FCC TEST REPORT
(For Wireless LAN)

REPORT NO.:	RF960822L02-1
MODEL NO.:	Pegaso P40-2001
RECEIVED:	Aug. 22, 2007
TESTED:	Aug. 23 ~ Sep. 11, 2007
ISSUED:	Sep. 14, 2007

APPLICANT:	Datalogic Mobile Inc.
ADDRESS:	1505 Westec Dr. Eugene, Oregon 97402 USA

ISSUED BY:	Advance Data Technology Corporation
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT:	Portable Data Terminal
MODEL:	Pegaso P40-2001
BRAND:	Datalogic
APPLICANT:	Datalogic Mobile Inc.
TESTED:	Aug. 23 ~ Sep. 11, 2007
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247),** ANSI C63.4-2003

The above equipment (Model: Pegaso P40-2001) 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 : Rennie Wang , **DATE:** Sep. 14, 2007
Rennie Wang / Senior Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Sep. 14, 2007
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Sep. 14, 2007
Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.74dB at 3.070MHz
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(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –3.46dB at 2483.5MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	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 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9KHZ~30MHZ	2.44 DB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Portable Data Terminal
MODEL NO.	Pegaso P40-2001
FCC ID	U4SPD
POWER SUPPLY	3.7Vdc from rechargeable lithium battery 5.0Vdc from power adapter
MODULATION TYPE	Wireless LAN: CCK, DQPSK,DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM Bluetooth: GFSK, π/4-DQPSK, 8DPSK
MODULATION TECHNOLOGY	DSSS, OFDM, FHSS
TRANSFER RATE	Wireless LAN: 802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps Bluetooth: 1/2/3Mbps
FREQUENCY RANGE	2400 ~ 2483.5MHz
NUMBER OF CHANNEL	Wireless LAN: 11 Bluetooth: 79
CHANNEL SPACING	Wireless LAN: 5MHz Bluetooth: 1MHz
OUTPUT POWER	Wireless LAN: 51.050mW Bluetooth: 1.312mW
ANTENNA TYPE	Wireless LAN: PCB antenna with 1.96dBi gain PIFA antenna with 2.69dBi gain Bluetooth: SMD antenna with 4.10dBi gain
DATA CABLE	1.5m shielded USB cable with charger port without core
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter, lithium battery x2

NOTE:

1. The EUT is a Portable Data Terminal with wireless LAN, Bluetooth and mobile phone functions. This report is only covered the functions of wireless LAN. The Bluetooth function is covered in another test report (Report no.: RF960822L02-3). For GSM850 function is covered in another test report, which standard used is Part 22. And the PCS1900 mobile phone function is covered in another test report, which standard used is FCC Part 24.
2. The communicated functions of EUT listed as below:

		GSM850MHz	PCS1900MHz	With 802.11b/g & bluetooth
2G	GPRS	√	√	
	EDGE	√	√	

3. The EUT have two lithium batteries listed as below:

BATTERY 1:		BATTERY 2:	
BRAND:	ETI	**BRAND:**	ETI
MODEL:	4006-0337	**MODEL:**	4006-0338
RATING:	3.7Vdc, 3300mAh	**RATING:**	3.7Vdc, 2200mAh

****** After pre-tested both batteries, found battery 1 was the worse, therefore all the test results came out from this.

4. The EUT was operated with following power adapter:

BRAND:	PHIHONG
MODEL:	PSA15R-050P
INPUT:	100-240Vac, 50-60Hz, 0.5A
OUTPUT:	5.0Vdc, 3.0A
POWER LINE:	1.8m non-shielded cable with one core

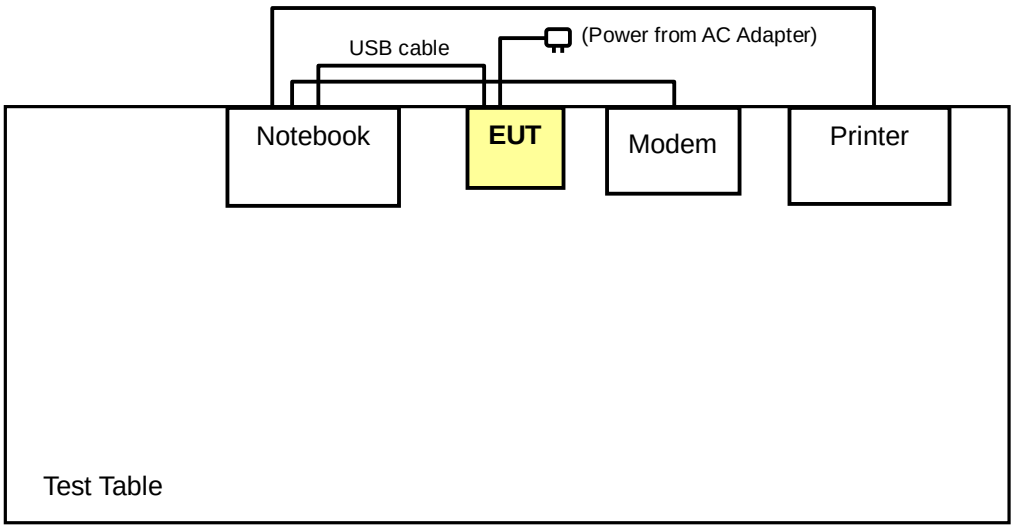
5. The EUT operates in the 2.4GHz frequency spectrum and complies with 802.11b & 802.11g techniques.
6. Bluetooth technology is used in this EUT.
7. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

11 channels are provided to the EUT.

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

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
A	√	√	√	√	PIFA antenna
B	-	-	√	-	PCB antenna

Where **PLC:** Power Line Conducted Emission **RE<1G:** Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

NOTE: "-" means no effect.

POWER LINE CONDUCTED EMISSION TEST:

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11g	1 to 11	1, 6, 11	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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11g	1 to 11	11	OFDM	BPSK	6	Y

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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	Y
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	Y
B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1	Y
B	802.11g	1 to 11	1, 11	OFDM	BPSK	6	Y

BANDEDGE MEASUREMENT:

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 11	DSSS	DBPSK	1
A	802.11g	1 to 11	1, 11	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
A	802.11g	1 to 11	1, 6, 11	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 C. (15.247)
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	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS
2	PRINTER	EPSON	LQ-300+	DCGY054147	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008269	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	2.0m shielded USB cable
2	1.8m braid shielded wire , DB25 connector , w/o core.
3	1.2m braid shielded wire , DB25 & DB9 connector , w/o core.

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

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 0.5-5 5-30	66 to 56 56 60	56 to 46 46 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	100288	Sep. 25, 2007
RF signal cable Woken	5D-FB	Cable-HYCO3-01	Jan. 06, 2008
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 08, 2008
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jan. 16, 2008
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 2.

3. The VCCI Site Registration No. is C-2047.

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.

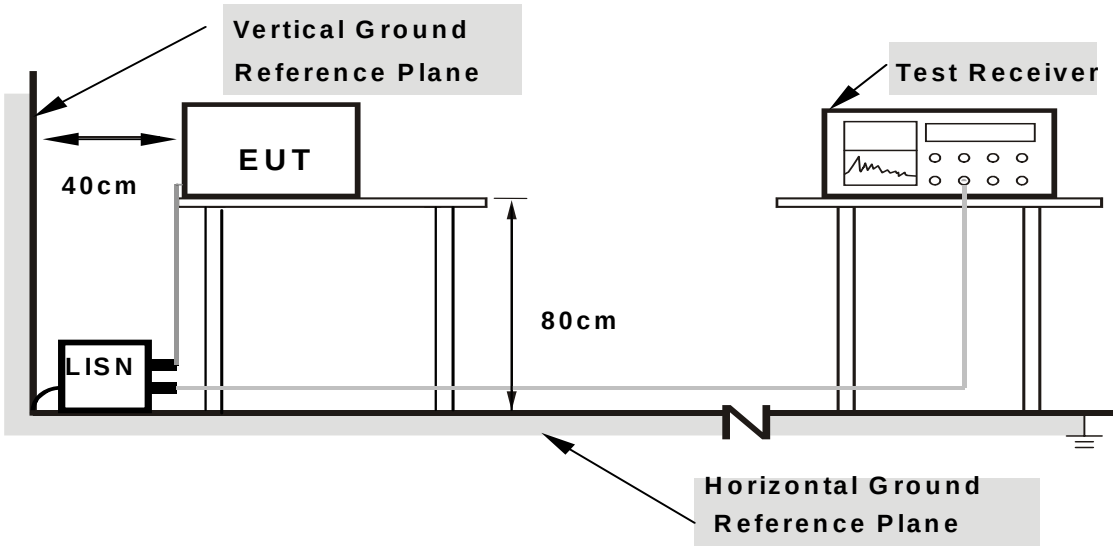
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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 (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.1.6 EUT OPERATING CONDITIONS

a. Connected EUT with notebook system via USB cable and placed on a testing table.

b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmitting condition continuously at specific channel frequency.

c. The necessary accessories enable the system in full functions.

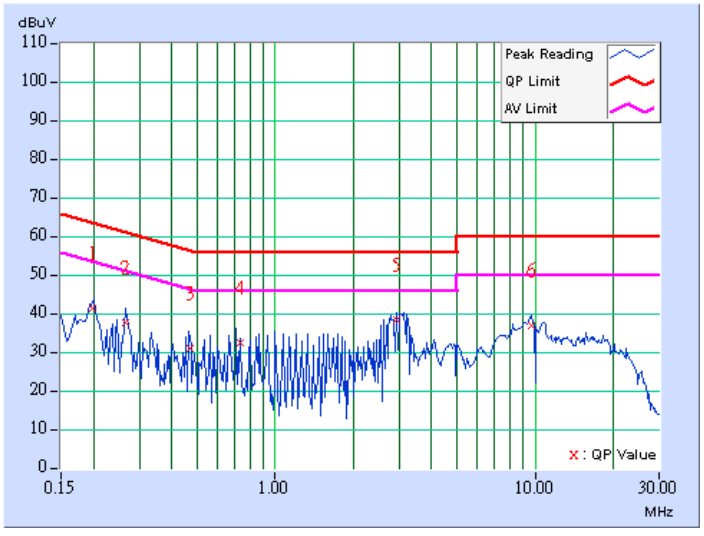
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	**PHASE**	Line 1
MODULATION TYPE	BPSK	**6dB BANDWIDTH**	9 kHz
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Match Tsui

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	0.200	0.10	41.11	-	41.21	-	63.63	53.63	-22.42	-
2	0.267	0.10	37.55	-	37.65	-	61.20	51.20	-23.55	-
3	0.468	0.10	30.69	-	30.79	-	56.55	46.55	-25.76	-
4	0.734	0.11	32.09	-	32.20	-	56.00	46.00	-23.80	-
5	2.938	0.25	38.02	-	38.27	-	56.00	46.00	-17.73	-
6	9.680	0.33	36.57	-	36.90	-	60.00	50.00	-23.10	-

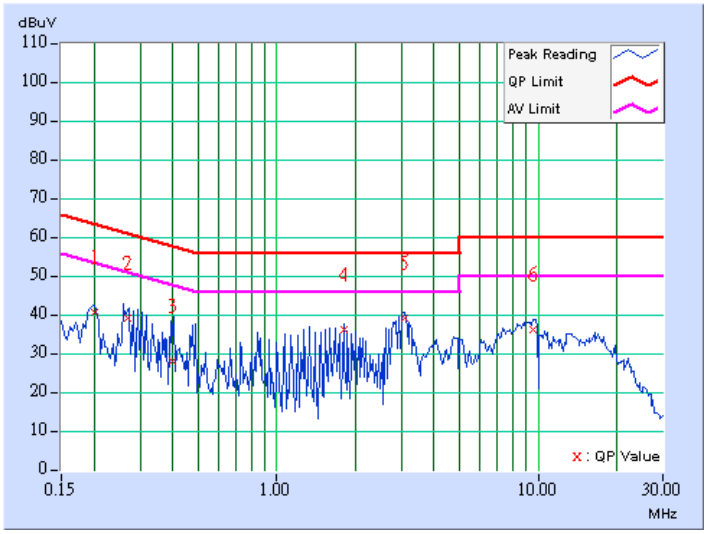
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	0.201	0.10	40.31	-	40.41	-	63.58	53.58	-23.17	-
2	0.268	0.10	38.75	-	38.85	-	61.17	51.17	-22.32	-
3	0.400	0.10	27.81	-	27.91	-	57.85	47.85	-29.94	-
4	1.802	0.22	36.00	-	36.22	-	56.00	46.00	-19.78	-
5	3.071	0.25	38.87	-	39.12	-	56.00	46.00	-16.88	-
6	9.547	0.42	35.85	-	36.27	-	60.00	50.00	-23.73	-

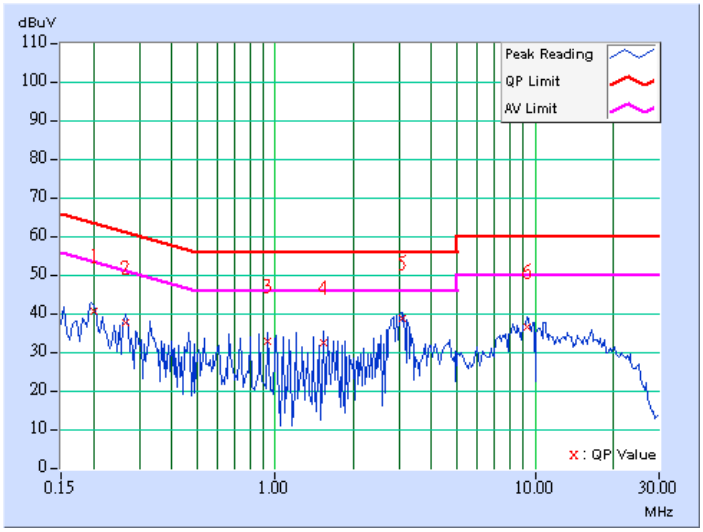
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	0.201	0.10	40.31	-	40.41	-	63.56	53.56	-23.15	-
2	0.267	0.10	37.51	-	37.61	-	61.20	51.20	-23.59	-
3	0.935	0.11	32.58	-	32.69	-	56.00	46.00	-23.31	-
4	1.535	0.17	32.44	-	32.61	-	56.00	46.00	-23.39	-
5	3.070	0.25	38.56	-	38.81	-	56.00	46.00	-17.19	-
6	9.344	0.32	36.51	-	36.83	-	60.00	50.00	-23.17	-

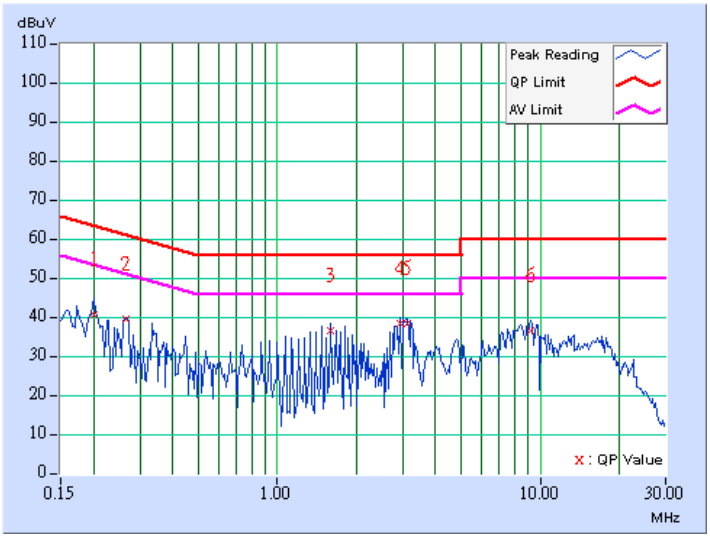
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	0.201	0.10	40.21	-	40.31	-	63.58	53.58	-23.27	-
2	0.267	0.10	39.25	-	39.35	-	61.20	51.20	-21.85	-
3	1.602	0.22	36.30	-	36.52	-	56.00	46.00	-19.48	-
4	2.938	0.25	37.93	-	38.18	-	56.00	46.00	-17.82	-
5	3.137	0.25	38.11	-	38.36	-	56.00	46.00	-17.64	-
6	9.211	0.41	36.20	-	36.61	-	60.00	50.00	-23.39	-

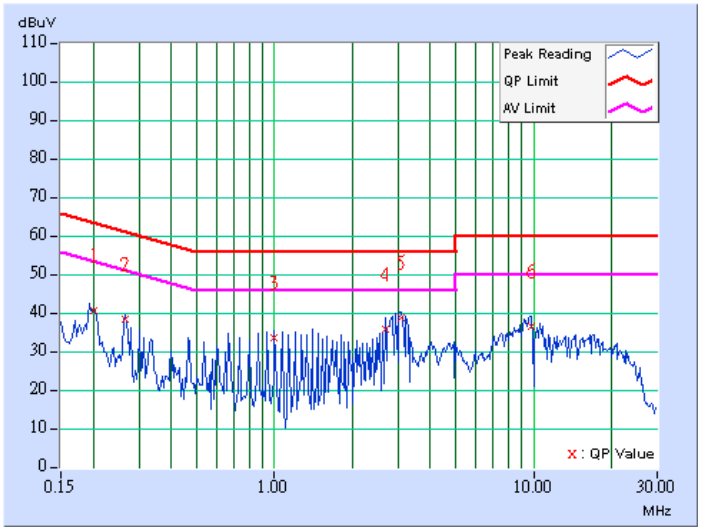
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	0.201	0.10	40.39	-	40.49	-	63.58	53.58	-23.09	-
2	0.267	0.10	38.20	-	38.30	-	61.20	51.20	-22.90	-
3	1.001	0.11	33.31	-	33.42	-	56.00	46.00	-22.58	-
4	2.672	0.24	35.75	-	35.99	-	56.00	46.00	-20.01	-
5	3.070	0.25	38.48	-	38.73	-	56.00	46.00	-17.27	-
6	9.746	0.33	36.22	-	36.55	-	60.00	50.00	-23.45	-

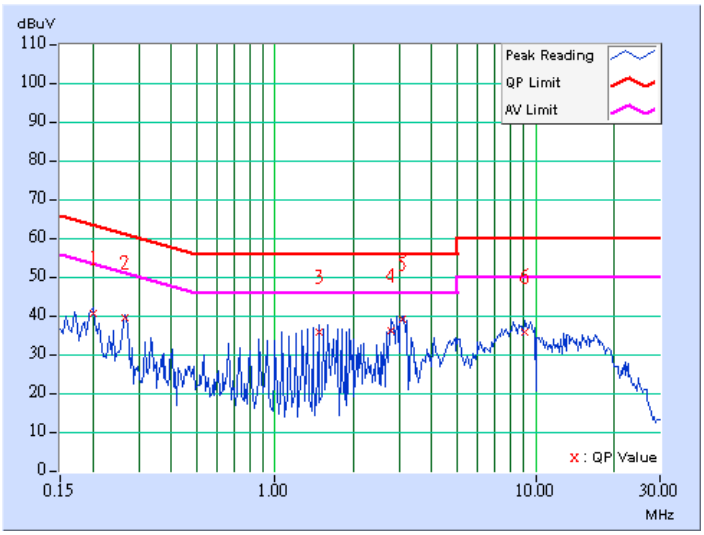
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	26deg. C, 68%RH, 982hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	0.201	0.10	40.33	-	40.43	-	63.58	53.58	-23.15	-
2	0.267	0.10	39.25	-	39.35	-	61.20	51.20	-21.85	-
3	1.469	0.21	35.70	-	35.91	-	56.00	46.00	-20.09	-
4	2.805	0.24	35.98	-	36.22	-	56.00	46.00	-19.78	-
5	**3.070**	**0.25**	**39.01**	**-**	**39.26**	**-**	**56.00**	**46.00**	**-16.74**	**-**
6	9.078	0.41	35.63	-	36.04	-	60.00	50.00	-23.96	-

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
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100025	Oct. 05, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 31, 2008
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jun. 28, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 28, 2007
Preamplifier Agilent	8447D	2944A10633	Oct. 26, 2007
Preamplifier Agilent	8449B	3008A01964	Oct. 26, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238137/4	Dec. 11, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	233233/4	Nov. 14, 2007
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	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 3.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The VCCI Site Registration No. is R-237.
5. The IC Site Registration No. is IC3789B-3.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

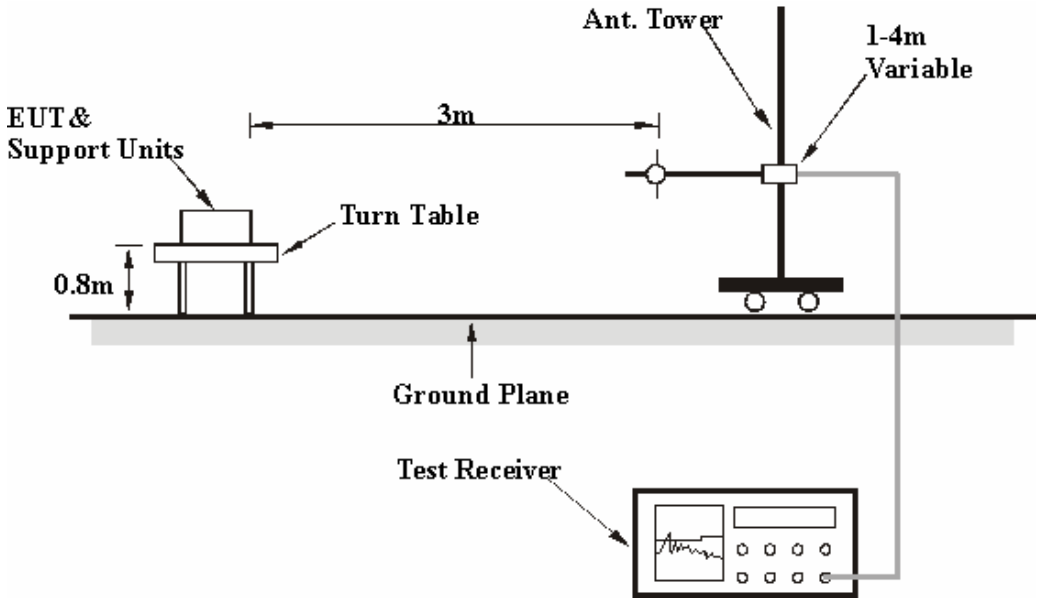
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (for 802.11b) and 1 kHz (for 802.11g) for Average detection (AV) at frequency above 1 GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
MODULATION TYPE	BPSK	**DETECTOR FUNCTION**	Quasi-Peak
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	123.23	26.37 QP	43.50	-17.13	1.50 H	199	13.55	12.82
2	399.31	28.10 QP	46.00	-17.90	1.00 H	217	10.48	17.62
3	467.36	35.67 QP	46.00	-10.33	1.00 H	163	15.96	19.71
4	733.73	31.87 QP	46.00	-14.13	1.00 H	340	6.69	25.18
5	865.94	35.94 QP	46.00	-10.06	1.00 H	157	8.78	27.16
6	932.05	35.11 QP	46.00	-10.89	1.50 H	223	7.05	28.06

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	64.90	26.87 QP	40.00	-13.13	1.00 V	25	13.52	13.35
2	420.70	31.15 QP	46.00	-14.85	1.00 V	10	12.78	18.37
3	595.69	32.33 QP	46.00	-13.67	2.00 V	343	9.97	22.35
4	733.73	33.82 QP	46.00	-12.18	1.50 V	256	8.64	25.18
5	865.94	36.29 QP	46.00	-9.71	2.00 V	214	9.12	27.16
6	928.16	35.70 QP	46.00	-10.30	1.00 V	238	7.70	28.00

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.

802.11b DSSS MODULATION

TEST MODE A: PIFA ANTENNA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.000	51.46 PK	74.00	-22.54	1.29 H	44	21.04	30.42
2	1608.000	47.13 AV	54.00	-6.87	1.29 H	44	16.71	30.42
3	2390.000	55.02 PK	74.00	-18.98	1.03 H	18	22.78	32.24
4	2390.000	44.41 AV	54.00	-9.59	1.03 H	18	12.17	32.24
5	*2412.000	104.25 PK			1.03 H	18	71.93	32.32
6	*2412.000	100.36 AV			1.03 H	18	68.04	32.32
7	4824.000	48.35 PK	74.00	-25.65	1.05 H	214	10.22	38.13
8	4824.000	36.59 AV	54.00	-17.41	1.05 H	214	-1.54	38.13

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	1608.000	50.13 PK	74.00	-23.87	1.19 V	58	19.71	30.42
2	1608.000	45.75 AV	54.00	-8.25	1.19 V	58	15.33	30.42
3	2390.000	55.04 PK	74.00	-18.96	1.05 V	60	22.80	32.24
4	2390.000	44.30 AV	54.00	-9.70	1.05 V	60	12.06	32.24
5	*2412.000	102.19 PK			1.15 V	76	69.87	32.32
6	*2412.000	99.14 AV			1.15 V	76	66.82	32.32
7	4824.000	51.36 PK	74.00	-22.64	1.14 V	213	13.23	38.13
8	4824.000	39.68 AV	54.00	-14.32	1.14 V	213	1.55	38.13

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	DBPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1624.000	51.13 PK	74.00	-22.87	1.18 H	321	20.70	30.43
2	1624.000	46.86 AV	54.00	-7.14	1.18 H	321	16.43	30.43
3	*2437.000	104.91 PK			1.05 H	10	72.51	32.40
4	*2437.000	100.42 AV			1.05 H	10	68.02	32.40
5	4874.000	50.68 PK	74.00	-23.32	1.12 H	187	12.36	38.32
6	4874.000	39.31 AV	54.00	-14.69	1.12 H	187	0.99	38.32

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	1624.000	50.36 PK	74.00	-23.64	1.08 V	296	19.93	30.43
2	1624.000	46.14 AV	54.00	-7.86	1.08 V	296	15.71	30.43
3	*2437.000	102.56 PK			1.14 V	75	70.16	32.40
4	*2437.000	99.22 AV			1.14 V	75	66.82	32.40
5	4874.000	51.68 PK	74.00	-22.32	1.05 V	256	13.36	38.32
6	4874.000	40.35 AV	54.00	-13.65	1.05 V	256	2.03	38.32

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	DBPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1642.000	50.96 PK	74.00	-23.04	1.51 H	23	20.51	30.45
2	1642.000	46.45 AV	54.00	-7.55	1.51 H	23	16.00	30.45
3	*2462.000	105.10 PK			1.09 H	8	72.62	32.48
4	*2462.000	100.54 AV			1.09 H	8	68.06	32.48
5	2483.500	56.02 PK	74.00	-17.98	1.09 H	6	23.46	32.56
6	2483.500	45.36 AV	54.00	-8.64	1.09 H	6	12.80	32.56
7	4924.000	47.58 PK	74.00	-26.42	1.02 H	95	9.12	38.46
8	4924.000	35.80 AV	54.00	-18.20	1.02 H	95	-2.66	38.46

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	1642.000	50.46 PK	74.00	-23.54	1.01 V	96	20.01	30.45
2	1642.000	46.18 AV	54.00	-7.82	1.01 V	96	15.73	30.45
3	*2462.000	102.95 PK			1.16 V	79	70.47	32.48
4	*2462.000	99.63 AV			1.16 V	79	67.15	32.48
5	2483.500	54.06 PK	74.00	-19.94	1.03 V	72	21.50	32.56
6	2483.500	43.20 AV	54.00	-10.80	1.03 V	72	10.64	32.56
7	4924.000	50.96 PK	74.00	-23.04	1.08 V	319	12.50	38.46
8	4924.000	39.20 AV	54.00	-14.80	1.08 V	319	0.74	38.46

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.

TEST MODE B: PCB ANTENNA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	DBPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.000	50.45 PK	74.00	-23.55	1.12 H	46	20.03	30.42
2	1608.000	46.18 AV	54.00	-7.82	1.12 H	46	15.76	30.42
3	2390.000	50.14 PK	74.00	-23.86	1.06 H	319	17.90	32.24
4	2390.000	40.42 AV	54.00	-13.58	1.06 H	319	8.18	32.24
5	*2412.000	97.96 PK			1.06 H	319	65.64	32.32
6	*2412.000	93.85 AV			1.06 H	319	61.53	32.32
7	4824.000	50.03 PK	74.00	-23.97	1.05 H	169	11.90	38.13
8	4824.000	38.04 AV	54.00	-15.96	1.05 H	169	-0.09	38.13

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	1608.000	51.68 PK	74.00	-22.32	1.39 V	72	21.26	30.42
2	1608.000	47.34 AV	54.00	-6.66	1.39 V	72	16.92	30.42
3	2390.000	54.63 PK	74.00	-19.37	1.15 V	80	22.39	32.24
4	2390.000	44.02 AV	54.00	-9.98	1.15 V	80	11.78	32.24
5	*2412.000	104.02 PK			1.15 V	80	71.70	32.32
6	*2412.000	100.13 AV			1.15 V	80	67.81	32.32
7	4824.000	47.69 PK	74.00	-26.31	1.12 V	95	9.56	38.13
8	4824.000	36.21 AV	54.00	-17.79	1.12 V	95	-1.92	38.13

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	DBPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1642.000	50.24 PK	74.00	-23.76	1.06 H	38	19.79	30.45
2	1642.000	46.04 AV	54.00	-7.96	1.06 H	38	15.59	30.45
3	*2462.000	98.02 PK			1.10 H	310	65.54	32.48
4	*2462.000	93.90 AV			1.10 H	310	61.42	32.48
5	2483.500	50.39 PK	74.00	-23.61	1.10 H	310	17.83	32.56
6	2483.500	40.26 AV	54.00	-13.74	1.10 H	310	7.70	32.56
7	4924.000	50.31 PK	74.00	-23.69	1.10 H	142	11.85	38.46
8	4924.000	37.95 AV	54.00	-16.05	1.10 H	142	-0.51	38.46

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	1642.000	51.44 PK	74.00	-22.56	1.31 V	86	20.99	30.45
2	1642.000	46.82 AV	54.00	-7.18	1.31 V	86	16.37	30.45
3	*2462.000	104.03 PK			1.10 V	16	71.55	32.48
4	*2462.000	100.15 AV			1.10 V	16	67.67	32.48
5	2483.500	54.86 PK	74.00	-19.14	1.10 V	16	22.30	32.56
6	2483.500	44.21 AV	54.00	-9.79	1.10 V	16	11.65	32.56
7	4924.000	47.20 PK	74.00	-26.80	1.11 V	195	8.74	38.46
8	4924.000	35.74 AV	54.00	-18.26	1.11 V	195	-2.72	38.46

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.

802.11g OFDM MODULATION

TEST MODE A: PIFA ANTENNA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.000	56.66 PK	74.00	-17.34	1.05 H	142	26.24	30.42
2	1608.000	46.95 AV	54.00	-7.05	1.05 H	142	16.53	30.42
3	2390.000	63.01 PK	74.00	-10.99	1.02 H	20	30.77	32.24
4	2390.000	50.42 AV	54.00	-3.58	1.02 H	20	18.18	32.24
5	*2412.000	105.05 PK			1.02 H	18	72.73	32.32
6	*2412.000	94.82 AV			1.02 H	18	62.50	32.32
7	4824.000	52.11 PK	74.00	-21.89	1.10 H	313	13.98	38.13
8	4824.000	38.03 AV	54.00	-15.97	1.10 H	313	-0.10	38.13

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	1608.000	56.25 PK	74.00	-17.75	1.02 V	135	25.83	30.42
2	1608.000	46.39 AV	54.00	-7.61	1.02 V	135	15.97	30.42
3	2390.000	60.80 PK	74.00	-13.20	1.14 V	113	28.56	32.24
4	2390.000	48.12 AV	54.00	-5.88	1.14 V	113	15.88	32.24
5	*2412.000	102.96 PK			1.14 V	113	70.64	32.32
6	*2412.000	92.76 AV			1.14 V	113	60.44	32.32
7	4824.000	53.40 PK	74.00	-20.60	1.09 V	311	15.27	38.13
8	4824.000	38.66 AV	54.00	-15.34	1.09 V	311	0.53	38.13

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	BPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1624.000	56.81 PK	74.00	-17.19	1.00 H	153	26.38	30.43
2	1624.000	47.23 AV	54.00	-6.77	1.00 H	153	16.80	30.43
3	*2437.000	105.30 PK			1.05 H	358	72.90	32.40
4	*2437.000	95.33 AV			1.05 H	358	62.93	32.40
5	4874.000	53.50 PK	74.00	-20.50	1.08 H	319	15.18	38.32
6	4874.000	39.46 AV	54.00	-14.54	1.08 H	319	1.14	38.32

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	1624.000	56.38 PK	74.00	-17.62	1.02 V	139	25.95	30.43
2	1624.000	46.55 AV	54.00	-7.45	1.02 V	139	16.12	30.43
3	*2437.000	103.25 PK			1.15 V	110	70.85	32.40
4	*2437.000	92.98 AV			1.15 V	110	60.58	32.40
5	4874.000	54.15 PK	74.00	-19.85	1.10 V	316	15.83	38.32
6	4874.000	39.16 AV	54.00	-14.84	1.10 V	316	0.84	38.32

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	BPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1641.000	56.02 PK	74.00	-17.98	1.26 H	35	25.57	30.45
2	1641.000	48.13 AV	54.00	-5.87	1.26 H	35	17.68	30.45
3	*2462.000	105.56 PK			1.06 H	8	73.08	32.48
4	*2462.000	95.64 AV			1.06 H	8	63.16	32.48
5	2483.500	63.66 PK	74.00	-10.34	1.06 H	8	31.10	32.56
6	**2483.500**	**50.54 AV**	**54.00**	**-3.46**	**1.06 H**	**8**	**17.98**	**32.56**
7	4924.000	53.56 PK	74.00	-20.44	1.09 H	334	15.10	38.46
8	4924.000	39.68 AV	54.00	-14.32	1.09 H	334	1.22	38.46

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	1641.000	55.45 PK	74.00	-18.55	1.05 V	121	25.00	30.45
2	1641.000	47.03 AV	54.00	-6.97	1.05 V	121	16.58	30.45
3	*2462.000	103.38 PK			1.11 V	99	70.90	32.48
4	*2462.000	93.06 AV			1.11 V	99	60.58	32.48
5	2483.500	61.65 PK	74.00	-12.35	1.11 V	99	29.09	32.56
6	2483.500	48.30 AV	54.00	-5.70	1.11 V	99	15.74	32.56
7	4924.000	53.36 PK	74.00	-20.64	1.12 V	316	14.90	38.46
8	4924.000	39.31 AV	54.00	-14.69	1.12 V	316	0.85	38.46

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.

TEST MODE B: PCB ANTENNA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	BPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.000	50.16 PK	74.00	-23.84	1.08 H	302	19.74	30.42
2	1608.000	45.76 AV	54.00	-8.24	1.08 H	302	15.34	30.42
3	2390.000	53.18 PK	74.00	-20.82	1.06 H	138	20.94	32.24
4	2390.000	43.46 AV	54.00	-10.54	1.06 H	138	11.22	32.24
5	*2412.000	99.06 PK			1.06 H	138	66.74	32.32
6	*2412.000	89.16 AV			1.06 H	138	56.84	32.32
7	4824.000	49.18 PK	74.00	-24.82	1.05 H	192	11.05	38.13
8	4824.000	36.14 AV	54.00	-17.86	1.05 H	192	-1.99	38.13

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	1608.000	52.01 PK	74.00	-21.99	1.31 V	40	21.59	30.42
2	1608.000	47.23 AV	54.00	-6.77	1.31 V	40	16.81	30.42
3	2390.000	59.86 PK	74.00	-14.14	1.06 V	39	27.62	32.24
4	2390.000	49.78 AV	54.00	-4.22	1.06 V	39	17.54	32.24
5	*2412.000	104.62 PK			1.06 V	39	72.30	32.32
6	*2412.000	94.42 AV			1.06 V	39	62.10	32.32
7	4824.000	47.36 PK	74.00	-26.64	1.10 V	298	9.23	38.13
8	4824.000	35.69 AV	54.00	-18.31	1.10 V	298	-2.44	38.13

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 TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	BPSK	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 985hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1641.000	50.34 PK	74.00	-23.66	1.09 H	323	19.89	30.45
2	1641.000	46.02 AV	54.00	-7.98	1.09 H	323	15.57	30.45
3	*2462.000	99.34 PK			1.10 H	149	66.86	32.48
4	*2462.000	89.22 AV			1.10 H	149	56.74	32.48
5	2483.500	53.29 PK	74.00	-20.71	1.10 H	149	20.73	32.56
6	2483.500	43.56 AV	54.00	-10.44	1.10 H	149	11.00	32.56
7	4924.000	49.82 PK	74.00	-24.18	1.13 H	214	11.36	38.46
8	4924.000	37.02 AV	54.00	-16.98	1.13 H	214	-1.44	38.46

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	1641.000	52.13 PK	74.00	-21.87	1.38 V	68	21.68	30.45
2	1641.000	47.29 AV	54.00	-6.71	1.38 V	68	16.84	30.45
3	*2462.000	104.71 PK			1.04 V	36	72.23	32.48
4	*2462.000	94.59 AV			1.04 V	36	62.11	32.48
5	2483.500	60.02 PK	74.00	-13.98	1.04 V	36	27.46	32.56
6	2483.500	50.13 AV	54.00	-3.87	1.04 V	36	17.57	32.56
7	4924.000	47.11 PK	74.00	-26.89	1.09 V	298	8.65	38.46
8	4924.000	35.42 AV	54.00	-18.58	1.09 V	298	-3.04	38.46

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	FSP40	100040	Jun. 28, 2008

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

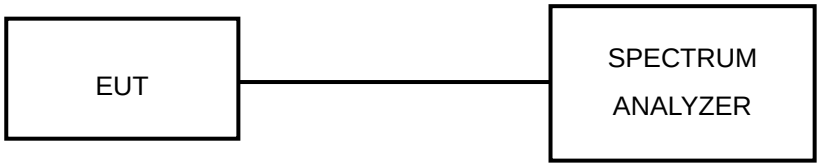
4.3.3 TEST PROCEDURE

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 300kHz 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 CONDITIONS

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

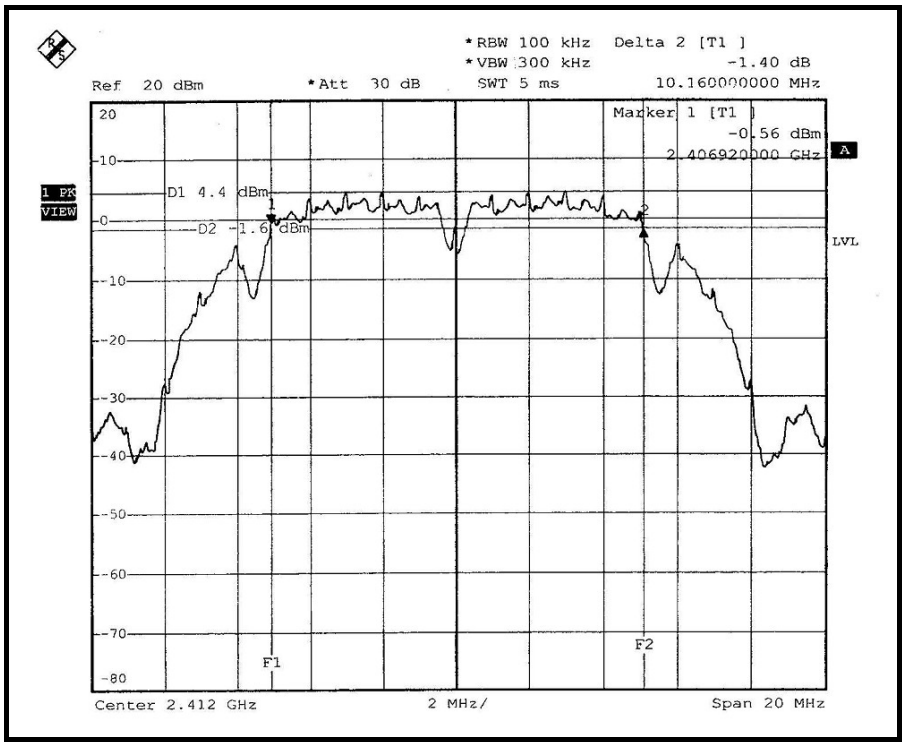
4.3.7 TEST RESULTS

802.11b DSSS MODULATION

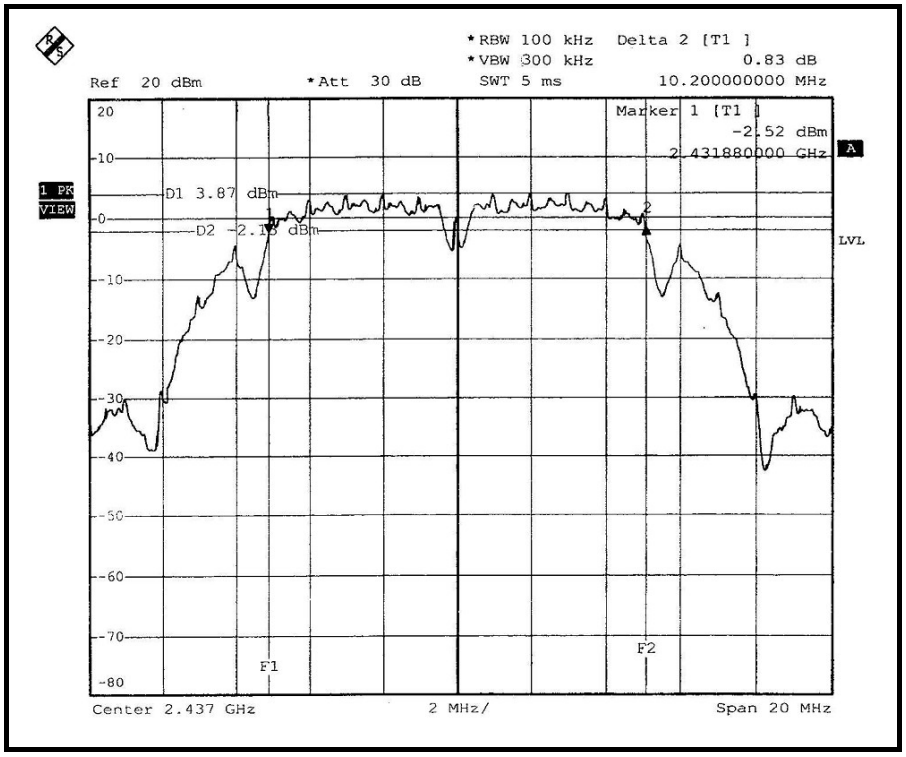
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	26deg.C, 66%RH, 991hPa
TESTED BY	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	10.16	0.5	PASS
6	2437	10.20	0.5	PASS
11	2462	10.20	0.5	PASS

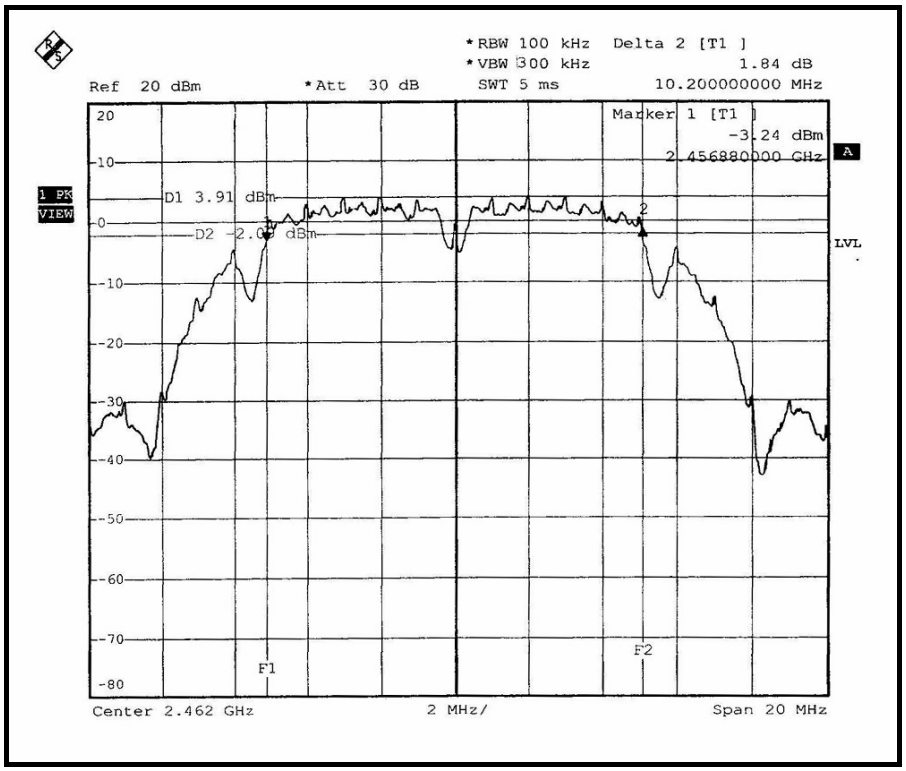
CH 1



CH 6


*RBW 100 kHz
*VBW 300 kHz
SWT 5 ms
Delta 2 [T1]
0.83 dB
10.200000000 MHz
Ref 20 dBm
*Att 30 dB
Marker 1 [T1]
-2.52 dBm
2.431880000 GHz
1 PK
VIEW
D1 3.87 dBm
D2 -2.13 dBm
A
LVL
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH 11


*RBW 100 kHz
*VBW 300 kHz
SWT 5 ms
Delta 2 [T1]
1.84 dB
10.200000000 MHz
Ref 20 dBm
*Att 30 dB
Marker 1 [T1]
-3.24 dBm
2.456880000 GHz
1 PK
VIEW
D1 3.91 dBm
D2 -2.09 dBm
A
LVL
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

802.11g OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	26deg.C, 66%RH, 991hPa
TESTED BY	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.40	0.5	PASS
6	2437	16.36	0.5	PASS
11	2462	16.40	0.5	PASS

CH 1