FCC TEST REPORT

for

Industrial IEEE 802.11g Wireless AP/Bridge/AP Client

Model No.: AWK-1100-US

of

Applicant: Moxa Networking Co.,Ltd.
Address: F1.6, No.135, Lane 235, Pao-Chiao Rd. Shing Tien, Taipei, Taiwan,R.O.C.

Tested and Prepared
by

ETS Product Service (Taiwan) Co., Ltd.

FCC Registration No.: 930600

Industry Canada filed test laboratory Reg. No. IC 5679

A2LA Accredited No.: 2300.01

PTCRB Accredited Type Certification Test House

FCC ID: S83-AWK-1100B

Report No.: W6M20705-8075-C-1

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: ets@ets-bzt.com.tw

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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.
The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.
Furthermore, there is no guarantee that a test sample which has Passed all the relevant tests conforms to a specification.
Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.
The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that is performance generally conforms to representative cases of communications equipment.

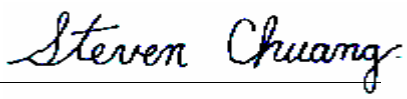
The test results of this test report relate exclusively to the item tested as specified in 1.5.
The test report may only be reproduced or published in full.
Reproduction or publication of extracts from the report requires the prior written approval of the ETS Product Service (Taiwan) Co., Ltd.

Specific Conditions:
Usage of the hereunder tested device in combination with other integrated or external antennas requires at least additional output power measurements, spurious emission measurements, conducted emission measurements (AC supply lines) and radio frequency exposure evaluations for each individual configuration performed, for certification by FCC.
The test sample is able to work according IEEE 802.11 b/g.
This report is related to FCC Part 15 C (DSSS and OFDM device).

Tester:

July 19, 2007	Jay Chaing	
Date	ETS-Lab. Name	Signature

Technical responsibility for area of testing:

July 19, 2007	Steven Chuang	
Date	ETS Name	Signature

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

1.2 Testing laboratory

1.2.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)

Company
ETS Product Service (Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA accredited number: 2300.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679

PTCRB Accredited Type Certification Test House

1.3 Details of approval holder

Name	: Moxa Networking Co., Ltd.
Street	: F1.6, No.135, Lane 235, Pao-Chiao Rd. Shing Tien,
Town	: Taipei,
Country	: Taiwan, R.O.C.
Telephone	: +886-2-8910-1230
Fax	: +886-2-8910-1231

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

1.4 Application details

Date of receipt of test item : May 15, 2007
Date of test : from May 16, 2007 to July 18, 2007

1.5 General information of Test item

Type of test item : Industrial IEEE 802.11g Wireless AP/Bridge/AP Client
Model Number : AWK-1100-US
Brand Name : MOXA
Hardware :
Software : 1.0.0.1
Multi-listing model number : without
Photos : See Appendix

Technical data

Frequency band : 2.4 GHz – 2.4835 GHz
Frequency (ch 1 or A) : 2.412 GHz
Frequency (ch 6 or B) : 2.437 GHZ
Frequency (ch 11 or C) : 2.462 GHz
Number of Channels : 11
Operation modes : duplex
Modulation Type : DSSS / OFDM

Fixed point-to-point operation: ☐ Yes / ☒ No

Type of Antenna : Swivel Type, 1/4λ Dipole Antenna RP-SMA (M) (Black)

Antenna gain : 2 dBi

Power supply
Input : 100-240 VAC, 50-60 Hz
Output : 12 VDC, 1A

Emission designator : DSSS: 16M6G1D
OFDM: 16M8W7D

Host device: none
Classification :

Fixed Device	☒
Mobile Device (Human Body distance ＞ 20cm)	☐
Portable Device (Human Body distance ＜ 20cm)	☐

Transmitter **Unom**

Mode A (DSSS)
Power (ch 1 or A) : Conducted: 18.23 dBm
Power (ch 6 or B) : Conducted: 19.14 dBm
Power (ch 11 or C) : Conducted: 21.86 dBm

Mode B (OFDM)
Power (ch 1 or A) : Conducted: 13.54 dBm
Power (ch 6 or B) : Conducted: 14.63 dBm
Power (ch 11 or C) : Conducted: 17.40 dBm

Manufacturer:
(if it different from approval holder)

Name : ./.
Street : ./.
Town : ./.
Country : ./.

Additional information: The sample is using WLAN technology according IEEE 802.11 b/g.
There are two testing modes in the test report.
Mode A: IEEE 802.11b
Mode B: IEEE 802.11g
The scheme for frequency generation, spectrum spreading, receiver parameters, synchronization procedure, and other parameters are determined by the mentioned standard above.

1.6 Test standards

Technical standard : FCC RULES PART 15 SUBPART B / SUBPART C § 15.247 (2007-05)

Special statement:

The standards applied to this test sample were under the demand of the applicant. Any deviation from the applicable product standards is the responsibility of the applicant.

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed. ☒

or

The deviations as specified in 2.5 were ascertained in the course of the tests performed. ☐

2.2 Test environment

Temperature : 23 °C

Relative humidity content : 20 ... 75 %

Air pressure : 86 ... 103 kPa

Power supply
Input : 100-240 VAC, 50-60 Hz
Output : 12 VDC, 1A

Extreme conditions parameters : --

2.3 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2006/10/16	2007/10/15
ETSTW-CE 002	PREREULATOR MODE DC POWER SUPPLY	None	None		Function Test	
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2006/10/16	2007/10/15
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2006/10/16	2007/10/15
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	In House Certificate	
ETSTW-CE 008	ABSORBING CLAMP	MDS 21	3469	Schwarzbeck	2005/10/24	2007/10/23
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2006/8/17	2007/8/16
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2005/12/8	2007/12/7
ETSTW-CE 014	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T2-02	20241	FCC	2005/12/7	2007/12/6
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2006/11/7	2008/11/6
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2006/11/21	2007/11/20
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	2005/10/14	2007/10/13
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2006/10/20	2007/10/19
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2006/10/30	2007/10/29
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2006/10/12	2007/10/11
ETSTW-RE 010	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070181	MOTECH	Function Test	
ETSTW-RE 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	MOTECH	Function Test	
ETSTW-RE 017	Log-Periodic Antenna	HL025	352886/001	R&S	2006/5/4	2008/5/3
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2004/11/8	2007/11/7
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2006/10/11	2007/10/10
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	EMCO	In House Certificate	
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2006/5/26	2008/5/25
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2006/5/26	2008/5/25
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2006/5/3	2008/5/2
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2006/10/11	2007/10/10

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ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2006/7/27	2007/7/26
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2005/10/17	2007/10/16
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2007/1/11	2009/1/10
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2006/5/8	2008/5/7
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2006/5/29	2008/5/28
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2005/3/22	2008/3/21
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2007/5/02	2009/5/01
ETSTW-RE 055	SPECTRUM ANALYZER	FSU-26	200074	R&S	2006/7/28	2007/7/27
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	

2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2003 using a 50µH LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

RADIATION INTERFERENCE: The test procedure used was according to ANSI STANDARD C63.4-2003 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBµV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

Freq (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	20 dBµV + 10.36 dB + 6 dB = 36.36 dBµV/m @3m

The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2000 Section 13.1.2. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
(4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.
Measurements were made by ETS Product Service (Taiwan) Co., Ltd. at the registered open field test site located at No.5-1, Shuang Sing Village, LiShuei Rd., Wanli Township, Taipei County 207, Taiwan (R.O.C.) The Registration Number: 930600.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

The formula is as follows:
Average = Peak + Duty Factor
Duty Factor = 20 log (dwell time/T)
T = 100ms when the pulse train period is over 100 ms or the period of the pulse train.

Modified Limits for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)(3)	☒	☒	☐
Equivalent radiated Power	15.247(b)(3)	☒	☒	☐
Spurious Emissions radiated – Transmitter operating	15.247(c)	☒	☒	☐
Band Edge Measurement	15.247(c)	☒	☒	☐
Minimum 6 dB Bandwidth	15.247(a)(2)	☒	☒	☐
Peak Power Spectral Density	15.247(d)	☒	☒	☐
Radiated Emission from Digital Part	15.109	☒	☒	☐
Power Line Conducted Emission	15.207	☒	☒	☐

The follows is intended to leave blank.

3.1 Peak Output Power (transmitter)

FCC Rule: 15.247(b)(3)

This measurement applies to equipment with an integral antenna and to equipment with an antenna connector and equipped with an antenna as declared by the applicant.

The power was measured with modulation (declared by the applicant).

Mode A

Test condition		Conducted Power		
		Channel A	Channel B	Channel C
T_{nom}= 23°C	V_{nom} = 120 V	[dBm]	[dBm]	[dBm]
		18.23	19.14	21.86

Mode B

Test condition		Conducted Power		
		Channel A	Channel B	Channel C
T_{nom}= 23°C	V_{nom} = 120 V	[dBm]	[dBm]	[dBm]
		13.54	14.63	17.40

Mode A

Test condition T_{nom}= 23°C, V_{nom} = 120 V	Signal Field strength TX highest power mode dB μ V/m
Frequency [MHz]	--
--	

Mode B

Test condition T_{nom}= 23°C, V_{nom} = 120 V	Signal Field strength TX highest power mode dB μ V/m
Frequency [MHz]	--
--	

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Limits:

Frequency MHz	Power dBm
902 - 928	30
2400 – 2483.5	30
5725 – 5850	30

In case of employing transmitter antennas having antenna gain ＞ 6 dBi and using fixed point-to point operation consider §15.247 (b)(4)

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Explanation: The diagrams for the peak output power measurements are included in Appendix.

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain
EIRP = 21.86 dBm + 2dBi
= 23.86 dBm
Limit: EIRP = +36 dBm for Antenna gain <6dBi

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 021
ETSTW-RE 028 ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044

3.3 RF Exposure Compliance Requirements

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.
The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

$$S = \frac{PG}{4\pi R^2}$$

S – Power Density
P – Output power ERP
R – Distance
D – Cable Loss
AG – Antenna Gain G = AG-D

Item	Unit	Value	Remarks
P	mW	153.461	Peak value
D	dB		
AG	dBi	2	
G		1.6	Calculated Value
R	cm	20	Assumed value
S	mW/cm^2	0.04884	Calculated value

Limits:

Limit for General Population / Uncontrolled Exposure	
Frequency (MHz)	Power Density (mW/cm^2)
1500 – 100.000	1,0

3.4 Transmitter Radiated Emissions in Restricted Bands

FCC Rules: 15.247 (c), 15.205, 15.209, 15.35
Radiated emission measurements were performed from 30 MHz to 26500 MHz.
For radiated emission tests, the analyzer setting was as followings:

Frequency ≦ 1 GHz, RBW:100 kHz, VBW: 100 kHz (Peak measurements)
Frequency ＞1 GHz, RBW: 1 MHz, VBW: 1 MHz (Peak measurements)
Frequency ＞1 GHz , RBW:1 MHz , VBW: 10 Hz (Average measurements)

Limits.

For frequencies below 1GHz:

Frequency of Emission (MHz)	Field strength (microvolts/meter)	Field Strength (dB microvolts/meter)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above	500	54.0

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit Transmission Systems:
"If the emission is pulsed, modify the unit for continuous operation, use the setting shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation."

The correction factor, based on the total channel dwell time in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty cycle correction = 20 log (dwell time/ 100ms)

Note: No duty cycle correction was added to the reading of this EUT.

Explanation: See attached diagrams in Appendix.

3.5 Spurious Emissions (tx)

Spurious emission was measured with modulation (declared by manufacturer).

In any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

FCC Rule: 15.247(c), 15.35
For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.
Limits:

Max. reading – 20 dB
Guidance on Measurement of Digit Transmission Systems:
"If the emission is pulsed, modify the unit for continuous operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation."

The correction factor, based on the total channel dwell time in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty Cycle correction = 20 log (dwell time/100ms)

For frequencies above 1GHz (Peak measurements).
Modified Limit for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

For frequencies above 1GHz (Average measurements).
Max. reading – 20dB

Note: No duty cycle correction was added to the reading of EUT.

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance with point 2.3.
Calculation of test results:
Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.
In the Table being listed the critical peak and average value and exhibit the compliance with the above calculated Limits.

If in the column's correction factor states a value then the max. Field strength in the same row is corrected by a value gained from the "Duty-Cycle Correction Factor".

Summary table with radiated data of the test plots

Date : July 11, 2007 Temperature : 26°C Humidity: 60 %

Site : site #1
Condition : FCC 15.247 Polarization: *Vertical*
Company : W6M20705-8075 Power :
EUT Model : AWK-1100-US Distance: 3m
Execute Program : 802.11b Tx CH1
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	14.95	peak	17.96	32.91	43.50	138	85	-10.59	
*	166.8938	20.50	peak	19.81	40.31	43.50	146	97	-3.19	
	250.2204	11.11	peak	22.46	33.57	46.00	201	122	-12.43	

Site : site #1
Condition : FCC 15.247 Polarization: *Horizontal*
Company : W6M20705-8075 Power :
EUT Model : AWK-1100-US Distance: 3m
Execute Program : 802.11b Tx CH1
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	20.96	peak	17.96	38.92	43.50	366	87	-4.58	
*	166.8938	19.82	peak	19.81	39.63	43.50	351	99	-3.87	
	266.9940	12.74	peak	23.49	36.23	46.00	278	123	-9.77	

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Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	13.07	peak	29.17	42.24	54.00	389	195	-11.76	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	13.46	peak	27.26	40.72	54.00	110	189	-13.28	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	2324.649	58.27	peak	-5.48	52.79	74.00	131	165	-21.21	

Registration number: W6M20705-8075-C-1
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Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	3218.437	48.41	peak	-2.17	46.24	74.00	123	245	-27.76	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
	4817.635	43.04	peak	-1.30	41.74	74.00	126	158	-32.26	
*	6436.874	56.80	peak	4.06	60.86	74.00	131	159	-13.14	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	6436.874	52.12	peak	4.06	56.18	74.00	154	180	-17.82	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	13.49	peak	17.96	31.45	43.50	129	100	-12.05	
*	166.8938	20.53	peak	19.81	40.34	43.50	137	115	-3.16	
	250.2204	6.60	peak	22.46	29.06	46.00	186	138	-16.94	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	20.10	peak	17.96	38.06	43.50	365	106	-5.44	
*	166.8938	18.76	peak	19.81	38.57	43.50	354	124	-4.93	
	266.9940	11.50	peak	23.49	34.99	46.00	287	133	-11.01	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	12.34	peak	29.17	41.51	54.00	386	240	-12.49	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	14.07	peak	27.26	41.33	54.00	115	234	-12.67	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	2354.956	58.57	peak	-5.33	53.24	74.00	150	190	-20.76	
*	2354.956	51.11	AVG	-5.33	45.78	54.00	150	190	-8.22	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	3250.501	47.90	peak	-1.95	45.95	74.00	120	125	-28.05	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4873.748	44.12	peak	-1.30	42.82	74.00	156	185	-31.18	
*	6501.002	57.80	peak	4.50	62.30	74.00	164	188	-11.70	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	6501.002	52.25	peak	4.50	56.75	74.00	147	180	-17.25	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	108.9980	16.69	peak	16.76	33.45	43.50	125	106	-10.05	
*	166.8938	20.51	peak	19.81	40.32	43.50	153	145	-3.18	
	250.2204	10.66	peak	22.46	33.12	46.00	200	162	-12.88	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization : *Horizontal*
Power :
Distance : 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	17.90	peak	17.96	35.86	43.50	364	123	-7.64	
*	166.8938	19.00	peak	19.81	38.81	43.50	350	135	-4.69	
	266.9940	12.57	peak	23.49	36.06	46.00	271	150	-9.94	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization : *Vertical*
Power :
Distance : 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	12.67	peak	29.17	41.84	54.00	387	213	-12.16	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization : *Horizontal*
Power :
Distance : 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	13.94	peak	27.26	41.20	54.00	111	215	-12.80	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	2376.753	56.76	peak	-5.22	51.54	74.00	154	177	-22.46	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	3282.565	46.60	peak	-1.72	44.88	74.00	100	85	-29.12	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4921.844	46.74	peak	-1.21	45.53	74.00	153	176	-28.47	
*	6565.130	54.83	peak	4.70	59.53	74.00	160	185	-14.47	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11b Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	6565.130	50.23	peak	4.70	54.93	74.00	140	168	-19.07	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
	125.2305	14.85	peak	17.96	32.81	43.50	133	106	-10.69	
*	166.8938	20.48	peak	19.81	40.29	43.50	149	125	-3.21	
	250.2204	9.79	peak	22.46	32.25	46.00	188	137	-13.75	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
	125.2305	17.73	peak	17.96	35.69	43.50	364	106	-7.81	
*	166.8938	18.88	peak	19.81	38.69	43.50	342	117	-4.81	
	266.9940	12.49	peak	23.49	35.98	46.00	278	134	-10.02	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	967.7355	12.37	peak	29.17	41.54	54.00	388	233	-12.46	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	6436.874	55.93	peak	4.06	59.99	74.00	135	168	-14.01	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	6436.874	51.44	peak	4.06	55.50	74.00	134	165	-18.50	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
	125.2305	14.85	peak	17.96	32.81	43.50	136	107	-10.69	
*	166.8938	19.98	peak	19.81	39.79	43.50	152	128	-3.71	
	250.2204	9.79	peak	22.46	32.25	46.00	195	145	-13.75	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	967.7355	13.91	peak	27.26	41.17	54.00	112	211	-12.83	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	2292.585	56.90	peak	-5.62	51.28	74.00	112	155	-22.72	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH1
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	3218.437	49.18	peak	-2.17	47.01	74.00	120	85	-26.99	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
	125.2305	19.60	peak	17.96	37.56	43.50	374	105	-5.94	
*	166.8938	19.28	peak	19.81	39.09	43.50	352	123	-4.41	
	266.9940	12.00	peak	23.49	35.49	46.00	311	150	-10.51	

Site : site #1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab. Pos (deg.)	Margin (dB)	Comment
*	967.7355	11.95	peak	29.17	41.12	54.00	388	107	-12.88	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	14.03	peak	27.26	41.29	54.00	112	205	-12.71	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	2272.545	57.55	peak	-5.68	51.87	74.00	134	160	-22.13	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	3250.501	47.20	peak	-1.95	45.25	74.00	100	99	-28.75	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4873.748	41.65	peak	-1.30	40.35	74.00	155	170	-33.65	
*	6501.002	57.95	peak	4.50	62.45	74.00	166	189	-11.55	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH6
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	6501.002	52.68	peak	4.50	57.18	74.00	168	175	-16.82	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	14.85	peak	17.96	32.81	43.50	141	106	-10.69	
*	166.8938	20.48	peak	19.81	40.29	43.50	158	128	-3.21	
	250.2204	9.79	peak	22.46	32.25	46.00	195	145	-13.75	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	19.08	peak	17.96	37.04	43.50	365	110	-6.46	
*	166.8938	18.90	peak	19.81	38.71	43.50	332	131	-4.79	
	266.9940	12.78	peak	23.49	36.27	46.00	281	154	-9.73	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	967.7355	13.80	peak	27.26	41.06	54.00	111	207	-12.94	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	2272.545	57.10	peak	-5.68	51.42	74.00	154	177	-22.58	

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	3282.565	46.35	peak	-1.72	44.63	74.00	125	24	-29.37	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Vertical*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	4921.844	42.50	peak	-1.21	41.29	74.00	131	156	-32.71	
*	6565.130	55.55	peak	4.70	60.25	74.00	142	177	-13.75	

Site : site#1
Condition : FCC 15.247
Company : W6M20705-8075
EUT Model : AWK-1100-US
Execute Program : 802.11g Tx CH11
Note :

Polarization: *Horizontal*
Power :
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	6565.130	49.43	peak	4.70	54.13	74.00	143	170	-19.87	

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Reading + Correction Factor**
3. **Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**
5. **See attached diagram as appendix.**

TEST RESULT (Transmitter): The unit DOES meet the FCC requirements.
Test equipment used: ETSTW-RE003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B

3.6 Radiated Emission from Digital Part

FCC Rule: 15.109

Summary table with radiated data of the test plots

Date : July 11, 2007 Temperature : 26°C Humidity: 60 %

Site : site #1
Condition : CISPR 22 RE-Class B 10M
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program :
Note :

Polarization: *Vertical*
Power :
Distance: 10m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	125.2305	14.95	peak	8.46	23.41	30.00	135	106	-6.59	
*	166.8937	18.00	QP	10.31	28.31	30.00	148	128	-1.69	
	250.2204	11.11	peak	12.96	24.07	37.00	201	149	-12.93	

Site : site #1
Condition : CISPR 22 RE-Class B 10M
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program :
Note :

Polarization: *Horizontal*
Power :
Distance: 10m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	51.1022	21.09	QP	6.53	27.62	30.00	292	125	-2.38	
	101.9637	21.40	QP	6.67	28.07	30.00	243	322	-1.93	
	125.2305	19.46	QP	8.46	27.92	30.00	342	102	-2.08	
*	166.8937	17.82	QP	10.31	28.13	30.00	321	123	-1.87	
	266.9940	12.74	peak	13.99	26.73	37.00	270	158	-10.27	

Site : site #1
Condition : CISPR 22 RE-Class B 10M
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program :
Note :

Polarization: *Vertical*
Power :
Distance: 10m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	499.1983	17.57	peak	13.69	31.26	37.00	310	211	-5.74	
*	800.8016	15.08	peak	18.30	33.38	37.00	347	238	-3.62	
	967.7355	13.07	peak	19.67	32.74	37.00	389	244	-4.26	

Registration number: W6M20705-8075-C-1
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Site : site #1
Condition : CISPR 22 RE-Class B 10M
Company : W6M20705-8075
EUT Model: AWK-1100-US
Execute Program :
Note :

Polarization: *Horizontal*
Power :
Distance: 10m

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	499.1983	21.27	QP	13.69	34.96	37.00	187	212	-2.04	
*	699.7996	17.53	QP	17.90	35.43	37.00	159	248	-1.57	
	967.7355	13.46	peak	19.67	33.13	37.00	112	257	-3.87	

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Reading + Correction Factor**
3. **Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvolts/meter)	Field Strength (dBmicrovolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

3.7 Radiated Emission on the band edge

According to FCC rules part 15 subpart C §15.247(c) in any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required.

In addition radiated emission which fall in the restricted bands, as defined in section 15.205(a), must also with the radiated emission limits.

Mode A

Test conditions		Attenuation at or outside band-edges	
		Lower Band-edge	Upper Band-edge
T_{nom}= 23°C	V_{nom} = 120 V	37.40 dB	44.69 dB

Mode B

Test conditions		Attenuation at or outside band-edges	
		Lower Band-edge	Upper Band-edge
T_{nom}= 23°C	V_{nom} = 120 V	36.70 dB	41.82 dB

Limit:

Frequency Range / MHz	Limit
902 –928 2400 – 2483.5 5725 - 5850	- 20 dB

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044

Explanation: Please see attached diagram as appendix.

3.8 Minimum 6 dB Bandwidth

The analyzer ResBW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK reading was taken, two markers were set 6 dB below the maximum level on the right and the left side of the emission.
The 6 dB bandwidth is the frequency difference between the two markers.

Mode A

Test conditions		6 dB Bandwidth		
		Channel 1	Channel 6	Channel 11
T_{nom}= 23°C	V_{nom} = 120 V	10.288461538 MHz	10.320512821 MHz	10.288461538 MHz

Mode B

Test conditions		6 dB Bandwidth		
		Channel 1	Channel 6	Channel 11
T_{nom}= 23°C	V_{nom} = 120 V	16.602564103 MHz	16.602564103 MHz	16.602564103 MHz

Limits:

Frequency Range MHz	**Limits**
902-928	min 500 kHz
2400-2483.5	min 500 kHz
5725-5850	min 500 kHz

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Explanation: See attached diagrams in Appendix.

3.9 Peak Power Spectral Density

Peak Power Spectral density is a measured at low, middle and high channel.
The peak output power is measured with a measurement bandwidth of 10 MHz and displayed on diagram together with Peak Power Spectral Density result which was measured with a bandwidth of 3 kHz, appreciate frequency span and sweep time.

Mode A

Test conditions		Peak Power Spectral Density (3 kHz)		
		Channel 1 [dBm]	Channel 6 [dBm]	Channel 11 [dBm]
T_{nom}= 23°C	V_{nom} = 120 V	-14.33	-13.11	-10.14

Mode B

Test conditions		Peak Power Spectral Density (3 kHz)		
		Channel 1 [dBm]	Channel 6 [dBm]	Channel 11 [dBm]
T_{nom}= 23°C	V_{nom} = 120 V	-19.53	-18.25	-15.36

Limits:

Frequency Range MHz	dBm
902-928	8
2400-2483,5	8
5725-5850	8

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Explanation: See attached diagrams in Appendix.

3.10 Power Line Conducted Emission

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

Frequency	Level (dBμV)	
	quasi-peak	average
150 kHz	lower limit line	Lower limit line

Date : July 11, 2007 Temperature : 26°C Humidity: 60 %

Site : site #1
Condition : CISPR22 Class B Conduction(QP) Phase: L1
Company : W6M20705-8075 Power :
EUT Model: AWK-1100-US
Execute Program :
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
	0.1997	41.27	QP	10.10	51.37	63.62	-12.25	
	0.1997	33.16	AVG	10.10	43.26	53.62	-10.36	
	0.4590	36.78	QP	10.10	46.88	56.71	-9.83	
*	0.4590	35.05	AVG	10.10	45.15	46.71	-1.56	
	1.0490	30.50	QP	10.10	40.60	56.00	-15.40	
	1.0490	27.28	AVG	10.10	37.38	46.00	-8.62	
	2.2950	32.10	QP	10.10	42.20	56.00	-13.80	
	2.2950	29.70	AVG	10.10	39.80	46.00	-6.20	
	4.3930	31.24	QP	10.10	41.34	56.00	-14.66	
	4.3930	27.22	AVG	10.10	37.32	46.00	-8.68	
	7.4740	30.60	QP	10.10	40.70	60.00	-19.30	
	7.4740	27.39	AVG	10.10	37.49	50.00	-12.51	

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Site : site #1
Condition : CISPR22 Class B Conduction(QP) Phase: N
Company : W6M20705-8075 Power :
EUT Model: AWK-1100-US
Execute Program :
Note :

Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
	0.2293	34.83	QP	10.10	44.93	62.48	-17.55	
	0.2293	30.77	AVG	10.10	40.87	52.48	-11.61	
	0.4590	36.92	QP	10.10	47.02	56.71	-9.69	
*	0.4590	35.09	AVG	10.10	45.19	46.71	-1.52	
	1.0500	32.80	QP	10.10	42.90	56.00	-13.10	
	1.0500	30.03	AVG	10.10	40.13	46.00	-5.87	
	1.8350	36.26	QP	10.10	46.36	56.00	-9.64	
	1.8350	34.31	AVG	10.10	44.41	46.00	-1.59	
	4.4580	32.60	QP	10.10	42.70	56.00	-13.30	
	4.4580	28.41	AVG	10.10	38.51	46.00	-7.49	
	14.1620	16.21	QP	10.10	26.31	60.00	-33.69	
	14.1620	10.42	AVG	10.10	20.52	50.00	-29.48	

Note: 1. The formula of measured value as: Test Result = Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AVG = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. See attached diagram as appendix.

Limits:

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test equipment used: ETSTW-CE 001 ETSTW-CE 003 ETSTW-CE 004 ETSTW-CE 006
ETSTW-CE 011

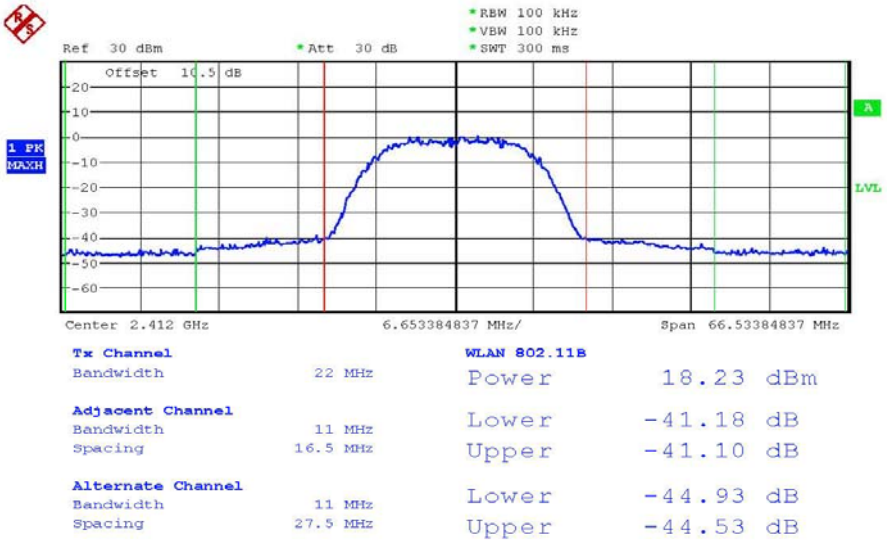
Appendix

A Measurement diagrams

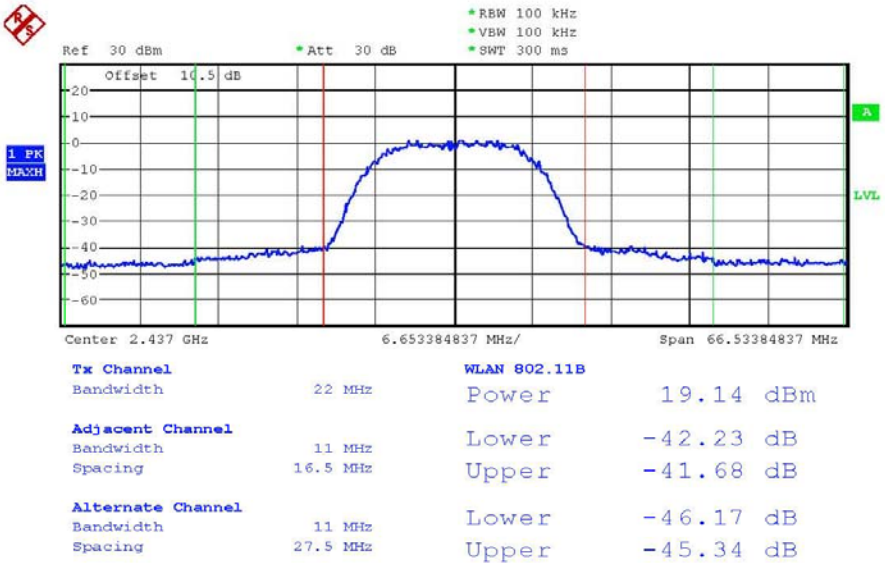
1. Peak Output Power
2. Spurious Emissions
3. Band Edge Measurement
4. Minimum 6dB Bandwidth
5. Peak Power Spectral Density
6. Power Line Conducted Emission

B Photos

1. External Photos
2. Internal Photos
3. Set Up Photo of Radiated Emission
4. Set Up Photo of Conducted Emission

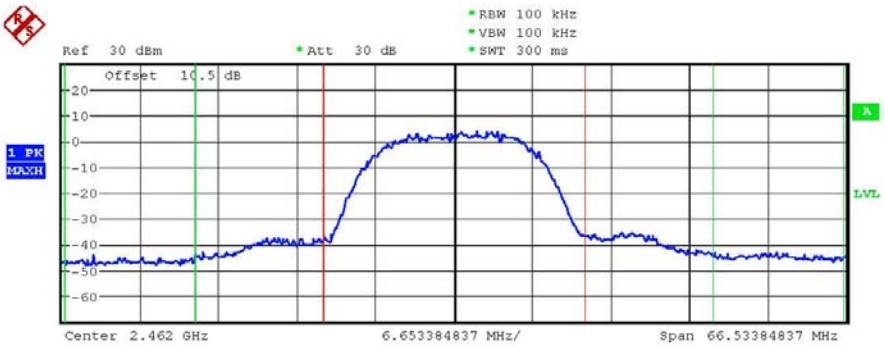


MAX OUTPUT POWER 802.11B CH1
Date: 16.MAY.2007 19:15:40



MAX OUTPUT POWER 802.11B CH6
Date: 16.MAY.2007 19:15:59

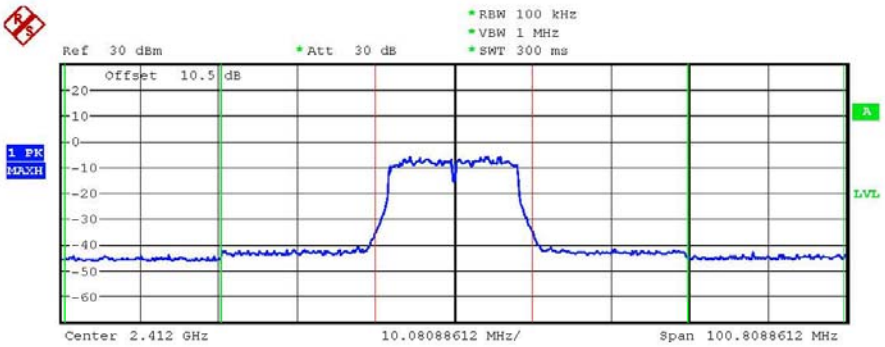
Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B



Tx Channel		**WLAN 802.11B**	
Bandwidth	22 MHz	Power	21.86 dBm
Adjacent Channel			
Bandwidth	11 MHz	Lower	-42.53 dB
Spacing	16.5 MHz	Upper	-40.58 dB
Alternate Channel			
Bandwidth	11 MHz	Lower	-48.72 dB
Spacing	27.5 MHz	Upper	-46.93 dB

MAX OUTPUT POWER 802.11B CH11
Date: 16.MAY.2007 19:16:18

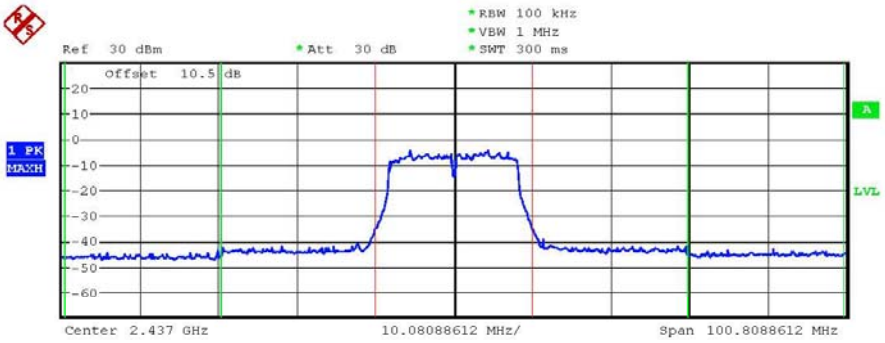
Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B



Tx Channel			
Bandwidth	20 MHz	Power	13.54 dBm
Adjacent Channel			
Bandwidth	20 MHz	Lower	-33.88 dB
Spacing	20 MHz	Upper	-33.64 dB
Alternate Channel			
Bandwidth	20 MHz	Lower	-36.81 dB
Spacing	40 MHz	Upper	-36.21 dB

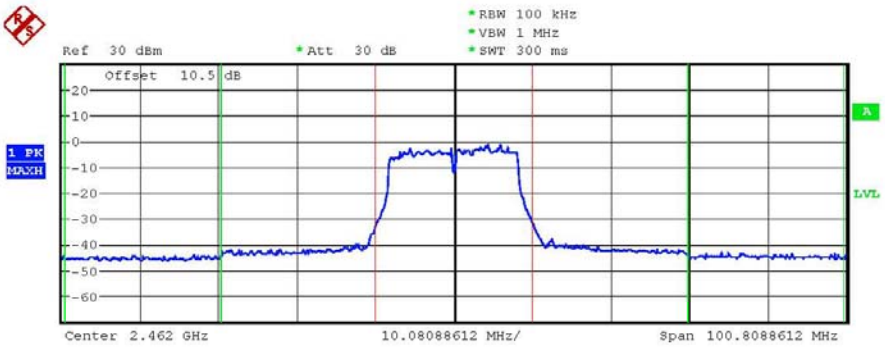
MAX OUTPUT POWER 802.11G CH1
Date: 16.MAY.2007 19:29:37

Registration number: W6M20705-8075-C-1
FCC ID: S83-AWK-1100B



Tx Channel			
Bandwidth	20 MHz	Power	14.63 dBm
Adjacent Channel			
Bandwidth	20 MHz	Lower	-35.39 dB
Spacing	20 MHz	Upper	-34.89 dB
Alternate Channel			
Bandwidth	20 MHz	Lower	-38.38 dB
Spacing	40 MHz	Upper	-37.38 dB

MAX OUTPUT POWER 802.11G CH6
Date: 16.MAY.2007 19:27:50



Tx Channel			
Bandwidth	20 MHz	Power	17.40 dBm
Adjacent Channel			
Bandwidth	20 MHz	Lower	-36.96 dB
Spacing	20 MHz	Upper	-35.68 dB
Alternate Channel			
Bandwidth	20 MHz	Lower	-40.41 dB
Spacing	40 MHz	Upper	-39.69 dB

MAX OUTPUT POWER 802.11G CH11
Date: 16.MAY.2007 19:27:22