



FCC TEST REPORT (15.407)

REPORT NO.: RF940326H02

MODEL NO.: WL-464

RECEIVED: April 6, 2005

TESTED: April 13 to May 27, 2005

ISSUED: June 9, 2005

APPLICANT: 3Com Corporation

ADDRESS: 350 Campus Drive, Marlborough, MA
01752-3064, U.S.A.

ISSUED BY: Advance Data Technology Corporation

TEST LOCATION: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung
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Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT: Bridging kit - 802.11a

BRAND NAME: 3Com

MODEL NO.: WL-464

TEST SAMPLE: R&D SAMPLE

TESTED: April 13 to May 27, 2005

APPLICANT: 3Com Corporation

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

The above equipment (Model: WL-464) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Carol Liao , **DATE:** June 9, 2005
(Carol Liao)

**TECHNICAL
ACCEPTANCE :** Hank Chung , **DATE:** June 9, 2005
Responsible for RF (Hank Chung)

APPROVED BY : Eric Lin , **DATE:** June 9, 2005
(Eric Lin, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)			
Standard Section	Test Type	Result	Remark
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.78dB at 1.494MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -1.70dB at 5350.00MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

NOTE:

1. The EUT was operating in 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz frequencies band. This report was recorded the RF parameters 5.150 ~ 5.350GHz. For 5.725 ~ 5.850GHz RF parameters was recorded in another test report.



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Bridging kit - 802.11a
MODEL NO.	WL-464
POWER SUPPLY	48Vdc from POE (Power over Ethernet)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	54/48/36/24/18/12/9/6Mbps (Turbo mode: up to 108Mbps *see Note 3)
FREQUENCY RANGE	5.15 ~ 5.35GHz and 5.725 ~ 5.850GHz
NUMBER OF CHANNEL	13 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	21.58dBm
DATA CABLE	NA
ANTENNA TYPE	Please see note 4 (on next page)
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT was operated with the following POE (Power over Ethernet):

BRAND:	3Com
MODEL:	PW130RA4800N02
INPUT:	AC100-250V, 0.5A, 50/60Hz
OUTPUT:	DC 48V, 0.42A

2. The EUT operates in the 5GHz Bands and compatibility with 802.11a technology.
3. This EUT is capable of providing data rates of up to 108 Mbps in 802.11a Turbo mode depending upon reception quality.

4. There are four antennas and three antenna cables provided to this EUT, please refer to the following table:

Antenna				
No.	Model	Antenna Type	2.4/ 5GHz Antenna Gain	Connector Type
1	3CWE591 (Z1996)	High gain omni antenna	6/ 8 dBi	N Female
2	3CWE598 (Z1997)	Medium gain panel antenna	8/ 10 dBi	N Female
3	3CWE596	High gain panel antenna	18/ 20 dBi	N Female
4	3CWE502	Small Omni (Rubber Duck)	2.5/ 2.5 dBi	SMA Male

Antenna cable				
No.	Model	Cable Length	2.4/ 5GHz Cable Loss	Connector Type
1	3CWE580	6 ft ULL antenna cable	-0.6/ -1.2 dB	SMA to N
2	3CWE581	20 ft ULL antenna cable	-2/ -4 dB	SMA to N
3	3CWE582	50ft ULL antenna cable	-5/-10 dB	SMA to N

Note:

1. Antenna 2 and 3 can only be used in point-to-point applications.

5. The EUT was tested under the following test modes:

Conduction Test	
Test Mode	Description
Mode 1	EUT + 3CWE580 + 3CWE591 (Z1996) (8 dBi)
Mode 2	EUT + 3CWE580 + 3CWE598 (Z1997) (10dBi)
Mode 3	EUT + 3CWE580 + 3CWE596 (20dBi)
Mode 4	EUT + 3CWE502 (2.5dBi)

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



3.2 DESCRIPTION OF TEST MODES

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

Eight channels are provided to this EUT for normal mode.

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

Three channels are provided to this EUT for turbo mode.

Channel	Frequency
1	5210 MHz
2	5250 MHz
3	5290 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	X	X	X	X	NA

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

Power Line Conducted Emission Test:

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

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

Radiated Emission Test (Below 1 GHz):

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

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

Radiated Emission Test (Above 1 GHz):

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

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 8	1, 4, 5, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 2, 3	OFDM	BPSK	12

**Bandedge Measurement:**

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

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 8	1, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 3	OFDM	BPSK	12

Antenna Port Conducted Measurement:

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

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	1 to 8	1, 4, 5, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 2, 3	OFDM	BPSK	12



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Bridging kit - 802.11a. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

ANSI C63.4-2003

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

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

FCC ID: O9CWL464



3.4 DESCRIPTION OF SUPPORT UNITS

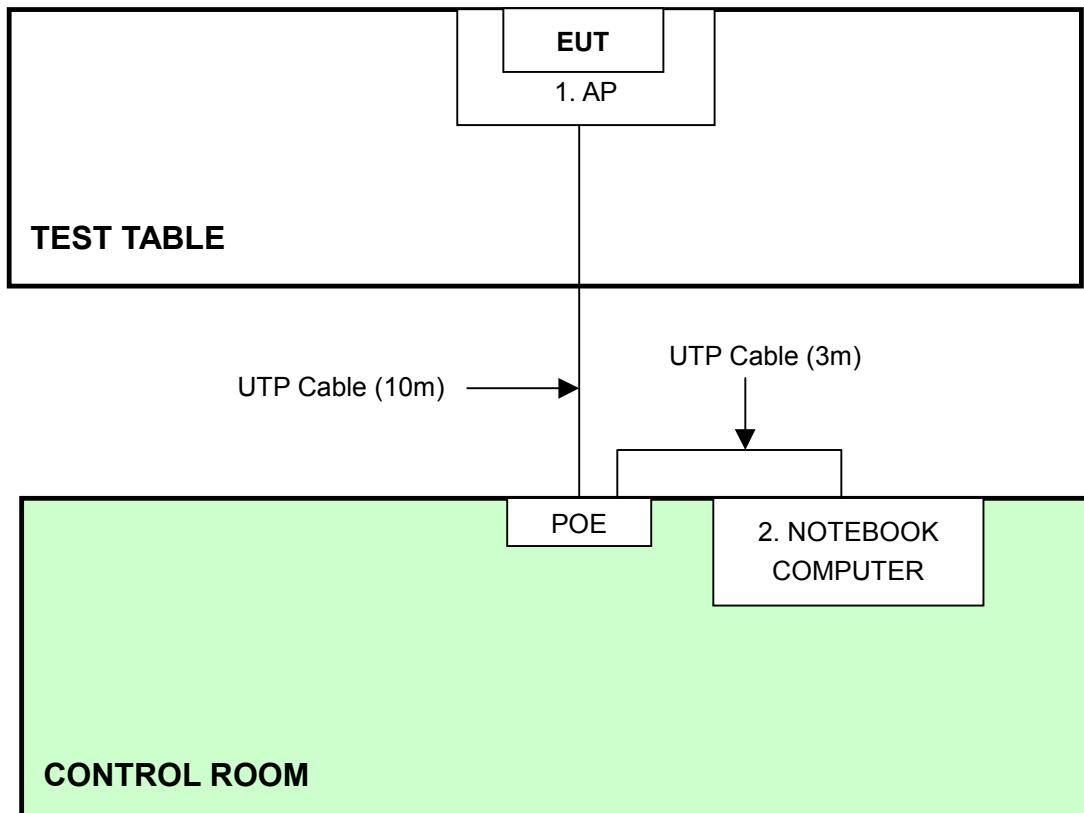
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	AP	3Com	AP8850	NA	NA
2	NOTEBOOK COMPUTER	DELL	PP01L	TW-09c748-12800-165-3171	FCC DoC

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

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Support unit 2 was kept in the control room during the test.
2. Please refer to the photos of test configuration in Item 5 also.

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

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Dec. 07, 2005
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 08, 2005
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2005
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 02, 2005
Terminator(for KYORITSU)	50	3	Oct. 12, 2005
Software	Cond-V2e	NA	NA

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in ADT Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.
4. The measurement uncertainty is 2.53 dB, which is calculated as per the document CISPR 16-4



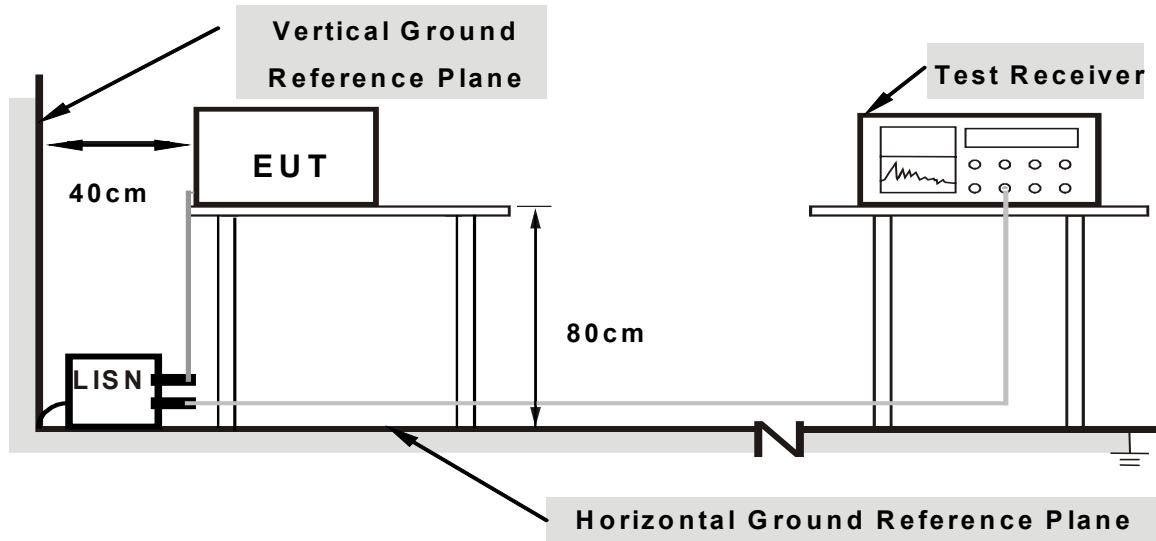
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 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 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

- a. Plug the EUT into the support unit 1 (AP) which placed on a testing table.
- b. Prepared another computer system to act as a communication partner and placed it outside of testing area.
- c. The communication partner run test program “Art 4.5 B6” to enable EUT under transmission/receiving condition continuously at specific channel frequency via UTP cable.

4.1.7 TEST RESULTS (Mode 1)

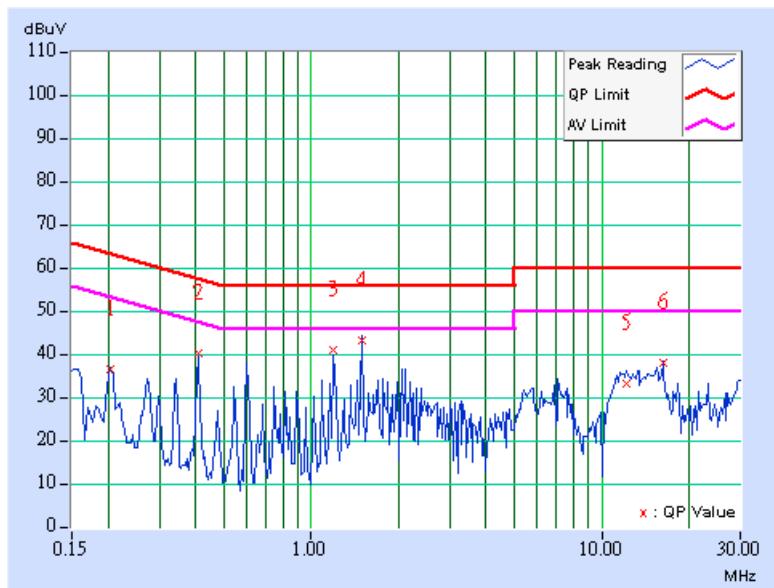
Conducted Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			Factor	[dB (uV)]	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	[MHz]	(dB)								
1	0.205	0.15	35.60	-	35.75	-	63.42	53.42	-27.67	-
2	0.408	0.17	39.25	-	39.42	-	57.69	47.69	-18.27	-
3	1.197	0.21	40.11	-	40.32	-	56.00	46.00	-15.68	-
4	1.498	0.22	42.35	-	42.57	-	56.00	46.00	-13.43	-
5	12.191	0.86	32.12	-	32.98	-	60.00	50.00	-27.02	-
6	16.227	1.07	36.89	-	37.96	-	60.00	50.00	-22.04	-

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

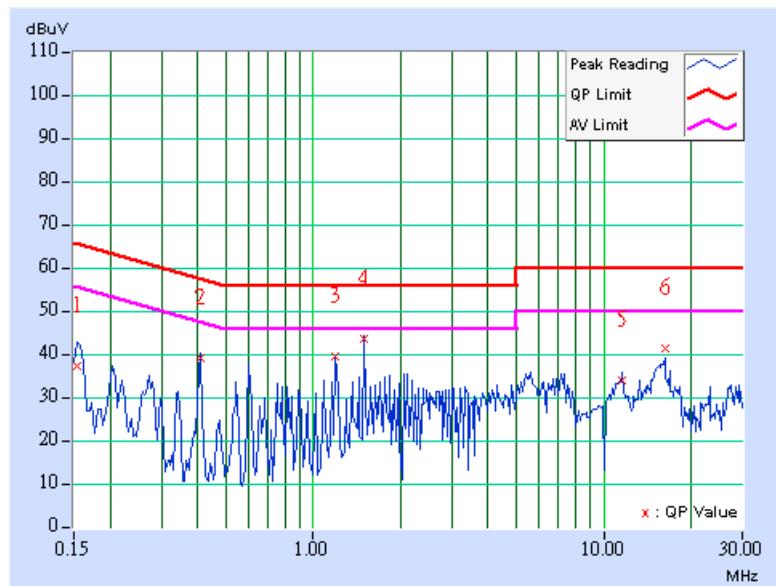
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.154	0.14	36.56	-	36.70	-	65.79	55.79	-29.09	-
2	0.408	0.17	38.21	-	38.38	-	57.69	47.69	-19.31	-
3	1.197	0.21	38.52	-	38.73	-	56.00	46.00	-17.27	-
4	1.498	0.22	42.76	-	42.98	-	56.00	46.00	-13.02	-
5	11.586	0.73	33.03	-	33.76	-	60.00	50.00	-26.24	-
6	16.227	0.95	40.49	-	41.44	-	60.00	50.00	-18.56	-

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 (Mode 2)

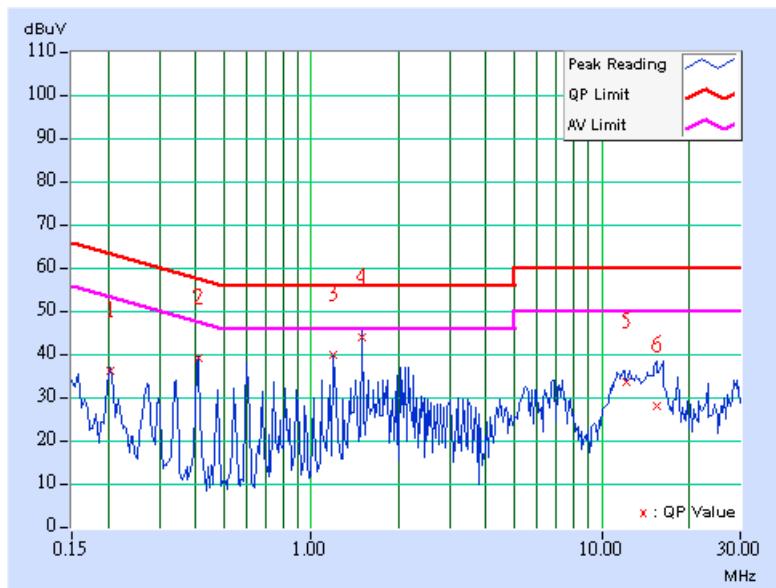
Conducted Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			Factor	[dB (uV)]	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	[MHz]	(dB)								
1	0.205	0.15	35.10	-	35.25	-	63.42	53.42	-28.17	-
2	0.408	0.17	38.16	-	38.33	-	57.69	47.69	-19.36	-
3	1.197	0.21	39.01	-	39.22	-	56.00	46.00	-16.78	-
4	1.494	0.22	43.00	-	43.22	-	56.00	46.00	-12.78	-
5	12.191	0.86	32.65	-	33.51	-	60.00	50.00	-26.49	-
6	15.430	1.02	27.23	-	28.25	-	60.00	50.00	-31.75	-

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

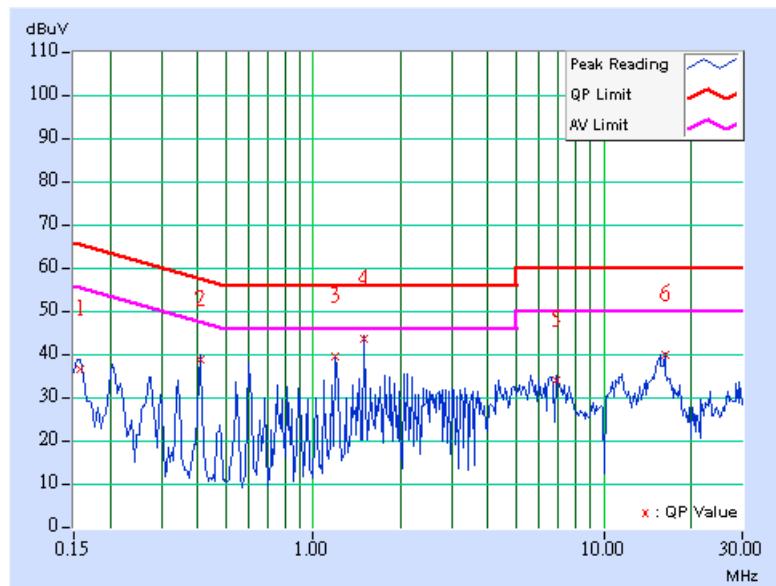
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.14	35.63	-	35.77	-	65.58	55.58	-29.81	-
2	0.408	0.17	38.03	-	38.20	-	57.69	47.69	-19.49	-
3	1.197	0.21	38.53	-	38.74	-	56.00	46.00	-17.26	-
4	1.498	0.22	42.69	-	42.91	-	56.00	46.00	-13.09	-
5	6.883	0.55	33.16	-	33.71	-	60.00	50.00	-26.29	-
6	16.230	0.95	39.05	-	40.00	-	60.00	50.00	-20.00	-

- 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.



4.1.9 TEST RESULTS (Mode 3)

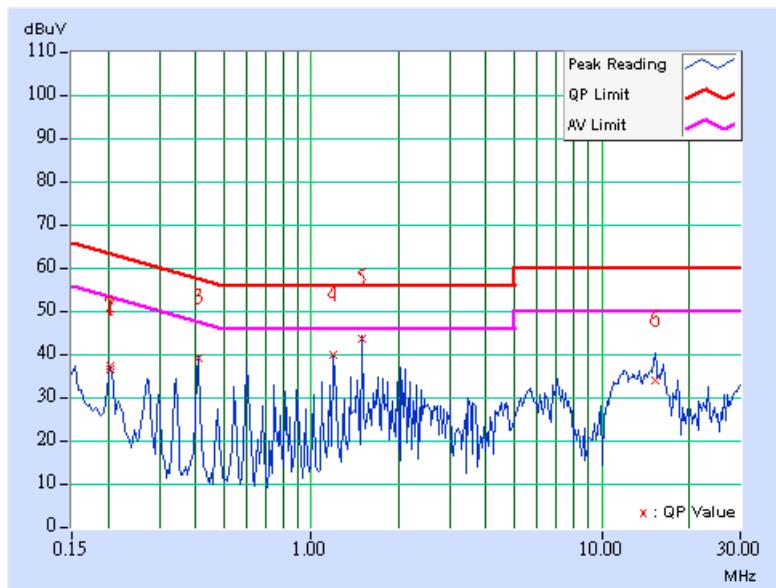
Conducted Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			Factor	[dB (uV)]	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	[MHz]	(dB)								
1	0.205	0.15	35.68	-	35.47	-	63.42	53.42	-27.95	-
2	0.205	0.15	36.23	-	36.09	-	63.42	53.42	-27.33	-
3	0.408	0.17	38.08	-	38.25	-	57.69	47.69	-19.44	-
4	1.197	0.21	38.99	-	39.20	-	56.00	46.00	-16.80	-
5	1.494	0.22	42.65	-	42.68	-	56.00	46.00	-13.32	-
6	15.250	1.01	33.21	-	33.88	-	60.00	50.00	-26.12	-

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

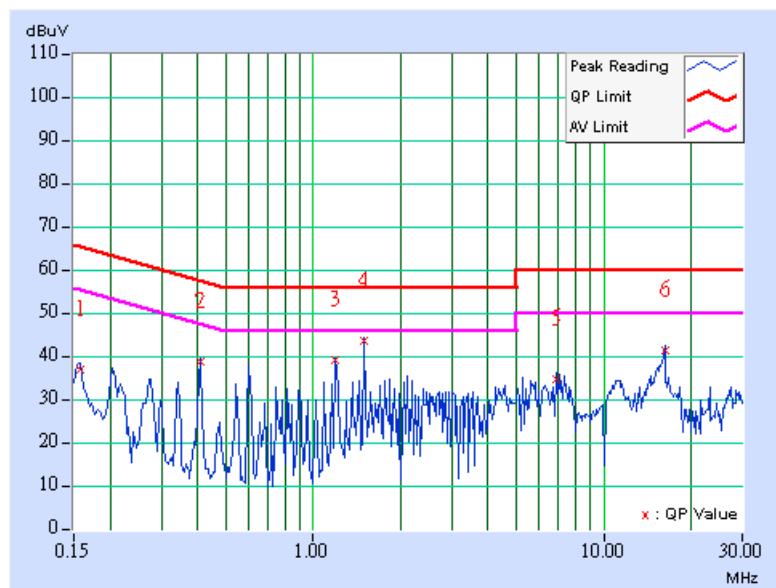
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.14	36.23	-	36.37	-	65.58	55.58	-29.21	-
2	0.408	0.17	37.96	-	38.13	-	57.69	47.69	-19.56	-
3	1.197	0.21	38.47	-	38.68	-	56.00	46.00	-17.32	-
4	1.498	0.22	42.66	-	42.88	-	56.00	46.00	-13.12	-
5	6.887	0.55	33.94	-	34.49	-	60.00	50.00	-25.51	-
6	16.227	0.95	40.38	-	41.33	-	60.00	50.00	-18.67	-

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.



4.1.10 TEST RESULTS (Mode 4)

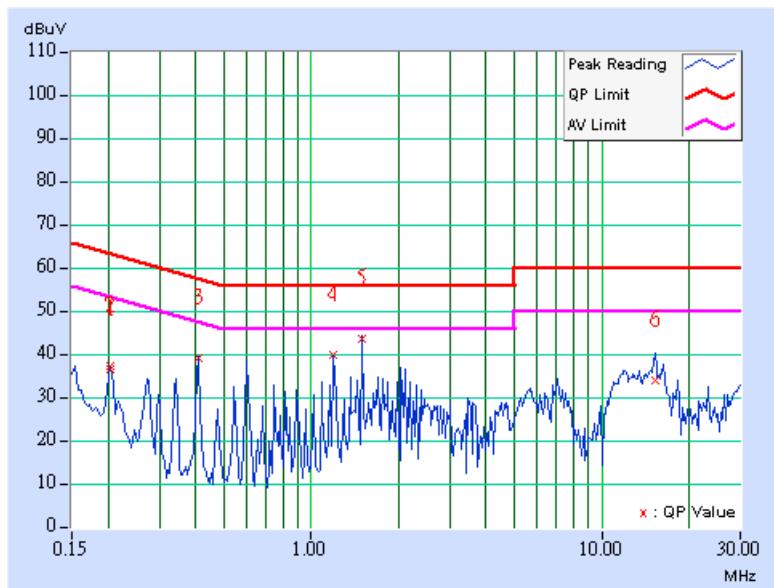
Conducted Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			Factor	[dB (uV)]	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	[MHz]	(dB)								
1	0.205	0.15	35.68	-	35.47	-	63.42	53.42	-27.95	-
2	0.205	0.15	36.23	-	36.09	-	63.42	53.42	-27.33	-
3	0.408	0.17	38.08	-	38.25	-	57.69	47.69	-19.44	-
4	1.197	0.21	38.99	-	39.20	-	56.00	46.00	-16.80	-
5	1.494	0.22	42.65	-	42.68	-	56.00	46.00	-13.32	-
6	15.250	1.01	33.21	-	33.88	-	60.00	50.00	-26.12	-

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

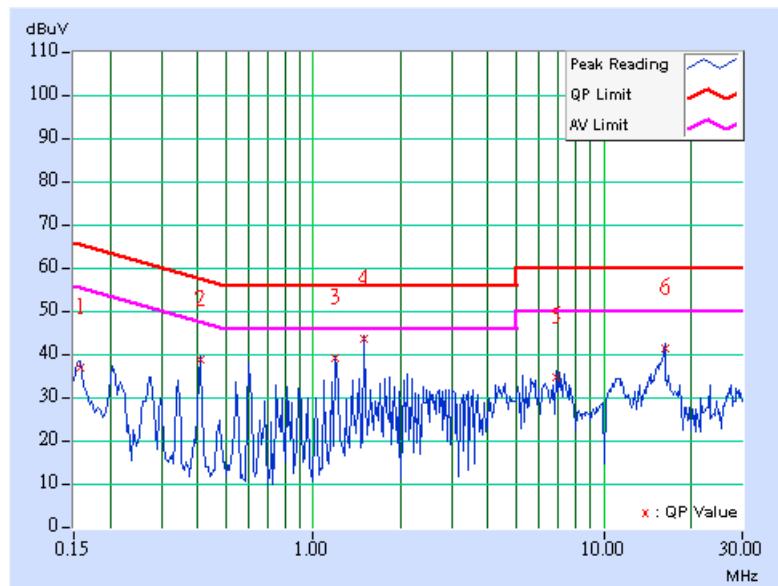
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.14	36.23	-	36.37	-	65.58	55.58	-29.21	-
2	0.408	0.17	37.96	-	38.13	-	57.69	47.69	-19.56	-
3	1.197	0.21	38.47	-	38.68	-	56.00	46.00	-17.32	-
4	1.498	0.22	42.66	-	42.88	-	56.00	46.00	-13.12	-
5	6.887	0.55	33.94	-	34.49	-	60.00	50.00	-25.51	-
6	16.227	0.95	40.38	-	41.33	-	60.00	50.00	-18.67	-

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 (dB_{UV}/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE:

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

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

4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8594E	3710A04861	Sep. 23, 2005
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 29, 2005
CHASE RF Pre_Amplifier	CPA9232	1057	Aug 06, 2005
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	Dec. 21, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jun. 16, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 30, 2006
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 26, 2006
SCHWARZBECK Tunable Periodic Antenna	UPA6108	1148	Jun. 26, 2006
RF Switches (ARNITSU)	CS-201	1565157	Jul. 15, 2005
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Nov. 15. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Jul. 15, 2005
Software	ADT_Radiated_V 5.14	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

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

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

4.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

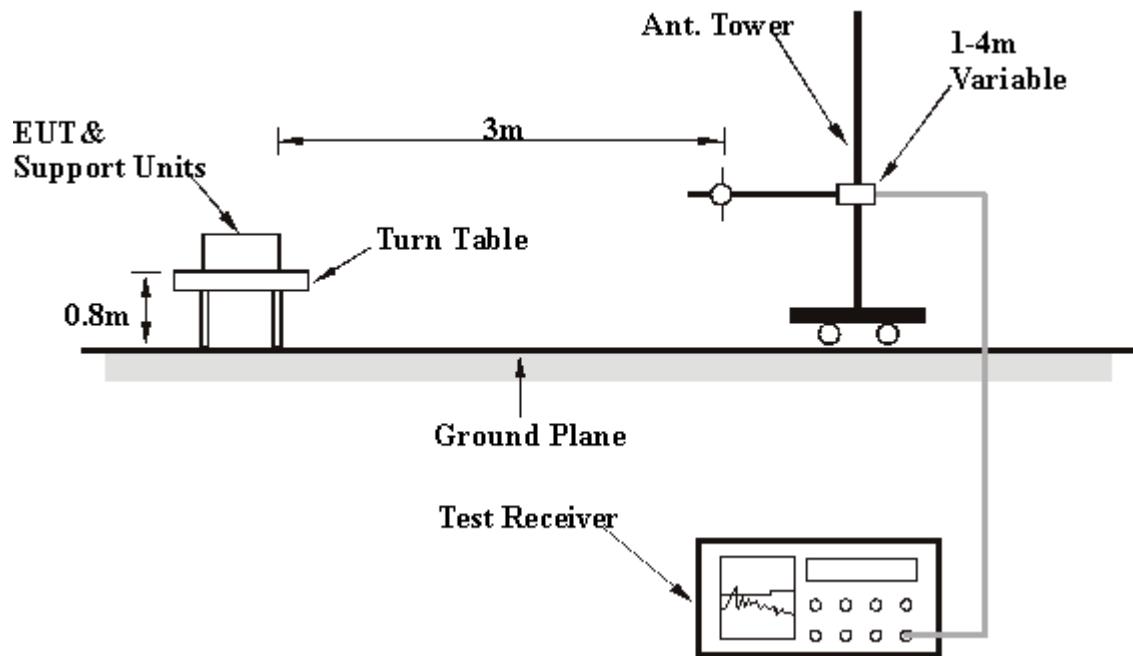
NOTE:

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

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



4.2.8 TEST RESULTS (MODE 1)

Below 1GHz Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 960hPa	TESTED BY	Tony Chen

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	80.00	18.30 QP	40.00	-21.70	2.67 H	325	8.40	9.90
2	160.00	22.20 QP	43.50	-21.30	1.74 H	1	8.40	13.80
3	200.00	22.60 QP	43.50	-20.90	1.94 H	234	11.40	11.20
4	250.00	35.00 QP	46.00	-11.00	1.29 H	103	21.70	13.30
5	400.00	27.60 QP	46.00	-18.40	1.03 H	148	9.30	18.40
6	500.01	28.10 QP	46.00	-17.90	1.63 H	60	7.20	20.90
7	640.00	24.80 QP	46.00	-21.20	1.63 H	158	0.90	23.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.00	28.50 QP	40.00	-11.50	1.09 V	2	18.60	9.90
2	125.00	25.00 QP	43.50	-18.50	1.12 V	146	13.10	11.90
3	200.00	21.50 QP	43.50	-22.00	1.34 V	77	10.40	11.20
4	250.00	32.40 QP	46.00	-13.60	1.08 V	232	19.10	13.30
5	400.00	23.20 QP	46.00	-22.80	1.15 V	144	4.90	18.40
6	480.00	22.00 QP	46.00	-24.00	1.26 V	13	1.50	20.40
7	500.00	27.40 QP	46.00	-18.60	1.08 V	279	6.60	20.90
8	624.99	25.50 QP	46.00	-20.50	1.00 V	114	1.80	23.80

- 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

802.11a OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	46.00 PK	74.00	-28.00	1.32 H	278	10.20	35.80
1	#5150.00	36.00 AV	54.00	-18.00	1.32 H	278	0.20	35.80
2	*5180.00	93.70 PK			1.32 H	278	57.90	35.80
2	*5180.00	85.00 AV			1.32 H	278	49.20	35.80
3	10360.00	51.40 PK	68.30	-16.90	1.56 H	331	7.20	44.10

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	#5150.00	60.80 PK	74.00	-13.20	1.54 V	60	25.00	35.80
1	#5150.00	50.10 AV	54.00	-3.90	1.54 V	60	14.30	35.80
2	*5180.00	108.50 PK			1.54 V	60	72.70	35.80
2	*5180.00	99.10 AV			1.54 V	60	63.30	35.80
3	10360.00	51.70 PK	68.30	-16.60	1.71 V	254	7.50	44.10

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	94.10 PK			1.36 H	296	58.30	35.80
1	*5240.00	84.90 AV			1.36 H	296	49.10	35.80
2	10480.00	51.60 PK	68.30	-16.70	1.49 H	321	7.10	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	107.40 PK			1.54 V	64	71.60	35.80
1	*5240.00	98.20 AV			1.54 V	64	62.40	35.80
2	10480.00	52.20 PK	68.30	-16.10	1.62 V	223	7.70	44.40

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	100.00 PK			1.35 H	295	64.20	35.80
1	*5260.00	90.60 AV			1.35 H	295	54.80	35.80
2	10520.00	51.70 PK	68.30	-16.60	1.53 H	334	7.00	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	112.80 PK			1.53 V	62	77.00	35.80
1	*5260.00	104.00 AV			1.53 V	62	68.20	35.80
2	10520.00	51.90 PK	68.30	-16.40	1.65 V	214	7.20	44.70

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 8	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	97.10 PK			1.37 H	296	61.30	35.80
1	*5320.00	88.80 AV			1.37 H	296	53.00	35.80
2	#5350.00	45.50 PK	74.00	-28.50	1.37 H	296	9.70	35.80
2	#5350.00	37.60 AV	54.00	-16.40	1.37 H	296	1.80	35.80
3	#10640.00	52.30 PK	74.00	-21.70	1.62 H	342	6.40	45.90
3	#10640.00	42.00 AV	54.00	-12.00	1.62 H	342	-3.90	45.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	112.10 PK			1.52 V	53	76.30	35.80
1	*5320.00	103.30 AV			1.52 V	53	67.50	35.80
2	#5350.00	61.00 PK	74.00	-13.00	1.52 V	53	25.20	35.80
2	#5350.00	52.10 AV	54.00	-1.90	1.52 V	53	16.30	35.80
3	#10640.00	54.10 PK	74.00	-19.90	1.68 V	233	8.20	45.90
3	#10640.00	43.10 AV	54.00	-10.90	1.68 V	233	-2.80	45.90

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

802.11a Turbo OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	39.30 PK	74.00	-34.70	1.36 H	287	3.50	35.80
1	#5150.00	34.40 AV	54.00	-19.60	1.36 H	287	-1.40	35.80
2	*5210.00	91.30 PK			1.36 H	287	55.50	35.80
2	*5210.00	82.50 AV			1.36 H	287	46.70	35.80
3	10420.00	51.70 PK	68.30	-16.60	1.58 H	337	7.40	44.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	49.80 PK	74.00	-24.20	1.68 V	51	14.00	35.80
1	#5150.00	44.80 AV	54.00	-9.20	1.68 V	51	9.00	35.80
2	*5210.00	101.80 PK			1.68 V	51	66.00	35.80
2	*5210.00	92.90 AV			1.68 V	51	57.10	35.80
3	10420.00	52.30 PK	68.30	-16.00	1.56 V	39	8.00	44.30

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

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5250.00	90.60 PK			1.37 H	289	54.80	35.80
1	*5250.00	81.70 AV			1.37 H	289	45.90	35.80
2	10500.00	52.30 PK	68.30	-16.00	1.61 H	327	7.80	44.50

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	*5250.00	102.90 PK			1.69 V	54	67.10	35.80
1	*5250.00	93.50 AV			1.69 V	54	57.80	35.80
2	10500.00	52.50 PK	68.30	-15.80	1.62 V	48	8.00	44.50

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	95.90 PK			1.37 H	291	60.10	35.80
1	*5290.00	86.90 AV			1.37 H	291	51.10	35.80
2	#5350.00	47.40 PK	74.00	-26.60	1.37 H	291	11.60	35.80
2	#5350.00	39.10 AV	54.00	-14.90	1.37 H	291	3.30	35.80
3	10580.00	52.50 PK	68.30	-15.80	1.65 H	336	7.30	45.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	108.30 PK			1.67 V	58	72.50	35.80
1	*5290.00	99.60 AV			1.67 V	58	63.80	35.80
2	#5350.00	60.10 PK	74.00	-13.90	1.67 V	58	24.30	35.80
2	#5350.00	51.80 AV	54.00	-2.20	1.67 V	58	16.00	35.80
3	10580.00	52.80 PK	68.30	-15.50	1.51 V	24	7.60	45.30

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

4.2.9 TEST RESULTS (MODE 2)

Below 1GHz Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 960hPa	TESTED BY	Tony Chen

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	80.04	14.70 QP	40.00	-25.30	1.41 H	303	4.80	9.90
2	160.00	26.80 QP	43.50	-16.70	2.06 H	30	13.10	13.80
3	250.00	33.20 QP	46.00	-12.80	1.26 H	294	19.90	13.30
4	320.00	26.50 QP	46.00	-19.50	1.04 H	154	10.00	16.50
5	374.99	25.00 QP	46.00	-21.00	1.00 H	2	7.40	17.60
6	500.00	23.10 QP	46.00	-22.90	1.01 H	21	2.20	20.90
7	640.00	24.20 QP	46.00	-21.80	1.84 H	143	0.30	23.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.00	28.80 QP	40.00	-11.20	1.06 V	326	18.90	9.90
2	125.00	22.60 QP	43.50	-20.90	1.27 V	232	10.70	11.90
3	200.00	25.80 QP	43.50	-17.70	1.28 V	283	14.60	11.20
4	400.00	24.10 QP	46.00	-21.90	1.19 V	198	5.70	18.40
5	480.00	21.00 QP	46.00	-25.00	1.02 V	13	0.60	20.40
6	500.01	30.70 QP	46.00	-15.30	1.00 V	275	9.80	20.90
7	625.01	24.90 QP	46.00	-21.10	1.03 V	220	1.20	23.80

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

802.11a OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	42.30 PK	74.00	-31.70	1.59 H	329	6.50	35.80
1	#5150.00	31.50 AV	54.00	-22.50	1.59 H	329	-4.30	35.80
2	*5180.00	91.70 PK			1.59 H	329	55.90	35.80
2	*5180.00	82.10 AV			1.59 H	329	46.30	35.80
3	10320.00	51.20 PK	68.30	-17.10	1.43 H	354	7.20	44.00

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	#5150.00	57.30 PK	74.00	-16.70	1.09 V	1	21.50	35.80
1	#5150.00	46.50 AV	54.00	-7.50	1.09 V	1	10.70	35.80
2	*5180.00	106.70 PK			1.09 V	1	70.90	35.80
2	*5180.00	97.10 AV			1.09 V	1	61.30	35.80
3	10320.00	51.80 PK	68.30	-16.50	1.21 V	15	7.80	44.00

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	91.30 PK			1.76 H	32	55.50	35.80
1	*5240.00	82.60 AV			1.76 H	32	46.80	35.80
2	10480.00	50.70 PK	68.30	-17.60	1.38 H	341	6.20	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	107.30 PK			1.08 V	0	71.50	35.80
1	*5240.00	99.80 AV			1.08 V	0	64.00	35.80
2	10480.00	52.50 PK	68.30	-15.80	1.19 V	13	8.00	44.40

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

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	96.50 PK			1.75 H	33	60.70	35.80
1	*5260.00	87.90 AV			1.75 H	33	52.20	35.80
2	10520.00	51.60 PK	68.30	-16.70	1.36 H	345	6.90	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	113.00 PK			1.07 V	0	77.20	35.80
1	*5260.00	103.80 AV			1.07 V	0	68.00	35.80
2	10520.00	53.20 PK	68.30	-15.10	1.18 V	13	8.50	44.70

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 8	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	94.60 PK			1.75 H	32	58.80	35.80
1	*5320.00	85.60 AV			1.75 H	32	49.80	35.80
2	#5350.00	44.40 PK	74.00	-29.60	1.75 H	32	8.60	35.80
2	#5350.00	34.50 AV	54.00	-19.50	1.75 H	32	-1.30	35.80
3	#10640.00	51.90 PK	74.00	-22.10	1.39 H	351	6.00	45.90
3	#10640.00	41.10 AV	54.00	-12.90	1.39 H	351	-4.80	45.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.10 PK			1.05 V	1	77.30	35.80
1	*5320.00	103.40 AV			1.05 V	1	67.60	35.80
2	#5350.00	62.20 PK	74.00	-11.80	1.05 V	1	26.40	35.80
2	#5350.00	52.30 AV	54.00	-1.70	1.05 V	1	16.50	35.80
3	#10640.00	53.90 PK	74.00	-20.10	1.17 V	16	8.00	45.90
3	#10640.00	42.30 AV	54.00	-11.70	1.17 V	16	-3.60	45.90

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

**802.11a Turbo OFDM modulation**

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	34.90 PK	74.00	-39.10	1.76 H	332	-0.90	35.80
1	#5150.00	27.80 AV	54.00	-26.20	1.76 H	332	-8.00	35.80
2	*5210.00	86.00 PK			1.76 H	332	50.20	35.80
2	*5210.00	77.30 AV			1.76 H	332	41.50	35.80
3	10420.00	52.30 PK	68.30	-16.00	1.38 H	347	8.00	44.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	51.70 PK	74.00	-22.30	1.08 V	4	15.90	35.80
1	#5150.00	44.80 AV	54.00	-9.20	1.08 V	4	9.00	35.80
2	*5210.00	102.80 PK			1.08 V	4	67.00	35.80
2	*5210.00	94.30 AV			1.08 V	4	58.50	35.80
3	10420.00	52.90 PK	68.30	-15.40	1.24 V	15	8.60	44.30

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

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5250.00	86.20 PK			1.76 H	33	50.40	35.80
1	*5250.00	77.20 AV			1.76 H	33	41.40	35.80
2	10500.00	51.60 PK	68.30	-16.70	1.41 H	343	7.10	44.50

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	*5250.00	111.90 PK			1.08 V	0	76.10	35.80
1	*5250.00	93.10 AV			1.08 V	0	57.30	35.80
2	10500.00	52.70 PK	68.30	-15.60	1.23 V	16	8.20	44.50

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	93.10 PK			1.76 H	32	57.30	35.80
1	*5290.00	83.70 AV			1.76 H	32	47.90	35.80
2	#5350.00	44.20 PK	74.00	-29.80	1.76 H	32	8.40	35.80
2	#5350.00	34.60 AV	54.00	-19.40	1.76 H	32	-1.20	35.80
3	10580.00	53.10 PK	68.30	-15.20	1.35 H	339	7.80	45.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	110.10 PK			1.06 V	2	74.30	35.80
1	*5290.00	100.90 AV			1.06 V	2	65.10	35.80
2	#5350.00	61.40 PK	74.00	-12.60	1.06 V	2	25.60	35.80
2	#5350.00	51.80 AV	54.00	-2.20	1.06 V	2	16.00	35.80
3	10580.00	53.80 PK	68.30	-14.50	1.20 V	12	8.60	45.30

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



4.2.10 TEST RESULTS (MODE 3)

Below 1GHz Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 960hPa	TESTED BY	Tony Chen

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	80.00	19.00 QP	40.00	-21.00	1.76 H	72	9.10	9.90
2	200.00	25.00 QP	43.50	-18.50	2.00 H	70	13.80	11.20
3	250.00	35.30 QP	46.00	-10.70	1.33 H	103	22.00	13.30
4	320.00	25.30 QP	46.00	-20.70	1.08 H	41	8.80	16.50
5	375.00	21.80 QP	46.00	-24.20	2.51 H	106	4.20	17.60
6	500.01	29.60 QP	46.00	-16.40	1.81 H	84	8.70	20.90
7	625.00	25.50 QP	46.00	-20.50	1.35 H	21	1.70	23.80
8	640.00	24.80 QP	46.00	-21.20	1.34 H	346	0.90	23.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.00	26.90 QP	40.00	-13.10	1.45 V	4	17.00	9.90
2	160.00	21.90 QP	43.50	-21.60	1.30 V	19	8.10	13.80
3	200.00	25.00 QP	43.50	-18.50	1.34 V	243	13.80	11.20
4	250.00	32.50 QP	46.00	-13.50	1.14 V	215	19.20	13.30
5	400.00	23.90 QP	46.00	-22.10	1.29 V	208	5.50	18.40
6	500.01	28.70 QP	46.00	-17.30	1.40 V	279	7.90	20.90
7	560.00	23.70 QP	46.00	-22.30	1.18 V	211	1.20	22.50
8	625.01	27.20 QP	46.00	-18.80	1.00 V	331	3.40	23.80

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

802.11a OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	38.80 PK	74.00	-35.20	1.07 H	18	3.00	35.80
1	#5150.00	24.90 AV	54.00	-29.10	1.07 H	18	-10.90	35.80
2	*5180.00	87.20 PK			1.07 H	18	51.40	35.80
2	*5180.00	78.40 AV			1.07 H	18	42.60	35.80
3	10360.00	50.60 PK	68.30	-17.70	1.54 H	352	6.40	44.10

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	#5150.00	57.90 PK	74.00	-16.10	1.30 V	0	22.10	35.80
1	35150.00	43.80 AV	54.00	-10.20	1.30 V	0	8.00	35.80
2	*5180.00	106.30 PK			1.30 V	0	70.50	35.80
2	*5180.00	97.30 AV			1.30 V	0	61.50	35.80
3	10360.00	51.50 PK	68.30	-16.80	1.42 V	6	7.30	44.10

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	88.40 PK			1.15 H	18	52.60	35.80
1	*5240.00	79.10 AV			1.15 H	18	43.30	35.80
2	10480.00	51.00 PK	68.30	-17.30	1.56 H	351	6.50	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	106.10 PK			1.09 V	0	70.30	35.80
1	*5240.00	96.30 AV			1.09 V	0	60.50	35.80
2	10480.00	52.70 PK	68.30	-15.60	1.45 V	7	8.20	44.40

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	98.10 PK			1.15 H	17	62.30	35.80
1	*5260.00	88.50 AV			1.15 H	17	52.70	35.80
2	10520.00	51.40 PK	68.30	-16.90	1.52 H	348	6.70	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	112.30 PK			1.09 V	0	76.50	35.80
1	*5260.00	102.70 AV			1.09 V	0	66.90	35.80
2	10520.00	52.90 PK	68.30	-15.40	1.45 V	6	8.20	44.70

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 8	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	99.20 PK			1.12 H	18	63.40	35.80
1	*5320.00	89.50 AV			1.12 H	18	53.70	35.80
2	#5350.00	44.10 PK	74.00	-29.90	1.12 H	18	8.30	35.80
2	#5350.00	32.90 AV	54.00	-21.10	1.12 H	18	-2.90	35.80
3	#10640.00	52.80 PK	74.00	-21.20	1.51 H	349	6.90	45.90
3	#10640.00	41.50 AV	54.00	-12.50	1.51 H	349	-4.40	45.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.10 PK			1.13 V	359	77.30	35.80
1	*5320.00	103.30 AV			1.13 V	359	67.50	35.80
2	#5350.00	58.40 PK	74.00	-15.60	1.13 V	359	22.60	35.80
2	#5350.00	46.70 AV	54.00	-7.30	1.13 V	359	10.90	35.80
3	#10640.00	54.10 PK	74.00	-19.90	1.47 V	8	8.20	45.90
3	#10640.00	42.70 AV	54.00	-11.30	1.47 V	8	-3.20	45.90

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

**802.11a Turbo OFDM modulation**

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	37.10 PK	74.00	-36.90	1.18 H	16	1.30	35.80
1	#5150.00	26.20 AV	54.00	-27.80	1.18 H	16	-9.60	35.80
2	*5210.00	85.90 PK			1.18 H	16	50.10	35.80
2	*5210.00	76.20 AV			1.18 H	16	40.40	35.80
3	10420.00	52.40 PK	68.30	-15.90	1.55 H	349	8.10	44.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	53.40 PK	74.00	-20.60	1.14 V	359	17.60	35.80
1	#5150.00	44.30 AV	54.00	-9.70	1.14 V	359	8.50	35.80
2	*5210.00	104.20 PK			1.14 V	359	68.40	35.80
2	*5210.00	94.30 AV			1.14 V	359	58.50	35.80
3	10420.00	52.80 PK	68.30	-15.50	1.43 V	4	8.50	44.30

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

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5250.00	86.10 PK			1.14 H	17	50.30	35.80
1	*5250.00	76.90 AV			1.14 H	17	41.10	35.80
2	10500.00	51.10 PK	68.30	-17.20	1.59 H	353	6.60	44.50

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	*5250.00	103.00 PK			1.15 V	0	67.20	35.80
1	*5250.00	93.80 AV			1.15 V	0	58.00	35.80
2	10500.00	53.00 PK	68.30	-15.30	1.44 V	5	8.50	44.50

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	98.30 PK			1.15 H	17	62.50	35.80
1	*5290.00	88.80 AV			1.15 H	17	53.00	35.80
2	#5350.00	42.00 PK	74.00	-32.00	1.15 H	17	6.20	35.80
2	#5350.00	34.70 AV	54.00	-19.30	1.15 H	17	-1.10	35.80
3	10580.00	53.20 PK	68.30	-15.10	1.53 H	347	8.00	45.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	110.90 PK			1.15 V	359	75.10	35.80
1	*5290.00	102.00 AV			1.15 V	359	66.20	35.80
2	#5350.00	54.60 PK	74.00	-19.40	1.15 V	359	18.80	35.80
2	#5350.00	47.90 AV	54.00	-6.10	1.15 V	359	12.10	35.80
3	10580.00	54.00 PK	68.30	-14.30	1.47 V	8	8.80	45.30

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



4.2.11 TEST RESULTS (MODE 4)

Below 1GHz Worst-Case Data

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 960hPa	TESTED BY	Tony Chen

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	80.00	15.30 QP	40.00	-24.70	1.02 H	25	5.50	9.90
2	249.99	36.00 QP	46.00	-10.00	1.22 H	331	22.70	13.30
3	320.00	28.60 QP	46.00	-17.40	1.07 H	170	12.10	16.50
4	374.99	26.50 QP	46.00	-19.50	1.00 H	19	8.90	17.60
5	400.00	29.30 QP	46.00	-16.70	1.00 H	134	11.00	18.40
6	500.00	31.00 QP	46.00	-15.00	2.18 H	253	10.10	20.90
7	960.00	29.90 QP	46.00	-16.10	1.11 H	221	1.00	28.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.00	30.70 QP	40.00	-9.30	1.51 V	332	20.80	9.90
2	200.00	24.60 QP	43.50	-18.90	1.65 V	233	13.50	11.20
3	250.00	32.20 QP	46.00	-13.80	1.13 V	187	18.90	13.30
4	374.99	21.60 QP	46.00	-24.40	1.13 V	7	4.00	17.60
5	400.00	25.40 QP	46.00	-20.60	1.00 V	86	7.00	18.40
6	500.00	29.00 QP	46.00	-17.00	1.00 V	217	8.10	20.90
7	625.01	25.00 QP	46.00	-21.00	1.00 V	236	1.30	23.80

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

802.11a OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	52.90 PK	74.00	-21.10	1.23 H	268	17.10	35.80
1	#5150.00	42.60 AV	54.00	-11.40	1.23 H	268	6.80	35.80
2	*5180.00	100.60 PK			1.23 H	268	64.80	35.80
2	*5180.00	91.60 AV			1.23 H	268	55.80	35.80
3	10360.00	51.20 PK	68.30	-17.10	1.46 H	22	7.00	44.10

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	#5150.00	56.80 PK	74.00	-17.20	1.84 V	14	21.00	35.80
1	#5150.00	45.60 AV	54.00	-8.40	1.84 V	14	9.80	35.80
2	*5150.00	104.50 PK			1.84 V	14	68.70	35.80
2	*5150.00	94.60 AV			1.84 V	14	58.80	35.80
3	10360.00	51.60 PK	68.30	-16.70	1.63 V	327	7.40	44.10

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

FCC ID: O9CWL464



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	100.30 PK			1.24 H	255	64.50	35.80
1	*5240.00	91.20 AV			1.24 H	255	55.40	35.80
2	10480.00	51.40 PK	68.30	-16.90	1.47 H	21	6.90	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	103.90 PK			1.83 V	18	68.10	35.80
1	*5240.00	94.10 AV			1.83 V	18	58.30	35.80
2	10480.00	51.90 PK	68.30	-16.40	1.62 V	331	7.40	44.40

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	106.40 PK			1.26 H	254	70.60	35.80
1	*5260.00	97.60 AV			1.26 H	254	61.80	35.80
2	10520.00	51.80 PK	68.30	-16.50	1.45 H	18	7.10	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	109.60 PK			1.84 V	17	73.80	35.80
1	*5260.00	100.30 AV			1.84 V	17	64.50	35.80
2	10520.00	52.30 PK	68.30	-16.00	1.59 V	324	7.60	44.70

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 8	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	105.10 PK			1.25 H	256	69.30	35.80
1	*5320.00	96.40 AV			1.25 H	256	60.60	35.80
2	#5350.00	55.40 PK	74.00	-18.60	1.25 H	256	19.60	35.80
2	#5350.00	45.20 AV	54.00	-8.80	1.25 H	256	9.40	35.80
3	#10640.00	52.00 PK	74.00	-22.00	1.51 H	17	6.10	45.90
3	#10640.00	41.80 AV	54.00	-12.20	1.51 H	17	-4.10	45.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.40 PK			1.84 V	6	72.60	35.80
1	*5320.00	99.30 AV			1.84 V	6	63.50	35.80
2	#5350.00	58.70 PK	74.00	-15.30	1.84 V	6	22.90	35.80
2	#5350.00	48.10 AV	54.00	-5.90	1.84 V	6	12.30	35.80
3	#10640.00	53.70 PK	74.00	-20.30	1.61 V	318	7.80	45.90
3	#10640.00	42.60 AV	54.00	-11.40	1.61 V	318	-3.30	45.90

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

802.11a Turbo OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	44.70 PK	74.00	-29.30	1.25 H	252	8.90	35.80
1	#5150.00	40.00 AV	54.00	-14.00	1.25 H	252	4.20	35.80
2	*5210.00	96.70 PK			1.25 H	252	60.90	35.80
2	*5210.00	88.10 AV			1.25 H	252	52.30	35.80
3	10420.00	50.90 PK	68.30	-17.40	1.43 H	16	6.60	44.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5150.00	48.40 PK	74.00	-25.60	1.89 V	352	12.60	35.80
1	#5150.00	43.50 AV	54.00	-10.50	1.89 V	352	7.70	35.80
2	*5210.00	100.40 PK			1.89 V	352	64.60	35.80
2	*5210.00	91.60 AV			1.89 V	352	55.80	35.80
3	10420.00	51.30 PK	68.30	-17.00	1.65 V	331	7.00	44.30

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5250.00	97.40 PK			1.26 H	254	61.60	35.80
1	*5250.00	88.90 AV			1.26 H	254	53.10	35.80
2	10500.00	50.80 PK	68.30	-17.50	1.44 H	19	6.30	44.50

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	*5250.00	100.70 PK			1.88 V	350	64.90	35.80
1	*5250.00	92.30 AV			1.88 V	350	56.50	35.80
2	10500.00	51.40 PK	68.30	-16.90	1.64 V	334	6.90	44.50

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



EUT	Bridging kit - 802.11a	MODEL	WL-464
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40 GHz
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 65%RH, 960hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	102.90 PK			1.28 H	253	67.10	35.80
1	*5290.00	93.70 AV			1.28 H	253	57.90	35.80
2	#5350.00	55.20 PK	74.00	-18.80	1.28 H	253	19.40	35.80
2	#5350.00	45.90 AV	54.00	-8.10	1.28 H	253	10.10	35.80
3	10580.00	52.90 PK	68.30	-15.40	1.42 H	23	7.70	45.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	106.00 PK			1.85 V	352	70.20	35.80
1	*5290.00	97.00 AV			1.85 V	352	61.20	35.80
2	#5350.00	58.30 PK	74.00	-15.70	1.85 V	352	22.50	35.80
2	#5350.00	49.20 AV	54.00	-4.80	1.85 V	352	13.40	35.80
3	10580.00	52.60 PK	68.30	-15.70	1.62 V	335	7.40	45.30

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

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

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



4.3.3 TEST PROCEDURE

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

NOTE:

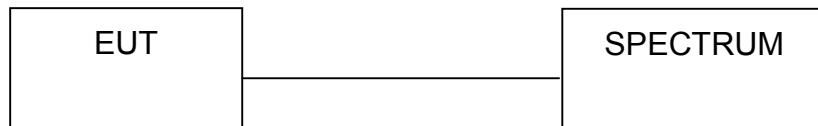
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

FCC ID: O9CWL464



4.3.7 TEST RESULTS (Mode 1)

802.11a OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 62%RH, 960hPa
TESTED BY	Rex Huang		

Antenna 1 (Gain : 8 dBi) +Cable loss (1.2dB)

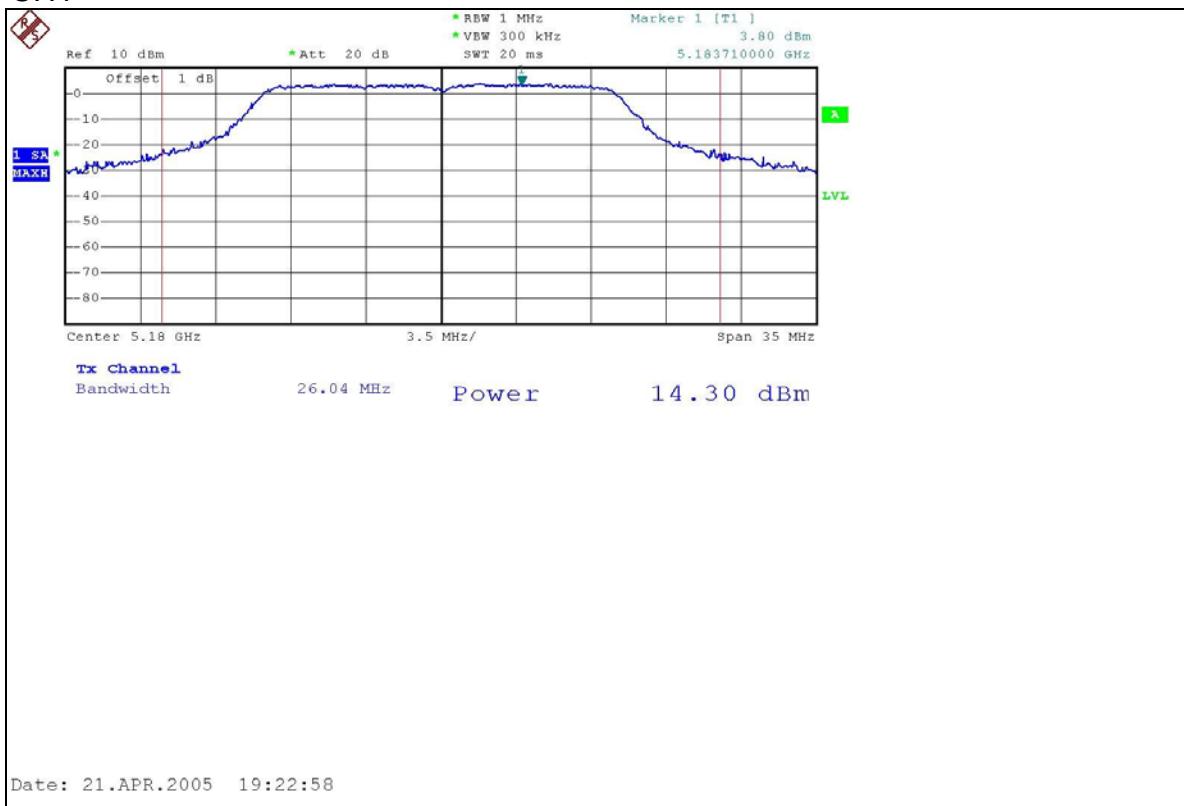
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	14.30	16.20	26.04	PASS
4	5240	14.33	16.20	27.44	PASS
5	5260	21.58	23.20	42.50	PASS
8	5320	19.07	23.20	38.34	PASS

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

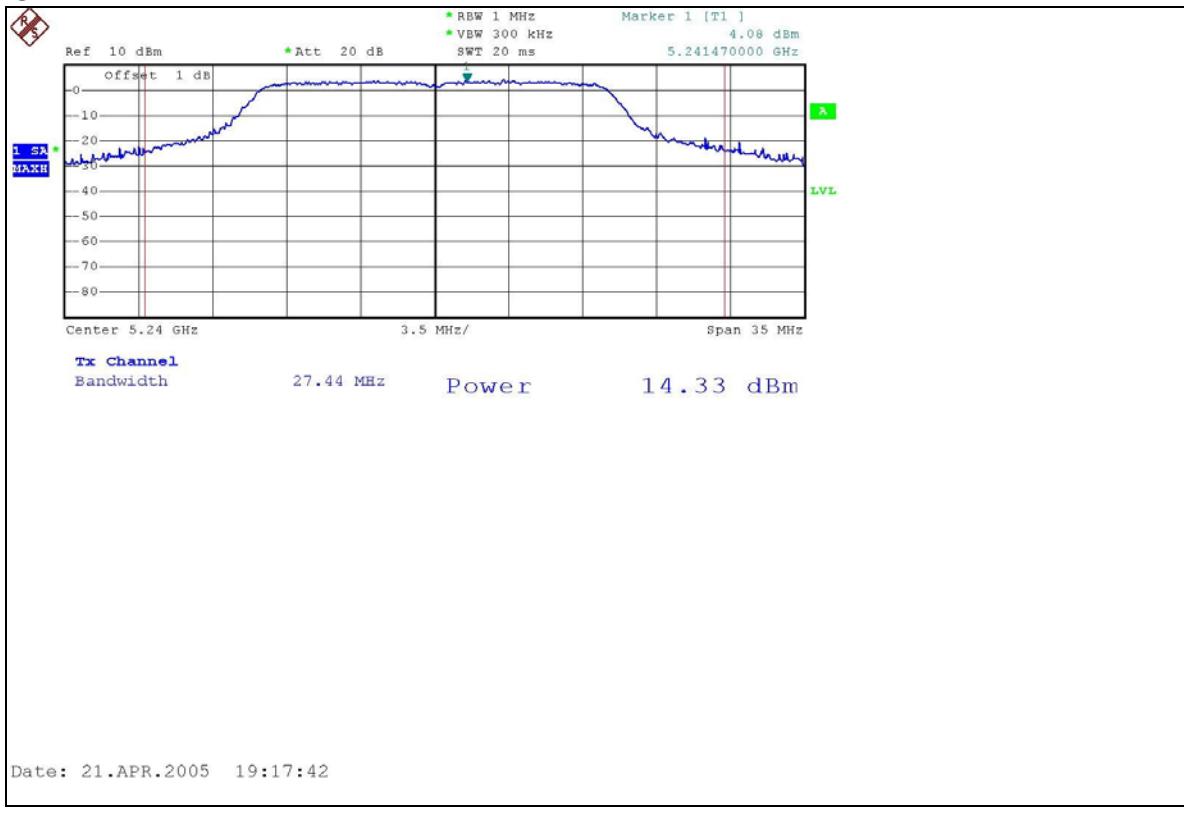
FCC ID: O9CWL464



Peak Power Output: CH1



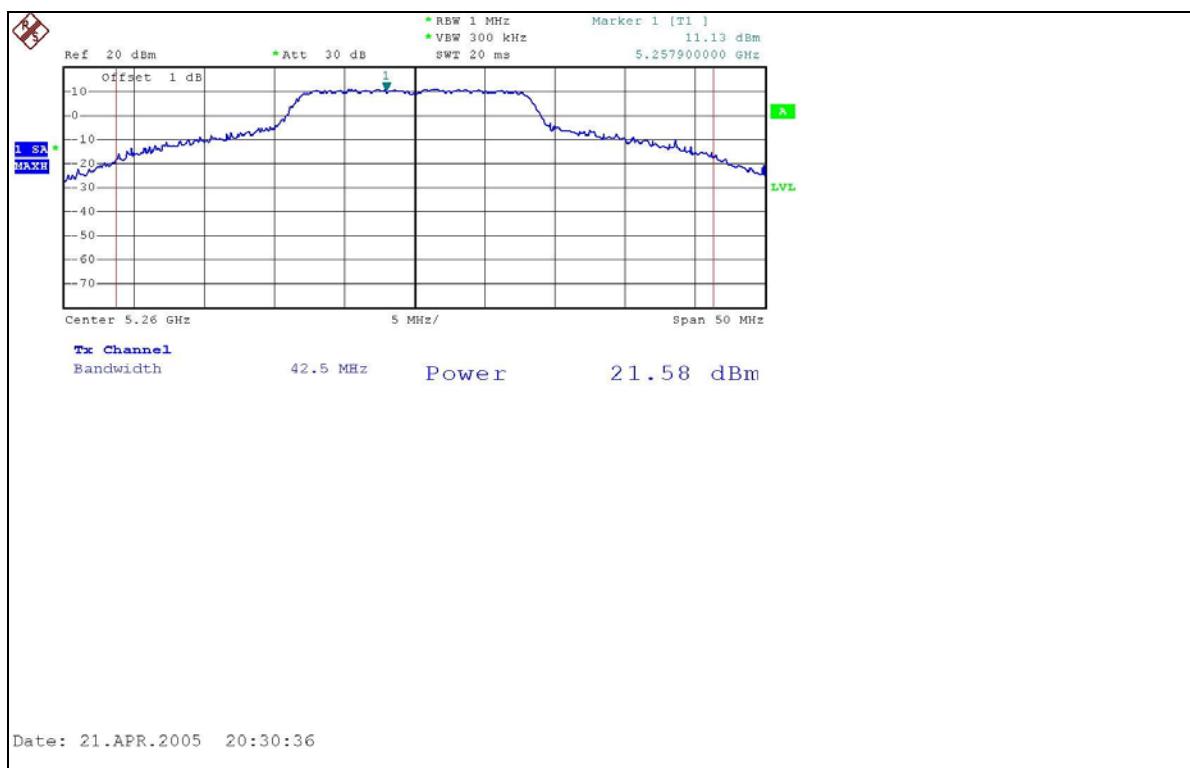
CH4



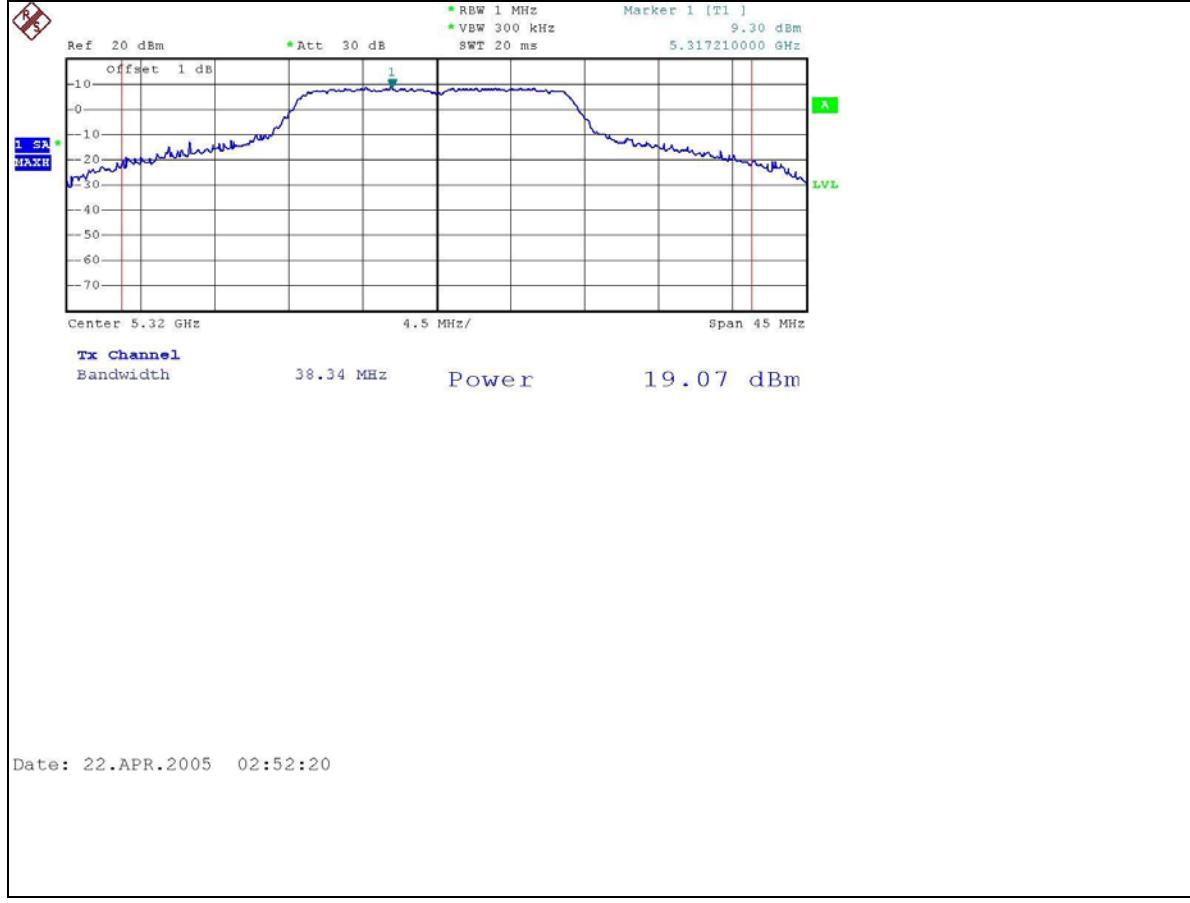
FCC ID: O9CWL464



CH5



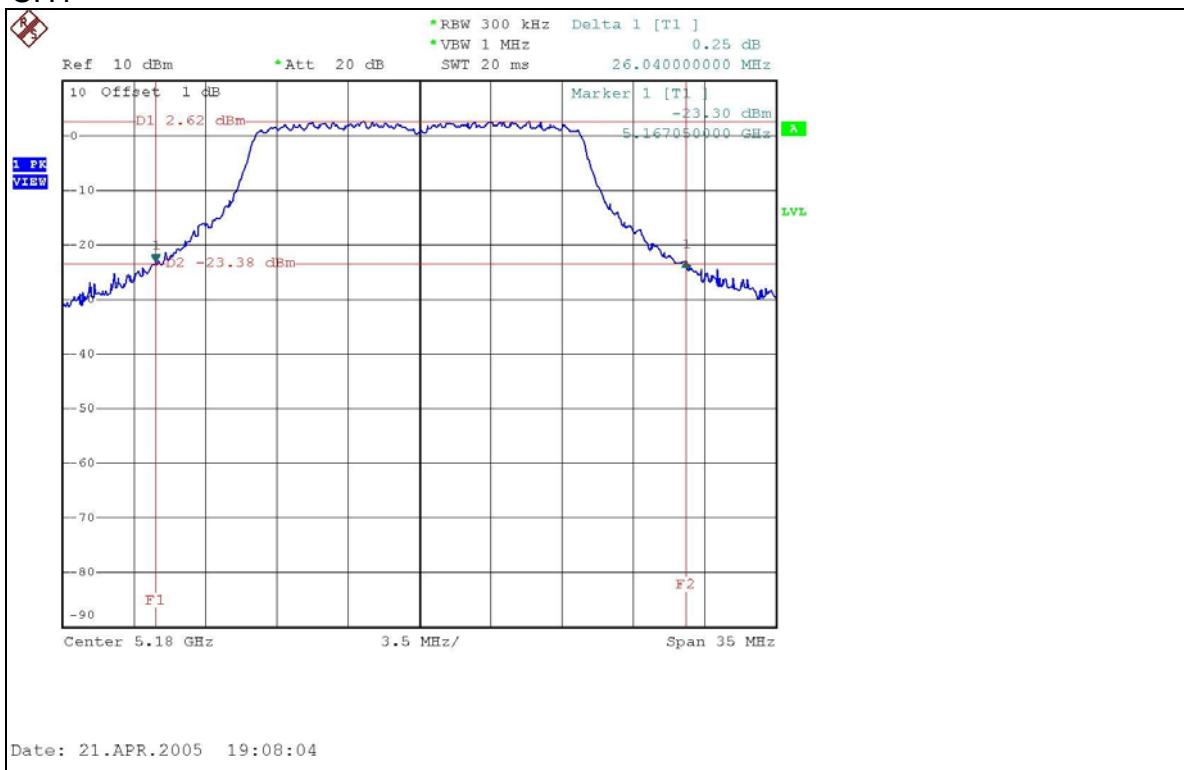
CH8



FCC ID: O9CWL464



26dB Occupied Bandwidth:
CH1



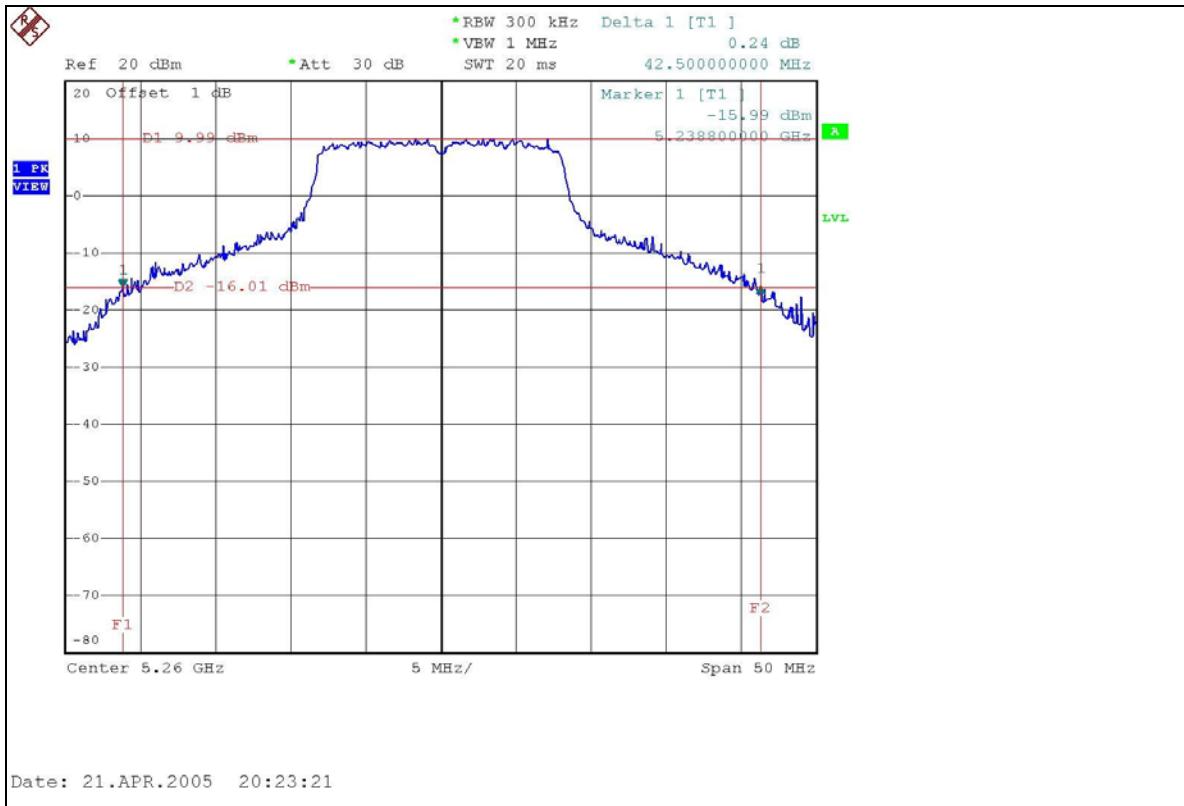
CH4



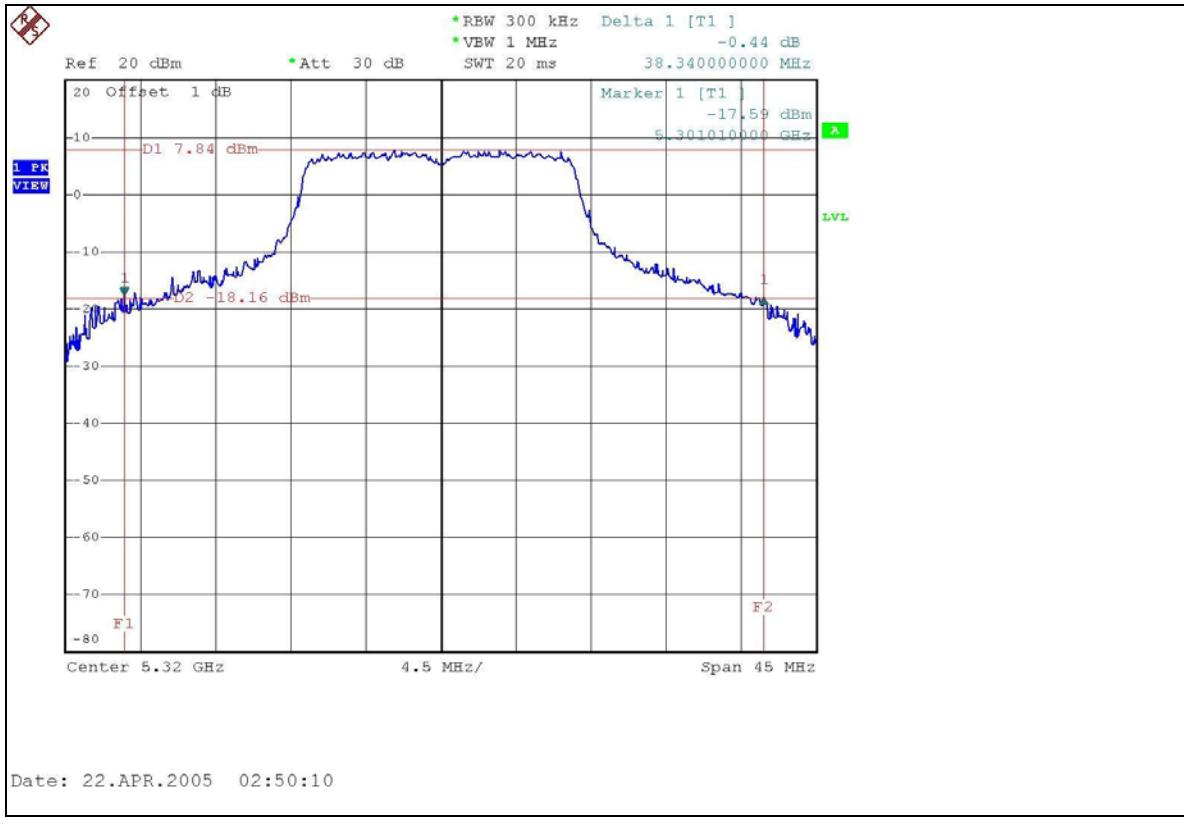
FCC ID: O9CWL464



CH5



CH8



FCC ID: O9CWL464



802.11a Turbo OFDM modulation

EUT	Bridging kit - 802.11a	MODEL	WL-464
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 62%RH, 960hPa
TESTED BY	Rex Huang		

Antenna 1 (Gain : 8 dBi) +Cable loss (1.2dB)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	14.50	16.20	47.58	PASS
2	5250	14.68	16.20	49.44	PASS
3	5290	19.76	23.20	67.32	PASS

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

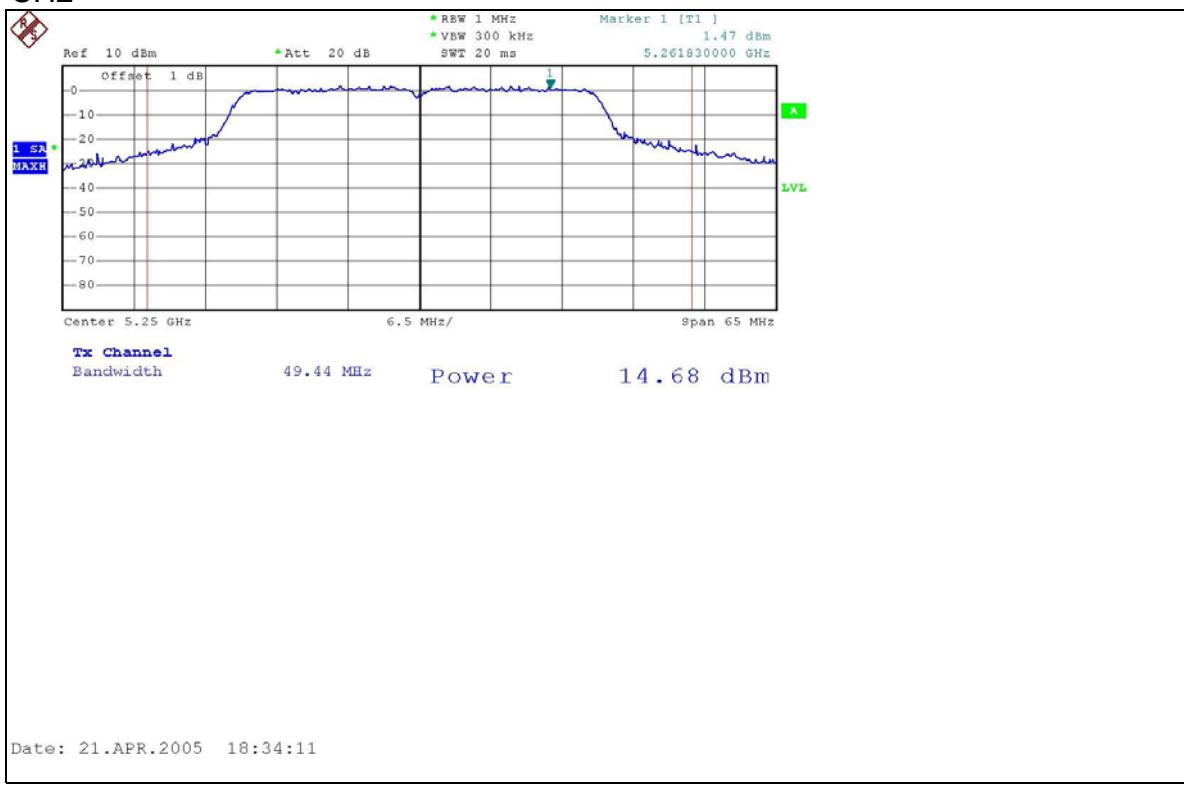
FCC ID: O9CWL464



Peak Power Output: CH1



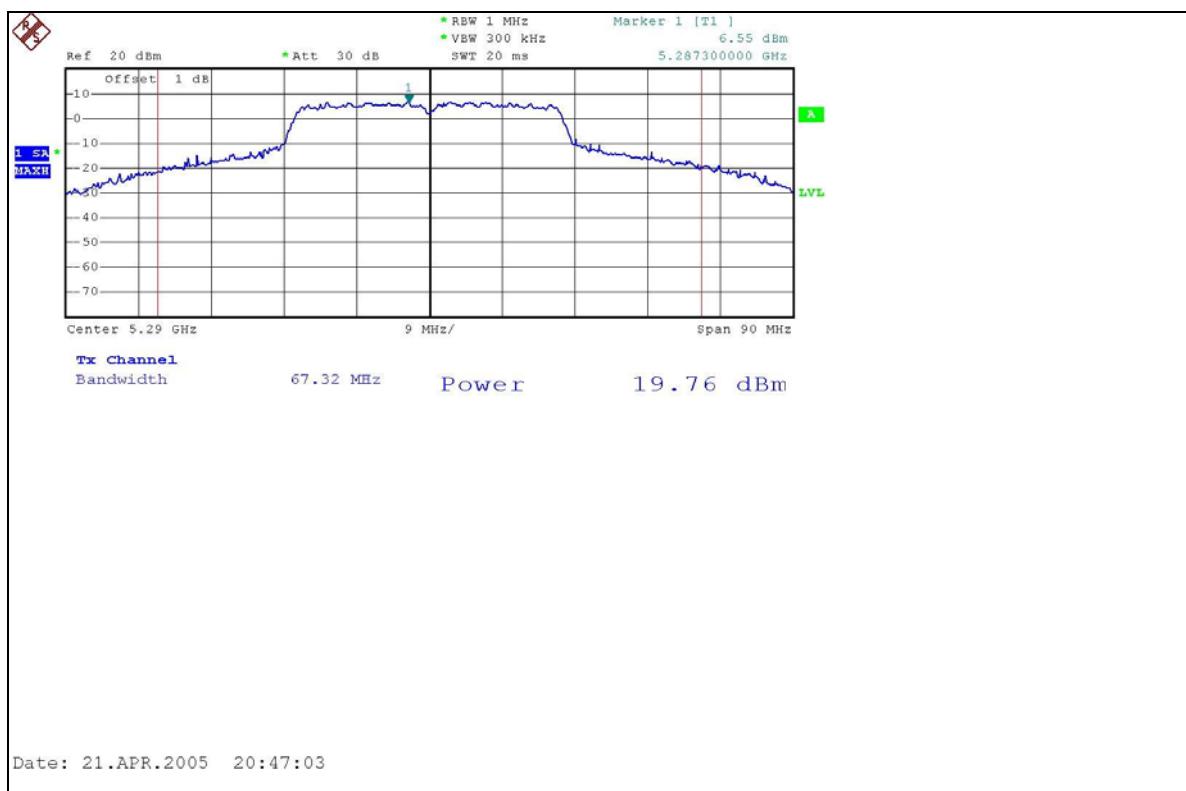
CH2



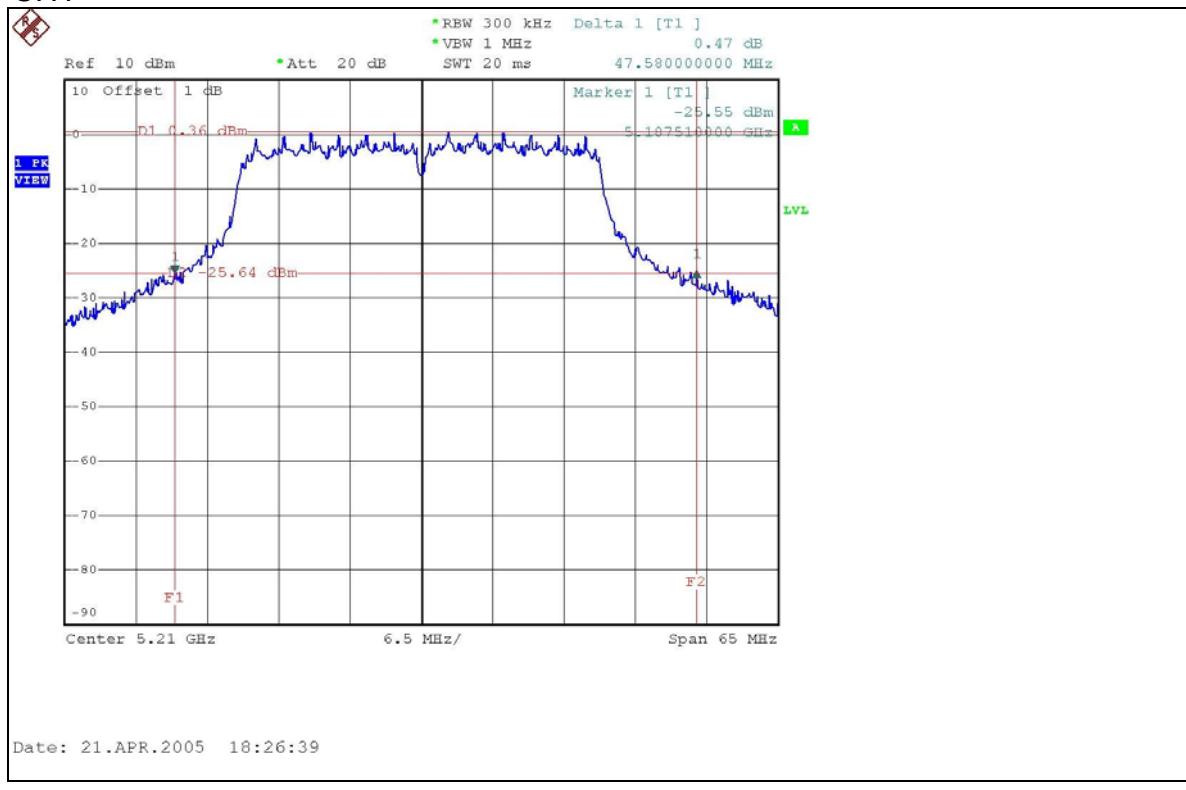
FCC ID: O9CWL464



CH3



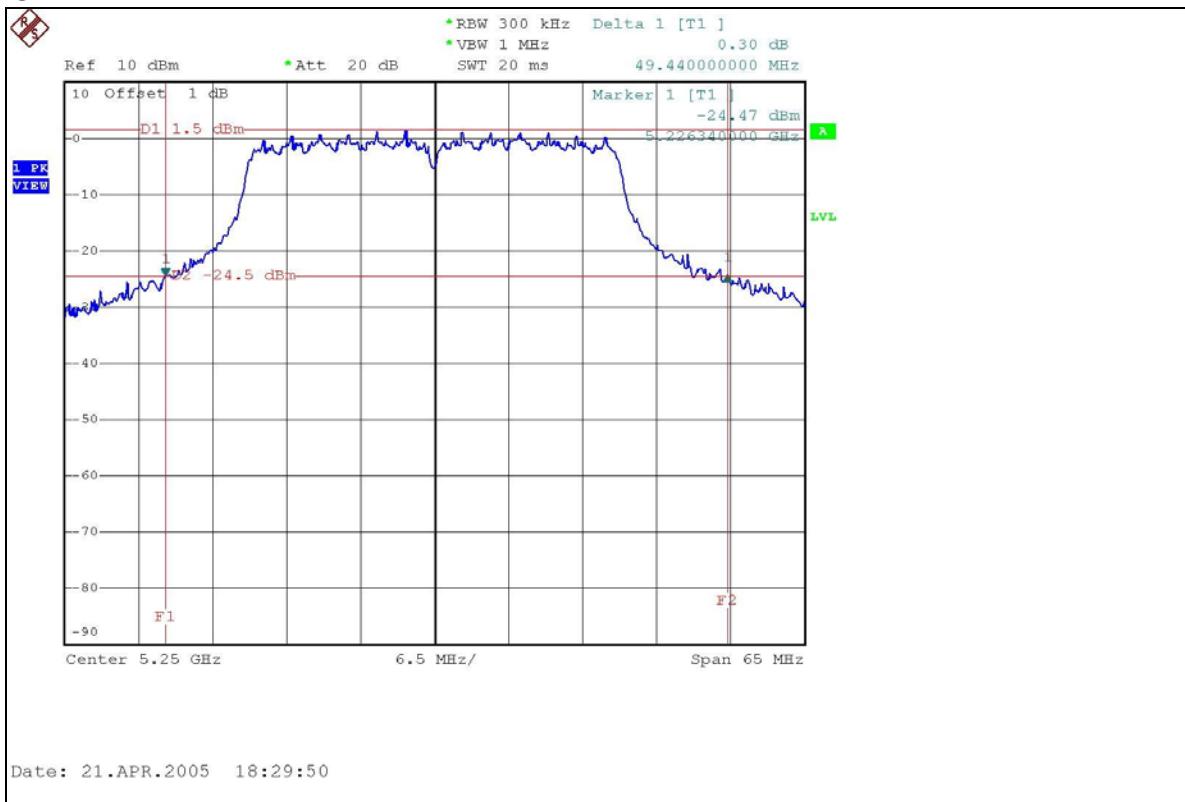
26dB Occupied Bandwidth: CH1



FCC ID: O9CWL464



CH2



CH3

