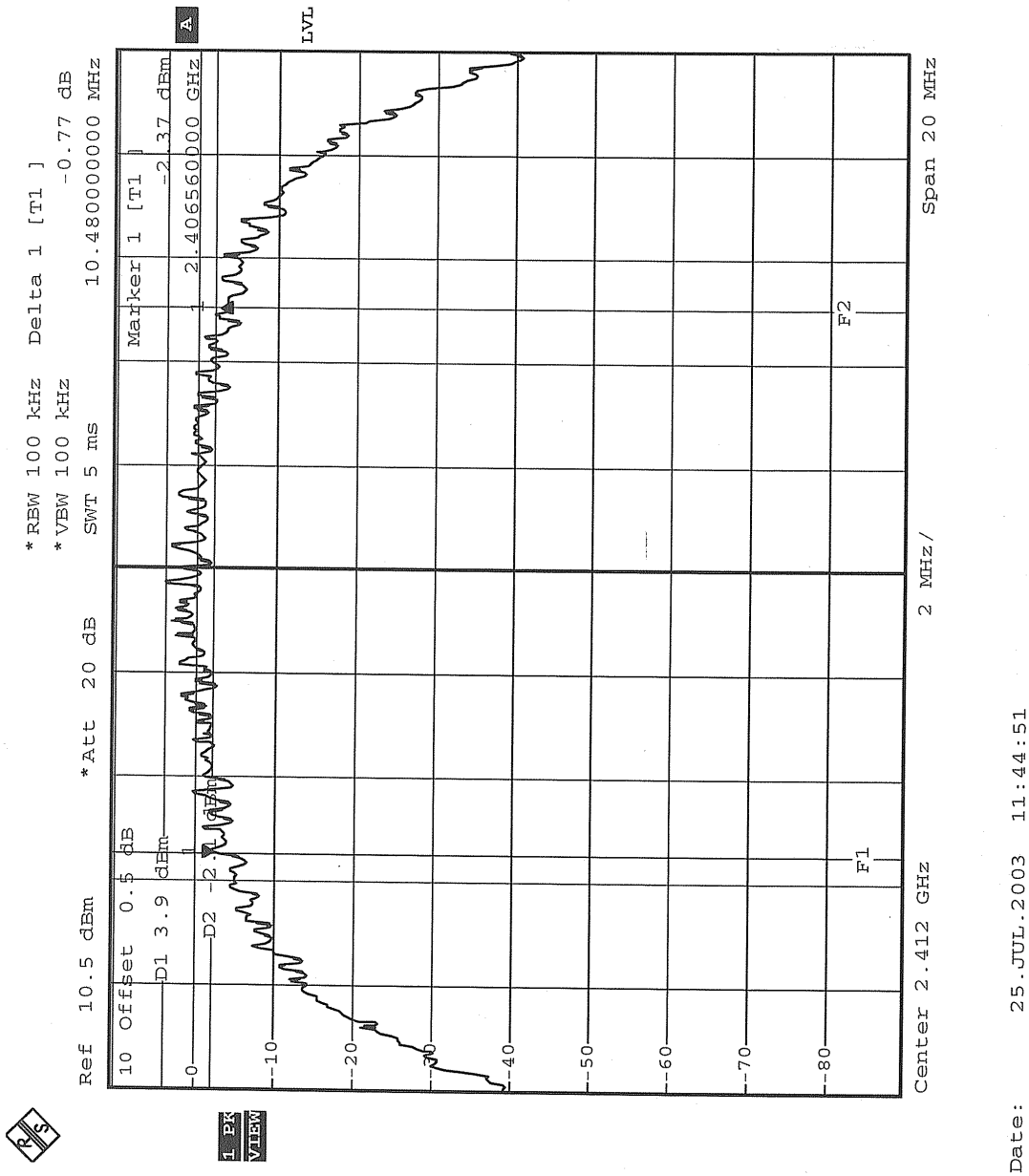
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

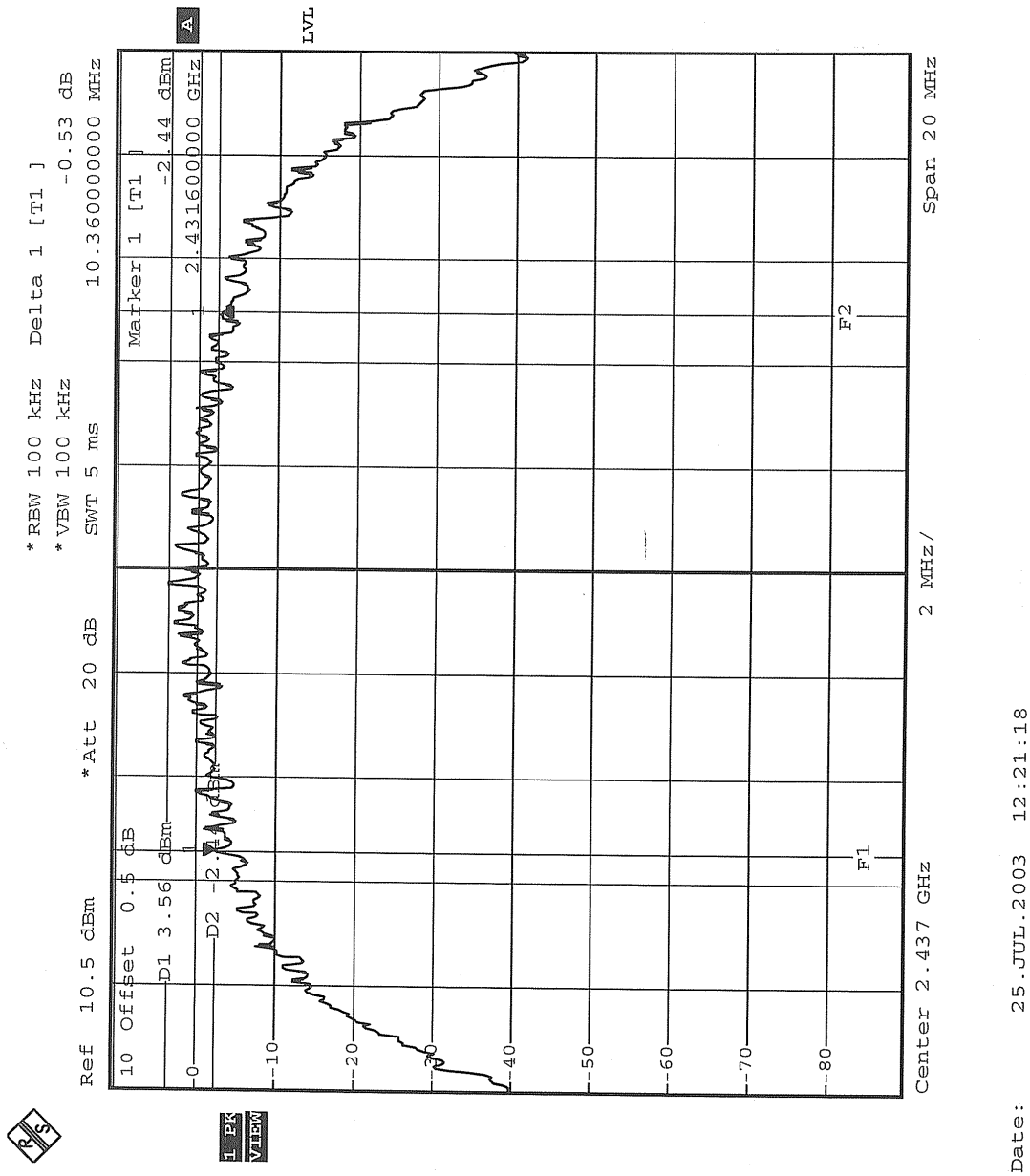
EUT	Personal Digital Assistant	MODEL	HC02U (with SyChip 802.11b Wireless LAN Module)
ENVIRONMENTAL CONDITIONS	26deg. C, 54%RH, 1005hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY: Steven Lu			

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	10.48	0.5	PASS
6	2437	10.36	0.5	PASS
11	2462	10.36	0.5	PASS

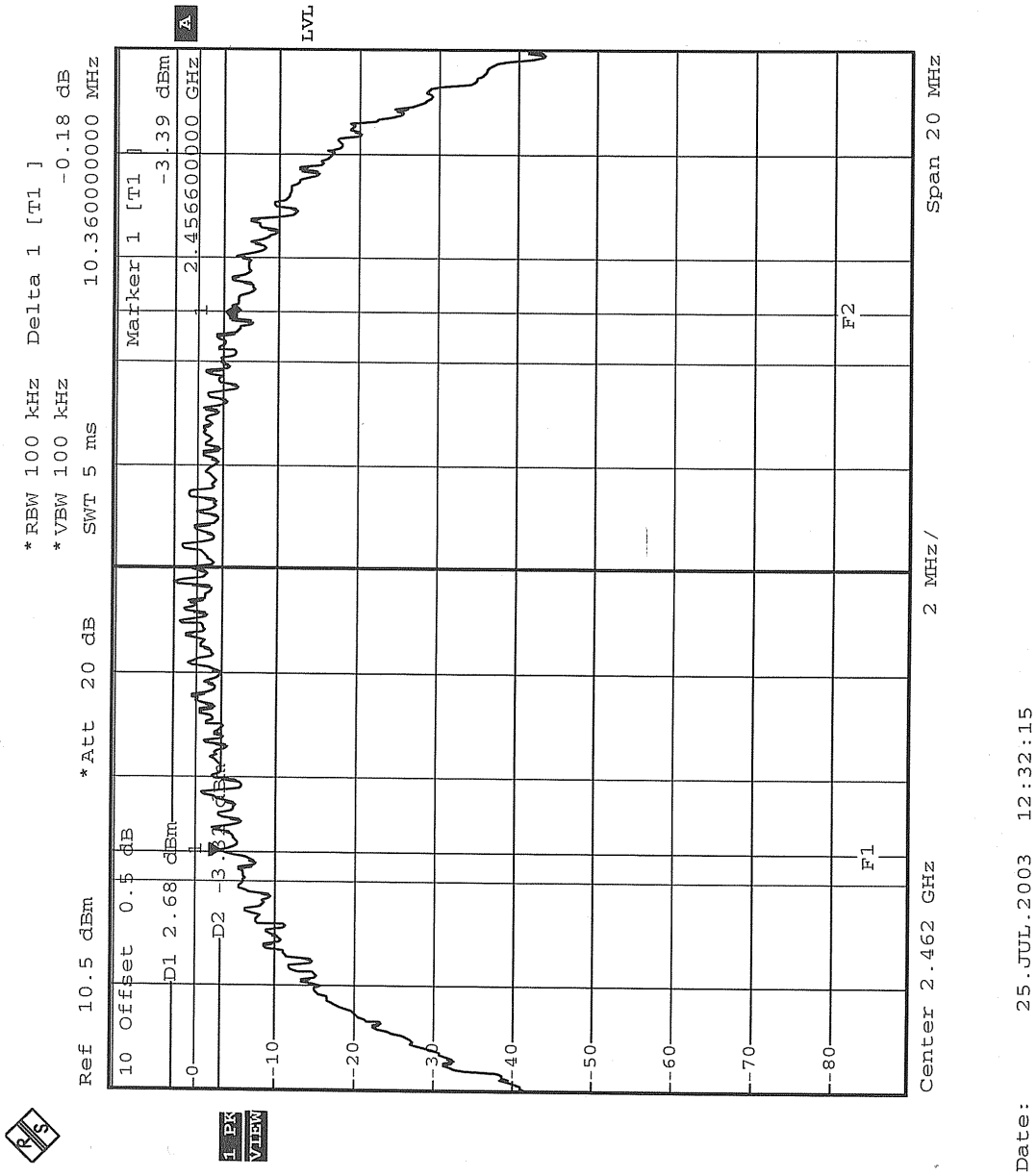
CH1


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.77 dB
10.480000000 MHz
Marker 1 [T1]
-2.37 dBm
2.406560000 GHz
Ref 10.5 dBm
Offset 0.5 dB
Att 20 dB
D1 3.9 dBm
D2 -2.1 dBm
LVL
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz
1 PK VIEW
Date: 25.JUL.2003 11:44:51

CH6


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.53 dB
10.360000000 MHz
Marker 1 [T1]
-2.44 dBm
2.431600000 GHz
Ref 10.5 dBm
10 Offset 0.5 dB
*Att 20 dB
D1 3.56 dBm
D2 -2.44 dBm
LVL
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
Date: 25.JUL.2003 12:21:18
1 PK VIEW

CH11


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.18 dB
10.360000000 MHz
Marker 1 [T1]
-3.39 dBm
2.456600000 GHz
Ref 10.5 dBm
Offset 0.5 dB
Att 20 dB
D1 2.68 dBm
D2 -3.32 dBm
LVL
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
Date: 25.JUL.2003 12:32:15

4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100035	Apr. 14. 2004
ROHDE & SCHWARZ Signal Generator	SMR40	100231	Apr. 07. 2004
Tektronix Oscilloscope	TDS 220	B047470	Mar. 05, 2004
Narda Detector	4503A	FSCM99899	NA

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

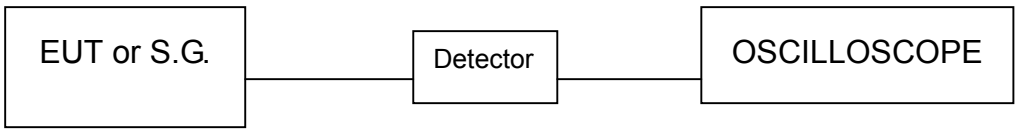
4.4.3 TEST PROCEDURE

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the 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 reading on oscilloscope. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITION

Same as Item 4.3.6.

4.4.7 TEST RESULTS

EUT	Personal Digital Assistant	MODEL	HC02U (with SyChip 802.11b Wireless LAN Module)
ENVIRONMENTAL CONDITIONS	26deg. C, 54%RH, 1005hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY: Steven Lu			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	13.90	30	PASS
6	2437	14.20	30	PASS
11	2462	13.70	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
SPECTRUM ANALYZER	FSP 40	100035	Apr. 14. 2004

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

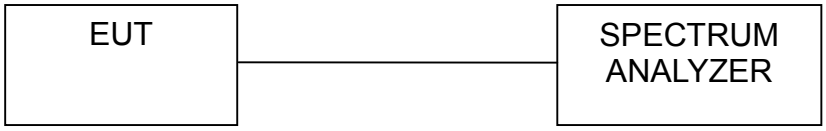
4.5.3 TEST PROCEDURE

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 3kHz RBW and 30kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3KHz 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

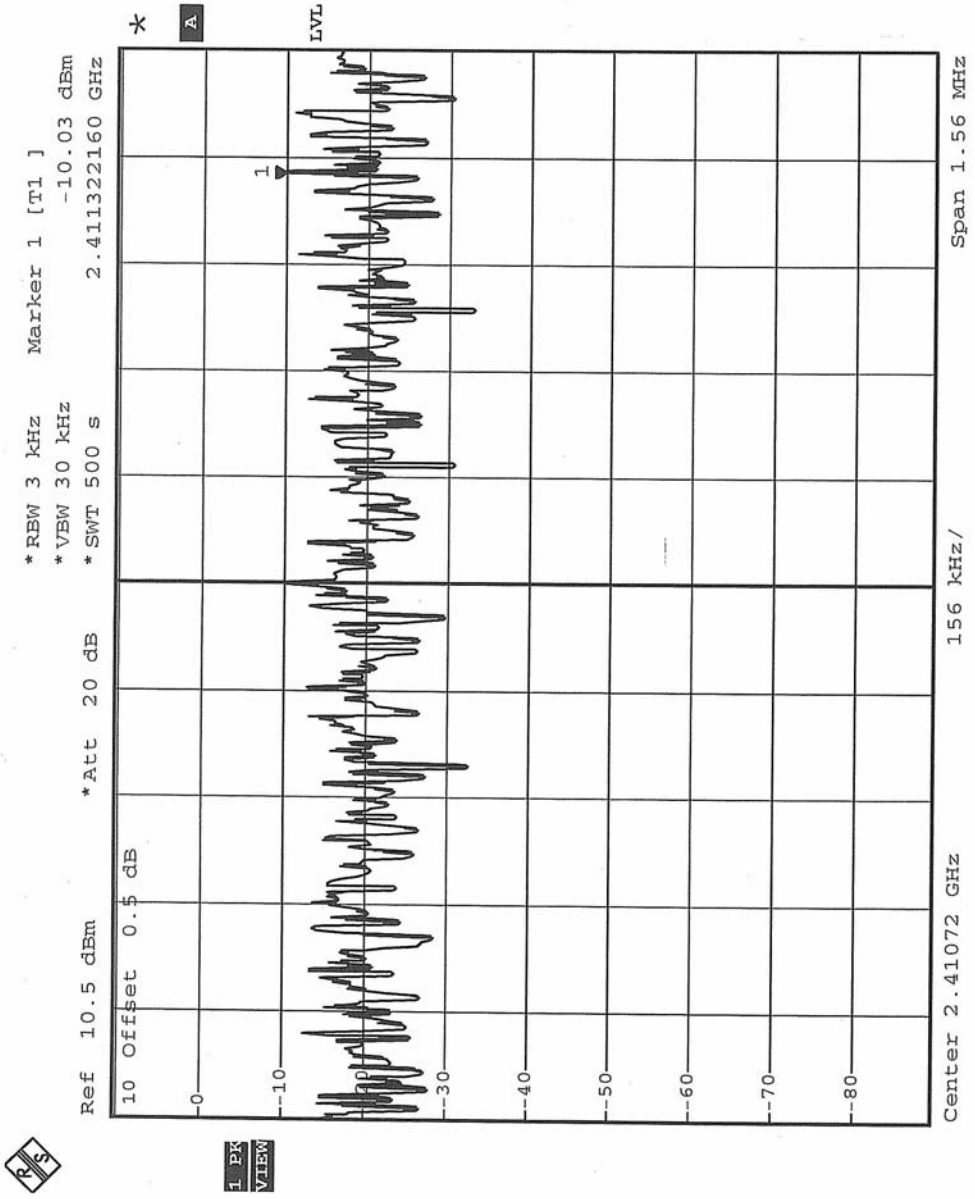
Same as Item 4.3.6.

4.5.7 TEST RESULTS

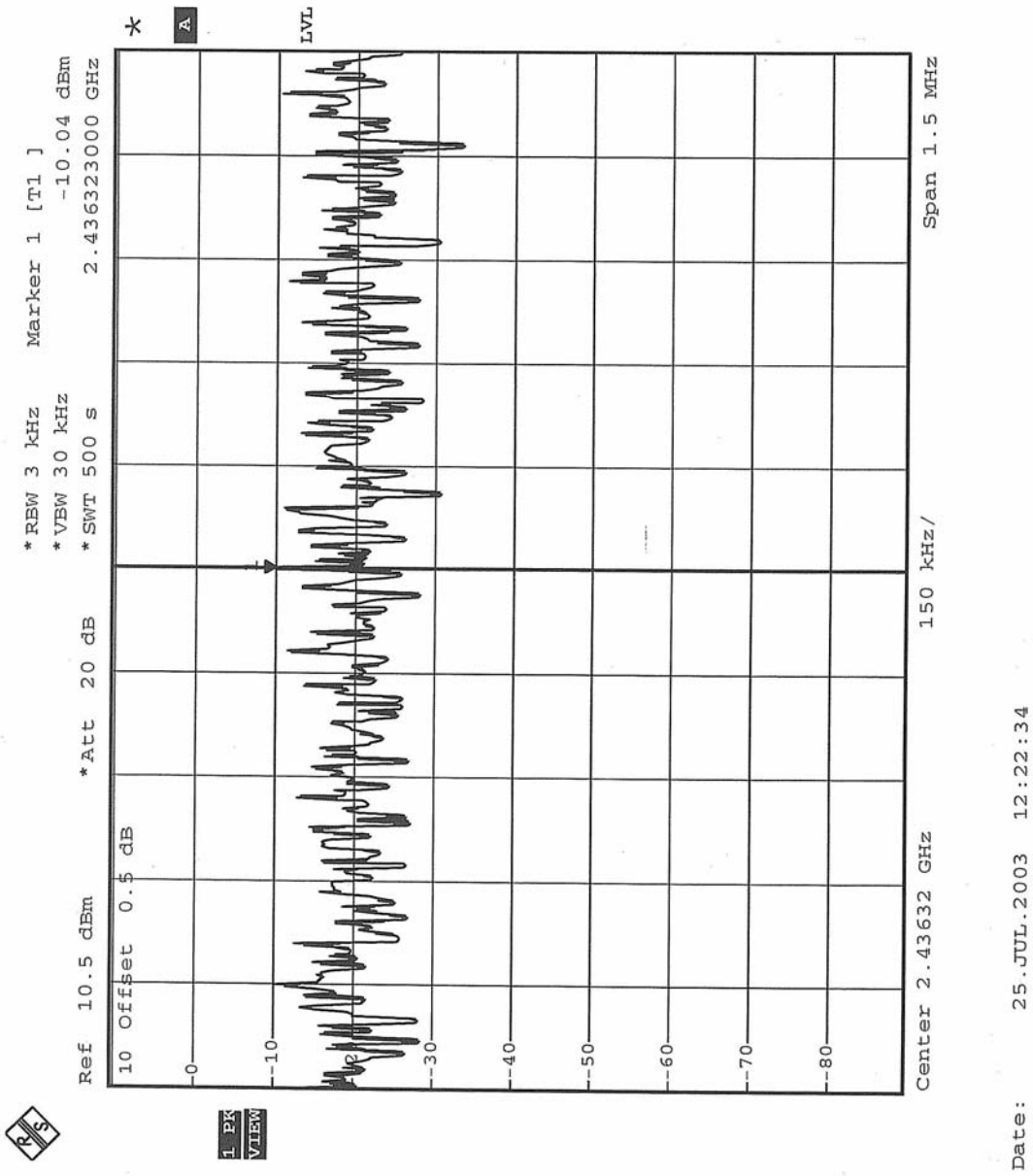
EUT	Personal Digital Assistant	**MODEL**	HC02U (with SyChip 802.11b Wireless LAN Module)
ENVIRONMENTAL CONDITIONS	26deg. C, 54%RH, 1005hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY: Steven Lu			

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.03	8	PASS
6	2437	-10.04	8	PASS
11	2462	-10.98	8	PASS

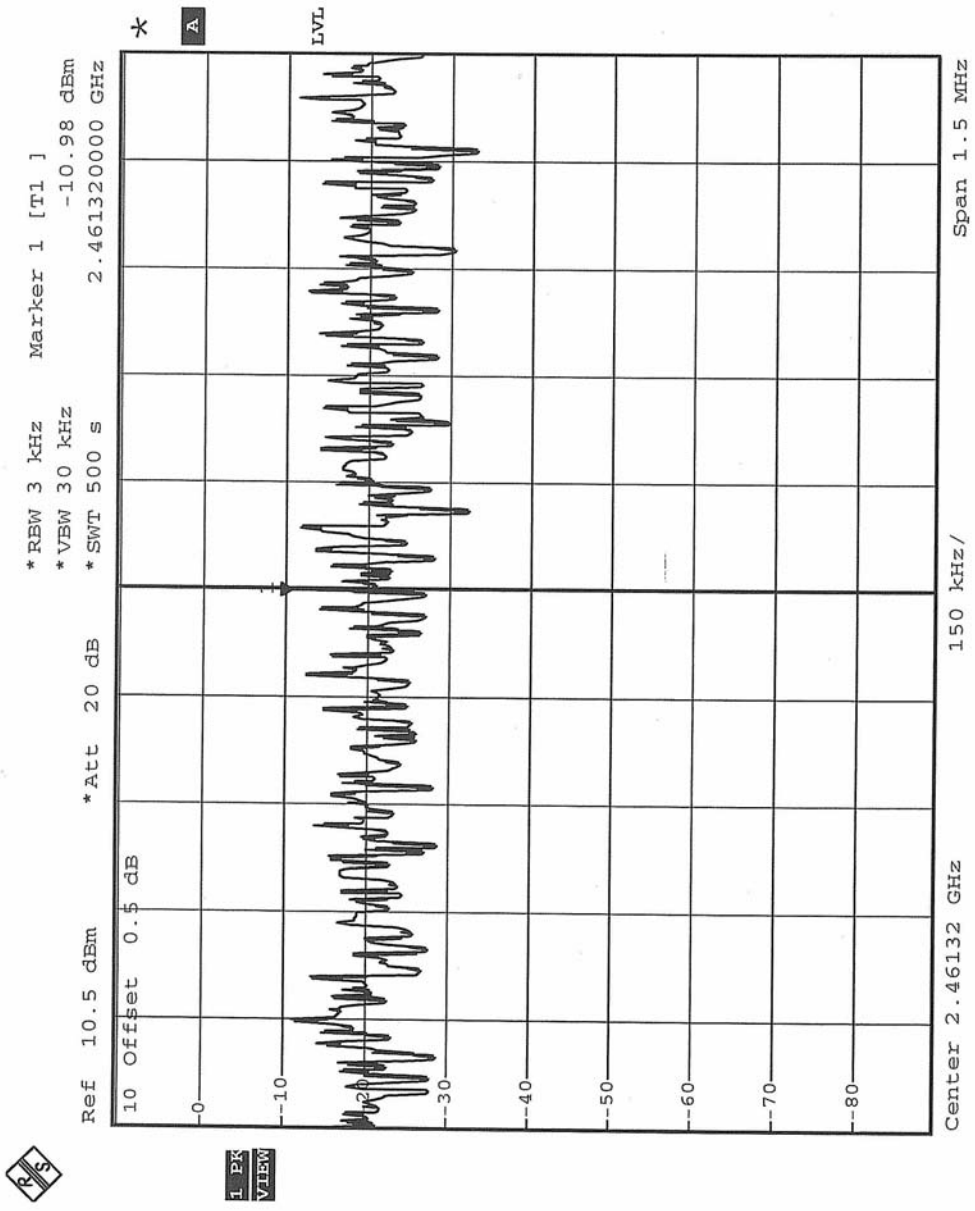
CH1


Ref 10.5 dBm
10 Offset 0.5 dB
*Att 20 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.03 dBm
2.411322160 GHz
Center 2.41072 GHz
156 kHz/
Span 1.56 MHz
Date: 25.JUL.2003 11:57:45
1 PK VIEW
LVL
A

CH6


Ref 10.5 dBm
10 Offset 0.5 dB
*Att 20 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.04 dBm
2.436323000 GHz
Center 2.43632 GHz
150 kHz/
Span 1.5 MHz
Date: 25.JUL.2003 12:22:34
1 PK VIEW
LVL
A

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1]
-10.98 dBm
2.46132000 GHz
Att 20 dB
Offset 0.5 dB
Ref 10.5 dBm
LVL
1 PK VIEW
Center 2.46132 GHz
150 kHz/
Span 1.5 MHz
Date: 25.JUL.2003 12:31:24

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSP 40	100035	Apr. 14. 2004

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

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100MHz 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

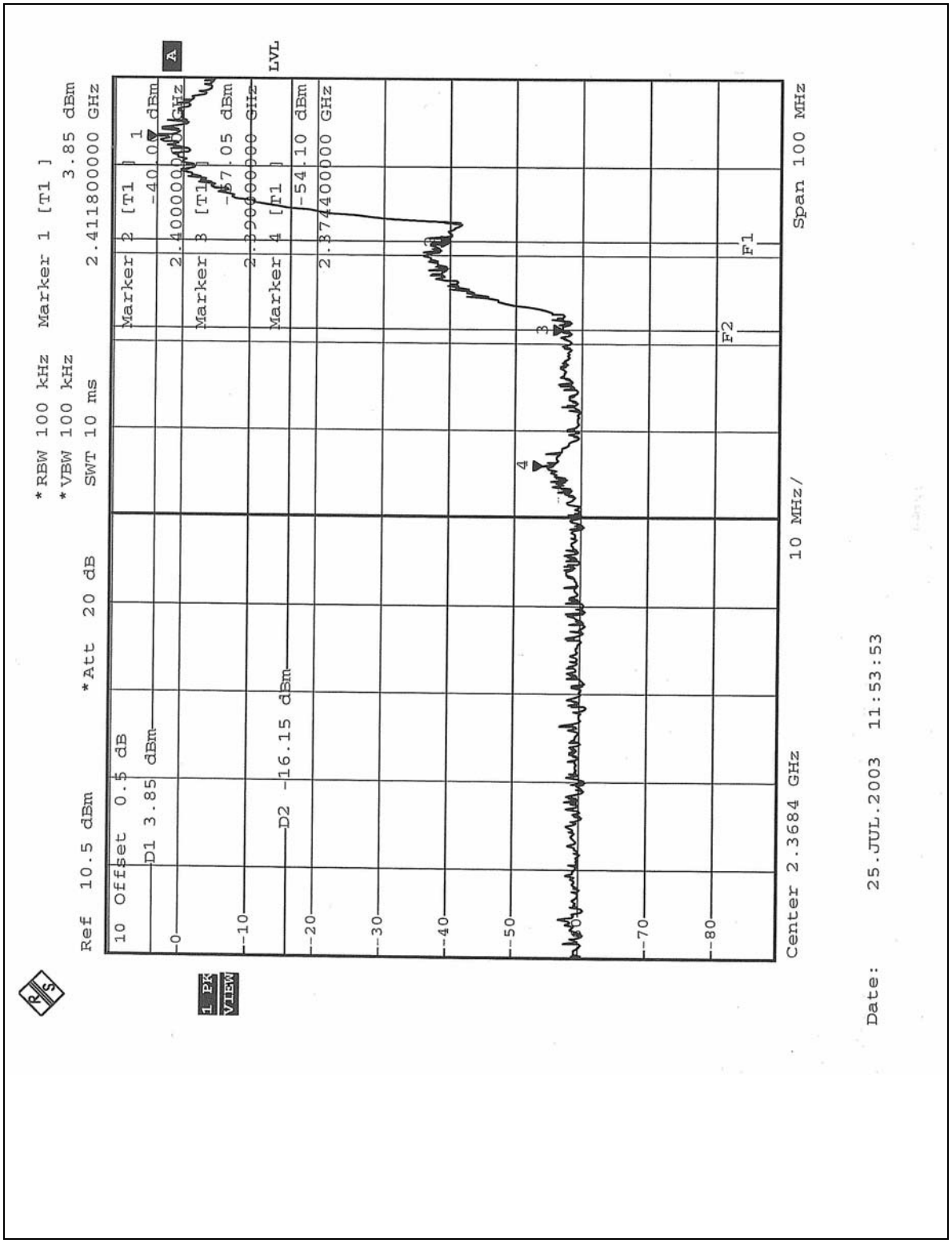
Same as Item 4.3.6.

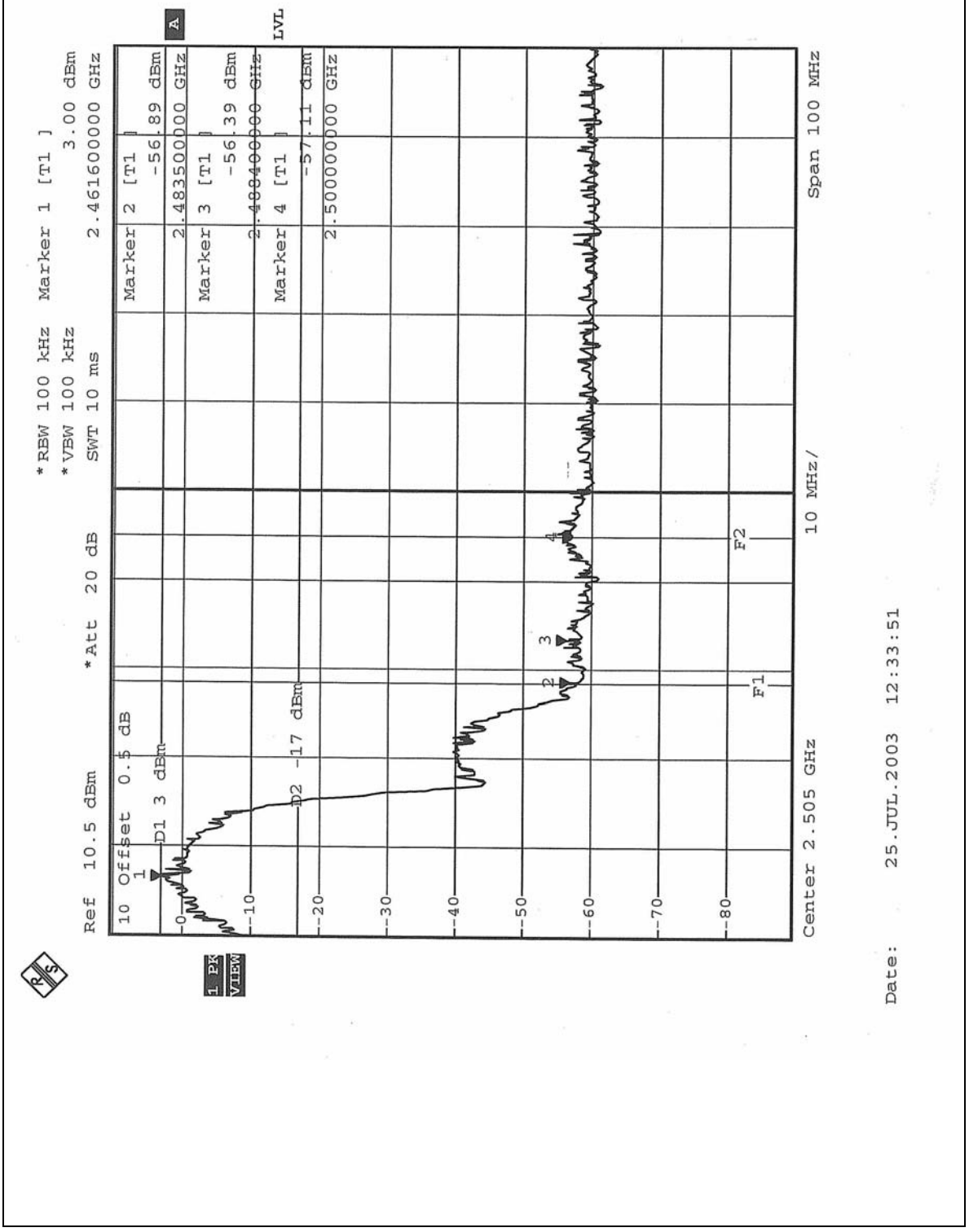
4.6.6 TEST RESULTS

The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

NOTE 1: The band edge emission plot on the following first page shows 57.95dB delta between carrier maximum power and local maximum emission in restrict band (2.3744GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 98.9dBuV/m, so the maximum field strength in restrict band is 98.9-57.95=40.95dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on the following second page shows 59.39dB delta between carrier maximum power and local maximum emission in restrict band (2.4884Hz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 99.8dBuV/m, so the maximum field strength in restrict band is 99.8-59.39=40.41dBuV/m which is under 54dBuV/m limit.


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
3.85 dBm
2.41180000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
D1 3.85 dBm
D2 -16.15 dBm
Marker 2 [T1]
-40.07 dBm
2.40000000 GHz
Marker 3 [T1]
-47.05 dBm
2.39040000 GHz
Marker 4 [T1]
-54.10 dBm
2.37440000 GHz
LVL
A
1 PK
VIEW
Center 2.3684 GHz
10 MHz/
Span 100 MHz
F1
F2
Date: 25.JUL.2003 11:53:53


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
3.00 dBm
2.46160000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
D1 3 dBm
D2 -17 dBm
Marker 2 [T1]
-56.89 dBm
2.48350000 GHz
Marker 3 [T1]
-56.39 dBm
2.48400000 GHz
Marker 4 [T1]
-57.11 dBm
2.50000000 GHz
LVL
A
1 PK
VIEW
Center 2.505 GHz
10 MHz/
Span 100 MHz
F1
F2
Date: 25.JUL.2003 12:33:51

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.

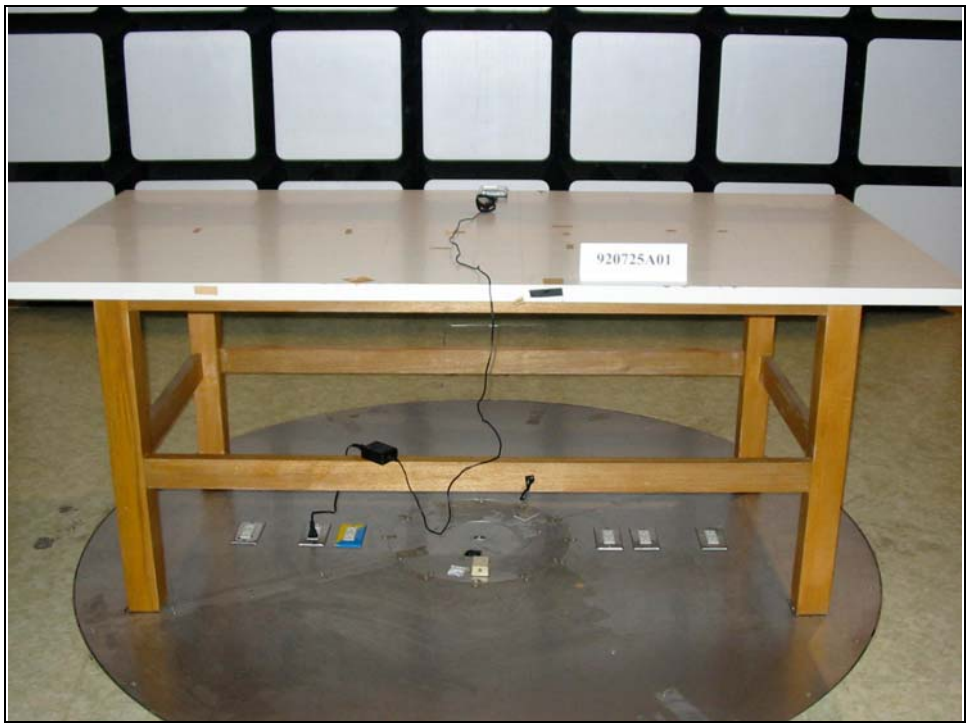
4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna type used in this product is Inverted-F antenna with U.FL connector. The maximum Gain of this antenna is 2.93dBi.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST



6 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO
Canada	INDUSTRY CANADA
R.O.C.	CNLA, BSMI

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:

Lin Kou EMC Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC Lab:
Tel: 886-35-935343
Fax: 886-35-935342

Lin Kou Safety Lab:
Tel: 886-2-26093195
Fax: 886-2-26093184

Lin Kou RF & Telecom Lab.
Tel: 886-3-3270910
Fax: 886-3-3270892

Email: service@mail.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.