FCC PART 15 SUBPART C TEST REPORT

for

3.5G HSDPA/UMTS/GSM/DCS/PCS PDA Phone

Model No.: Atom V

FCC ID: UJU9QATOMV000

of

Applicant: GIGA-BYTE Communications Inc.

Address: 8F, No 43, Fu-Hsin Road, Hsin-Tien Taipei Hsien 231,

Taiwan, R.O.C.

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: 930600

Industry Canada filed test laboratory Reg. No. IC 5679A-1

A2LA Accredited No.: 2732.01

Report No.: W6M20803-8930-C-1

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Registration number: W6M20803-8930-C-1

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FCC ID: UJU9QATOMV000 **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.

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Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services (Taiwan) Co., Ltd.

01. 00

Т	ester	•
1	CSICI	•

May 20, 2008		Jay Chaing	Jay Chaing
Date	WTS-Lab.	Name	Signature

Technical responsibility for area of testing:

May 20, 2008		Steven Chuang	Steven	Chuang:
Date	WTS	Name	Signatu	ure

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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

Worldwide Testing Services (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: 2732.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679A-1

1.3 Details of approval holder

Name: GIGA-BYTE Communications Inc. Street: 8F, No.43, Fu-Hsin Road, Hsin-Tien

Town: Taipei Hsien 231,
Country: Taiwan, R.O.C.
Telephone: +886-2-8219-2136
Fax: +886-2-5591-5800



FCC ID: UJU9QATOMV000 **1.4 Application details**

Date of receipt of test item: March 6, 2008

Date of test: from March 7, 2008 to May 20, 2008

1.5 General information of Test item

Type of test item: 3.5G HSDPA/UMTS/GSM/DCS/PCS PDA Phone

Model Number: Atom V

Brand name: MWg

Photos: see Annex

Technical data

Frequency band for WLAN: 2412 - 2462 MHz

Frequency (ch Low): 2.412 GHz Frequency (ch Middle): 2.437 GHz Frequency (ch High): 2.462 GHz

Frequency band for Bluetooth: 2402 - 2480 MHz

Frequency (ch Low): 2.402 GHz
Frequency (ch Middle): 2.441 GHz
Frequency (ch High): 2.480 GHz

Number of Channels: WLAN: 11 channels

Bluetooth: 79 channels

Power supply: Adaptor (I/P: AC 100 -240 V / 50-60 Hz / 0.2A, O/P: 5Vdc / 1.0A)

Battery (3.7 Vdc / 1300mAh)

Operation modes: duplex

Modulation Type: WLAN: DSSS / OFDM

Bluetooth: GFSK $\cdot \pi / 4DQPSK \cdot 8DPSK$

Antenna Type: PIFA antenna

Antenna gain: -4.5 dBi

Emission designator: 11b: DSSS: 15M7G1D

11g: OFDM: 16M5W7D

Bluetooth (Normal mode): 993K1F7D Bluetooth (EDR mode): 1M26F1D

Additional information: There are four testing modes in the test report.

Mode A: IEEE 802.11b Mode B: IEEE 802.11g

Mode C: Bluetooth (Normal mode) Mode D: Bluetooth (EDR mode)



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FCC ID: UJU9QATOMV000 Host device: none

Classification:

Fixed Device	
Mobile Device (Human Body distance > 20cm)	
Portable Device (Human Body distance < 20cm)	\boxtimes
Modular Radio Device	

<u>Transmitter</u> <u>Unom</u>

Mode A (DSSS)

Power (ch 1 or Low): Conducted: 15.56 dBm Power (ch 6 or Middle): Conducted: 15.93 dBm Power (ch 11 or High): Conducted: 15.40 dBm

Mode B (OFDM)

Power (ch 1 or Low): Conducted: 15.03 dBm Power (ch 6 or Middle): Conducted: 14.46 dBm Power (ch 11 or High): Conducted: 13.46 dBm

Mode C Normal Mode

Power (ch 0 or ch Low): Conducted: 0.43 dBm Power (ch 39 or ch Middle): Conducted: 0.33 dBm Power (ch 78 or ch High): Conducted: 0.24 dBm

Mode D EDR Mode

Power (ch 0 or ch Low): Conducted: -0.42 dBm Power (ch 39 or ch Middle): Conducted: -0.47 dBm Power (ch 78 or ch High): Conducted: -0.77 dBm

Manufacturer: (if applicable)

Name: GIGA-BYTE TECHNOLOGY CO., LTD. Street: No.215, Nan-Ping Road, Pin-Jen City,

Town: Taoyuan 320 Country: Taiwan,R.O.C

1.6 Test standards

Technical standard: FCC RULES PART 15 SUBPART C § 15.247 (2007-10)

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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 3 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

Details of power supply Adaptor (I/P: AC 100 -240 V / 50-60 Hz / 0.2A, O/P: 5Vdc / 1.0A)

Battery (3.7 Vdc / 1300mAh)

Extreme conditions parameters: test voltage : -- extreme

min : -- V max : -- V



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No.	Test equipment	Туре	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2007/10/15	2008/10/14
ETSTW-CE 002	PREREULATOR MODE DC POWER SUPPLY	None	None		Functi	on Test
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Functi	on Test
ETSTW-CE 004	ZWEILEITER-V- NETZNACHBILDUNG TWO- LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2007/10/15	2008/10/14
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2007/10/15	2008/10/14
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2008/5/10	2009/5/09
ETSTW-CE 008	ABSORBING CLAMP	MDS 21	3469	Schwarzbeck	2007/10/23	2009/10/22
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2007/8/2	2008/8/1
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2007/11/2	2009/11/1
ETSTW-CE 014	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T2-02	20241	FCC	2005/12/7	2008/12/6
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	2007/10/29	2008/10/28
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	2007/10/12	2009/10/11
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2007/12/3	2008/12/2
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2007/10/29	2008/10/28
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2007/10/11	2008/10/12
ETSTW-RE 010	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070181	МОТЕСН	Functi	on Test
ETSTW-RE 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	МОТЕСН	Functi	on Test
ETSTW-RE 017	Log-Periodic Antenna	HL025	352886/001	R&S	2008/5/3	2010/5/2
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2007/11/7	2010/11/6
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Functi	on Test
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2007/10/9	2008/10/8
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	EMCO	2007/6/29	2008/6/28
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2008/4/23	2010/4/22
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2008/4/23	2010/4/22
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2008/3/26	2010/3/25
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2007/10/9	2008/10/8



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ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2007/7/9	2008/7/8
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2007/10/16	2009/10/15
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	2008/5/7	2010/5/6
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2006/5/29	2008/5/28
ETSTW-RE 047	ESA-E SERIES SPECTRUM ANALYZER	E4445A	MY46181369	Agilent	2007/7/19	2008/7/18
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2005/3/22	2009/3/21
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2007/5/2	2009/5/1
ETSTW-RE 055	SPECTRUM ANALYZER	FSU-26	200074	R&S	2007/7/16	2008/7/15
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Functi	on Test
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	НР	2007/7/2	2009/7/1

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2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2003 using a $50\mu H$ 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. The ambient, temperature of the UUT was 23°C with a humidity of 40 %.

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 $dB\mu V$) 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 $20 \text{ dB}\mu\text{V} + 10.36 \text{ dB} + 6 \text{ dB} = 36.36 \text{ dB}\mu\text{V/m} \text{ @3m}$

The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2003 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 Worldwide Testing Services (Taiwan) Co., Ltd. at the registered open field test site located 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.



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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



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3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)	×	×	
Equivalent radiated Power	15.247(b)	×	×	
Spurious Emissions radiated – Transmitter operating	15.247(c)	×	×	
Spurious Emissions conducted – Transmitter operating	15.247			
Carrier Frequency Separation	15.247(a) (1)	×	×	
Number of Hopping Frequencies	15.247(a) (1)(i)	×	×	
Time of Occupancy (Dwell Time)	15.247(a) (1)(i)	×	×	
20 dB Bandwidth	15.247(a) (1)(i)	×	×	
Minimum 6 dB Bandwidth	15.247(a)(2)	×	×	
Band-edge Compliance of RF Emission	15.247(c)	×	×	
Peak Power Spectral Density	15.247(d)	×	×	
Radiated Emission from Digital Part	15.109			
Power Line Conducted Emission	15.207(a)	×	×	

The follows is intended to leave blank.



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3.1 Peak Output Power (transmitter)

FCC Rule: 15.247

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 conditions		Conducted Power			
		Channel Low	Channel Middle	Channel High	
		[dBm]	[dBm]	[dBm]	
$T_{nom} = 23$ °C	$V_{\text{nom}} = 120 \text{ V}$	15.56	15.93	15.40	

Mode B:

Test conditions		Conducted Power			
		Channel Low Channel Middle		Channel High	
		[dBm]	[dBm]	[dBm]	
$T_{nom} = 23$ °C	$V_{\text{nom}} = 120 \text{ V}$	15.03	14.46	13.46	

Mode C:

		Conducted Power			
Test co	nditions	Channel Low	Channel Middle	Channel High	
		[dBm]	[dBm]	[dBm]	
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 120 \text{ V}$	0.43	0.33	0.24	

Mode D:

		Conducted Power						
Test co	nditions	Channel Low	Channel High					
		[dBm]	[dBm]	[dBm]				
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 120 \text{ V}$	-0.42	-0.47	-0.77				



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			Radiated Power							
Test cond	litions	Channel Low	Channel Middle	Channel High						
		[dBm]	[dBm]	[dBm]						
$T_{nom} = \circ C$	$V_{nom} =V$	1	-							

Test conditions $T_{nom} = ^{\circ}C, \ V_{nom} = V$ Frequency[MHz]	Signal Field strength TX highest power mode $dB\mu V/m \label{eq:Bmu}$
Measurement uncertainty	 < 3 dB

Maximum Peak Output Power

Limits:

Frequency	Number of hopping channels									
MHz	≥ 75	≥ 50	49 ≥ 25	74 ≥ 15						
902-928		30 dBm	24 dBm							
2400-2483.5 MHz	30 dBm	-		21 dbm						
5725-5850 MHz	30 dBm	-								

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

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055 ETSTW-RE 064

Explanation: See attached diagrams in appendix.



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3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

EIRP = max. conducted output power + antenna gain

EIRP = 15.93 dBm + (-4.5) dBi

= 11.43 dBm

Limit: EIRP = +36 dBm for Antenna gain < 6 dBi

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

Item	Unit	Value	Remarks
P	mW	39.18	Peak value
D	dB		
AG	dBi	-4.5	
G		0.4	Calculated Value
R	cm	20	Assumed value
S	mW/cm^2	0.00312	Calculated value

Limits:

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



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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 26000 MHz.

For radiated emission tests, the analyzer setting was as followings:

RES BW VID BW

Frequency <1 GHz 100 kHz 100 kHz (Peak measurements) Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)

1 MHz 1 MHz (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 960	500	54.0

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of Digit and FHSS Systems:

"If the emission is pulsed, modify the unit for continues operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation." Here the correction was added to the limit instead subtracted from the reading.

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

For frequencies above 1GHz (Average measurements).

Limit – duty cycle correction

No duty cycle correction was added to the reading.

 $54.0dB\mu V/m$

For frequencies above 1GHz (Peak measurements).

Limit + 20dB

 $54.0 dB \mu V/m + 20 dB = 74 dB \mu V/m$

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017ETSTW-RE 028

ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043

ETSTW-RE 044 ETSTW-RE 064

Explanation: See attached diagrams in appendix.

Worldwide Testing Services (Taiwan) Co., Ltd.



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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))

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance to 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 an 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 "Marker-Delta-Method" or the "Duty-Cycle Correction Factor".

Summary table with radiated data of the test plots

Model: Atom V Date: 2008/5/15
Mode: 802.11b ch1 Tx Mode Temperature: 26 °C Engineer: Polarization: Horizontal Humidity: 60 % Jay

Frequency	Rea (dB	ding Factor uV) (dB)		Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Ċorŕ.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1194.389	50.24		-11.84	38.40		74	54	-35.6	110	150
3959.920	49.86		-4.47	45.39		74	54	-28.61	110	150
4824.000	41.52		-2.41	39.11		74	54	-34.89	110	150
7236.000	40.01		2.07	42.08		74	54	-31.92	115	150
9648.000	37.45		4.96	36.41		74	54	-37.59	120	150
12060.000	36.75		11.60	36.35		74	54	-37.65	115	150

Frequency (MHz)		ding uV) Ave.	Factor (dB) Corr.	Result @3m (dBuV/m) Peak Ave.		Limit @3m (dBuV/m) Peak Ave.		Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
1132.265	51.07		-11.83	39.24		74	54	-34.76	115	150
3951.904	49.20		-4.49	44.71		74	54	-29.29	110	150
4824.000	41.23		-2.41	38.82		74	54	-35.18	110	150
7236.000	40.23		2.07	42.30		74	54	-31.70	110	150
9648.000	38.72		4.96	37.68		74	54	-36.32	110	150



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

Mode: 802.11b ch6 Tx Mode

Polarization: Horizontal

Frequency		ding uV)	Factor (dB)			Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High
(MHz)	Peak	Áve.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1991.984	52.41		-8.55	43.86		74	54	-30.14	120	150
3943.888	48.96		-4.50	44.46		74	54	-29.54	120	150
4874.000	41.11		-2.18	38.93		74	54	-35.07	110	150
7311.000	39.02		2.25	41.27		74	54	-32.73	105	150
9748.000	37.61		5.34	36.95		74	54	-37.05	110	150
12185.000	36.45		11.60	36.05		74	54	-37.95	115	150

Polarization: Vertical

Frequency	Reading Factor (dBuV) (dB)		Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High	
(MHz)	Peàk	Áve.	Ċorŕ.	Peak	Ave.	Peak	Avé.	(dB)	(Deg.)	(cm)
1060.120	55.84		-11.81	44.03		74	54	-29.97	105	150
3955.912	48.59		-4.48	44.11		74	54	-29.89	120	150
4874.000	40.99		-2.18	38.81		74	54	-35.19	115	150
7311.000	40.14		2.25	42.39		74	54	-31.61	110	150
9748.000	38.46		5.34	37.80		74	54	-36.20	120	150
12185.000	35.92		11.60	35.52		74	54	-38.48	120	150

Mode: 802.11b ch11 Tx Mode

Polarization: Horizontal

Frequency	Reading (dBuV)		Factor (dB)	Result @3m (dBuV/m)		Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Corr.	Pèak	Áve.	Pèak	Ave.	(dB)	(Deg.)	(cm)
1056.112	52.61		-11.81	40.8		74	54	-33.20	110	150
3951.904	48.41		-4.49	43.92		74	54	-30.08	115	150
4924.000	41.41		-1.95	39.46		74	54	-34.54	110	150
7386.000	39.98		2.43	42.41		74	54	-31.59	115	150
9848.000	37.33		5.72	37.05		74	54	-36.95	110	150
12310.000	36.90		11.60	36.50		74	54	-37.50	115	150

Frequency	Reading (dBuV)		Factor (dB)	` `	@3m V/m)	(dBu	@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1062.124	54.82		-11.81	43.01		74	54	-30.99	110	150
3803.607	48.89		-4.75	44.14		74	54	-29.86	115	150
4924.000	41.48		-1.95	39.53		74	54	-34.47	110	150
7386.000	39.55		2.43	41.98		74	54	-32.02	120	150
9848.000	37.41		5.72	37.13		74	54	-36.87	115	150
12310.000	37.28		11.60	36.88		74	54	-37.12	120	150



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

Mode: 802.11g ch1 Tx Mode

Polarization: Horizontal

Frequency	Reading (dBuV)		Factor (dB)	Result (dBu	: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Áve.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1132.265	50.41		-11.83	38.58		74	54	-35.42	110	150
3771.543	49.03		-4.81	44.22		74	54	-29.78	120	150
4824.000	41.39		-2.41	38.98		74	54	-35.02	115	150
7236.000	40.06		2.07	42.13		74	54	-31.87	110	150
9648.000	37.93		4.96	36.89		74	54	-37.11	110	150
12060.000	37.70		11.60	37.30		74	54	-36.70	115	150

Polarization: Vertical

Frequency	Reading (dBuV)		Factor (dB)			Limit @3m (dBuV/m)		Margin	Table Degree	Ant. High
(MHz)	Peak Áve.		Corr.	Pèak	Áve.	Pèak	Ave.	(dB)	(Deg.)	(cm)
1132.265	50.28		-11.83	38.45		74	54	-35.55	105	150
3959.920	48.60		-4.47	44.13		74	54	-29.87	115	150
4824.000	41.63		-2.41	39.22		74	54	-34.78	110	150
7236.000	39.80		2.07	41.87		74	54	-32.13	100	150
9648.000	38.55		4.96	37.51		74	54	-36.49	120	150
12060.000	37.96		11.60	37.56		74	54	-36.44	110	150

Mode: 802.11g ch6 Tx Mode

Polarization: Horizontal

Frequency	Reading (dBuV)		Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk Áve.		Corr.	Peak	Ave.	Peak		(dB)	(Deg.)	(cm)
1148.297	50.08		-11.83	38.25		74	54	-35.75	110	150
3951.904	49.43		-4.49	44.94		74	54	-29.06	100	150
4874.000	41.18		-2.18	39.00		74	54	-35.00	110	150
7311.000	39.77		2.25	42.02		74	54	-31.98	115	150
9748.000	38.81		5.34	38.15		74	54	-35.85	115	150
12185.000	36.12		11.60	35.72		74	54	-38.28	110	150

Frequency	Reading (dBuV)		Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1132.265	50.25		-11.83	38.42		74	54	-35.58	105	150
3943.888	49.25		-4.50	44.75		74	54	-29.25	115	150
4874.000	41.03		-2.18	38.85		74	54	-35.15	110	150
7311.000	39.68		2.25	41.93		74	54	-32.07	110	150
9748.000	38.6		5.34	37.94		74	54	-36.06	120	150
12185.000	36.74		11.60	36.34		74	54	-37.66	120	150



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FCC ID: UJU9QATOMV000

Mode: 802.11g ch11 Tx Mode

Polarization: Horizontal

Frequency	Rea	Reading		Result @3m		Limit @3m		Margin	Table	Ant.
, ,		uV) ̃	(dB)	(dBu	V/m)	(dBu	V/m)	J	Degree	High
(MHz)	Peak	Áve.	Corr.	Peak	,	Peak	Ave.	(dB)	(Deg.)	(cm)
1188.377	50.13		-11.84	38.29		74	54	-35.71	120	150
3699.399	48.93		-4.94	43.99		74	54	-30.01	138	150
4924.000	41.77		-1.95	39.82		74	54	-34.18	110	150
7386.000	39.96		2.43	42.39		74	54	-31.61	115	150
9848.000	38.29		5.72	38.01		74	54	-35.99	115	150
12310.000	37.37		11.60	36.97		74	54	-37.03	120	150

Polarization: Vertical

Frequency	Reading (dBuV)		Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk Áve.		Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
1204.409	50.17		-11.84	38.33		74	54	-35.67	105	150
3787.575	49.22		-4.78	44.44		74	54	-29.56	110	150
4924.000	42.13		-1.95	40.18		74	54	-33.82	120	150
7386.000	39.73		2.43	42.16		74	54	-31.84	120	150
9848.000	38.50		5.72	38.22		74	54	-35.78	125	150
12310.000	37.61		11.60	37.21		74	54	-36.79	120	150

Model: Atom V Date: 2008/5/14

Mode: TX CH0 (Bluetooth) Temperature: 26 °C Engineer: Danny

Polarization: Horizontal Humidity: 60 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
120.361	19.90	peak	13.44	33.34	43.5	-10.16	105	150

Polarization: Horizontal

Frequency		ding uV)	Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peak	Ave.	Corr.	Peak	Ave.	Peak	Ave.	(dB)	(Deg.)	(cm)
3270.541	50.47		-5.67	44.80		74	54	-29.20	100	150
4801.603	46.03		-2.51	43.52		74	54	-30.48	100	150
7206.000	40.12		1.99	42.11		74	54	-31.89	105	150
9608.000	33.52		4.81	32.33		74	54	-41.67	110	150
12010.000	31.67		11.60	31.27		74	54	-42.73	115	150



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FCC ID: UJU9QATOMV000 Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
120.902	21.55	peak	13.48	35.03	43.5	-8.47	110	150

Polarization: Vertical

Frequency	Reading (dBuV)		Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Čorŕ.	Pèak	Áve.	Pèak	Áve.	(dB)	(Deg.)	(cm)
3270.541	48.65		-5.67	42.98		74	54	-31.02	115	150
4801.603	43.12		-2.51	40.61		74	54	-33.39	100	150
7206.000	39.73		1.99	41.72		74	54	-32.28	110	150
9608.000	33.33		4.81	32.14		74	54	-41.86	105	150
12010.000	31.20		11.60	30.80		74	54	-43.20	110	150

Mode: TX CH39(Bluetooth)

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
120.361	20.50	peak	13.44	33.94	43.5	-9.56	115	150

Polarization: Horizontal

Frequency		ding uV)	Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Ċorŕ.	Pèak	Áve.	Pèak	Ave.	(dB)	(Deg.)	(cm)
3278.557	48.42		-5.65	42.77		74	54	-31.23	115	150
4881.764	41.98		-2.14	39.84		74	54	-34.16	110	150
7323.000	39.75		2.28	42.03		74	54	-31.97	115	150
9764.000	33.39		5.40	32.79		74	54	-41.21	105	150
12205.000	31.31		11.60	30.91		74	54	-43.09	110	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
120.361	21.27	peak	13.44	34.71	43.5	-8.79	110	150

Frequency	Rea (dB	ding uV)	Factor (dB)		: @3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Ċorr.	Pèak	Áve.	Pèak	Áve.	(dB)	(Deg.)	(cm)
3270.541	48.55		-5.67	42.88		74	54	-31.12	100	150
4882.000	40.49		-2.14	38.35		74	54	-35.65	110	150
7323.000	39.25		2.28	41.53		74	54	-32.47	110	150
9764.000	33.38		5.40	32.78		74	54	-41.22	100	150
12205.000	31.21		11.60	30.81		74	54	-43.19	105	150



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Mode: TX CH78(Bluetooth)

Polarization: Horizontal

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
120.361	19.99	peak	13.44	33.43	43.5	-10.07	95	150

Polarization: Horizontal

Frequency	Rea (dB	ding uV)	Factor (dB)	Result (dBu	:@3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Corr.	Peak	Áve.	Pèak	Áve.	(dB)	(Deg.)	(cm)
3270.541	49.17		-5.67	43.50		74	54	-30.50	105	150
4961.924	43.14		-1.78	41.36		74	54	-32.64	100	150
7440.000	39.19		2.56	41.75		74	54	-32.25	105	150
9920.000	32.35		6.00	32.35		74	54	-41.65	105	150
12400.000	33.19		11.60	32.79		74	54	-41.21	110	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
125.231	21.19	peak	13.77	34.96	43.5	-8.54	90	150

Polarization: Vertical

Frequency	Rea (dB	ding uV)	Factor (dB)	Result (dBu	@3m V/m)		@3m V/m)	Margin	Table Degree	Ant. High
(MHz)	Peàk	Áve.	Ċorŕ.	Pèak	Áve.	Pèak	Ave.	(dB)	(Deg.)	(cm)
3274.549	48.73		-5.66	43.07		74	54	-30.93	100	150
4960.000	41.33		-1.78	39.55		74	54	-34.45	110	150
7440.000	39.08		2.56	41.64		74	54	-32.36	120	150
9920.000	33.75		6.00	33.75		74	54	-40.25	110	150
12400.000	33.41		11.60	33.01		74	54	-40.99	115	150

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 the attached diagram as appendix.

All other not noted test plots do not contain significant test results in relation to the limits.

TEST RESULT (Transmitter): The unit DOES meet the FCC requirements.

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 ETSTW-RE 064



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3.6 Carrier Frequency Separation

Carrier Frequency Separation was measured with modulation (declared by manufacturer).

According to FCC rules part 15 subpart C §15.247 frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or 20 dB bandwidth of the hopping channel, whichever is greater.

Mode C and Mode D:

Test conditions		Channel Separation				
		Channel 0	Channel 0+1			
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 120 \text{ V}$	993.589743590 kHz				

Test conditions		Channel Separation				
		Channel 39	Channel 39+1			
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 120 \text{ V}$	993.589743590 kHz				

Test conditions		Channel Separation				
		Channel 78	Channel 78+1			
T _{nom} = 23°C	$V_{\text{nom}} = 120 \text{ V}$	993.589743590 kHz				

Limits:

Frequency Range	Limits				
MHz	20 dB bandwidth < 25 kHz	20 dB bandwidth > 25 kHz			
902-928	25 kHz	20 dB bandwidth			
2400-2483.5 5725-5850.0	25 kHz	20 dB bandwidth			

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055 ETSTW-RE 064

Explanation: This test is not applicable for Mode A and Mode B because these two modes are not FHSS modulation. See attached diagrams in appendix.

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3.7 Number of Hopping Frequencies

According to FCC rules part 15 subpart C §15.247 frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies. Frequency hopping systems in 5725-5850 MHz bands shall use least 75 hopping frequencies.

For frequency hopping systems operating in the 902-928 MHz band: if the 20dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies; if the 20dB bandwidth of the hopping channel 250 kHz or greater, the system shall use at least 25 hopping frequencies.

Mode C and Mode D:

Test conditions		Operating Mode	Number of Channels	
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$		normal transmitting	79	

Limits:

Frequency Range	Limit		
MHz	20dB Bandwidth	Number of Channels	
902-928 MHz	Bandwidth < 250 kHz	≥ 50	
902-928 MHZ	Bandwidth ≥ 250 kHz	≥ 25	
2400-2483.5	not defined	15	
5725-5850.0 MHz	1 MHz	75	

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055 ETSTW-RE 064

Explanation: This test is not applicable for Mode A and Mode B because these two modes are not FHSS modulation. See attached diagrams in appendix.

3.7.1 Pseudorandom Frequency Hopping Sequence

The generation of the hopping sequence is determined by the Bluetooth cord specification and complies with the FCC requirements.

3.7.2 Coordination of hopping sequences to other transmitters

According to the Bluetooth core specification V1.1 such a coordination is not possible. During scatternet function only one of the two hopping sequences will be used at a definite moment.

3.7.3 System Receiver Hopping Capability

According to the Bluetooth core specification. The system receivers shift frequencies in synchronization with the transmitted signals.



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3.8 Time of Occupancy (Dwell Time)

Frequency hopping systems operating in the 5725-5850 MHz band shall use an average time of occupancy on any frequency not greater than 0.4 seconds within a 30 second period.

In 2400-2483,5 MHz band the average time of occupancy on any channel shall not be greater than 0,4 seconds multiplied by the number of hopping channels employed.

For frequency hopping systems operating in the 902-928 MHz band: if the 20dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not greater than 0.4 seconds within a 20 second period; if the 20dB bandwidth of the hopping channel is 250 kHz or greater, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

Mode C and Mode D:

Test conditions	Operating mode	Measurement period	Time of Occupancy
$T_{\text{nom}} = 23^{\circ}\text{C}$	normal transmitting-DH 1	31.6 s	141.44 ms
$V_{\text{nom}} = 120 \text{ V}$ Channel 0	normal transmitting-DH 3	31.6 s	272.8 ms
Channel 0	normal transmitting-DH 5	31.6 s	325.82 ms

Test conditions	Operating mode	Measurement period	Time of Occupancy
$T_{\text{nom}} = 23^{\circ}\text{C}$	normal transmitting-DH 1	31.6 s	139.52 ms
$V_{\text{nom}} = 120 \text{ V}$ Channel 39	normal transmitting-DH 3	31.6 s	264.64 ms
Channel 39	normal transmitting-DH 5	31.6 s	325.05 ms

Test conditions	Operating mode	Measurement period	Time of Occupancy
T _{nom} = 23°C	normal transmitting-DH 1	31.6 s	139.52 ms
$V_{nom} = 120 \text{ V}$	normal transmitting-DH 3	31.6 s	271.84 ms
Channel 78	normal transmitting-DH 5	31.6 s	325.05 ms



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Limits and measurement periods:

Frequency MHz	Number of channels	Measurement Periode	Limit
902 – 928	≥50	20 s	0,4 s
902 – 928	49 ≥ 25	10 s	0,4 s
2400 – 2483,5	≥ 15	0,4 s * number of used channels	0,4 s
5725- 5850	≥ 75	30 s	0,4s

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055 ETSTW-RE 064

Explanation: This test is not applicable for Mode A and Mode B because these two modes are not

FHSS modulation. See attached diagrams in appendix, which show the On-time and the

number of counted events during the measurement period

FCC ID: UJU9QATOMV000 **3.9 20dB Bandwidth**

Frequency hopping systems operating in the 5725-5850 MHz bands shall use a maximum 20dB bandwidth of 1 MHz.

The 20dB bandwidth is measured on the lowest, middle and highest hopping channel.

For frequency hopping systems operating in the 902-928 MHz band the maximum 20dB bandwidth of the hopping channel is 500 kHz.

Mode C:

Test conditions		20 dB Bandwidth	
	Channel Low Channel Middle Channel Hi		Channel High
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$	993.589743590 kHz	993.589743590 kHz	993.589743590 kHz

Mode D:

Test conditions			20 dB Bandwidth	
		Channel Low Channel Middle Channel Hig		Channel High
$T_{\text{nom}} = 23^{\circ}\text{C}$	$V_{\text{nom}} = 120 \text{ V}$	1.269230769 MHz	1.262820513 MHz	1.262820513 MHz

Limits:

Frequency Range / MHz	Limit
902-928	≤ 500 kHz
2400-2483.5	not defined
5725-5850	≤ 1 MHz

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055 ETSTW-RE 064

Explanation: This test is not applicable for Mode A and Mode B because these two modes are not FHSS modulation. See attached diagrams in appendix.

3.9.1 System Receiver Input Bandwidth

It is determined in the Bluetooth core specification. The value matches to the bandwidth of transmitter signal.



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3.10 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
$T_{nom} = 23^{\circ}C$	$V_{\text{nom}} = 120 \text{ V}$	5.737179487 MHz	5.512820513 MHz	5.512820513 MHz

Mode B:

Test conditions			6 dB Bandwidth	
		Channel 1	Channel 6	Channel 11
$T_{nom}=23$ °C	$V_{\text{nom}} = 120 \text{ V}$	16.570512821 MHz	16.570512821 MHz	16.570512821 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: This test is not applicable for Mode C and Mode D because these two modes are not DSSS / OFDM modulation. See attached diagrams in appendix.



Registration number: W6M20803-8930-C-1

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3.11 Band-edge Compliance of RF Emissions

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	$V_{nom} = 120 \text{ V}$	46.07 dB	46.26 dB

Mode B:

Test conditions		Attenuation at or outside band-edges			
		Lower Band-edge	Upper Band-edge		
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$		33.23 dB	40.50 dB		

Mode C:

Test conditions		Attenuation at or outside band-edges Single Frequency			
		Lower Band-edge	Upper Band-edge		
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$		43.10 dB	45.05 dB		

Test conditions		Attenuation at or outside band-edges Hopping Frequency			
		Lower Band-edge	Upper Band-edge		
$T_{\text{nom}} = 23$ °C $V_{\text{nom}} = 120 \text{ V}$		42.18 dB	44.20 dB		



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Mode D:

Test conditions		Attenuation at or outside band-edges Single Frequency			
		Lower Band-edge	Upper Band-edge		
$T_{\text{nom}} = 23 ^{\circ}\text{C}$ $V_{\text{nom}} = 120 ^{\circ}\text{V}$		44.71 dB	43.35 dB		

Test conditions		Attenuation at or outside band-edges Hopping Frequency			
		Lower Band-edge	Upper Band-edge		
$T_{\text{nom}} = 23$ °C $V_{\text{nom}} = 120 \text{ V}$		45.69 dB	43.15 dB		

Limits:

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

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017ETSTW-RE 028 ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044 ETSTW-RE 064

Explanation: See attached diagrams in appendix.



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3.12 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:

		Peak Power Spectral Density (3 kHz)			
Test conditions		Channel 1	Channel 6	Channel 11	
		[dBm]	[dBm]	[dBm]	
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$		-14.73	-14.56	-15.07	

Mode B:

		Peak Power Spectral Density (3 kHz)				
Test conditions		Channel 1	Channel 6	Channel 11		
		[dBm]	[dBm]	[dBm]		
$T_{\text{nom}} = 23^{\circ}\text{C}$ $V_{\text{nom}} = 120 \text{ V}$		-18.24	-16.31	-18.11		

Limits:

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

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

Explanation: This test is not applicable for Mode C and Mode D because these two modes are not DSSS / OFDM modulation. See attached diagrams in appendix.



FCC ID: UJU9QATOMV000

3.13 Radiated Emissions from Digital Part

FCC Rule: 15.109

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)		
30 - 88	100	(dBmicrovolts/meter) 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 ETSTW-RE 064

Explanation: The test results are listed in the separated test report no. W6M20803-8930-P-15B.



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3.14 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			

Model:	Ato	m V	Date:		Date: 2008/5/12			
Mode:	BT+Wif	i mode	Tempe	erture:	26	°C		Engineer:
Polarization:	Ν		Hum	idity:	60	%		Brian
Frequency Reading (dBuV)		Factor (dB)		sult BuV)		nit uV)	Margin	
(MHz)	QÈ	Ave.	Corr.	QP	Áve.	QP	Áve.	(dB)
0.1823	33.55	21.79	10.10	43.65	31.89	64.38	54.38	-20.73
0.2309	25.62	15.47	10.10	35.72	25.57	62.42	52.42	-26.70
0.2849	17.51	2.17	10.10	27.61	12.27	60.67	50.67	-33.06
0.5100	27.73	19.82	10.10	37.83	29.92	56.00	46.00	-16.08
0.8350	17.39	9.37	10.10	27.49	19.47	56.00	46.00	-26.53
2.7900	16.10	10.10	10.10	26.20	20.20	56.00	46.00	-25.80

Polarization: L1

Frequency	Reading (dBuV)		Factor (dB)	Result (dBuV)		Limit (dBuV)		Margin
(MHz)	QP	Ave.	Corr.	QP	Ave.	QP	Ave.	(dB)
0.1504	24.51	5.89	10.10	34.61	15.99	65.98	55.98	-31.37
0.1846	24.31	20.69	10.10	34.41	30.79	64.28	54.28	-23.49
0.2266	27.97	16.84	10.10	38.07	26.94	62.57	52.57	-24.50
0.5050	27.93	21.52	10.10	38.03	31.62	56.00	46.00	-14.38
1.5549	14.17	8.39	10.10	24.27	18.49	56.00	46.00	-27.51
2.9250	15.78	10.18	10.10	25.88	20.28	56.00	46.00	-25.72

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, AV = Average
- 4. All not in the table noted test results are more than 20 dB below the relevant limits.

5. See attached diagrams in Appendix.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

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-RE 064

FCC ID: UJU9QATOMV000

Appendix

Measurement diagrams

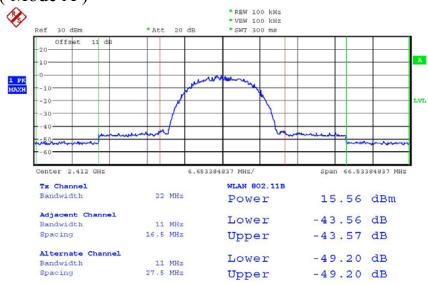
- 1. Peak Output Power
- 2. Spurious Emissions radiated
- 3. Carrier Frequency Separation
- 4. Number of Hopping Frequencies
- 5. Time of Occupancy (Dwell Time)
- 6. 20dB Bandwidth
- 7. Minimum 6dB Bandwidth
- 8. Band-edge Compliance of RF Conducted Emissions
- 9. Peak Power Spectral Density
- 10. Power Line Conducted Emission

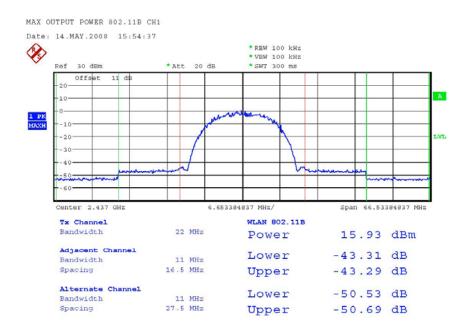


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Peak Output Power

WLAN Mode (Mode A)



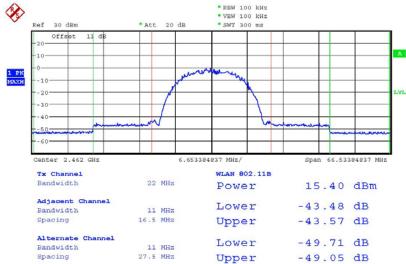


MAX OUTPUT POWER 802.11B CH6 Date: 14.MAY.2008 15:55:12



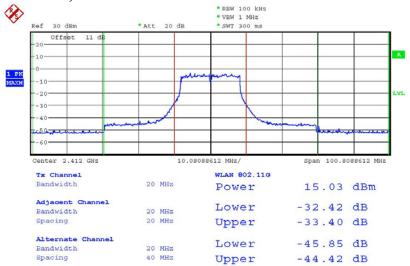
Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



MAX OUTPUT POWER 802.11B CH11 Date: 14.MAY.2008 16:06:13

WLAN Mode (Mode B)

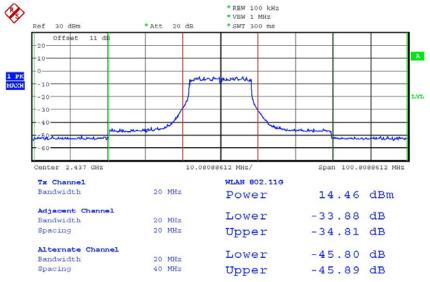


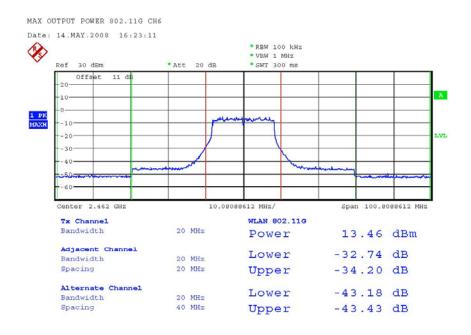
MAX OUTPUT POWBR 802.11G CH1 Date: 14.MAY.2008 16:18:06



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



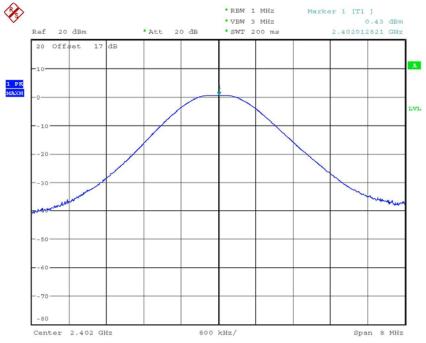


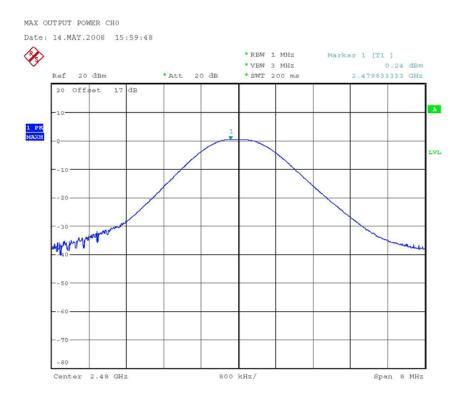
MAX OUTPUT POWER 802.11G CH11 Date: 14.MAY.2008 16:29:43



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000
Bluetooth Mode (Mode C)



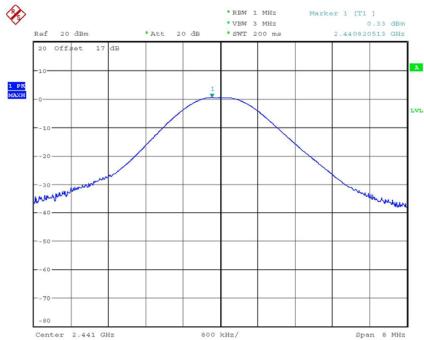


MAX OUTPUT POWER CH78
Date: 14.MAY.2008 16:00:31



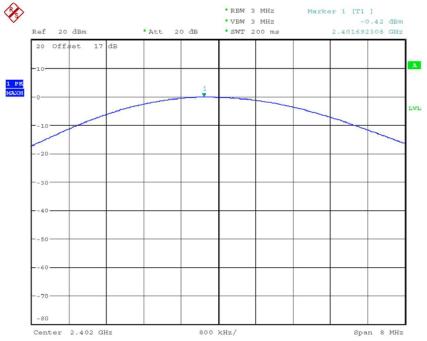
Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



MAX OUTPUT POWER CH39 Date: 14.MAY.2008 16:00:12

Bluetooth Mode (Mode D)

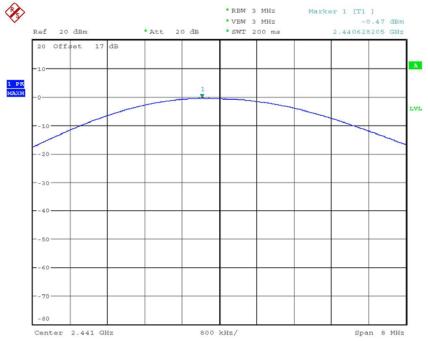


MAX OUTPUT POWER CHO EDR MODE Date: 14.MAY.2008 15:59:22

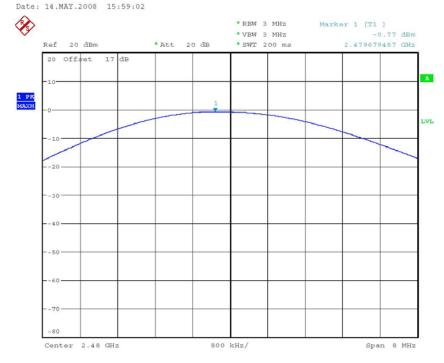


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



MAX OUTPUT POWER CH39 EDR MODE



MAX OUTPUT POWER CH78 EDR MODE Date: 14.MAY.2008 15:58:15



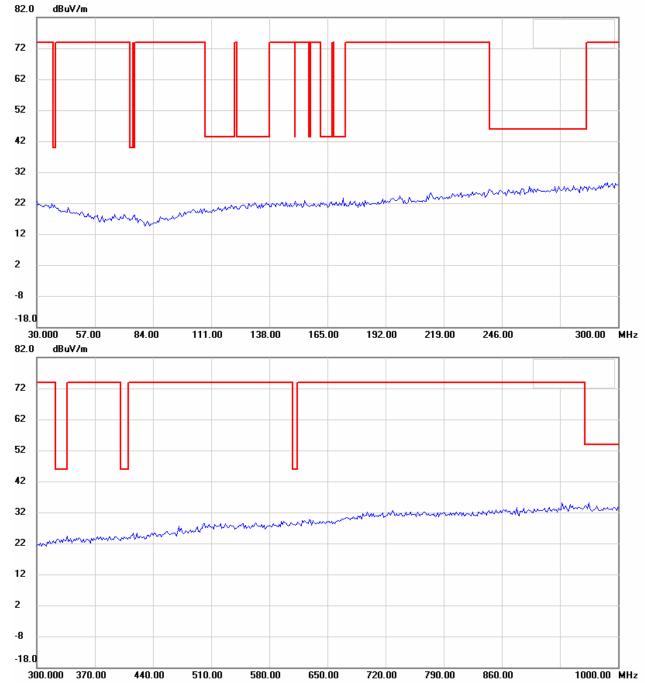
Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

Spurious Emissions radiated

WLAN Mode (Mode A)_ CH 1

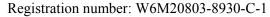
Antenna Polarization H

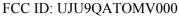


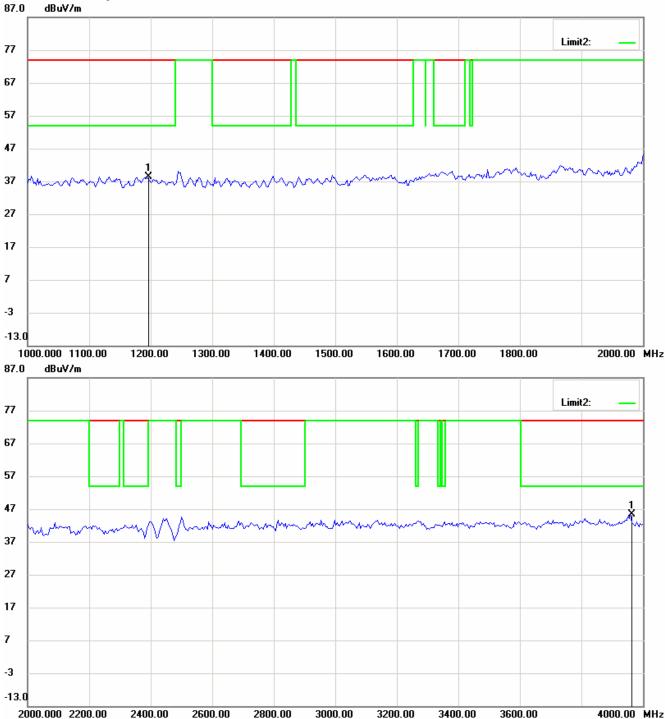
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









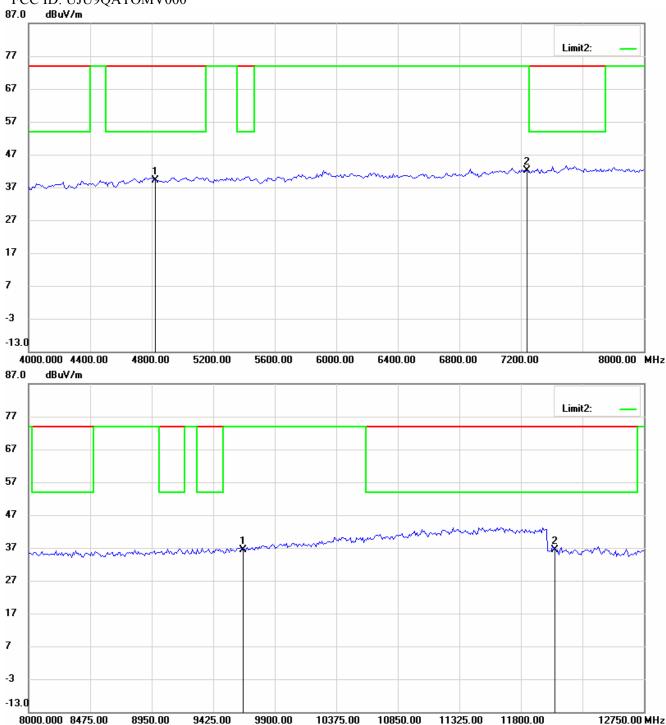
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



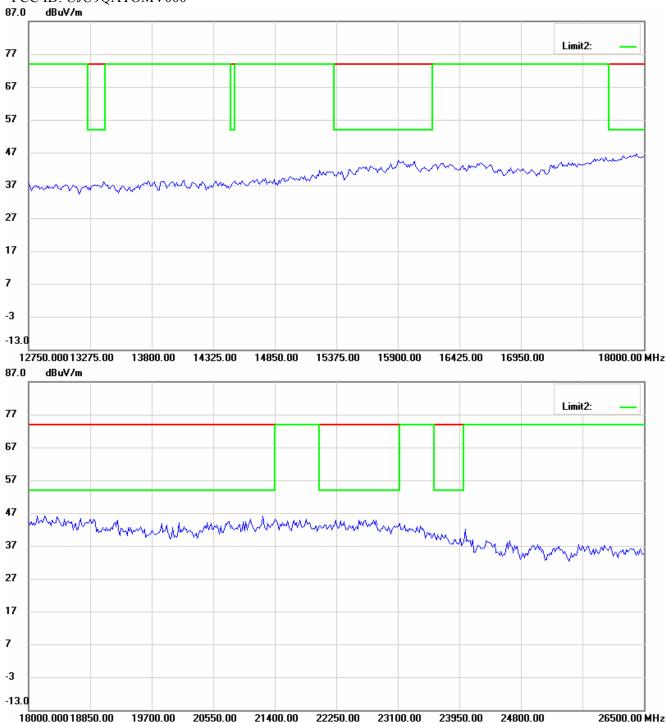
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



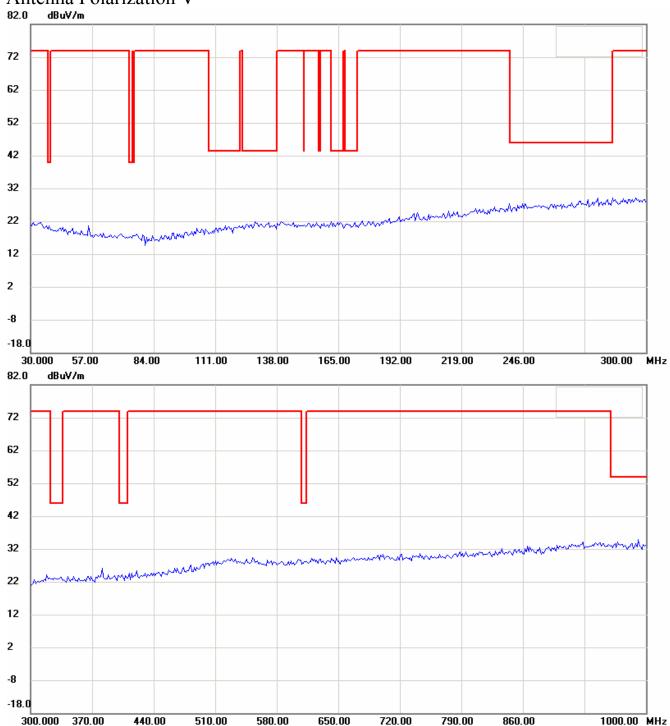
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Antenna Polarization V



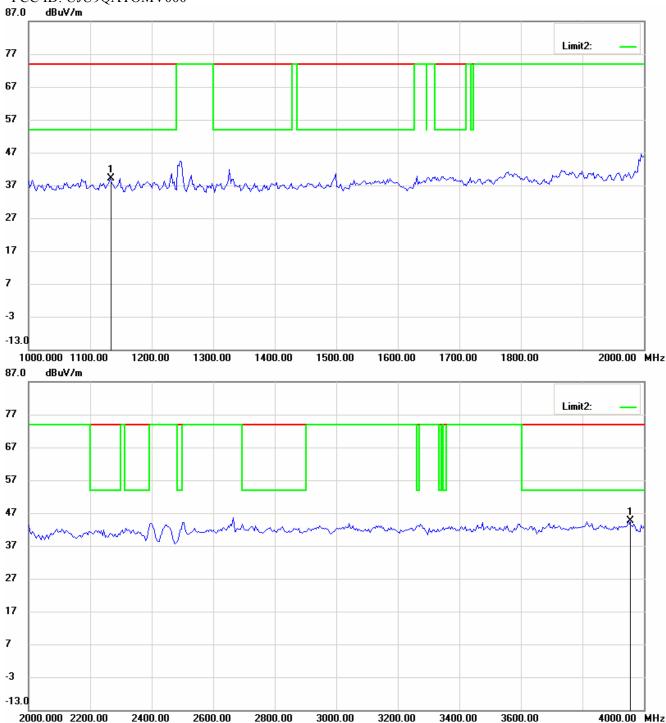
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

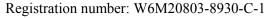
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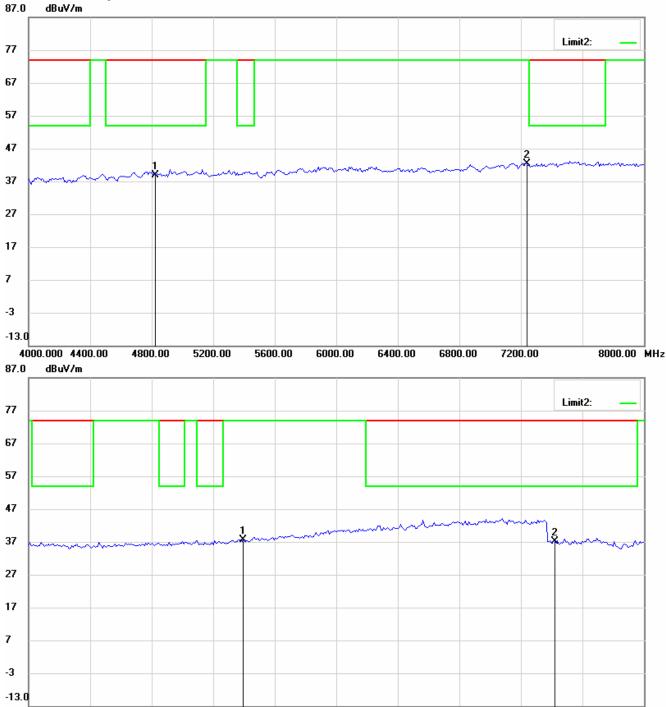
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









Up Line: Peak Limit Line Down Line: Ave Limit Line

8000.000 8475.00

Note:

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.

10375.00

10850.00

11325.00

11800.00

- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.

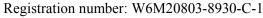
9900.00

8950.00

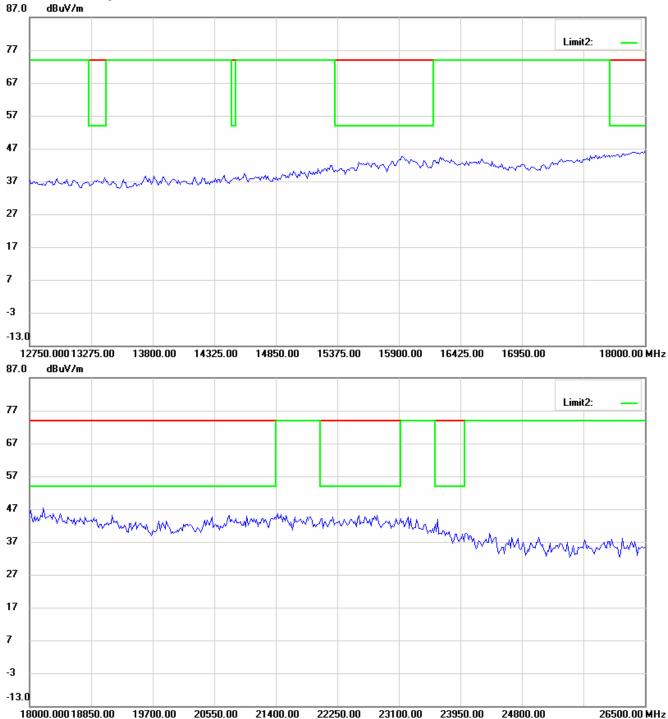
9425.00

12750.00 MHz









Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.

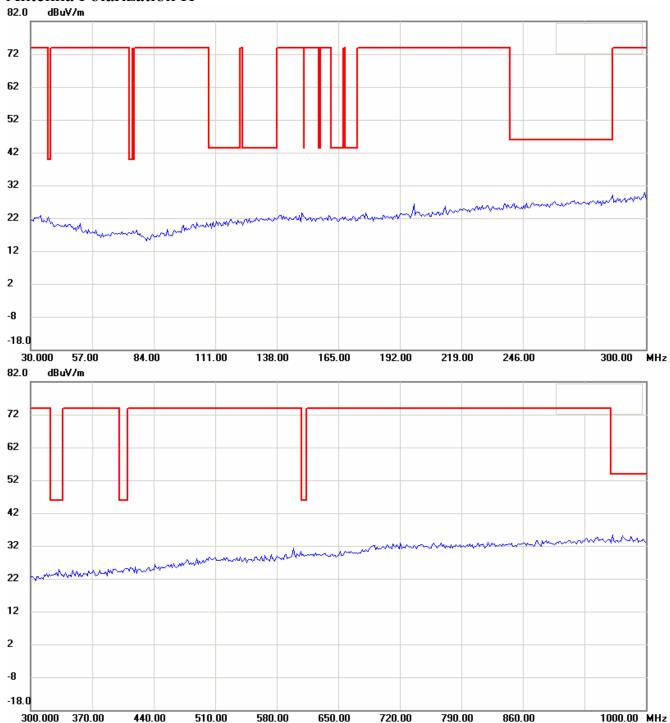


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

WLAN Mode (Mode A)_CH 6

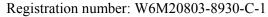
Antenna Polarization H



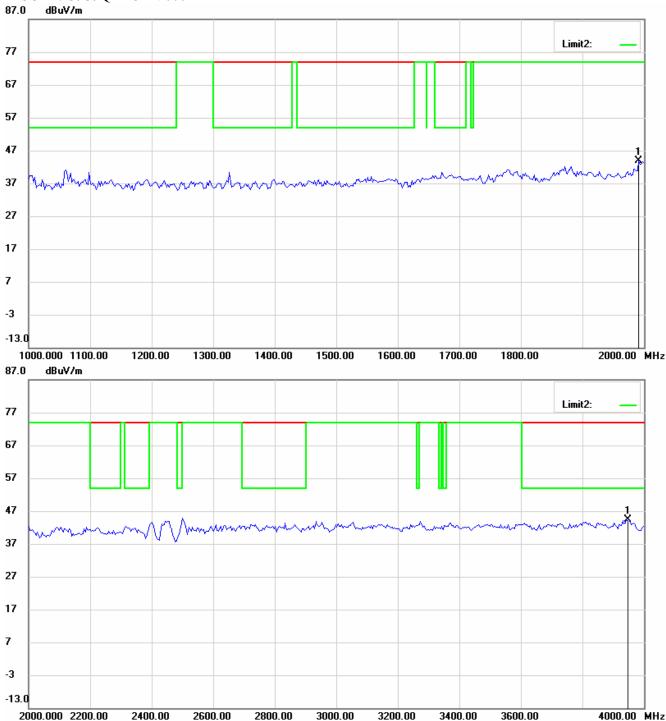
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





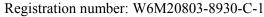




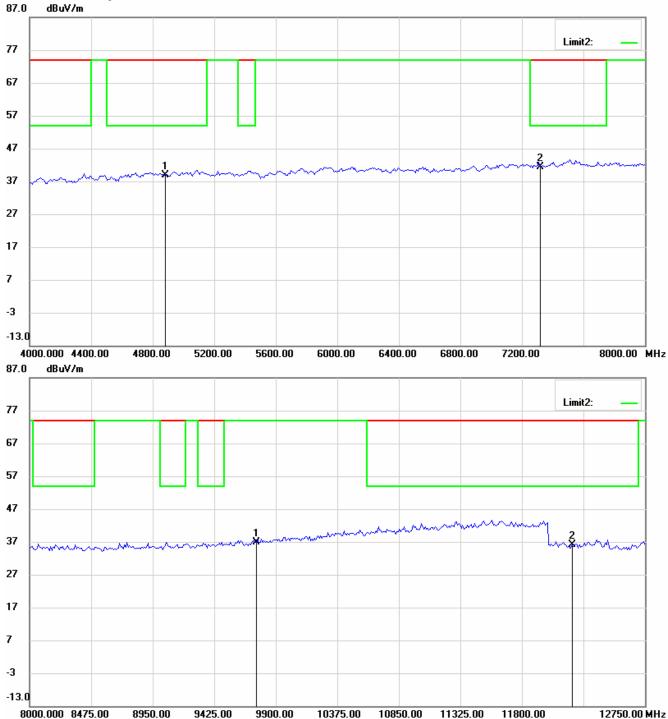
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









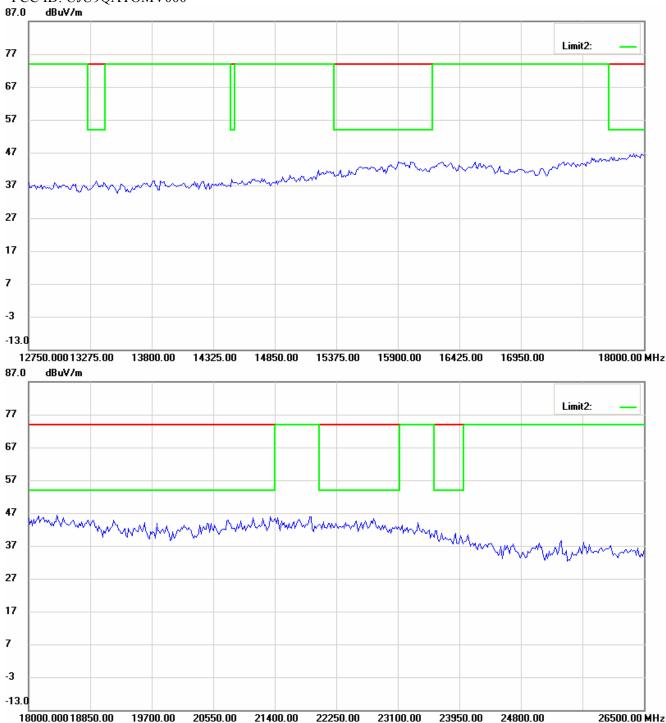
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



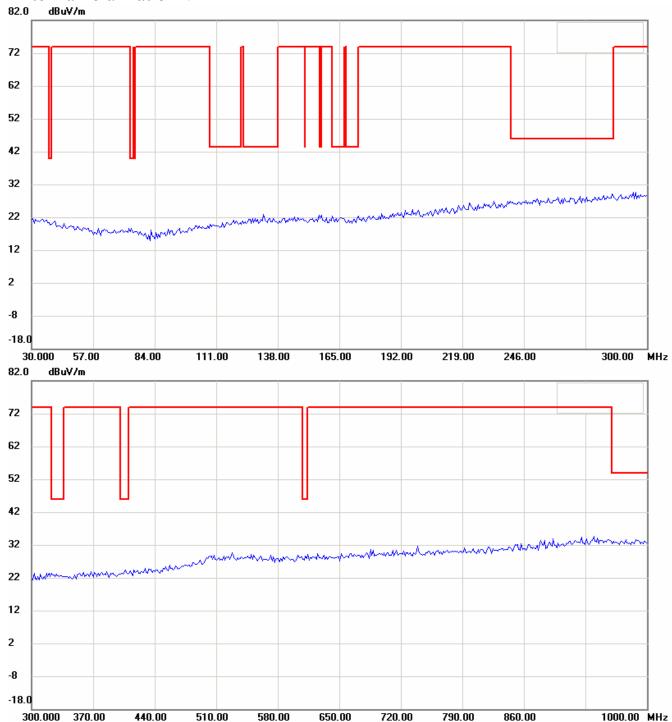
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Antenna Polarization V



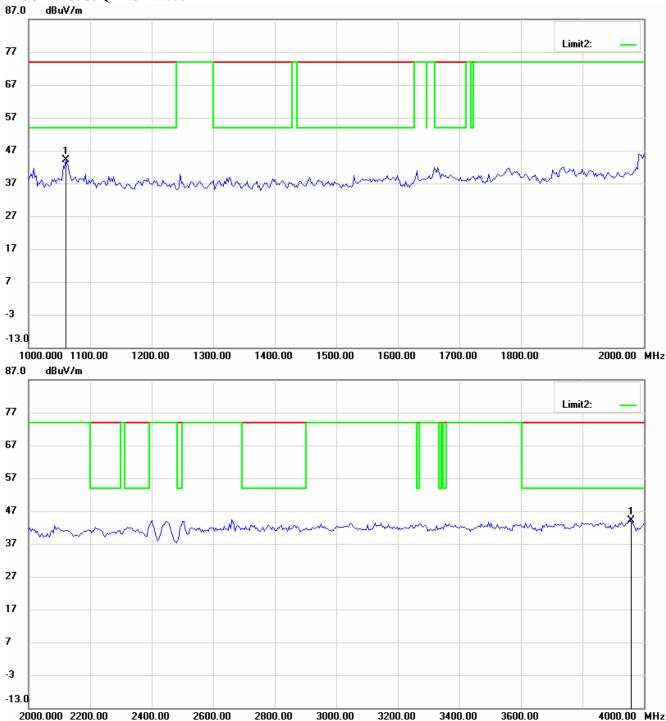
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

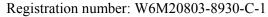
FCC ID: UJU9QATOMV000



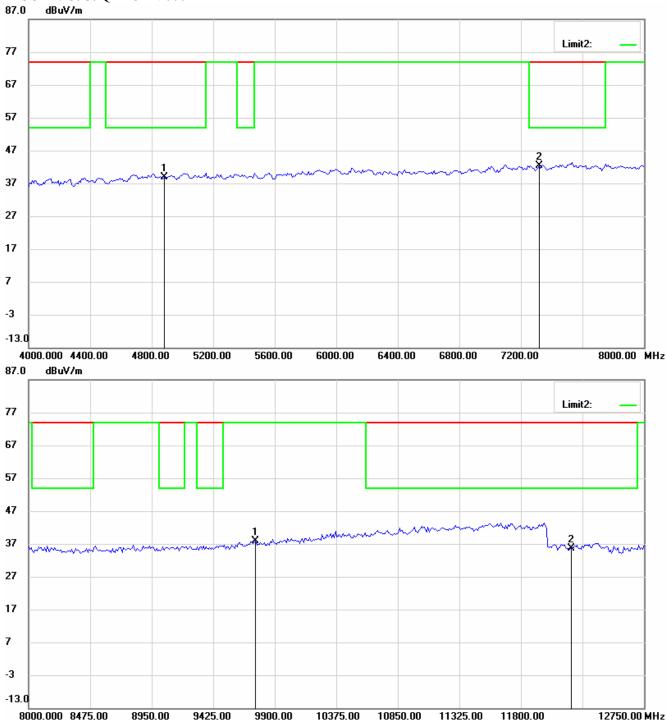
Up Line: Peak Limit Line Down Line: Ave Limit Line Note:

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









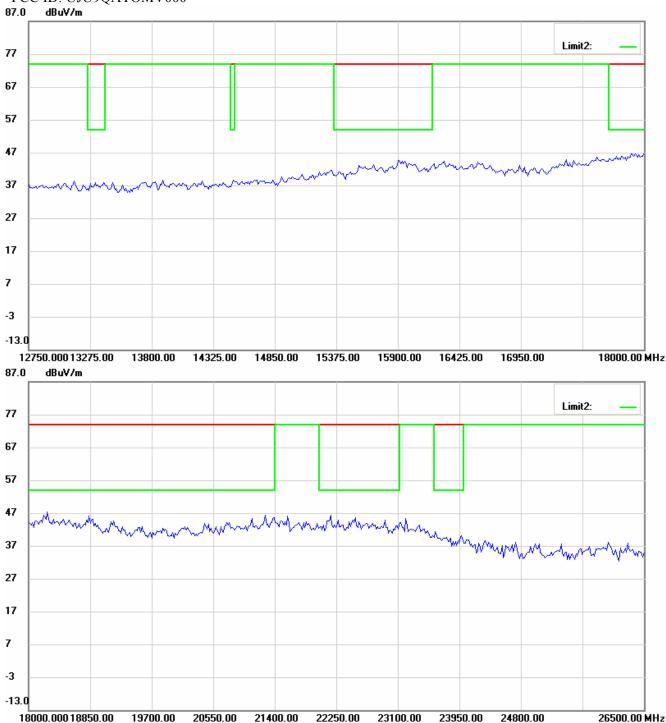
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.

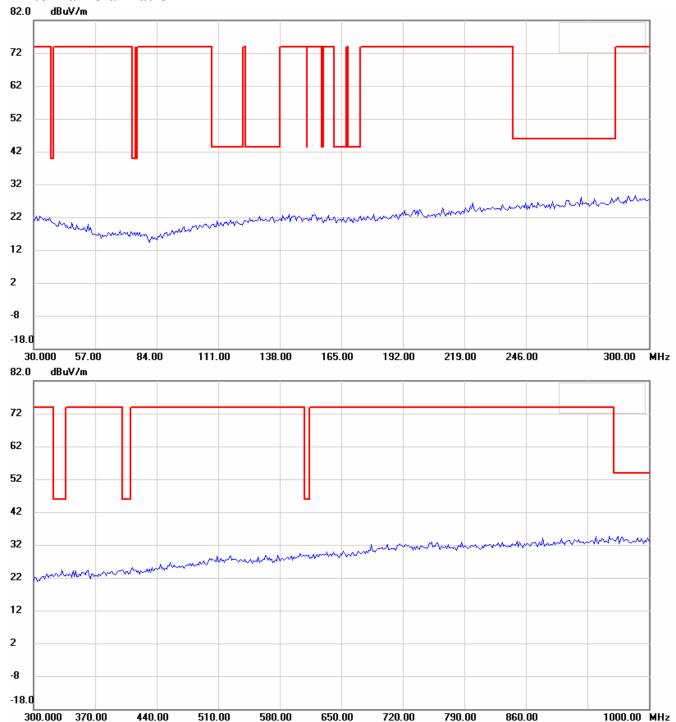


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

WLAN Mode (Mode A) CH 11

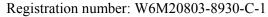
Antenna Polarization H



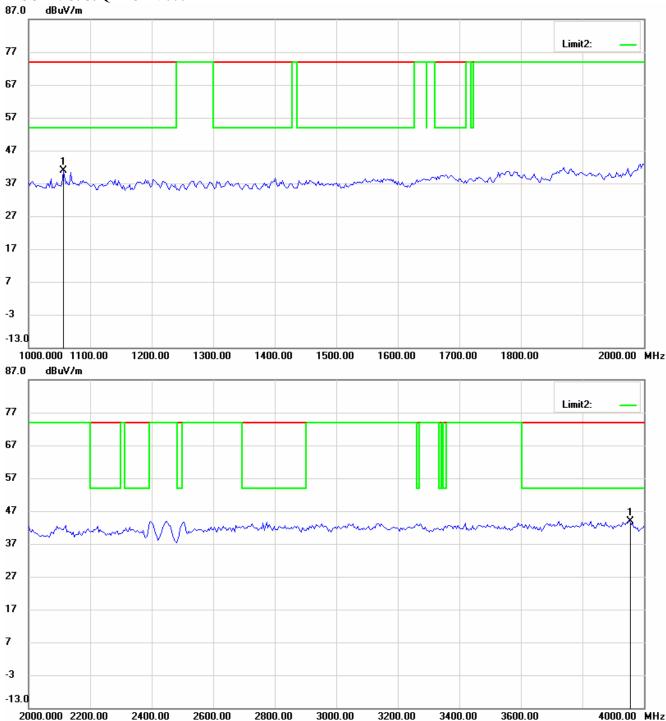
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









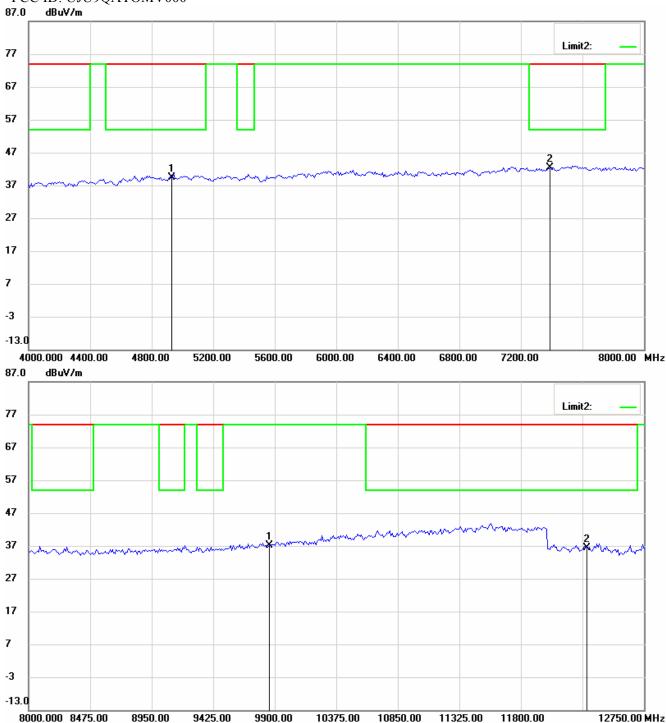
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

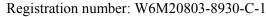
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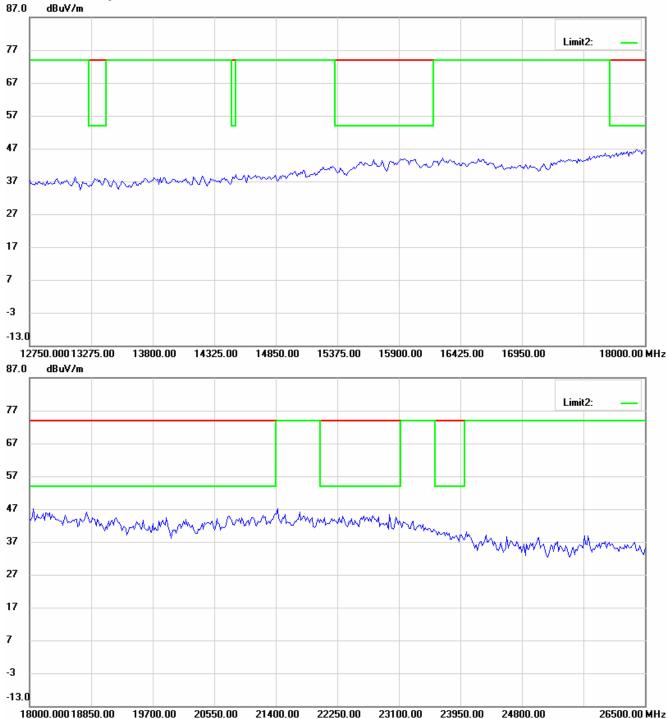
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- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









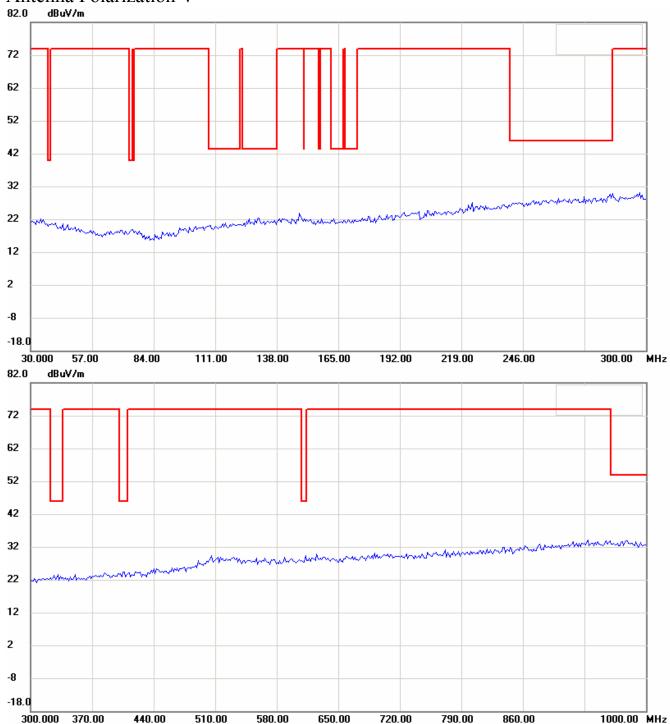
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

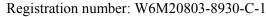
FCC ID: UJU9QATOMV000 Antenna Polarization V



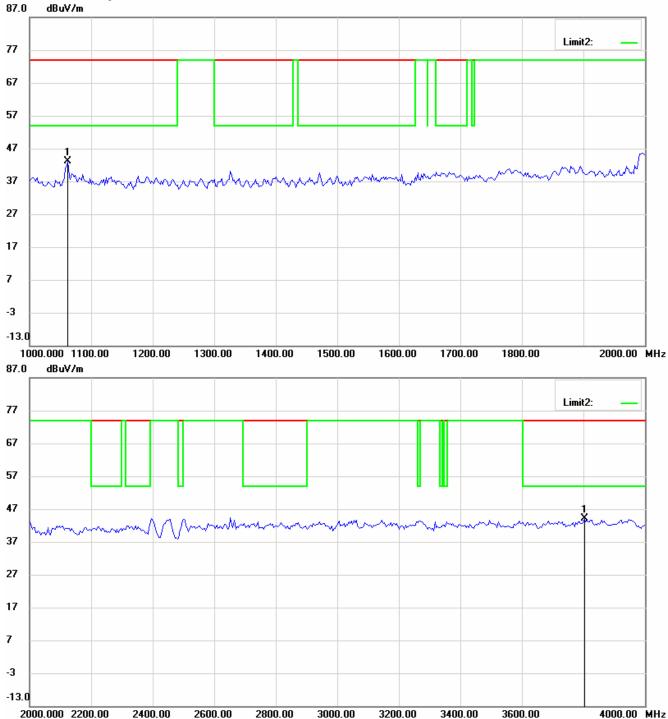
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





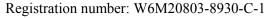




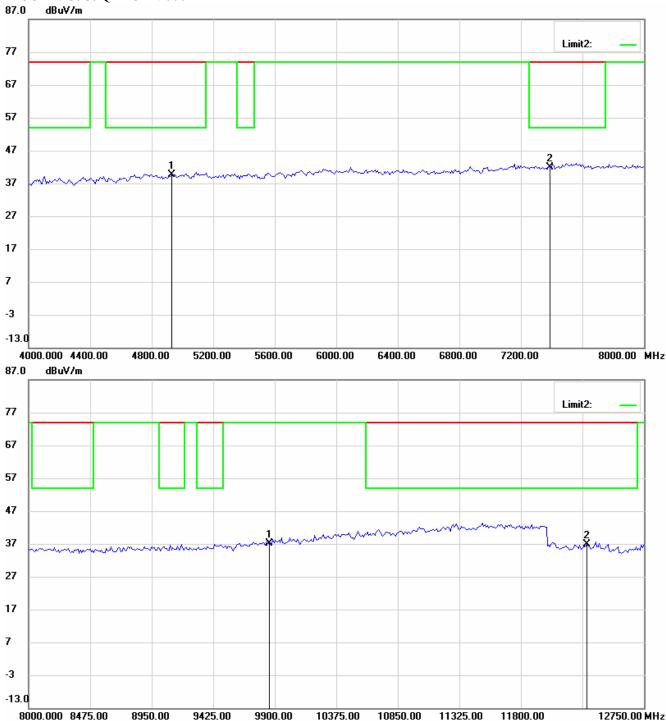
Up Line: Peak Limit Line Down Line: Ave Limit Line

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- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





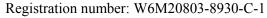




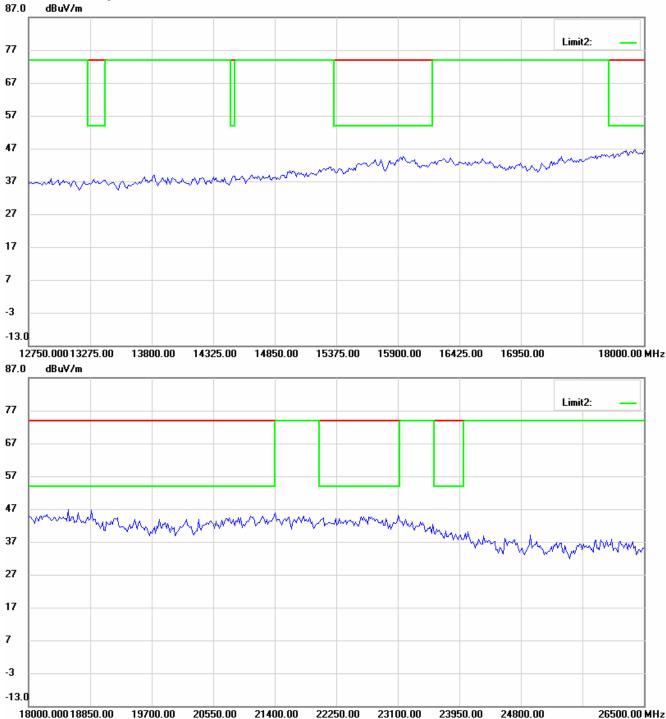
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.

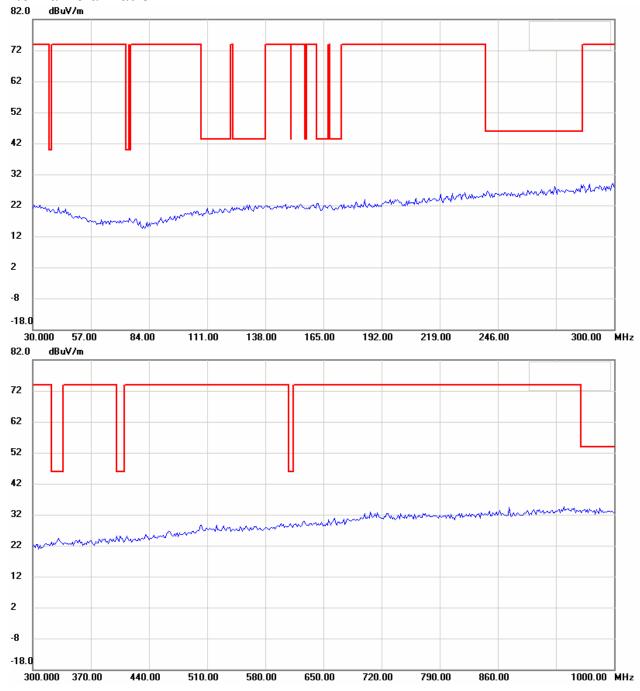


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

WLAN Mode (Mode B)_ CH 1

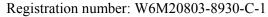
Antenna Polarization H



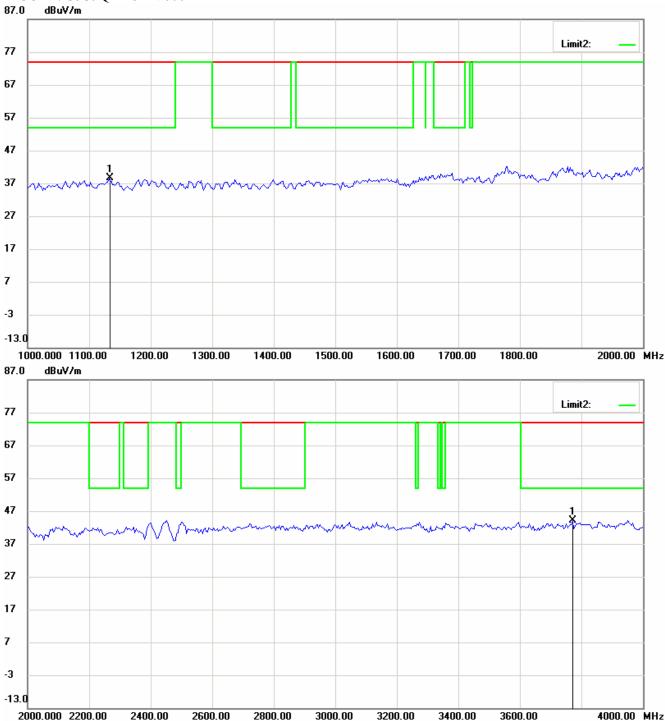
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





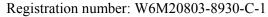




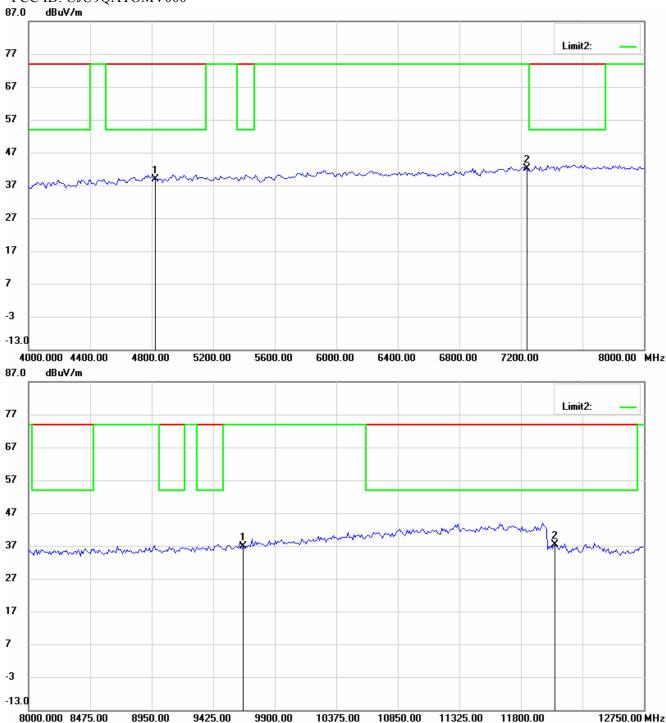
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









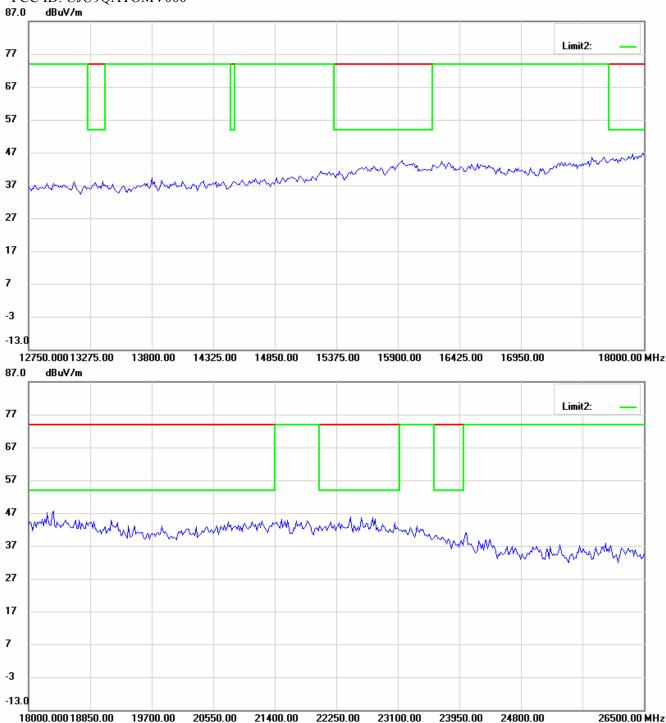
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



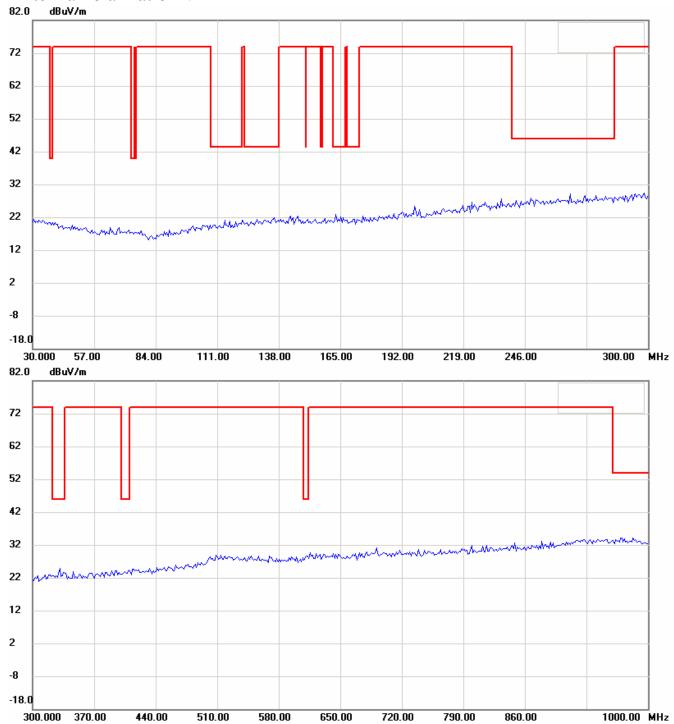
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

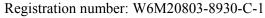
FCC ID: UJU9QATOMV000 Antenna Polarization V



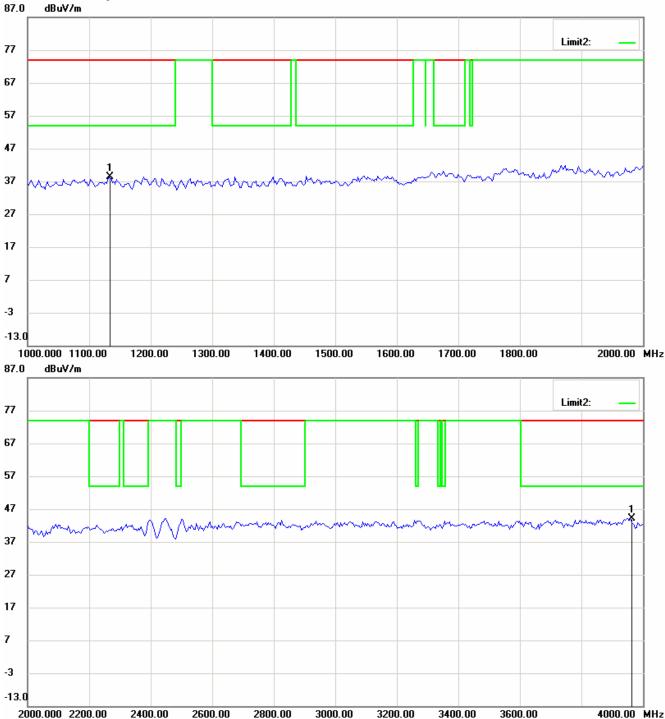
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





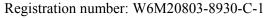




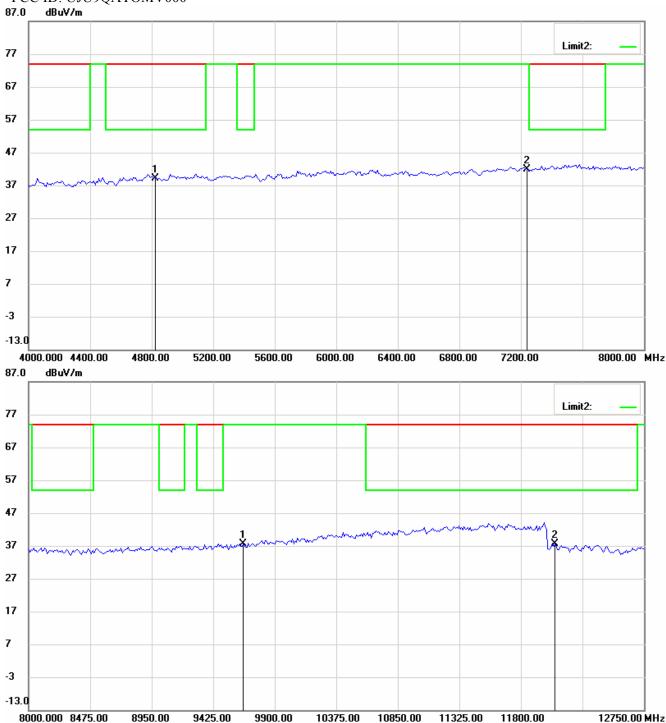
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





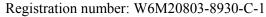
FCC ID: UJU9QATOMV000



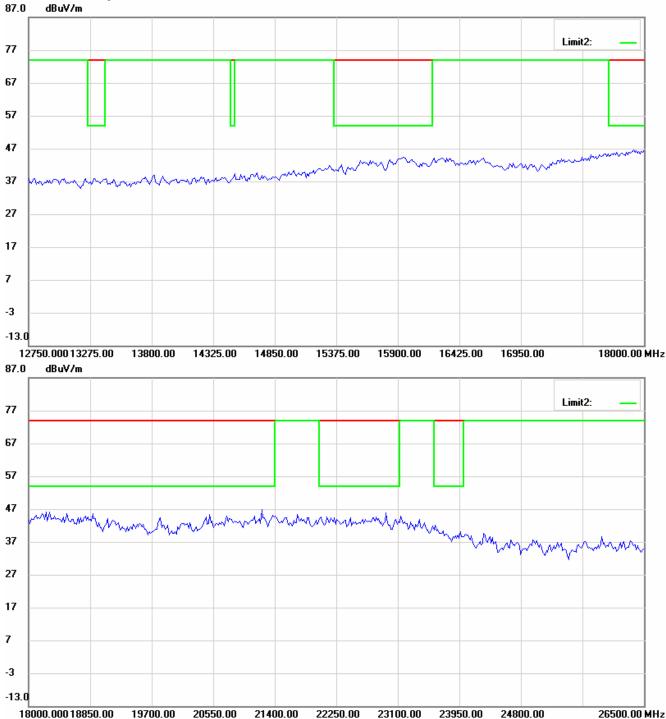
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Up Line: Peak Limit Line Down Line: Ave Limit Line

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- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.

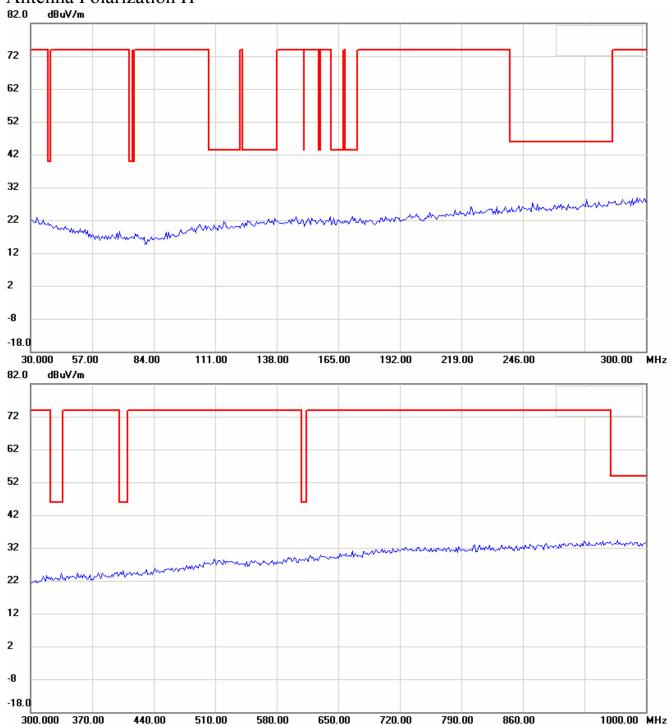


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

WLAN Mode (Mode B) CH 6

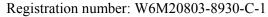
Antenna Polarization H



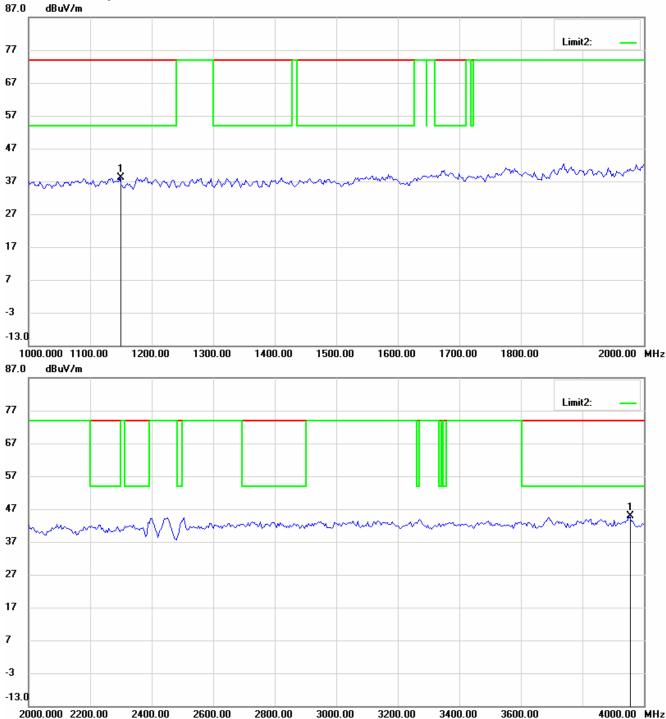
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





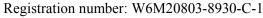




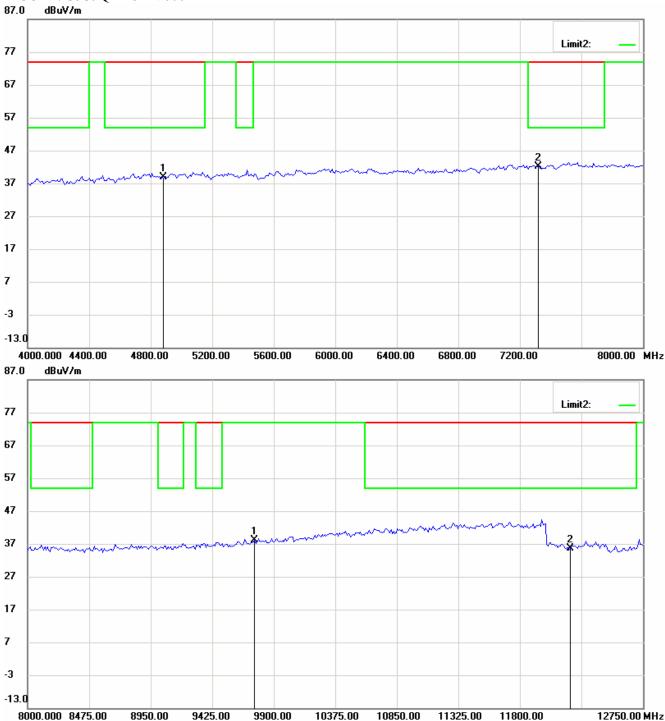
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.





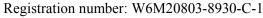




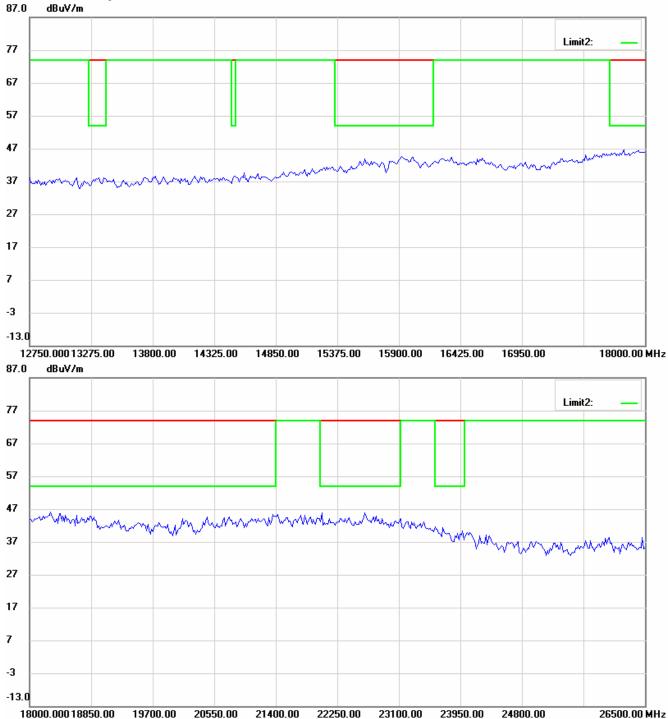
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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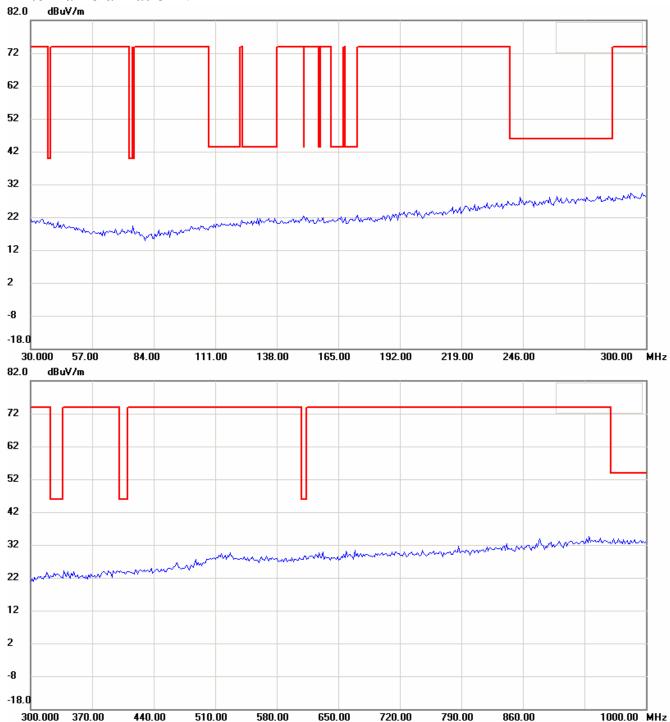
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Antenna Polarization V



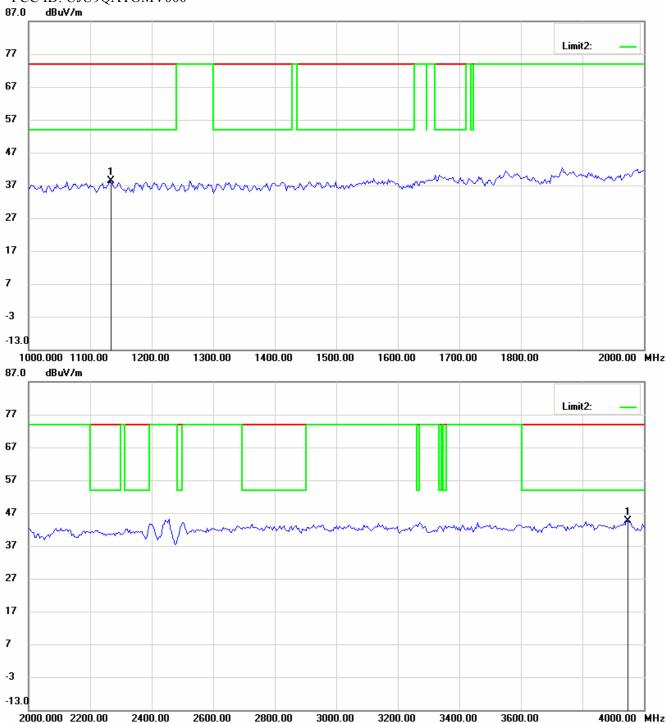
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

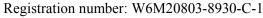
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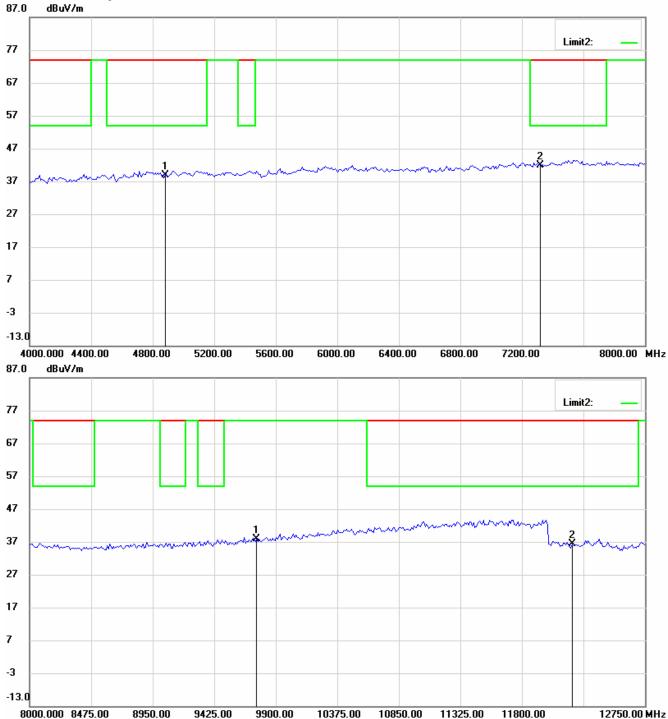
Up Line: Peak Limit Line Down Line: Ave Limit Line

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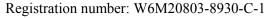




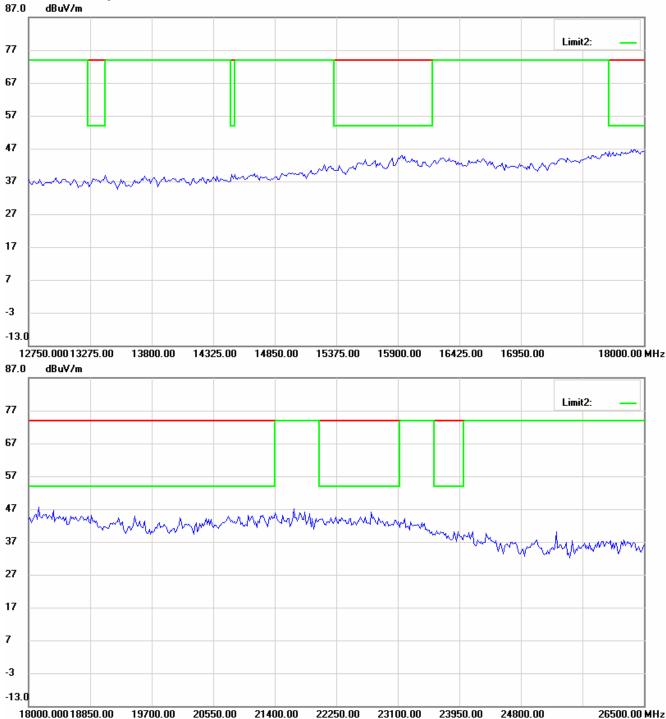
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Up Line: Peak Limit Line Down Line: Ave Limit Line

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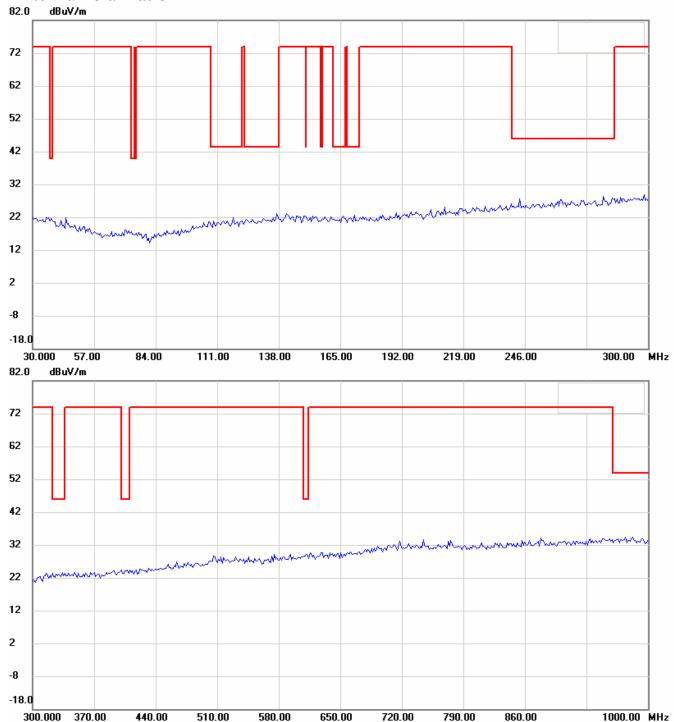


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

WLAN Mode (Mode B) CH 11

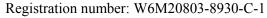
Antenna Polarization H



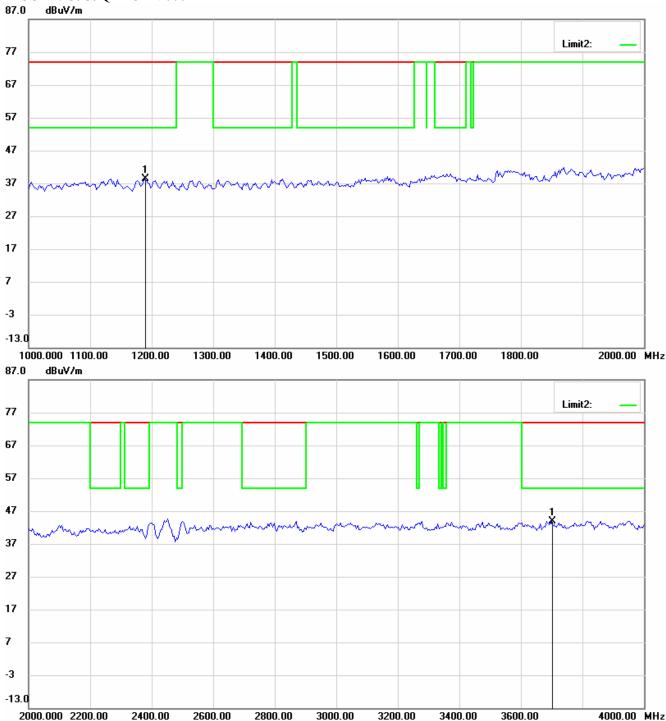
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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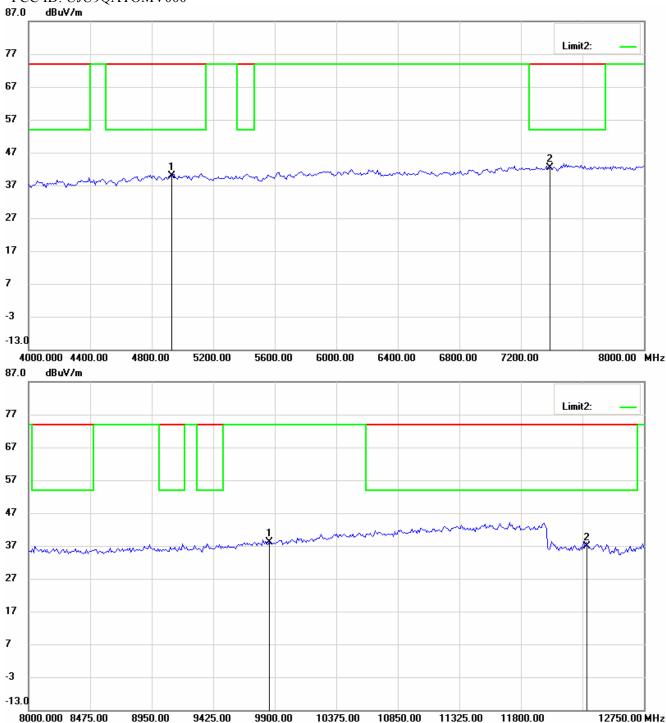
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



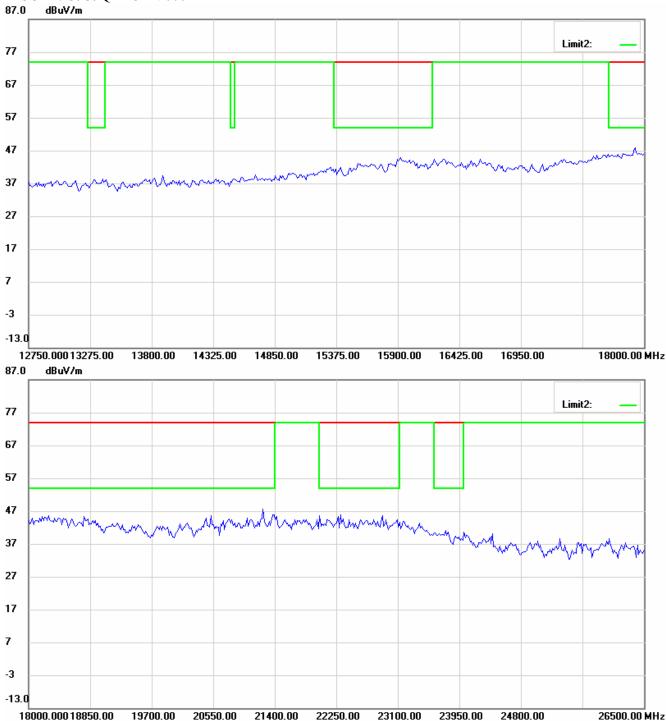
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



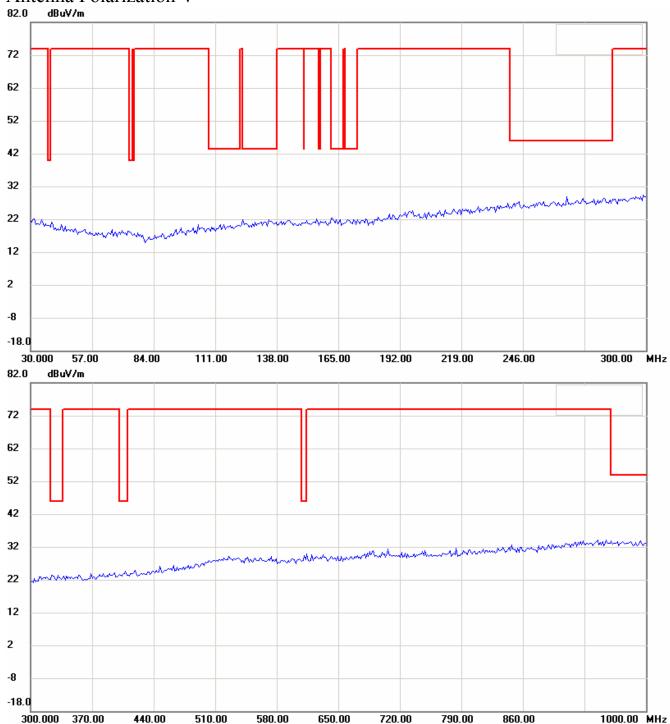
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

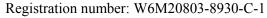
FCC ID: UJU9QATOMV000 Antenna Polarization V



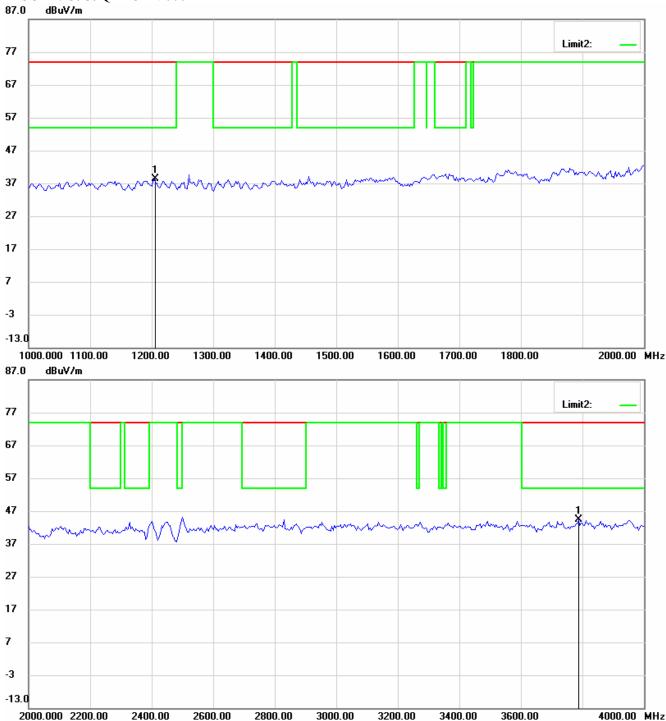
Up Line: Peak Limit Line Down Line: Ave Limit Line

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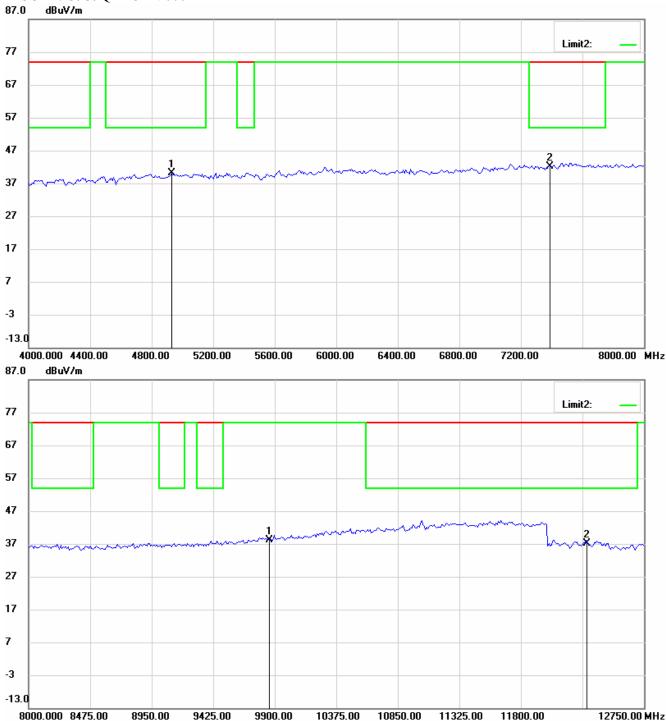
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

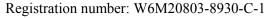
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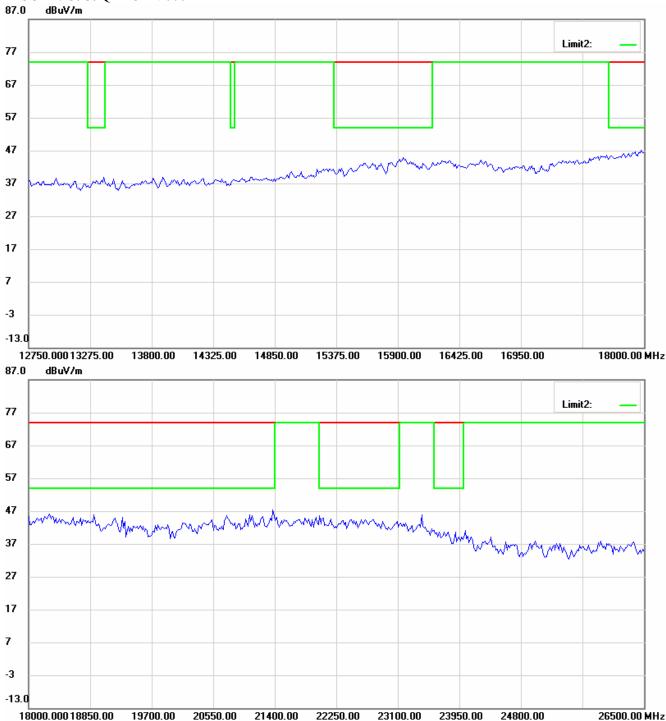
Up Line: Peak Limit Line Down Line: Ave Limit Line

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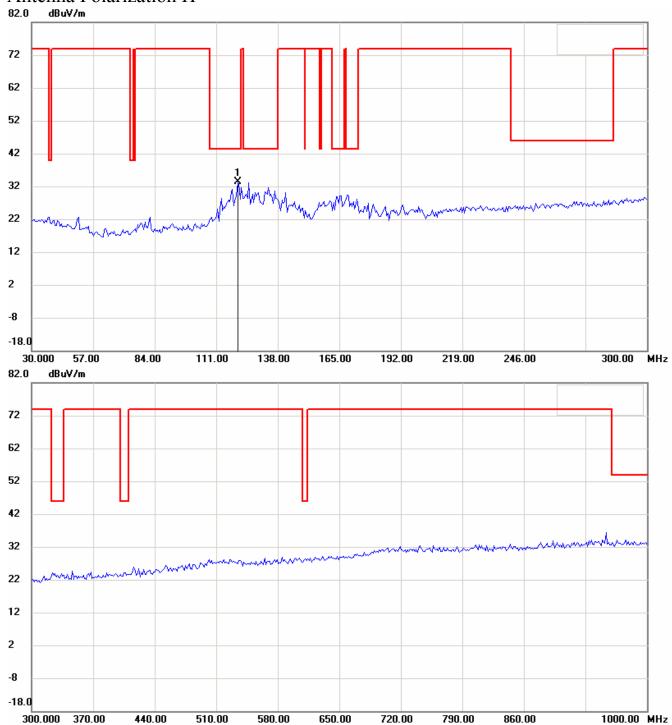
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000
Bluetooth Mode_ CH 0
Antenna Polarization H



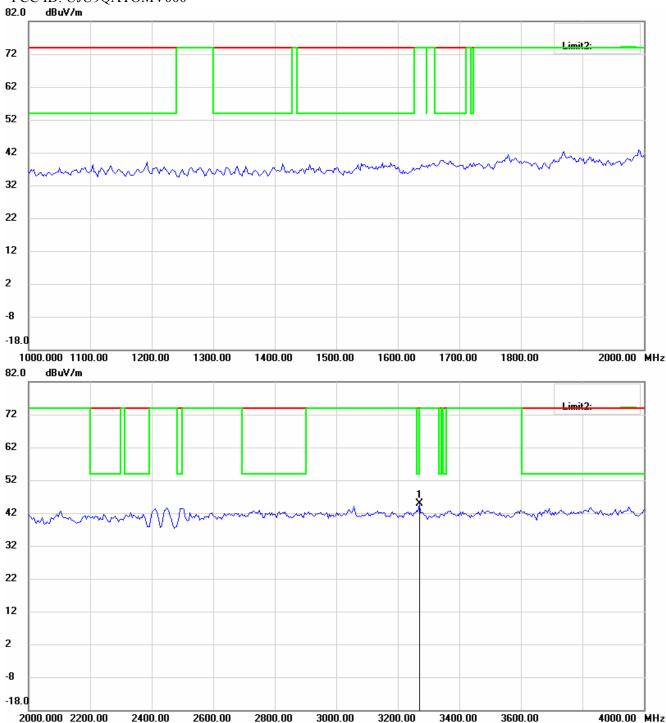
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

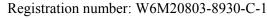




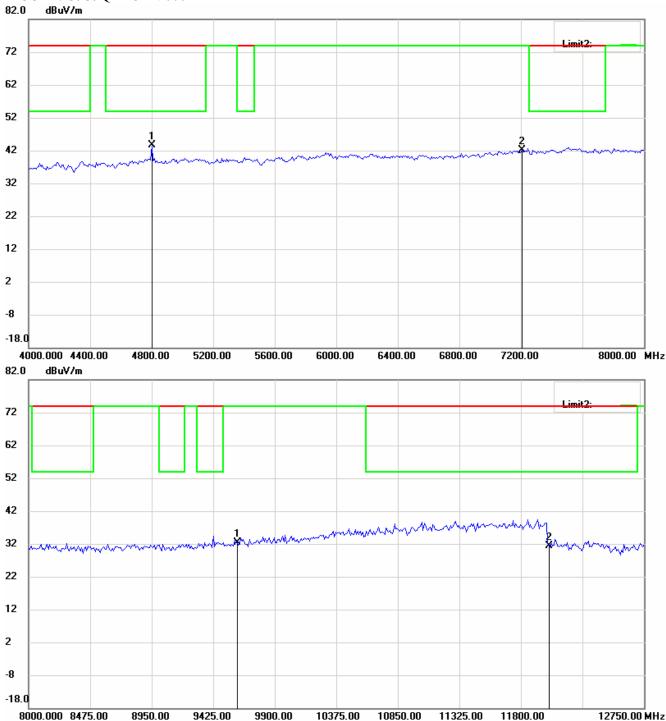
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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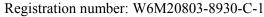




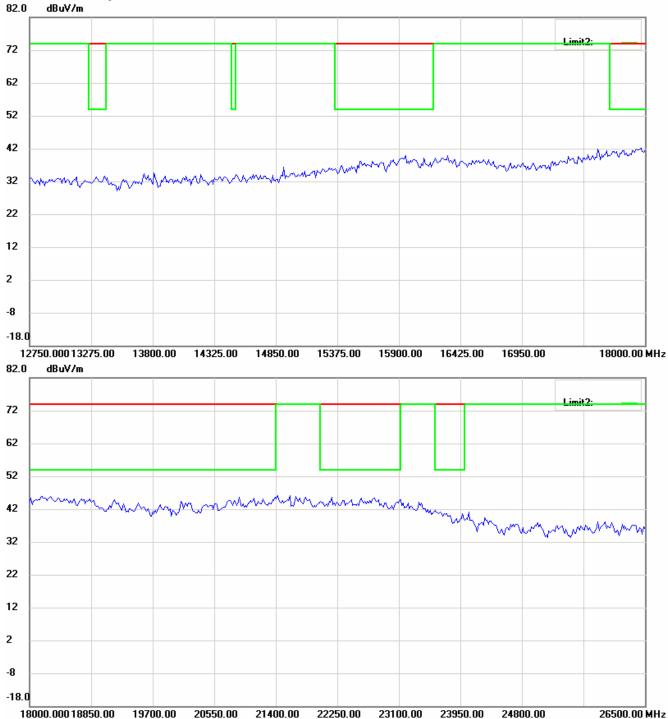
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









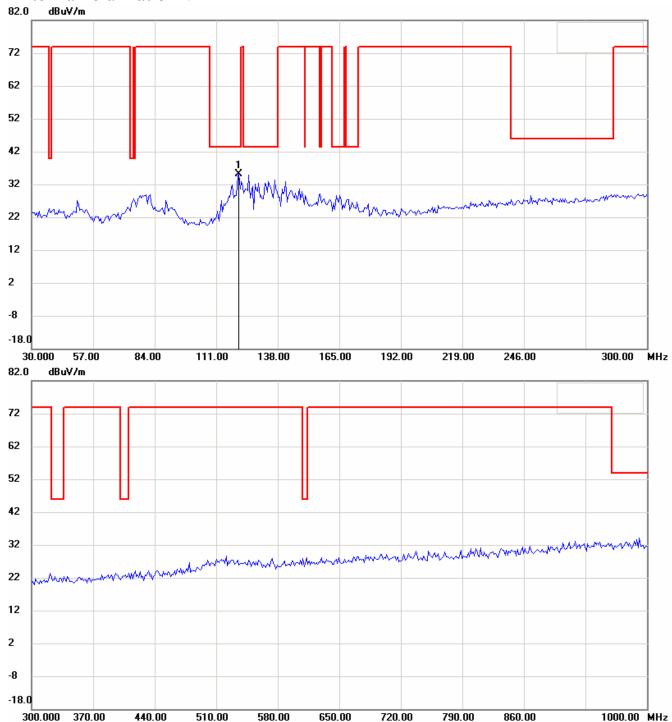
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Antenna Polarization V



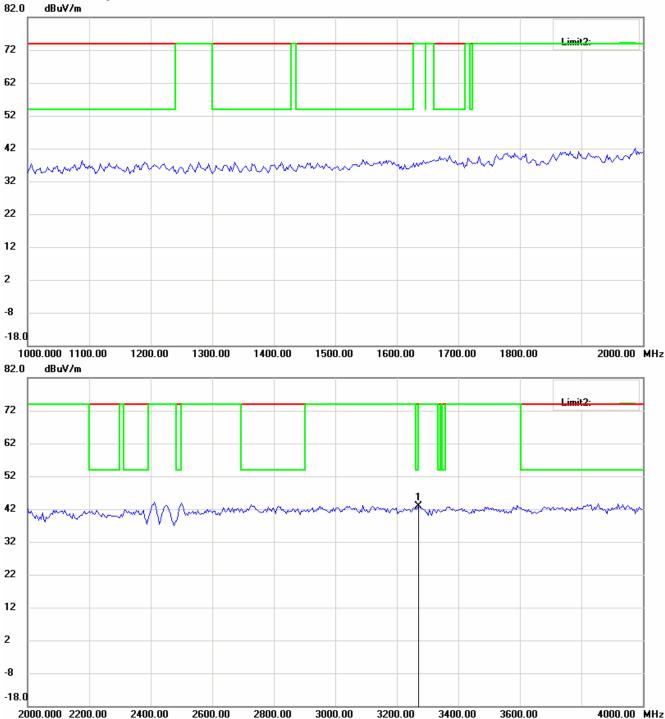
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

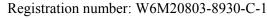




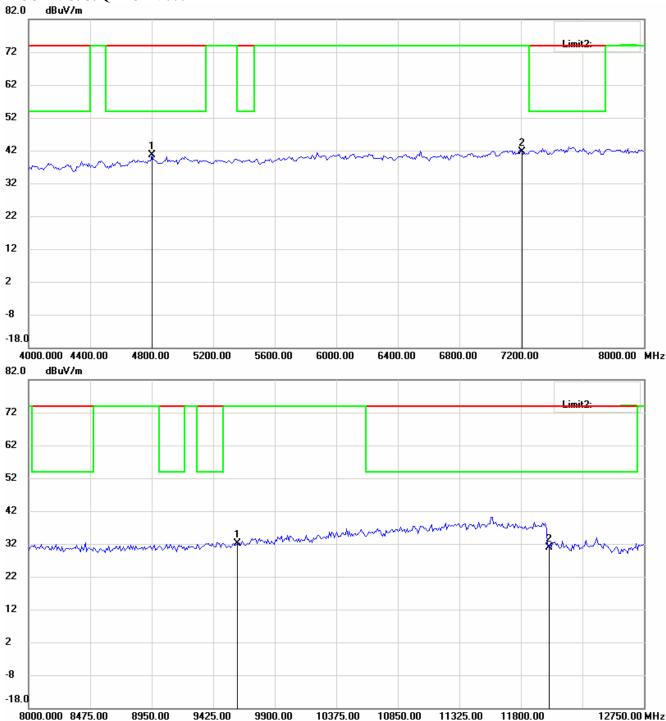
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









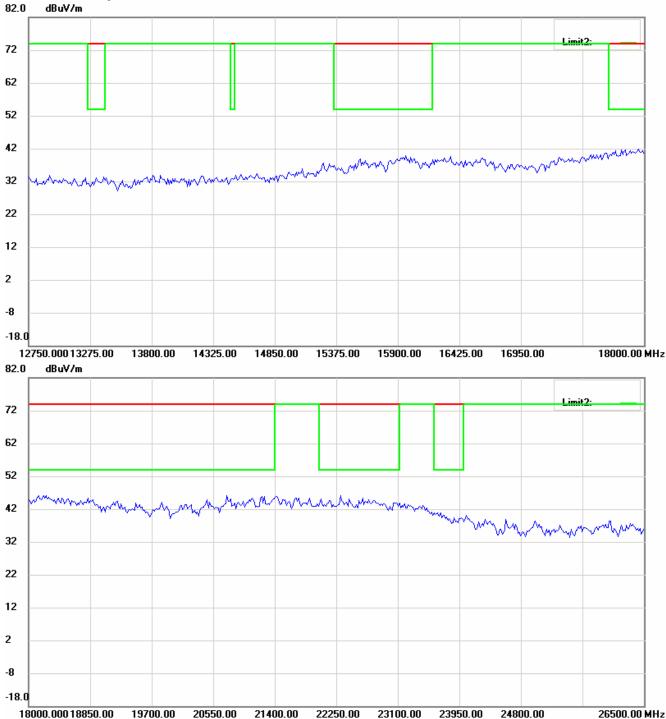
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1





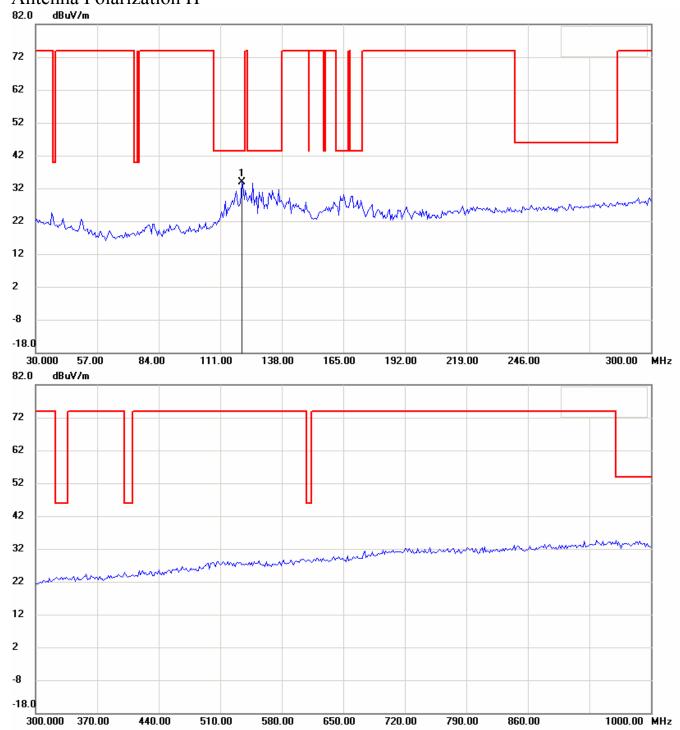
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000
Bluetooth Mode_ CH 39
Antenna Polarization H



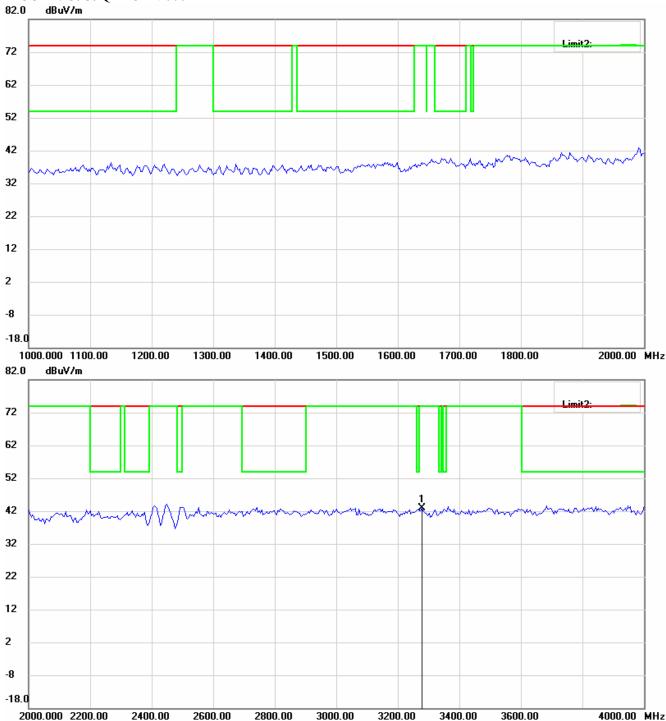
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.



Registration number: W6M20803-8930-C-1

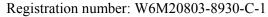




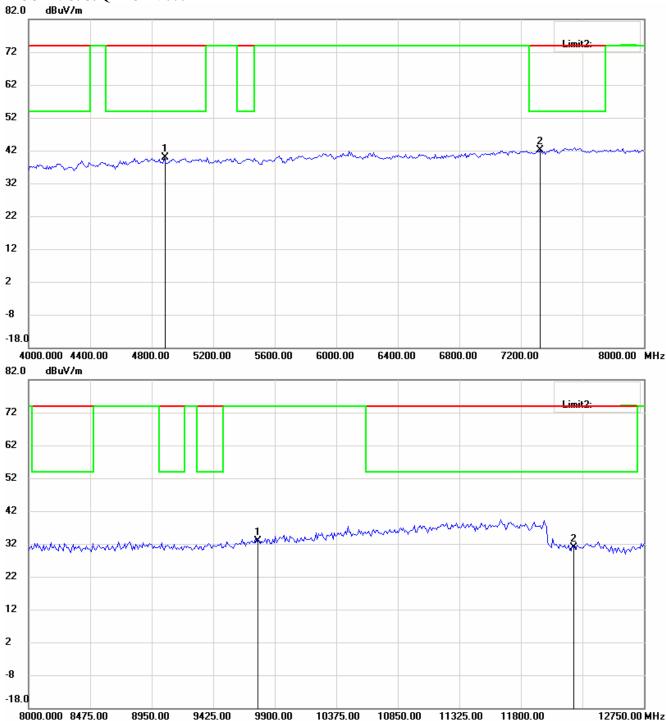
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









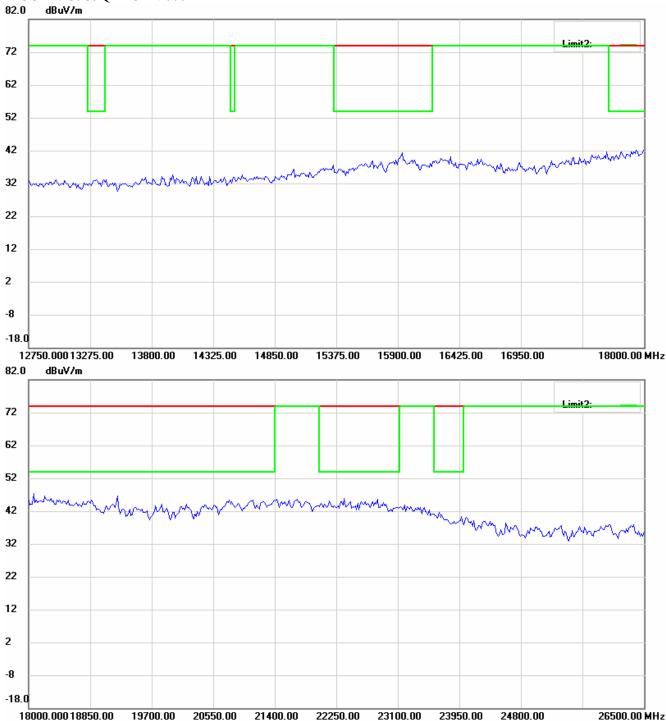
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1





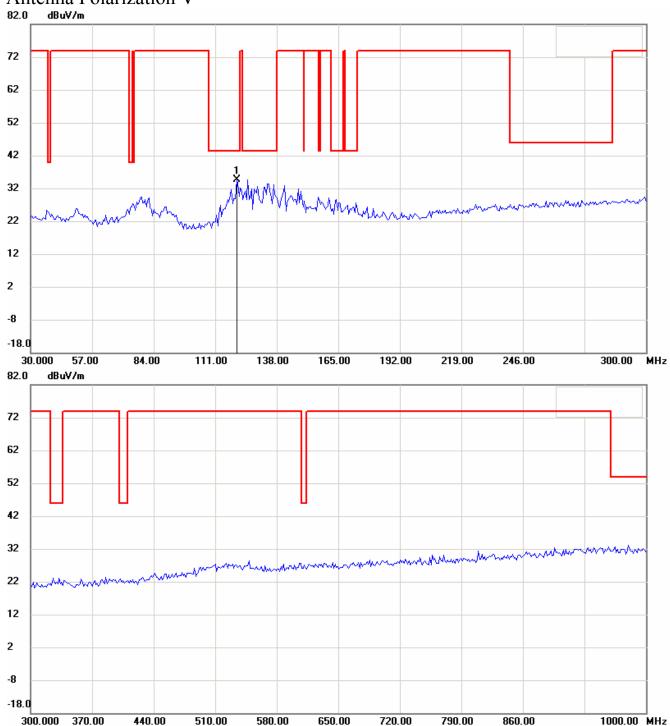
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

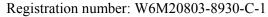
FCC ID: UJU9QATOMV000 Antenna Polarization V



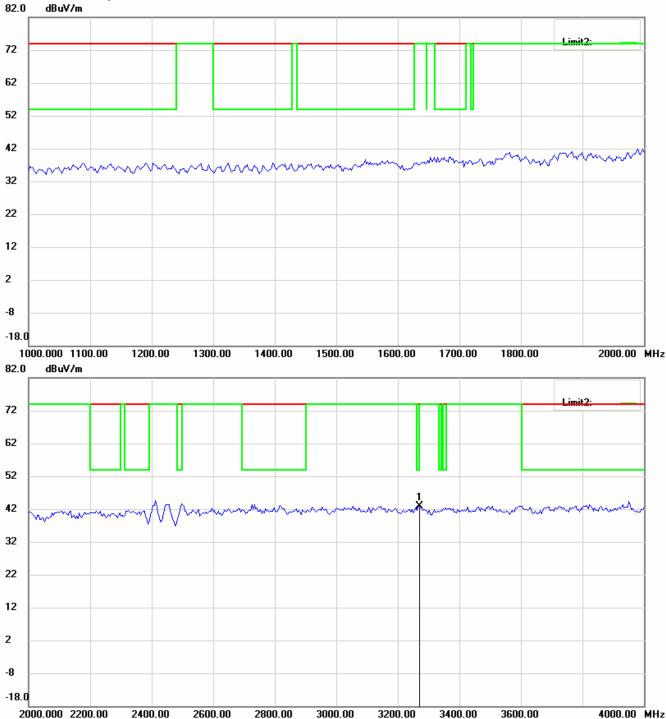
Up Line: Peak Limit Line Down Line: Ave Limit Line Note:

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
- 2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
- 3. For corrected test results are listed in the relevant table of radiated test data of this test report.









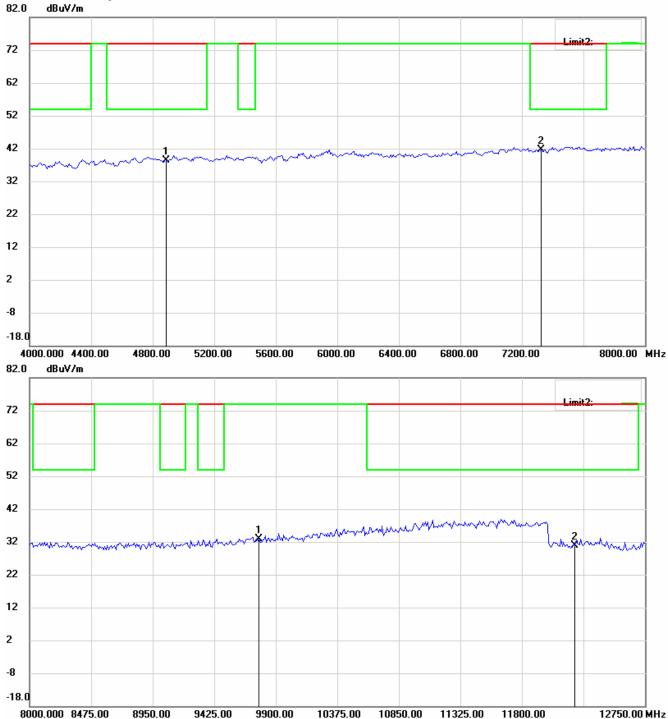
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

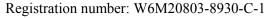




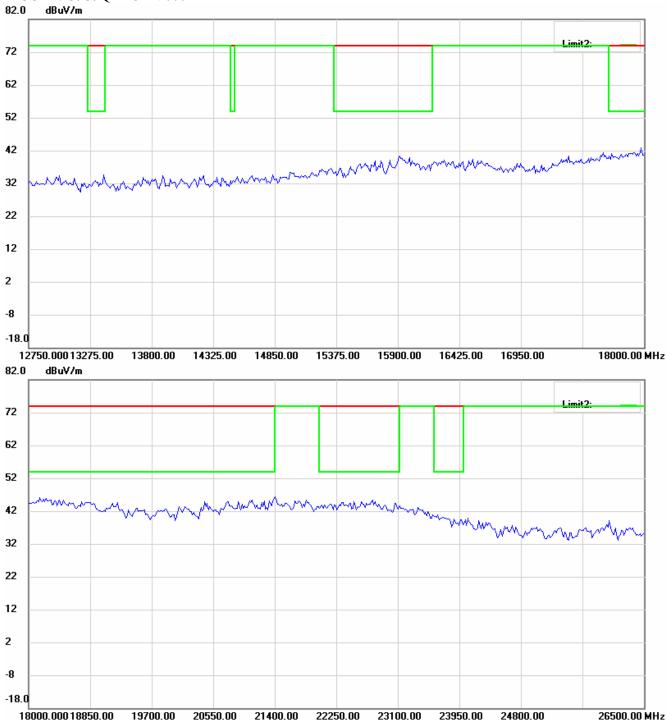
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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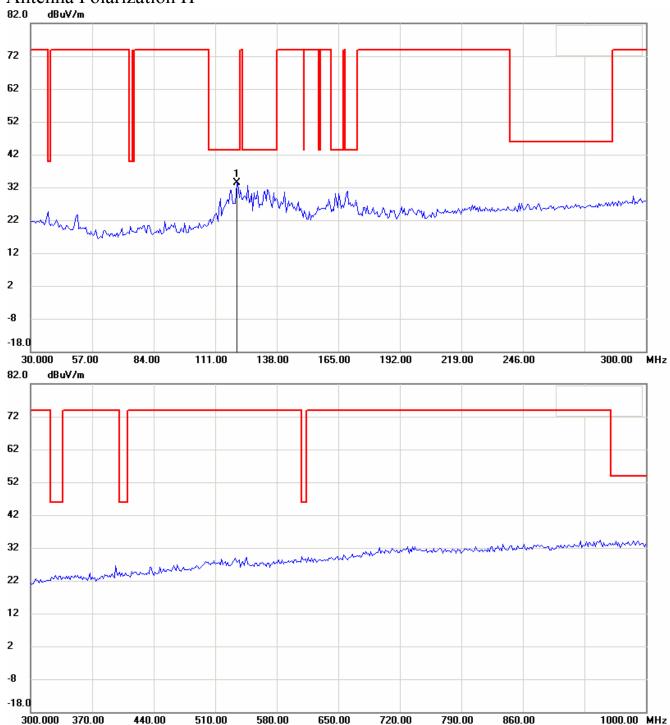
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1

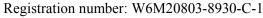
FCC ID: UJU9QATOMV000
Bluetooth Mode_ CH 78
Antenna Polarization H



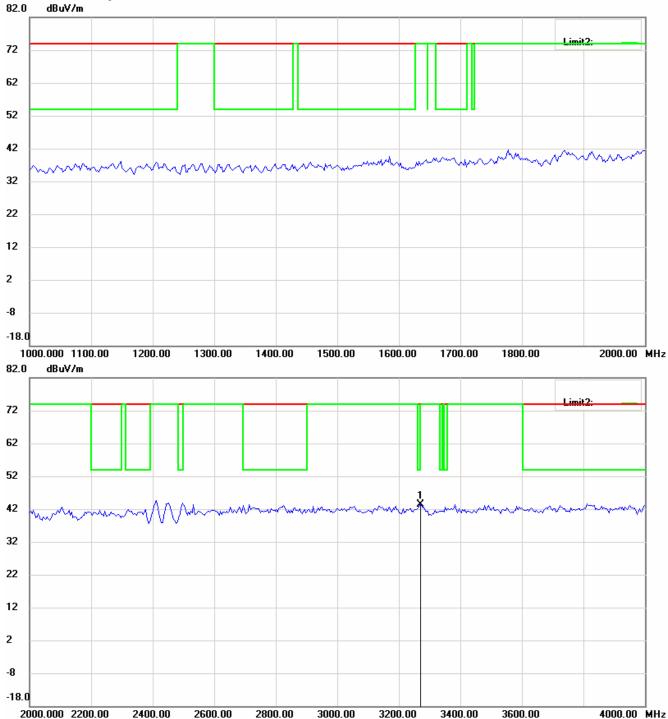
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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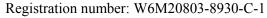




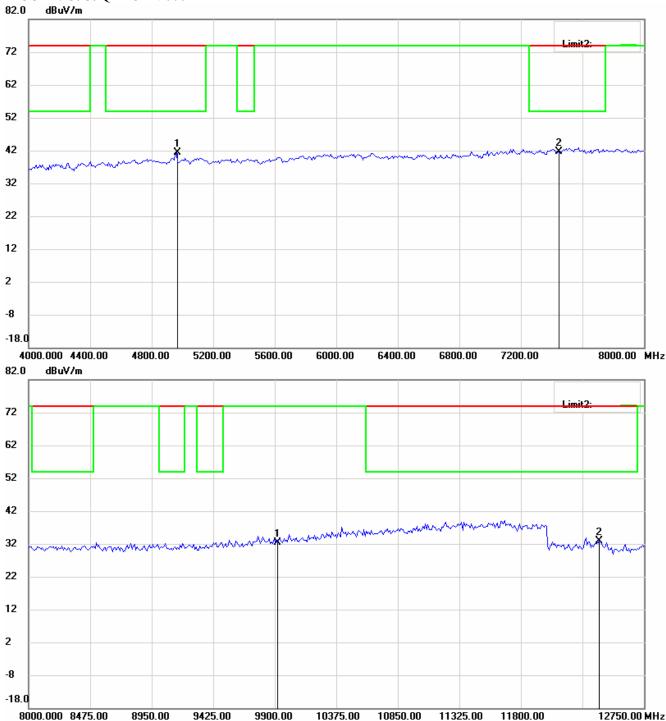
Up Line: Peak Limit Line Down Line: Ave Limit Line

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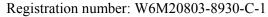




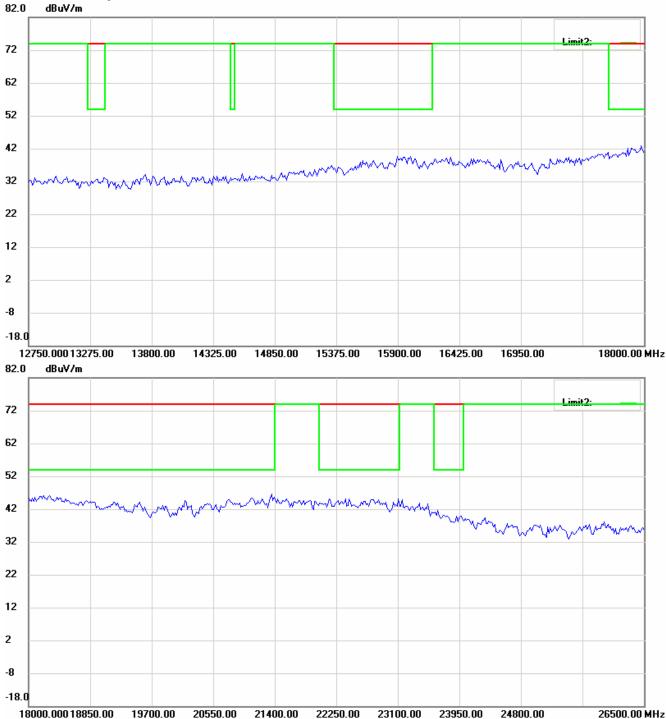
Up Line: Peak Limit Line Down Line: Ave Limit Line

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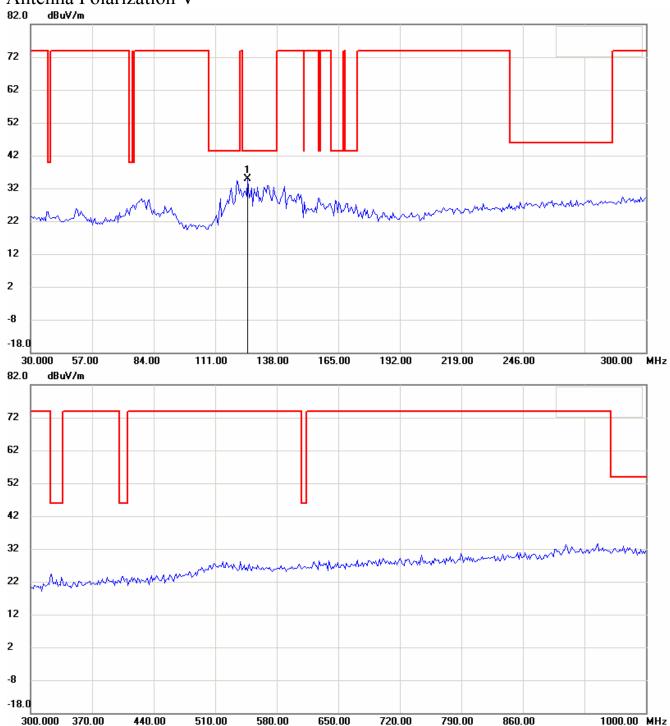
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000 Antenna Polarization V



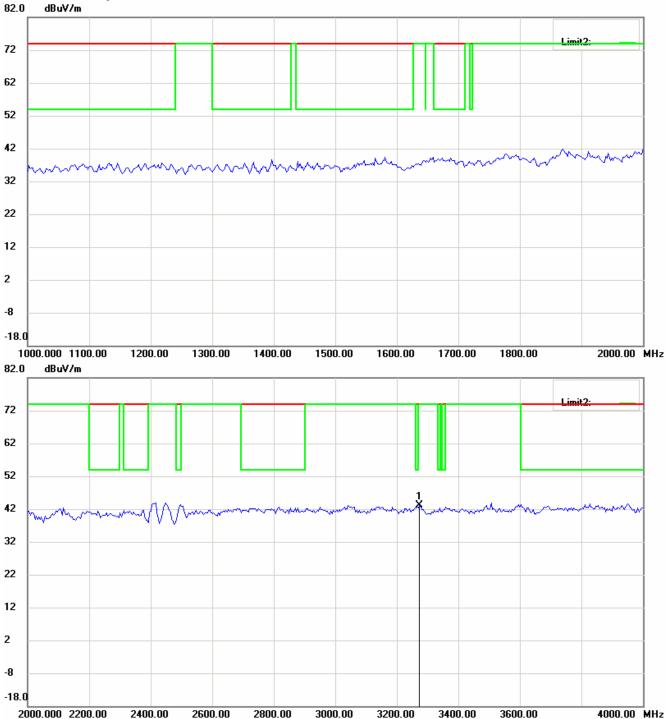
Up Line: Peak Limit Line Down Line: Ave Limit Line

- 1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
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Registration number: W6M20803-8930-C-1





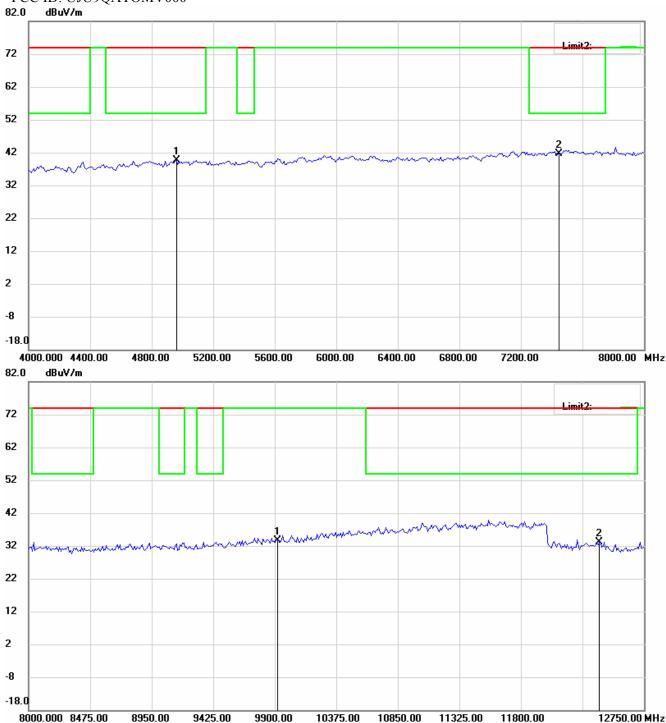
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Registration number: W6M20803-8930-C-1

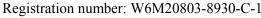
FCC ID: UJU9QATOMV000



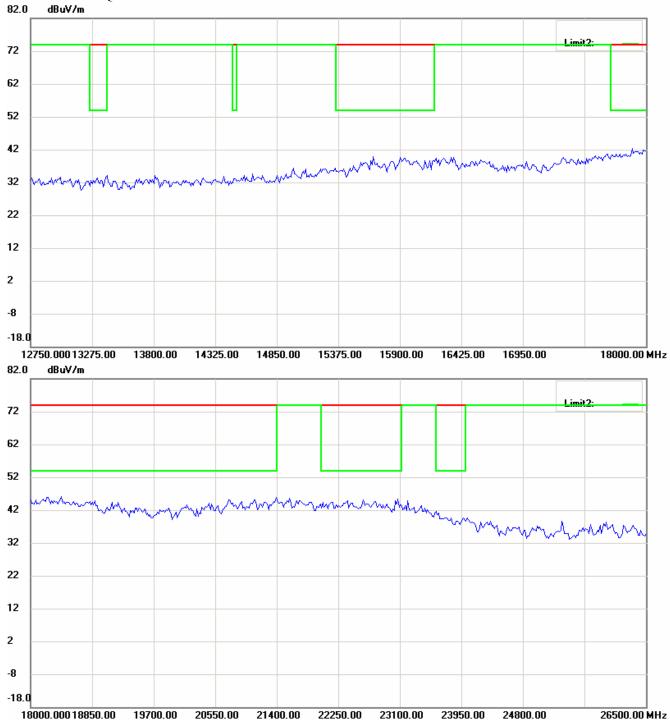
Up Line: Peak Limit Line Down Line: Ave Limit Line

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Up Line: Peak Limit Line Down Line: Ave Limit Line

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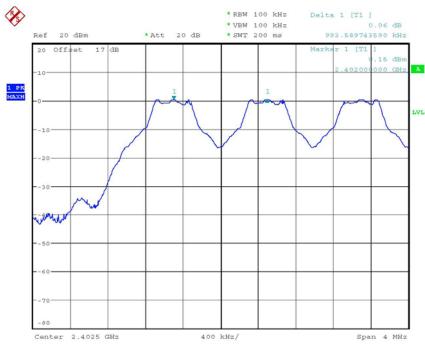


Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

Carrier Frequency Separation

Bluetooth Mode





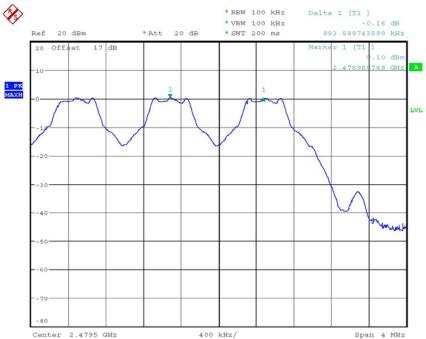


FREQUENCY SEPARATION CH39 Date: 14.MAY.2008 16:46:50



Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000



FREQUENCY SEPARATION CH78
Date: 14.MAY.2008 16:48:00

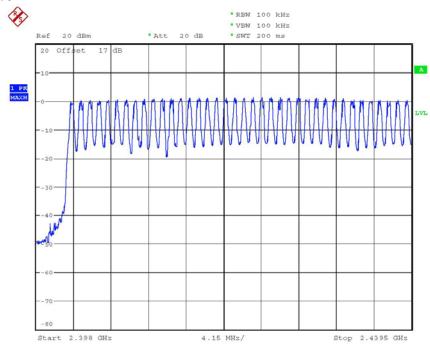


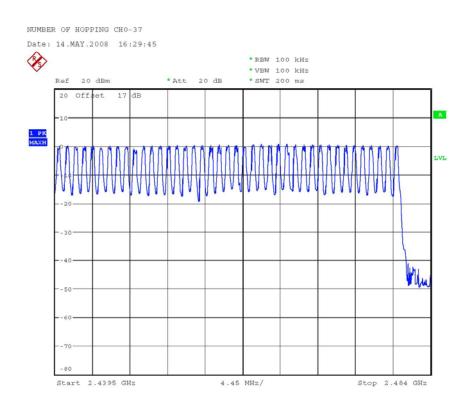
Registration number: W6M20803-8930-C-1

FCC ID: UJU9QATOMV000

Number of Hopping Frequencies

Bluetooth Mode





NUMBER OF HOPPING CH38-78 Date: 14.MAY.2008 16:39:02